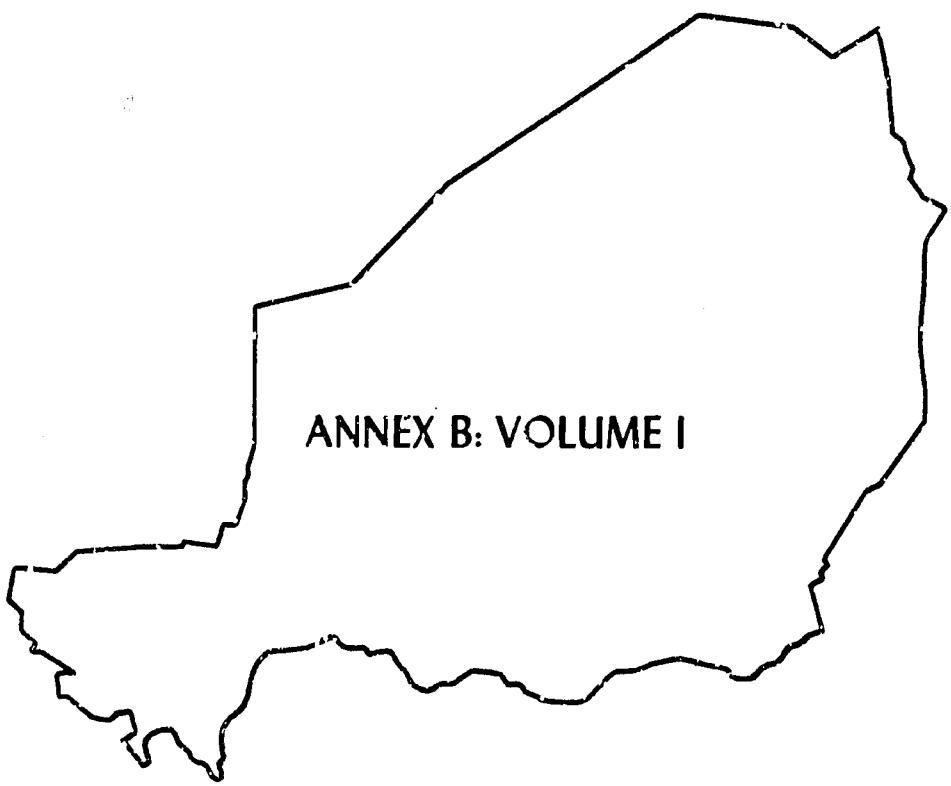
PN-AAB-789

AN EVALUATION OF THE AGRICULTURAL TECHNICAL PACKAGES FOR THE REPUBLIC OF NIGER



ITHACA INTERNATIONAL LIMITED
EAST HILL BRANCH, P.O.BOX 2687,
ITHACA, NEW YORK 14850

AN EVALUATION OF THE AGRICULTURAL TECHNICAL PACKAGES FOR THE REPUBLIC OF NIGER

ANNEX B: VOLUME I

prepared for the
U.S. Agency for International Development

by

Ithaca International Limited
East Hill Branch, P.O Box 2687,
Ithaca, New York 14850

Contract Number: AID-683-929.6-3039-00

December 1983

ANNEX B: VOLUME I

TABLE OF CONTENTS

TABLE	CROP	FARM TYPE	LEVEL	NORTH/SOUTH	FINANCIAL/ ECONOMIC
B-1	Millet	I	traditional	S	F
B-2	Millet	II	traditional	S	F
B-3	Millet	III	traditional	S	F
B-4	Millet	I	partial	S	F
B-5	Millet	II	partial	S	F
B-6	Millet	III	partial	S	F
B-7	Millet	I	full/donkey	S	F
B-8	Millet	II	full/donkey	S	F
B-9	Millet	III	full/donkey	S	F
B-10	Millet	I	full/oxen	S	F
B-11	Millet	II	full/oxen	S	F
B-12	Millet	III	full/oxen	S	F
B-13	Millet	I	traditional	N	F
B-14	Millet	II	traditional	N	F
B-15	Millet	III	traditional	N	F
B-16	Millet	I	partial	N	F
B-17	Millet	II	partial	N	F
B-18	Millet	III	partial	N	F
B-19	Millet	I	full/donkey	N	F
B-20	Millet	II	full/donkey	N	F
B-21	Millet	III	full/donkey	N	F
B-22	Millet	I	full/oxen	N	F
B-23	Millet	II	full/oxen	N	F
B-24	Millet	III	full/oxen	N	F
B-25	Millet	I	traditional	S	E
B-26	Millet	II	traditional	S	E
B-27	Millet	III	traditional	S	E
B-28	Millet	I	partial	S	E
B-29	Millet	II	partial	S	E
B-30	Millet	III	partial	S	E

TABLE	CROP	FARM TYPE	LEVEL	NORTH/SOUTH	FINANCIAL/ ECONOMIC
B-31	Millet	I	full/donkey	S	E
B-32	Millet	II	full/donkey	S	E
B-33	Millet	III	full/donkey	S	E
B-34	Millet	I	full/oxen	S	E
B-35	Millet	II	full/oxen	S	E
B-36	Millet	III	full/oxen	S	E
B-37	Millet	I	traditional	N	E
B-38	Millet	II	traditional	N	E
B-39	Millet	III	traditional	N	E
B-40	Millet	I	partial	N	E
B-41	Millet	II	partial	N	E
B-42	Millet	III	partial	N	E
B-43	Millet	I	full/donkey	N	E
B-44	Millet	II	full/donkey	N	E
B-45	Millet	III	full/donkey	N	E
B-46	Millet	I	full/oxen	N	E
B-47	Millet	II	full/oxen	N	E
B-48	Millet	III	full/oxen	N	E
B-49	Sorghum	I	traditional	S	F
B-50	Sorghum	II	traditional	S	F
B-51	Sorghum	III	traditional	S	F
B-52	Sorghum	I	partial	S	F
B-53	Sorghum	II	partial	S	F
B-54	Sorghum	III	partial	S	F
B-55	Sorghum	I	full/donkey	S	F
B-56	Sorghum	II	full/donkey	S	F
B-57	Sorghum	III	full/donkey	S	F
B-58	Sorghum	I	full/oxen	S	F
B-59	Sorghum	II	full/oxen	S	F
B-60	Sorghum	III	full/oxen	S	F
B-61	Sorghum	I	traditional	N	F
B-62	Sorghum	II	traditional	N	F
B-63	Sorghum	III	traditional	N	F

TABLE	CROP	FARM TYPE	LEVEL	NORTH/SOUTH	FINANCIAL/ ECONOMIC
B-64	Sorghum	I	partial	N	F
B-65	Sorghum	II	partial	N	F
B-66	Sorghum	III	partial	N	F
B-67	Sorghum	I	full/donkey	N	F
B-68	Sorghum	II	full/donkey	N	F
B-69	Sorghum	III	full/donkey	N	F
B-70	Sorghum	I	full/oxen	N	F
B-71	Sorghum	II	full/oxen	N	F
B-72	Sorghum	III	full/oxen	N	F
B-73	Sorghum	I	traditional	S	E
B-74	Sorghum	II	traditional	S	E
B-75	Sorghum	III	traditional	S	E
B-76	Sorghum	I	partial	S	E
B-77	Sorghum	II	partial	S	E
B-78	Sorghum	III	partial	S	E
B-79	Sorghum	I	full/donkey	S	E
B-80	Sorghum	II	full/donkey	S	E
B-81	Sorghum	III	full/donkey	S	E
B-82	Sorghum	I	full/oxen	S	E
B-83	Sorghum	II	full/oxen	S	E
B-84	Sorghum	III	full/oxen	S	E
B-85	Sorghum	I	traditional	N	E
B-86	Sorghum	II	traditional	N	E
B-87	Sorghum	III	traditional	N	E
B-88	Sorghum	I	partial	N	E
B-89	Sorghum	II	partial	N	E
B-90	Sorghum	III	partial	N	E
B-91	Sorghum	I	full/donkey	N	E
B-92	Sorghum	II	full/donkey	N	E
B-93	Sorghum	III	full/donkey	N	E
B-94	Sorghum	I	full/oxen	N	E
B-95	Sorghum	II	full/oxen	N	E
B-96	Sorghum	III	full/oxen	N	E

ASSUMPTIONS AS TO TYPE OF FARM OPERATION FOR ENTERPRISE BUDGETS

The budget exercise which follows is one part of the analysis of the financial and economic results to be derived from farmer adoption of the agricultural technical packages currently being promoted by the Government of Niger with the assistance of external donor agencies. In order that consideration of different farm sizes be realistically introduced into this evaluation, three models of "representative" farms of different sizes were constructed. The sources of data used in constructing these farm models were the various issues of the Annual Reports of the Director of Agriculture in the Ministry of Rural Development and the Agricultural Census for Niger of 1980. The farm models used in the enterprise budgets are defined as follows:

A. Farm Type I

This farm consists of three hectares of arable cropland in production in 1983. The farm supports a family of five persons and has an active work force of two full-time man equivalents.

Under traditional farming technologies, this farm allocates the available cropland to 2.7 hectares of millet and cowpeas in association, 0.3 hectares of sorghum in pure stand, and 0.1 hectares to all other crops.

Under the cropping patterns of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.3 hectares of sorghum - all in pure stands, and 0.1 hectares to all other crops.

B. Farm Type II

This farm consists of five hectares of arable cropland in production in 1983. The farm supports a family of seven people and has an active work force of three full-time man-equivalents.

Under traditional farming technologies, this farm allocates the available cropland to 4.5 hectares of millet and cowpeas in association, 0.35 hectares of sorghum in pure stand, and 0.15 hectares to all other crops.

Under the cropping patterns of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Farm Type III

This farm consists of eight hectares of arable cropland in production in 1983. The farm supports a family of nine people and has an active work force of four full-time man-equivalents.

Under traditional farming technology, this farm allocates the available cropland to 7.3 hectares of millet and cowpeas in association, 0.5 hectares of sorghum in pure stands, and 0.2 hectares for all other crops.

Under the cropping patterns of the agricultural technical package, the cropland allocation for this farm is 5.5 hectares of millet in pure stands, 1.8 hectares of cowpeas in pure stands, 0.5 hectares of sorghum in pure stands, and 0.2 hectares for all other crops.

Table B-1

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type I with Traditional Technology
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	750	Crop Sales to Private Markets	2,625
Fertilizer	0	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	2,625
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	29,625
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	3,400
Other Cash Costs	0		
Crop Marketing Costs	175		
Interest Paid	0		
TOTAL CASH EXPENSES	3,225		
Non-Cash Expenses			
Unpaid Family Labor	80,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	80,000	TOTAL NON-CASH RECEIPTS	33,025
TOTAL EXPENSES	83,225	TOTAL RECEIPTS	35,650

Total Cash Receipts Per Hectare	2,625
Total Cash Expenses Per Hectare	3,225
NET CASH INCOME PER HECTARE	(600)
Total Receipts Per Hectare	35,650
Total Expenses Per Hectare	83,225
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(47,575)
EFFECTIVE WAGE RATE PER MAN-DAY	405

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 2.7 hectares of millet and cowpeas in association, 0.2 hectares of sorghum in pure stand, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of local millet seed per hectare from family granary stocks. Seed is valued at 75 CFA francs per kilogram. Total cost is 750 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticides/Fungicides and/or Other Treatments

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 175 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
1st Weeding	26
2nd Weeding	19
3rd Weeding	10
Harvesting/Threshing	8
Marketing	1
Total	80

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 430 kilograms of grain. The farm sells an average of 8 percent of the yield. Cash value of millet sales per hectare is 2,625 CFA francs (35 kilograms of millet x 75 CFA francs per kilogram). No crop by-products are sold.

S. Non-Cash Receipts

Farm family has available for consumption an estimated 395 kilograms of millet per hectare cultivated. Total value of this grain is 29,625 CFA francs (395 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 3.4 metric tons are produced per hectare of millet grown. Total value for this by-product is 3,400 CFA francs.

Table B-2

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type II with Traditional Technology
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES

Cash Expenses

Wage Labor	0
Seed	750
Fertilizer	0
Insecticides and/or Other Treatments	0
Expendable Hand Tools	1,940
Draft Animal Maintenance	0
Equipment Repair and Maintenance	0
Other Cash Costs	0
Crop Marketing Costs	175
Interest Paid	0
TOTAL CASH EXPENSES	2,765

Non-Cash Expenses

Unpaid Family Labor	80,000
Capital Recovery/ Equipment	0
Capital Recovery/ Draft Animals	0
Interest on Equity Capital @ 18%	0
TOTAL NON-CASH EXPENSES	80,000
TOTAL EXPENSES	82,765

RECEIPTS

Cash Receipts

Crop Sales to Government Agencies	0
Crop Sales to Markets	2,625
Sales of Crop By-Products	0
TOTAL CASH RECEIPTS	2,625

Non-Cash Receipts

Value of On-Farm Crop Consumption/Use	29,625
Value of On-Farm Use of Crop By-Products	3,400
TOTAL NON-CASH RECEIPTS	33,025
TOTAL RECEIPTS	35,650

Total Cash Receipts Per Hectare	2,625
Total Cash Expenses Per Hectare	2,765
NET CASH INCOME PER HECTARE	(140)
Total Receipts Per Hectare	35,650
Total Expenses Per Hectare	82,765
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(47,115)
EFFECTIVE WAGE RATE PER MAN-DAY	411

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

10

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 4.5 hectares of millet and cowpeas in association, 0.35 hectares of sorghum in pure stand, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of local millet seed per hectare from family granary stocks. Seed is valued at 75 CFA francs per kilogram. Total cost is 750 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticides/Fungicides and/or Other Treatments

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 175 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
1st Weeding	26
2nd Weeding	19
3rd Weeding	10
Harvesting/Threshing	8
Marketing	1
Total	80

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 430 kilograms of grain. The farm sells an average of 8 percent of the yield. Cash value of millet sales per hectare is 2,625 CFA francs (35 kilograms of millet x 75 CFA francs per kilogram). No crop by-products are sold.

S. Non-Cash Receipts

Farm family has available for consumption an estimated 395 kilograms of millet per hectare cultivated. Total value of this grain is 29,625 CFA francs (395 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 3.4 metric tons are produced per hectare of millet grown. Total value for this by-product is 3,400 CFA francs.

Table B-3

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type III with Traditional Technology
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	750	Crop Sales to Private Markets	2,625
Fertilizer	0	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	2,625
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	29,625
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	3,400
Other Cash Costs	0		
Crop Marketing Costs	175		
Interest Paid	0		
TOTAL CASH EXPENSES	2,650		
Non-Cash Expenses			
Unpaid Family Labor	80,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	80,000	TOTAL NON-CASH RECEIPTS	33,025
TOTAL EXPENSES	82,650	TOTAL RECEIPTS	35,650

Total Cash Receipts Per Hectare	2,625
Total Cash Expenses Per Hectare	2,650
NET CASH INCOME PER HECTARE	(25)
Total Receipts Per Hectare	35,650
Total Expenses Per Hectare	82,650
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(47,000)
EFFECTIVE WAGE RATE PER MAN-DAY	413

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 7.3 hectares of millet and cowpeas in association, 0.5 hectares of sorghum in pure stand, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of local millet seed per hectare from family granary stocks. Seed is valued at 75 CFA francs per kilogram. Total cost is 750 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticides/Fungicides and/or Other Treatments

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 175 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
1st Weeding	26
2nd Weeding	19
3rd Weeding	10
Harvesting/Threshing	8
Marketing	1
Total	80

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 430 kilograms of grain. The farm sells an average of 8 percent of the yield. Cash value of millet sales per hectare is 2,625 CFA francs (35 kilograms of millet x 75 CFA francs per kilogram). No crop by-products are sold.

S. Non-Cash Receipts

Farm family has available for consumption an estimated 395 kilograms of millet per hectare cultivated. Total value of this grain is 29,625 CFA francs (395 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 3.4 metric tons are produced per hectare of millet grown. Total value for this by-product is 3,400 CFA francs.

Table B-4

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type I with Partial Package Adoption
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	8,000
Seed	1,500	Crop Sales to Private Markets	3,750
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	60	TOTAL CASH RECEIPTS	11,750
Expendable Hand Tools	2,300		
Draft Animal Maintenance	0	**Non-Cash Receipts**	
Equipment Repair and Maintenance	0	Value of On-Farm Crop Consumption/Use	50,625
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	6,600
Crop Marketing Costs	750		
Interest Paid	0		
TOTAL CASH EXPENSES	11,860		
Non-Cash Expenses			
Unpaid Family Labor	96,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	96,000	TOTAL NON-CASH RECEIPTS	57,225
TOTAL EXPENSES	107,860	TOTAL RECEIPTS	68,975

Total Cash Receipts Per Hectare	11,750
Total Cash Expenses Per Hectare	11,860
NET CASH INCOME PER HECTARE	(110)
Total Receipts Per Hectare	68,975
Total Expenses Per Hectare	107,860
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(38,885)
EFFECTIVE WAGE RATE PER MAN-DAY	595

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

18

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum in pure stand, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (CIVT variety) per hectare. Seed is purchased at 150 CFA francs per kilogram. Total cost is 1,500 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 60 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 750 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Harvesting/Threshing	15
Marketing	2
Total	96

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 825 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 11,750 CFA francs (100 kilograms of millet sold on the local market at 80 CFA francs per kilogram and 50 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption an estimated 675 kilograms of millet per hectare cultivated. Total value of this grain is 50,625 CFA francs (675 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 6.6 metric tons are produced per hectare of millet grown. Total value for this by-product is 6,600 CFA francs.

Table B-5

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type II with Partial Package Adoption
Location: Southern Niamey Department (400-500 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	8,000
Seed	1,500	Crop Sales to Private Markets	3,750
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	60	TOTAL CASH RECEIPTS	11,750
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	50,625
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	6,600
Other Cash Costs	0		
Crop Marketing Costs	750		
Interest Paid	0		
TOTAL CASH EXPENSES	11,400		
Non-Cash Expenses			
Unpaid Family Labor	96,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	96,000	TOTAL NON-CASH RECEIPTS	57,225
TOTAL EXPENSES	107,400	TOTAL RECEIPTS	68,975

Total Cash Receipts Per Hectare	11,750
Total Cash Expenses Per Hectare	[illegible],400
NET CASH INCOME PER HECTARE	350
Total Receipts Per Hectare	68,975
Total Expenses Per Hectare	107,400
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(38,425)
EFFECTIVE WAGE RATE PER MAN-DAY	600

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectares of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (CIVT variety) per hectare. Seed is purchased at 150 CFA francs per kilogram. Total cost is 1,500 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 60 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 750 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Harvesting/Threshing	15
Marketing	2
Total	96

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 825 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 11,750 CFA francs (100 kilograms of millet sold to the government at 80 CFA francs per kilogram and 50 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption an estimated 675 kilograms of millet per hectare cultivated. Total value of this grain is 50,625 CFA francs (675 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 6.6 metric tons are produced per hectare of millet grown. Total value for this by-product is 6,600 CFA francs.

Table B-6

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type III with Partial Package Adoption
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	8,000
Seed	1,500	Crop Sales to Private Markets	3,750
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	60	TOTAL CASH RECEIPTS	11,750
Expendable Hand Tools	1,725		
Draft Animal Maintenance	0	**Non-Cash Receipts**	
Equipment Repair and Maintenance	0	Value of On-Farm Crop Consumption/Use	50,625
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	6,600
Crop Marketing Costs	750		
Interest Paid	0		
TOTAL CASH EXPENSES	11,285		
Non-Cash Expenses			
Unpaid Family Labor	96,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	96,000	TOTAL NON-CASH RECEIPTS	57,225
TOTAL EXPENSES	107,285	TOTAL RECEIPTS	68,975

Total Cash Receipts Per Hectare	11,750
Total Cash Expenses Per Hectare	11,285
NET CASH INCOME PER HECTARE	465
Total Receipts Per Hectare	68,975
Total Expenses Per Hectare	107,285
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(38,310)
EFFECTIVE WAGE RATE PER MAN-DAY	601

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (CIVT variety) per hectare. Seed is purchased at 150 CFA francs per kilogram. Total cost is 1,500 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 60 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 750 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Harvesting/Threshing	15
Marketing	2
Total	96

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 825 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 11,750 CFA francs (100 kilograms of millet sold to the government at 80 francs per kilogram and 50 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption an estimated 675 kilograms of millet per hectare cultivated. Total value of this grain is 50,625 CFA francs (675 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 6.6 metric tons are produced per hectare of millet grown. Total value for this by-product is 6,600 CFA francs.

Table B-7

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type I with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	8,000
Seed	1,500	Crop Sales to Private Markets	6,000
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	60	TOTAL CASH RECEIPTS	14,000
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	1,150	Value of On-Farm Crop Consumption/Use	54,675
Equipment Repair and Maintenance	656	Value of On-Farm Use of Crop By-Products	7,300
Other Cash Costs	0		
Crop Marketing Costs	900		
Interest Paid	935		
TOTAL CASH EXPENSES	14,751		
Non-Cash Expenses			
Unpaid Family Labor	66,000		
Capital Recovery/ Equipment	21,124		
Capital Recovery/ Draft Animals	504		
Interest on Equity Capital @ 18%	1,865		
TOTAL NON-CASH EXPENSES	70,493	TOTAL NON-CASH RECEIPTS	61,975
TOTAL EXPENSES	85,244	TOTAL RECEIPTS	76,726

Total Cash Receipts Per Hectare	14,000
Total Cash Expenses Per Hectare	14,751
NET CASH INCOME PER HECTARE	(751)
Total Receipts Per Hectare	76,726
Total Expenses Per Hectare	85,244
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(8,518)
EFFECTIVE WAGE RATE PER MAN-DAY	871

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (CIVT variety) per hectare. Seed is purchased at 150 CFA francs per kilogram. Total cost is 1,500 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 60 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per yer is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 44 days of use in animal traction crop activities. Of these total days, 15 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the millet is 1,150 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 656 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs in millet production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 900 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 935 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Harvesting/Threshing	17	2
Marketing	2	2
Total	66	15

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use of Equipment
Crop Equipment	11	21	32
Animal-drawn Cart	4	8	87
Draft Animals	15	29	119

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	34.4
Animal-drawn Cart	4.6
Draft Animals	12.6

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Cultivator Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciation of equipment pro-rated for use in Millet cultivation is 2,124 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in Millet cultivation is 504 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 80,853 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,865 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 909 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 14,000 CFA francs (100 kilograms of millet sold to the government at 80 CFA francs per kilogram and 80 kilograms of millet sold on the local market at 75 CFA francs per kilogram.)

S. Non-cash Receipts

Farm family has available for consumption an estimated 729 kilograms of millet per hectare cultivated. Total value of this grain is 54,675 CFA francs (729 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 7.3 metric tons are produced per hectare of millet grown. Total value for this by-product is 7,300 CFA francs.

Table B-8

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type II with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	8,000
Seed	1,500	Crop Sales to Private Markets	6,000
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	60	TOTAL CASH RECEIPTS	14,000
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	913	Value of On-Farm Crop Consumption/Use	54,675
Equipment Repair and Maintenance	443	Value of On-Farm Use of Crop By-Products	7,300
Other Cash Costs	0		
Crop Marketing Costs	900		
Interest Paid	631		
TOTAL CASH EXPENSES	13,537		
Non-Cash Expenses			
Unpaid Family Labor	66,000		
Capital Recovery/ Equipment	1,394		
Capital Recovery/ Draft Animals	400		
Interest on Equity Capital @ 18%	1,327		
TOTAL NON-CASH EXPENSES	69,121	TOTAL NON-CASH RECEIPTS	61,975
TOTAL EXPENSES	82,658	TOTAL RECEIPTS	75,975

Total Cash Receipts Per Hectare	14,000
Total Cash Expenses Per Hectare	13,900
NET CASH INCOME PER HECTARE	100
Total Receipts Per Hectare	75,975
Total Expenses Per Hectare	82,658
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(6,683)
EFFECTIVE WAGE RATE PER MAN-DAY	899

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectares of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (CIVT variety) per hectare. Seed is purchased at 150 CFA francs per kilogram. Total cost is 1,500 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 60 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per yer is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 75 days of use in animal traction crop activities. Of these total days, 15 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the millet is 913 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 443 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs in millet production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 900 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 631 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Harvesting/Threshing	17	2
Marketing	2	2
Total	66	15

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use of Equipment
Crop Equipment	11	43	54
Animal-drawn Cart	4	17	96
Draft Animals	15	60	150

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	20.4
Animal-drawn Cart	4.2
Draft Animals	10.0

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Cultivator Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciation of equipment pro-rated for use in Millet cultivation is 1,394 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in Millet cultivation is 400 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 80,853 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,327 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 909 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 14,000 CFA francs (100 kilograms of millet sold to the government at 80 CFA francs per kilogram and 80 kilograms of millet sold on the local market at 75 CFA francs per kilogram.)

S. Non-cash Receipts

Farm family has available for consumption an estimated 729 kilograms of millet per hectare cultivated. Total value of this grain is 54,675 CFA francs (729 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 7.3 metric tons are produced per hectare of millet grown. Total value for this by-product is 7,300 CFA francs.

Table B-9

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type III with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	8,000
Seed	1,500	Crop Sales to Private Markets	4,500
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	60	TOTAL CASH RECEIPTS	12,500
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	703	Value of On-Farm Crop Consumption/Use	56,175
Equipment Repair and Maintenance	296	Value of On-Farm Use of Crop By-Products	7,300
Other Cash Costs	0		
Crop Marketing Costs	800		
Interest Paid	421		
TOTAL CASH EXPENSES	12,755		
Non-Cash Expenses			
Unpaid Family Labor	66,000		
Capital Recovery/ Equipment	898		
Capital Recovery/ Draft Animals	308		
Interest on Equity Capital @ 18%	932		
TOTAL NON-CASH EXPENSES	68,138	TOTAL NON-CASH RECEIPTS	63,475
TOTAL EXPENSES	80,893	TOTAL RECEIPTS	75,975

Total Cash Receipts Per Hectare	12,500
Total Cash Expenses Per Hectare	12,755
NET CASH INCOME PER HECTARE	(255)
Total Receipts Per Hectare	75,975
Total Expenses Per Hectare	80,893
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(4,918)
EFFECTIVE WAGE RATE PER MAN-DAY	925

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (CIVT variety) per hectare. Seed is purchased at 150 CFA francs per kilogram. Total cost is 1,500 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 60 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per yer is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 120 days of use in animal traction crop activities. Of these total days, 15 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the millet is 703 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 296 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs in millet production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 800 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 421 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Harvesting/Threshing	17	2
Marketing	2	2
Total	66	15

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use of Equipment
Crop Equipment	11	76	87
Animal-drawn Cart	4	29	108
Draft Animals	15	105	195

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	11.3
Animal-drawn Cart	3.7
Draft Animals	7.7

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One Donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Cultivator Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciation of equipment pro-rated for use in Millet cultivation is 898 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in Millet cultivation is 308 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 80,853 CFA francs. Interest on equity capital pro-rated at 18% per annum is 932 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 909 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 12,500 CFA francs (100 kilograms of millet sold to the government at 80 CFA francs per kilogram and 60 kilograms of millet sold on the local market at 75 CFA francs per kilogram.)

S. Non-cash Receipts

Farm family has available for consumption an estimated 749 kilograms of millet per hectare cultivated. Total value of this grain is 56,175 CFA francs (749 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 7.3 metric tons are produced per hectare of millet grown. Total value for this by-product is 7,300 CFA francs.

Table B-10

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type I with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	16,000
Seed	1,500	Crop Sales to Private Markets	6,000
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	60	TOTAL CASH RECEIPTS	22,000
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	6,935	Value of On-Farm Crop Consumption/Use	47,175
Equipment Repair and Maintenance	696	Value of On-Farm Use of Crop By-Products	7,300
Other Cash Costs	0		
Crop Marketing Costs	1,400		
Interest Paid	1,841		
TOTAL CASH EXPENSES	21,982		
Non-Cash Expenses			
Unpaid Family Labor	56,000		
Capital Recovery/ Equipment	2,676		
Capital Recovery/ Draft Animals	594		
Interest on Equity Capital @ 18%	2,323		
TOTAL NON-CASH EXPENSES	61,593	TOTAL NON-CASH RECEIPTS	54,475
TOTAL EXPENSES	83,572	TOTAL RECEIPTS	76,475

Total Cash Receipts Per Hectare	22,000
Total Cash Expenses Per Hectare	21,982
NET CASH INCOME PER HECTARE	18
Total Receipts Per Hectare	76,475
Total Expenses Per Hectare	83,572
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(7,097)
EFFECTIVE WAGE RATE PER MAN-DAY	873

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (CIVT variety) per hectare. Seed is purchased at 150 CFA francs per kilogram. Total cost is 1,500 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 60 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per yer is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 20 days of use in animal traction crop activities. Of these total days, 10 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the millet is 6,935 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 696 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs in millet production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 1400 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 17,271 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 1,841 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Harvesting/Threshing	17	2
Marketing	2	2
Total	56	10

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use of Equipment
Crop Equipment	6	12	18
Animal-drawn Cart	4	8	87
Draft Animals	10	20	105

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	33.3
Animal-drawn Cart	4.6
Draft Animals	9.5

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Charrue"/Plow	6,715
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	117,195 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	242,195 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	24,220 CFA francs
Total loan	217,975 CFA francs
Capital payment per year	54,494 CFA francs
Interest payment per year	17,271 CFA francs
Total annual payment	71,765 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Plow	6,715	0	6,715	8 years	839
Cultivator	9,180	0	9,180	8 years	1,148
Cultivator Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	117,195		117,195		17,463

Annual depreciation of equipment pro-rated for use in Millet cultivation is 2,676 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in Millet cultivation is 594 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 133,208 CFA francs. Interest on equity capital pro-rated at 18% per annum is 2,323 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 909 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 22,000 CFA francs (200 kilograms of millet sold to the government at 80 CFA francs per kilogram and 80 kilograms of millet sold on the local market at 75 CFA francs per kilogram.)

S. Non-cash Receipts

Farm family has available for consumption an estimated 629 kilograms of millet per hectare cultivated. Total value of this grain is 47,175 CFA francs (629 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 7.3 metric tons are produced per hectare of millet grown. Total value for this by-product is 7,300 CFA francs.

Table B-11

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type II with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	16,000
Seed	1,500	Crop Sales to Private Markets	6,000
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	60	TOTAL CASH RECEIPTS	22,000
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	6,424	Value of On-Farm Crop Consumption/Use	47,175
Equipment Repair and Maintenance	481	Value of On-Farm Use of Crop By-Products	7,300
Other Cash Costs	0		
Crop Marketing Costs	1,400		
Interest Paid	1,470		
TOTAL CASH EXPENSES	20,425		
Non-Cash Expenses			
Unpaid Family Labor	56,000		
Capital Recovery/ Equipment	1,764		
Capital Recovery/ Draft Animals	550		
Interest on Equity Capital @ 18%	2,041		
TOTAL NON-CASH EXPENSES	60,355	TOTAL NON-CASH RECEIPTS	54,475
TOTAL EXPENSES	80,780	TOTAL RECEIPTS	76,475

Total Cash Receipts Per Hectare	22,000
Total Cash Expenses Per Hectare	20,425
NET CASH INCOME PER HECTARE	1,575
Total Receipts Per Hectare	76,475
Total Expenses Per Hectare	80,780
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(4,305)
EFFECTIVE WAGE RATE PER MAN-DAY	923

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (CIVT variety) per hectare. Seed is purchased at 150 CFA francs per kilogram. Total cost is 1,500 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 60 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 50 days of use in animal traction crop activities. Of these total days, 10 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the millet is 6,424 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 481 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs in millet production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 1,400 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 17,271 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 1,470 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Harvesting/Threshing	17	2
Marketing	2	2
Total	56	10

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use of Equipment
Crop Equipment	6	24	30
Animal-drawn Cart	4	16	95
Draft Animals	10	40	125

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	20.0
Animal-drawn Cart	4.2
Draft Animals	8.8

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Charrue"/Plow	6,715
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	117,195 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	242,195 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	24,220 CFA francs
Total loan	217,975 CFA francs
Capital payment per year	54,494 CFA francs
Interest payment per year	17,271 CFA francs
Total annual payment	71,765 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Plow	6,715	0	6,715	8 years	839
Cultivator	9,180	0	9,180	8 years	1,148
Cultivator Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	117,195		117,195		17,463

Annual depreciation of equipment pro-rated for use in Millet cultivation is 1,764 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in Millet cultivation is 550 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 133,208 CFA francs. Interest on equity capital pro-rated at 18% per annum is 2,041 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 909 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 22,000 CFA francs (200 kilograms of millet sold to the government at 80 CFA francs per kilogram and 80 kilograms of millet sold on the local market at 75 CFA francs per kilogram.)

S. Non-cash Receipts

Farm family has available for consumption an estimated 629 kilograms of millet per hectare cultivated. Total value of this grain is 47,175 CFA francs (629 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 7.3 metric tons are produced per hectare of millet grown. Total value for this by-product is 7,300 CFA francs.

Table B-12

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type III with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES

Cash Expenses

Wage Labor	0
Seed	1,500
Fertilizer	7,250
Insecticides and/or Other Treatments	60
Expendable Hand Tools	1,725
Draft Animal Maintenance	4,745
Equipment Repair and Maintenance	355
Other Cash Costs	0
Crop Marketing Costs	1,400
Interest Paid	1,086
TOTAL CASH EXPENSES	18,121

Non-Cash Expenses

Unpaid Family Labor	56,000
Capital Recovery/ Equipment	1,253
Capital Recovery/ Draft Animals	406
Interest on Equity Capital @ 18%	1,507
TOTAL NON-CASH EXPENSES	59,166
TOTAL EXPENSES	77,287

RECEIPTS

Cash Receipts

Crop Sales to Government Agencies	16,000
Crop Sales to Private Markets	6,000
Sales of Crop By-Products	0
TOTAL CASH RECEIPTS	22,000

Non-Cash Receipts

Value of On-Farm Crop Consumption/Use	47,175
Value of On-Farm Use of Crop By-Products	7,300
TOTAL NON-CASH RECEIPTS	54,475
TOTAL RECEIPTS	76,475

Total Cash Receipts Per Hectare	22,000
Total Cash Expenses Per Hectare	18,121
NET CASH INCOME PER HECTARE	3,879
Total Receipts Per Hectare	76,475
Total Expenses Per Hectare	77,287
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(812)
EFFECTIVE WAGE RATE PER MAN-DAY	986

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (CIVT variety) per hectare. Seed is purchased at 150 CFA francs per kilogram. Total cost is 1,500 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 60 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "houe" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 79 days of use in animal traction crop activities. Of these total days, 10 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the millet is 4,745 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 355 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs in millet production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 1,400 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 17,271 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 1,086 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Harvesting/Threshing	17	2
Marketing	2	2
Total	56	10

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use of Equipment
Crop Equipment	6	40	46
Animal-drawn Cart	4	29	108
Draft Animals	10	69	154

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	13.0
Animal-drawn Cart	3.7
Draft Animals	6.5

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Charrue"/Plow	6,715
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	117,195 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	242,195 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	24,220 CFA francs
Total loan	217,975 CFA francs
Capital payment per year	54,494 CFA francs
Interest payment per year	17,271 CFA francs
Total annual payment	71,765 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Plow	6,715	0	6,715	8 years	839
Cultivator	9,180	0	9,180	8 years	1,148
Cultivator Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	117,195		117,195		17,463

Annual depreciation of equipment pro-rated for use in Millet cultivation is 1,253 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in Millet cultivation is 406 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 133,208 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,507 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 909 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 22,000 CFA francs (200 kilograms of millet sold to the government at 80 CFA francs per kilogram and 80 kilograms of millet sold on the local market at 75 CFA francs per kilogram.)

S. Non-cash Receipts

Farm family has available for consumption an estimated 629 kilograms of millet per hectare cultivated. Total value of this grain is 47,175 CFA francs (629 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 7.3 metric tons are produced per hectare of millet grown. Total value for this by-product is 7,300 CFA francs.

Table B-13

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type I with Traditional Technology
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	750	Crop Sales to Private Markets	1,575
Fertilizer	0	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	1,575
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	17,925
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	2,000
Other Cash Costs	0		
Crop Marketing Costs	105		
Interest Paid	0		
TOTAL CASH EXPENSES	3,155		
Non-Cash Expenses			
Unpaid Family Labor	34,500		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	34,500	TOTAL NON-CASH RECEIPTS	19,925
TOTAL EXPENSES	37,655	TOTAL RECEIPTS	21,500

Total Cash Receipts Per Hectare	1,575
Total Cash Expenses Per Hectare	3,155
NET CASH INCOME PER HECTARE	(1,580)
Total Receipts Per Hectare	21,500
Total Expenses Per Hectare	37,655
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(16,155)
EFFECTIVE WAGE RATE PER MAN-DAY	399

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with traditional agricultural technology.

B. Area Cultivated

Under the traditional agricultural technology, this farm allocates the available cropland to 2.7 hectares of millet and cowpeas in association, 0.2 hectares of sorghum in pure stand, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of local millet seed per hectare from family granary stocks. Seed is valued at 75 CFA francs per kilogram. Total cost is 750 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticides/Fungicides and/or Other Treatments

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 105 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
1st Weeding	16
2nd Weeding	12
3rd Weeding	0
Harvesting/Threshing	5
Marketing	1
Total	46

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 260 kilograms of grain. The farm sells an average of 8 percent of the yield. Cash value of millet sales per hectare is 1,575 CFA francs (21 kilograms of millet x 75 CFA francs per kilogram). No crop by-products are sold.

S. Non-Cash Receipts

Farm family has available for consumption an estimated 239 kilograms of millet per hectare cultivated. Total value of this grain is 17,925 CFA francs (239 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 2.0 metric tons are produced per hectare of millet grown. Total value for this by-product is 2,000 CFA francs.

Table B-14

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type II with Traditional Technology
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	750	Crop Sales to Private Markets	1,575
Fertilizer	0	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	1,575
Expendable Hand Tools	1,840		
Draft Animal Maintenance	0	**Non-Cash Receipts**	
Equipment Repair and Maintenance	0	Value of On-Farm Crop Consumption/Use	17,925
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	2,000
Crop Marketing Costs	105		
Interest Paid	0		
TOTAL CASH EXPENSES	2,695		
Non-Cash Expenses			
Unpaid Family Labor	34,500		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	34,500	TOTAL NON-CASH RECEIPTS	19,925
TOTAL EXPENSES	37,195	TOTAL RECEIPTS	21,500

Total Cash Receipts Per Hectare	1,575
Total Cash Expenses Per Hectare	2,695
NET CASH INCOME PER HECTARE	(1,120)
Total Receipts Per Hectare	21,500
Total Expenses Per Hectare	37,195
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(15,695)
EFFECTIVE WAGE RATE PER MAN-DAY	409

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 4.5 hectares of millet and cowpeas in association, 0.35 hectares of sorghum in pure stand, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of local millet seed per hectare from family granary stocks. Seed is valued at 75 CFA francs per kilogram. Total cost is 750 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer

G. Insecticides/Fungicides and/or Other Treatments

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 105 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
1st Weeding	16
2nd Weeding	12
3rd Weeding	0
Harvesting/Threshing	5
Marketing	1
Total	46

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 260 kilograms of grain. The farm sells an average of 8 percent of the yield. Cash value of millet sales per hectare is 1,575 CFA francs (21 kilograms of millet x 75 CFA francs per kilogram). No crop by-products are sold.

S. Non-Cash Receipts

Farm family has available for consumption an estimated 239 kilograms of millet per hectare cultivated. Total value of this grain is 17,925 CFA francs (239 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 2.0 metric tons are produced per hectare of millet grown. Total value for this by-product is 2,000 CFA francs.

Table B-15

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type III with Traditional Technology
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	750	Crop Sales to Private Markets	1,575
Fertilizer	0	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	1,575
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	17,925
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	2,000
Other Cash Costs	0		
Crop Marketing Costs	105		
Interest Paid	0		
TOTAL CASH EXPENSES	2,580		
Non-Cash Expenses			
Unpaid Family Labor	34,500		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	34,500	TOTAL NON-CASH RECEIPTS	19,925
TOTAL EXPENSES	37,080	TOTAL RECEIPTS	21,500

Total Cash Receipts Per Hectare	1,575
Total Cash Expenses Per Hectare	2,580
NET CASH INCOME PER HECTARE	(1,005)
Total Receipts Per Hectare	21,500
Total Expenses Per Hectare	37,080
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(15,580)
EFFECTIVE WAGE RATE PER MAN-DAY	411

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 7.3 hectares of millet and cowpeas in association, 0.5 hectares of sorghum in pure stand, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of local millet seed per hectare from family granary stocks. Seed is valued at 75 CFA francs per kilogram. Total cost is 750 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticides/Fungicides and/or Other Treatments

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 105 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
1st Weeding	16
2nd Weeding	12
3rd Weeding	0
Harvesting/Threshing	5
Marketing	1
Total	46

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 260 kilograms of grain. The farm sells an average of 8 percent of the yield. Cash value of millet sales per hectare is 1,575 CFA francs (21 kilograms of millet x 75 CFA francs per kilogram). No crop by-products are sold.

S. Non-Cash Receipts

Farm family has available for consumption an estimated 239 kilograms of millet per hectare cultivated. Total value of this grain is 17,925 CFA francs (239 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 2.0 metric tons are produced per hectare of millet grown. Total value for this by-product is 2,000 CFA francs.

Table B-16

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type I with Partial Package Adoption
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	8,000
Seed	1,500	Crop Sales to Private Markets	3,750
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	60	TOTAL CASH RECEIPTS	11,750
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	23,475
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	3,700
Other Cash Costs	0		
Crop Marketing Costs	750		
Interest Paid	0		
TOTAL CASH EXPENSES	11,860		
Non-Cash Expenses			
Unpaid Family Labor	41,250		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	41,250	TOTAL NON-CASH RECEIPTS	27,175
TOTAL EXPENSES	53,110	TOTAL RECEIPTS	38,925

Total Cash Receipts Per Hectare	11,750
Total Cash Expenses Per Hectare	11,860
NET CASH INCOME PER HECTARE	(110)
Total Receipts Per Hectare	38,925
Total Expenses Per Hectare	53,110
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(14,185)
EFFECTIVE WAGE RATE PER MAN-DAY	492

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (HKP variety) per hectare. Seed is purchased at 150 CFA francs per kilogram. Total cost is 1,500 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 60 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 750 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	17
2nd Weeding	13
3rd Weeding	0
Harvesting/Threshing	8
Marketing	2
Total	55

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 463 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 11,750 CFA francs (100 kilograms of millet sold to the government at 80 CFA francs per kilogram and 50 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption an estimated 313 kilograms of millet per hectare cultivated. Total value of this grain is 23,475 CFA francs (313 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 3.7 metric tons are produced per hectare of millet grown. Total value for this by-product is 3,700 CFA francs.

Table B-17

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type II with Partial Package Adoption
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	8,000
Seed	1,500	Crop Sales to Private Markets	3,750
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	60	TOTAL CASH RECEIPTS	11,750
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	23,475
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	3,700
Other Cash Costs	0		
Crop Marketing Costs	750		
Interest Paid	0		
TOTAL CASH EXPENSES	11,400		
Non-Cash Expenses			
Unpaid Family Labor	41,250		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	41,250	TOTAL NON-CASH RECEIPTS	27,175
TOTAL EXPENSES	52,650	TOTAL RECEIPTS	38,925

Total Cash Receipts Per Hectare	11,750
Total Cash Expenses Per Hectare	11,400
NET CASH INCOME PER HECTARE	350
Total Receipts Per Hectare	38,925
Total Expenses Per Hectare	52,650
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(13,725)
EFFECTIVE WAGE RATE PER MAN-DAY	500

*Exchange Rates in 1983: U.S. $1.00 = FCFA 350.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectares of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (HKP variety) per hectare. Seed is purchased at 150 CFA francs per kilogram. Total cost is 1,500 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 60 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 750 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	17
2nd Weeding	13
3rd Weeding	0
Harvesting/Threshing	8
Marketing	2
Total	55

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 463 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 11,750 CFA francs (100 kilograms of millet sold to the government at 80 CFA francs per kilogram and 50 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption an estimated 313 kilograms of millet per hectare cultivated. Total value of this grain is 23,475 CFA francs (313 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 3.7 metric tons are produced per hectare of millet grown. Total value for this by-product is 3,700 CFA francs.

Table B-18

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type III with Partial Package Adoption
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	8,000
Seed	1,500	Crop Sales to Private Markets	3,750
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	60	TOTAL CASH RECEIPTS	11,750
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	23,475
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	3,700
Other Cash Costs	0		
Crop Marketing Costs	750		
Interest Paid	0		
TOTAL CASH EXPENSES	11,285		
Non-Cash Expenses			
Unpaid Family Labor	41,250		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	41,250	TOTAL NON-CASH RECEIPTS	27,175
TOTAL EXPENSES	52,535	TOTAL RECEIPTS	38,925

Total Cash Receipts Per Hectare	11,750
Total Cash Expenses Per Hectare	11,285
NET CASH INCOME PER HECTARE	465
Total Receipts Per Hectare	38,925
Total Expenses Per Hectare	52,535
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(13,610)
EFFECTIVE WAGE RATE PER MAN-DAY	503

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (HKP variety) per hectare. Seed is purchased at 150 CFA francs per kilogram. Total cost is 1,500 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 60 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 750 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	17
2nd Weeding	13
3rd Weeding	0
Harvesting/Threshing	8
Marketing	2
Total	55

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 463 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 11,750 CFA francs (100 kilograms of millet sold to the government at 80 CFA francs per kilogram and 50 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption an estimated 313 kilograms of millet per hectare cultivated. Total value of this grain is 23,475 CFA francs (313 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 3.7 metric tons are produced per hectare of millet grown. Total value for this by-product is 3,700 CFA francs.

Table B-19

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type I with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES

Cash Expenses

Wage Labor	0
Seed	1,500
Fertilizer	7,250
Insecticides and/or Other Treatments	60
Expendable Hand Tools	2,300
Draft Animal Maintenance	858
Equipment Repair and Maintenance	637
Other Cash Costs	0
Crop Marketing Costs	950
Interest Paid	908
TOTAL CASH EXPENSES	14,463

Non-Cash Expenses

Unpaid Family Labor	30,750
Capital Recovery/ Equipment	2,060
Capital Recovery/ Draft Animals	376
Interest on Equity Capital @ 18%	1,683
TOTAL NON-CASH EXPENSES	34,869
TOTAL EXPENSES	49,332

RECEIPTS

Cash Receipts

Crop Sales to Government Agencies	8,000
Crop Sales to Private Markets	6,750
Sales of Crop By-Products	0
TOTAL CASH RECEIPTS	14,750

Non-Cash Receipts

Value of On-Farm Crop Consumption/Use	24,450
Value of On-Farm Use of Crop By-Products	4,100
TOTAL NON-CASH RECEIPTS	28,550
TOTAL RECEIPTS	43,300

Total Cash Receipts Per Hectare	14,750
Total Cash Expenses Per Hectare	14,463
NET CASH INCOME PER HECTARE	287
Total Receipts Per Hectare	43,300
Total Expenses Per Hectare	49,332
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(6,032)
EFFECTIVE WAGE RATE PER MAN-DAY	603

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (HKP variety) per hectare. Seed is purchased at 150 CFA francs per kilogram. Total cost is 1,500 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 60 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 31 days of use in animal traction crop activities. Of these total days, 10 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the millet is 858 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 637 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs in millet production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 950 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 908 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	6	2
2nd Weeding	4	1
3rd Weeding	0	0
Harvesting/Threshing	10	2
Marketing	2	2
Total	41	10

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use of Equipment
Crop Equipment	6	12	18
Animal-drawn Cart	4	9	88
Draft Animals	10	21	106

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	33.3
Animal-drawn Cart	4.5
Draft Animals	9.4

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asine "/Donkey Toolbar Cultivator	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar Cultivator	12,665	0	12,665	8 years	1,583
Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciation of equipment pro-rated for use in Millet cultivation is 2,060 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in Millet cultivation is 376 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 80,853 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,683 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 516 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 14,750 CFA francs (100 kilograms of millet sold to the government at 80 CFA francs per kilogram and 90 kilograms of millet sold on the local market at 75 CFA francs per kilogram.)

S. Non-cash Receipts

Farm family has available for consumption an estimated 326 kilograms of millet per hectare cultivated. Total value of this grain is 24,450 CFA francs (326 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 4.1 metric tons are produced per hectare of millet grown. Total value for this by-product is 4,100 CFA francs.

Table B-20

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type II with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	8,000
Seed	1,500	Crop Sales to Private Markets	6,750
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	60	TOTAL CASH RECEIPTS	14,750
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	730	Value of On-Farm Crop Consumption/Use	24,450
Equipment Repair and Maintenance	447	Value of On-Farm Use of Crop By-Products	4,100
Other Cash Costs	0		
Crop Marketing Costs	950		
Interest Paid	638		
TOTAL CASH EXPENSES	13,415		
Non-Cash Expenses			
Unpaid Family Labor	30,750		
Capital Recovery/ Equipment	1,409		
Capital Recovery/ Draft Animals	320		
Interest on Equity Capital @ 18%	1,245		
TOTAL NON-CASH EXPENSES	33,724	TOTAL NON-CASH RECEIPTS	28,550
TOTAL EXPENSES	47,139	TOTAL RECEIPTS	43,300

Total Cash Receipts Per Hectare	14,750
Total Cash Expenses Per Hectare	13,415
NET CASH INCOME PER HECTARE	1,335
Total Receipts Per Hectare	43,300
Total Expenses Per Hectare	47,139
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(3,839)
EFFECTIVE WAGE RATE PER MAN-DAY	656

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

96

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectares of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (HKP variety) per hectare. Seed is purchased at 150 CFA francs per kilogram. Total cost is 1,500 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 60 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 50 days of use in animal traction crop activities. Of these total days, 10 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the millet is 730 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 447 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs in millet production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 950 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 638 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	6	2
2nd Weeding	4	1
3rd Weeding	0	0
Harvesting/Threshing	10	2
Marketing	2	2
Total	41	10

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use of Equipment
Crop Equipment	6	23	29
Animal-drawn Cart	4	17	96
Draft Animals	10	40	125

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	20.7
Animal-drawn Cart	4.2
Draft Animals	8.0

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asine "/Donkey Toolbar Cultivator	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar Cultivator	12,665	0	12,665	8 years	1,583
Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciation of equipment pro-rated for use in Millet cultivation is 1,409 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in Millet cultivation is 320 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 80,853 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,245 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 516 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 14,750 CFA francs (100 kilograms of millet sold to the government at 80 CFA francs per kilogram and 90 kilograms of millet sold on the local market at 75 CFA francs per kilogram.)

S. Non-cash Receipts

Farm family has available for consumption an estimated 326 kilograms of millet per hectare cultivated. Total value of this grain is 24,450 CFA francs (326 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 4.1 metric tons are produced per hectare of millet grown. Total value for this by-product is 4,100 CFA francs.

Table B-21

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type III with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	8,000
Seed	1,500	Crop Sales to Private Markets	6,750
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	60	TOTAL CASH RECEIPTS	14,750
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	584	Value of On-Farm Crop Consumption/Use	24,450
Equipment Repair and Maintenance	317	Value of On-Farm Use of Crop By-Products	4,100
Other Cash Costs	0		
Crop Marketing Costs	950		
Interest Paid	452		
TOTAL CASH EXPENSES	12,838		
Non-Cash Expenses			
Unpaid Family Labor	30,750		
Capital Recovery/ Equipment	972		
Capital Recovery/ Draft Animals	256		
Interest on Equity Capital @ 18%	915		
TOTAL NON-CASH EXPENSES	32,893	TOTAL NON-CASH RECEIPTS	28,550
TOTAL EXPENSES	45,731	TOTAL RECEIPTS	43,300

Total Cash Receipts Per Hectare	14,750
Total Cash Expenses Per Hectare	12,838
NET CASH INCOME PER HECTARE	1,912
Total Receipts Per Hectare	43,200
Total Expenses Per Hectare	45,731
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(2,531)
EFFECTIVE WAGE RATE PER MAN-DAY	691

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (HKP variety) per hectare. Seed is purchased at 150 CFA francs per kilogram. Total cost is 1,500 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 60 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 81 days of use in animal traction crop activities. Of these total days, 10 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the millet is 584 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 317 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs in millet production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 950 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 452 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	6	2
2nd Weeding	4	1
3rd Weeding	0	0
Harvesting/Threshing	10	2
Marketing	2	2
Total	41	10

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use of Equipment
Crop Equipment	6	41	47
Animal-drawn Cart	4	30	109
Draft Animals	10	71	156

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	12.8
Animal-drawn Cart	3.7
Draft Animals	6.4

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asine "/Donkey Toolbar Cultivator	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar Cultivator	12,665	0	12,665	8 years	1,583
Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciation of equipment pro-rated for use in Millet cultivation is 972 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in Millet cultivation is 256 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 80,853 CFA francs. Interest on equity capital pro-rated at 18% per annum is 915 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 516 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 14,750 CFA francs (100 kilograms of millet sold to the government at 80 CFA francs per kilogram and 90 kilograms of millet sold on the local market at 75 CFA francs per kilogram.)

S. Non-cash Receipts

Farm family has available for consumption an estimated 326 kilograms of millet per hectare cultivated. Total value of this grain is 24,450 CFA francs (326 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 4.1 metric tons are produced per hectare of millet grown. Total value for this by-product is 4,100 CFA francs.

Table B-22

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type I with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	16,000
Seed	1,500	Crop Sales to Private Markets	250
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	60	TOTAL CASH RECEIPTS	21,250
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	5,840	Value of On-Farm Crop Consumption/Use	18,450
Equipment Repair and Maintenance	584	Value of On-Farm Use of Crop By-Products	4,100
Other Cash Costs	0		
Crop Marketing Costs	1,350		
Interest Paid	1,543		
TOTAL CASH EXPENSES	20,427		
Non-Cash Expenses			
Unpaid Family Labor	27,750		
Capital Recovery/ Equipment	2,397		
Capital Recovery/ Draft Animals	500		
Interest on Equity Capital @ 18%	2,142		
TOTAL NON-CASH EXPENSES	32,789	TOTAL NON-CASH RECEIPTS	22,550
TOTAL EXPENSES	53,216	TOTAL RECEIPTS	43,800

Total Cash Receipts Per Hectare	21,250
Total Cash Expenses Per Hectare	20,427
NET CASH INCOME PER HECTARE	823
Total Receipts Per Hectare	43,800
Total Expenses Per Hectare	53,216
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(9,416)
EFFECTIVE WAGE RATE PER MAN-DAY	496

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (HKP variety) per hectare. Seed is purchased at 150 CFA francs per kilogram. Total cost is 1,500 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 60 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 24 days of use in animal traction crop activities. Of these total days, 8 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the millet is 5,840 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 584 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs in millet production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 1,350 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,792 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 1,543 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	4	1
2nd Weeding	4	1
3rd Weeding	0	0
Harvesting/Threshing	10	2
Marketing	2	2
Total	37	8

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use of Equipment
Crop Equipment	4	8	12
Animal-drawn Cart	4	8	87
Draft Animals	8	16	99

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	33.3
Animal-drawn Cart	4.6
Draft Animals	8.0

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	110,480 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	235,480 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	23,548 CFA francs
Total loan	211,932 CFA francs
Capital payment per year	52,983 CFA francs
Interest payment per year	16,792 CFA francs
Total annual payment	69,775 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	9,180	0	9,180	8 years	1,148
Cultivator Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	110,480		110,480		16,624

Annual depreciation of equipment pro-rated for use in Millet cultivation is 2,397 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in Millet cultivation is 500 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 129,514 CFA francs. Interest on equity capital pro-rated at 18% per annum is 2,142 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 516 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 21,250 CFA francs (200 kilograms of millet sold to the government at 80 CFA francs per kilogram and 70 kilograms of millet sold on the local market at 75 CFA francs per kilogram.)

S. Non-cash Receipts

Farm family has available for consumption an estimated 246 kilograms of millet per hectare cultivated. Total value of this grain is 18,450 CFA francs (246 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 4.1 metric tons are produced per hectare of millet grown. Total value for this by-product is 4,100 CFA francs.

Table B-23

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type II with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	16,000
Seed	1,500	Crop Sales to Private Markets	5,250
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	60	TOTAL CASH RECEIPTS	21,250
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	5,037	Value of On-Farm Crop Consumption/Use	18,450
Equipment Repair and Maintenance	414	Value of On-Farm Use of Crop By-Products	4,100
Other Cash Costs	0		
Crop Marketing Costs	1,350		
Interest Paid	1,301		
TOTAL CASH EXPENSES	18,752		
Non-Cash Expenses			
Unpaid Family Labor	27,750		
Capital Recovery/ Equipment	1,597		
Capital Recovery/ Draft Animals	431		
Interest on Equity Capital @ 18%	,670		
TOTAL NON-CASH EXPENSES	31,448	TOTAL NON-CASH RECEIPTS	22,550
TOTAL EXPENSES	50,200	TOTAL RECEIPTS	43,800

Total Cash Receipts Per Hectare	21,250
Total Cash Expenses Per Hectare	18,752
NET CASH INCOME PER HECTARE	2,498
Total Receipts Per Hectare	43,800
Total Expenses Per Hectare	50,200
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(6,400)
EFFECTIVE WAGE RATE PER MAN-DAY	577

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 3.5 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (HKP variety) per hectare. Seed is purchased at 150 CFA francs per kilogram. Total cost is 1,500 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 60 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 41 days of use in animal traction crop activities. Of these total days, 8 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the millet is 5,037 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 414 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs in millet production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 1,350 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,792 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 1,301 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding, Replacement of Missing Plants	4	1
2nd Weeding	4	1
3rd Weeding	0	0
Harvesting/Threshing	10	2
Marketing	2	2
Total	37	8

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use of Equipment
Crop Equipment	4	16	20
Animal-drawn Cart	4	17	96
Draft Animals	8	33	116

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	20.0
Animal-drawn Cart	4.2
Draft Animals	6.9

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	110,480 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	235,480 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	23,548 CFA francs
Total loan	211,932 CFA francs
Capital payment per year	52,983 CFA francs
Interest payment per year	16,792 CFA francs
Total annual payment	69,775 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	9,180	0	9,180	8 years	1,148
Cultivator Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	110,480		110,480		16,624

Annual depreciation of equipment pro-rated for use in Millet cultivation is 1,597 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of donkey pro-rated for use in Millet cultivation is 431 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 129,514 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,670 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 516 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 21,250 CFA francs (200 kilograms of millet sold to the government at 80 CFA francs per kilogram and 70 kilograms of millet sold on the local market at 75 CFA francs per kilogram.)

S. Non-cash Receipts

Farm family has available for consumption an estimated 246 kilograms of millet per hectare cultivated. Total value of this grain is 18,450 CFA francs (246 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 4.1 metric tons are produced per hectare of millet grown. Total value for this by-product is 4,100 CFA francs.

Table B-24

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type III with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	16,000
Seed	1,500	Crop Sales to Private Markets	5,250
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	60	TOTAL CASH RECEIPTS	21,250
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	4,161	Value of On-Farm Crop Consumption/Use	18,450
Equipment Repair and Maintenance	306	Value of On-Farm Use of Crop By-Products	4,100
Other Cash Costs	0		
Crop Marketing Costs	1,350		
Interest Paid	943		
TOTAL CASH EXPENSES	17,295		
Non-Cash Expenses			
Unpaid Family Labor	27,750		
Capital Recovery/ Equipment	1,115		
Capital Recovery/ Draft Animals	356		
Interest on Equity Capital @ 18%	1,309		
TOTAL NON-CASH EXPENSES	30,530	TOTAL NON-CASH RECEIPTS	22,550
TOTAL EXPENSES	47,825	TOTAL RECEIPTS	43,800

Total Cash Receipts Per Hectare	21,250
Total Cash Expenses Per Hectare	17,295
NET CASH INCOME PER HECTARE	3,955
Total Receipts Per Hectare	43,800
Total Expenses Per Hectare	47,825
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(4,025)
EFFECTIVE WAGE RATE PER MAN-DAY	641

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

120

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (HKP variety) per hectare. Seed is purchased at 150 CFA francs per kilogram. Total cost is 1,500 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 60 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 66 days of use in animal traction crop activities. Of these total days, 8 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the millet is 4,161 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 306 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs in millet production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 1,350 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,792 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 943 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	4	1
2nd Weeding	4	1
3rd Weeding	0	0
Harvesting/Threshing	10	2
Marketing	2	2
Total	37	8

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use of Equipment
Crop Equipment	4	28	32
Animal-drawn Cart	4	30	109
Draft Animals	8	58	141

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	12.5
Animal-drawn Cart	3.
Draft Animals	5.7

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	110,480 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	235,480 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	23,548 CFA francs
Total loan	211,932 CFA francs
Capital payment per year	52,983 CFA francs
Interest payment per year	16,792 CFA francs
Total annual payment	69,775 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	9,180	0	9,180	8 years	1,148
Cultivator Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	110,480		110,480		16,624

Annual depreciation of equipment pro-rated for use in Millet cultivation is 1,115 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in Millet cultivation is 356 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 129,514 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,309 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 516 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 21,250 CFA francs (200 kilograms of millet sold to the government at 80 CFA francs per kilogram and 70 kilograms of millet sold on the local market at 75 CFA francs per kilogram.)

S. Non-cash Receipts

Farm family has available for consumption an estimated 246 kilograms of millet per hectare cultivated. Total value of this grain is 18,450 CFA francs (246 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 4.1 metric tons are produced per hectare of millet grown. Total value for this by-product is 4,100 CFA francs.

116

Table B-25

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type I with Traditional Technology
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES

Cash Expenses

Wage Labor	0
Seed	750
Fertilizer	0
Insecticides and/or Other Treatments	0
Expendable Hand Tools	2,300
Draft Animal Maintenance	0
Equipment Repair and Maintenance	0
Other Cash Costs	0
Crop Marketing Costs	175
Interest Paid	0
TOTAL CASH EXPENSES	3,225

Non-Cash Expenses

Unpaid Family Labor	80,000
Capital Recovery/ Equipment	0
Capital Recovery/ Draft Animals	0
Interest on Equity Capital @ 18%	0
TOTAL NON-CASH EXPENSES	80,000
TOTAL EXPENSES	83,225

RECEIPTS

Cash Receipts

Crop Sales	2,625
Sales of Crop By-Products	0
TOTAL CASH RECEIPTS	2,625

Non-Cash Receipts

Value of On-Farm Crop Consumption/Use	29,625
Value of On-Farm Use of Crop By-Products	3,400
TOTAL NON-CASH RECEIPTS	33,025
TOTAL RECEIPTS	35,650

Total Cash Receipts Per Hectare	2,625
Total Cash Expenses Per Hectare	3,225
NET CASH INCOME PER HECTARE	(600)
Total Receipts Per Hectare	35,650
Total Expenses Per Hectare	83,225
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(47,575)
EFFECTIVE WAGE RATE PER MAN-DAY	405

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

126

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 2.7 hectares of millet and cowpeas in association, 0.2 hectares of sorghum in pure stand, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of local millet seed per hectare from family granary stocks. Seed is valued at 75 CFA francs per kilogram. Total cost is 750 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticides/Fungicides and/or Other Treatments

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 175 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
1st Weeding	26
2nd Weeding	19
3rd Weeding	10
Harvesting/Threshing	8
Marketing	1
Total	80

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 430 kilograms of grain. The farm sells an average of 8 percent of the yield. Cash value of millet sales per hectare is 2,625 CFA francs (35 kilograms of millet x 75 CFA francs per kilogram). No crop by-products are sold.

S. Non-Cash Receipts

Farm family has available for consumption an estimated 395 kilograms of millet per hectare cultivated. Total value of this grain is 29,625 CFA francs (395 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 3.4 metric tons are produced per hectare of millet grown. Total value for this by-product is 3,400 CFA francs.

Table B-26

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type II with Traditional Technology
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	2,625
Seed	750	Sales of Crop By-Products	0
Fertilizer	0	TOTAL CASH RECEIPTS	2,625
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	29,625
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	3,400
Other Cash Costs	0		
Crop Marketing Costs	175		
Interest Paid	0		
TOTAL CASH EXPENSES	2,765		
Non-Cash Expenses			
Unpaid Family Labor	80,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	80,000	TOTAL NON-CASH RECEIPTS	33,025
TOTAL EXPENSES	82,765	TOTAL RECEIPTS	35,650

Total Cash Receipts Per Hectare	2,625
Total Cash Expenses Per Hectare	2,765
NET CASH INCOME PER HECTARE	(140)
Total Receipts Per Hectare	35,650
Total Expenses Per Hectare	82,765
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(47,115)
EFFECTIVE WAGE RATE PER MAN-DAY	411

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 4.5 hectares of millet and cowpeas in association, 0.35 hectares of sorghum in pure stand, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of local millet seed per hectare from family granary stocks. Seed is valued at 75 CFA francs per kilogram. Total cost is 750 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticides/Fungicides and/or Other Treatments

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 175 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
1st Weeding	26
2nd Weeding	19
3rd Weeding	10
Harvesting/Threshing	8
Marketing	1
Total	80

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 430 kilograms of grain. The farm sells an average of 8 percent of the yield. Cash value of millet sales per hectare is 2,625 CFA francs (35 kilograms of millet x 75 CFA francs per kilogram). No crop by-products are sold.

S. Non-Cash Receipts

Farm family has available for consumption an estimated 395 kilograms of millet per hectare cultivated. Total value of this grain is 29,625 CFA francs (395 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 3.4 metric tons are produced per hectare of millet grown. Total value for this by-product is 3,400 CFA francs.

Table B-27

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type III with Traditional Technology
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	2,625
Seed	750	Sales of Crop By-Products	0
Fertilizer	0	TOTAL CASH RECEIPTS	2,625
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	29,625
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	3,400
Other Cash Costs	0		
Crop Marketing Costs	175		
Interest Paid	0		
TOTAL CASH EXPENSES	2,650		
Non-Cash Expenses			
Unpaid Family Labor	80,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	80,000	TOTAL NON-CASH RECEIPTS	33,025
TOTAL EXPENSES	82,650	TOTAL RECEIPTS	35,650

Total Cash Receipts Per Hectare	2,625
Total Cash Expenses Per Hectare	2,650
NET CASH INCOME PER HECTARE	(25)
Total Receipts Per Hectare	35,650
Total Expenses Per Hectare	82,650
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(47,000)
EFFECTIVE WAGE RATE PER MAN-DAY	413

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

131

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 7.3 hectares of millet and cowpeas in association, 0.5 hectares of sorghum in pure stand, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of local millet seed per hectare from family granary stocks. Seed is valued at 75 CFA francs per kilogram. Total cost is 750 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticides/Fungicides and/or Other Treatments

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 175 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
1st Weeding	26
2nd Weeding	19
3rd Weeding	10
Harvesting/Threshing	8
Marketing	1
Total	80

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 430 kilograms of grain. The farm sells an average of 8 percent of the yield. Cash value of millet sales per hectare is 2,625 CFA francs (35 kilograms of millet x 75 CFA francs per kilogram). No crop by-products are sold.

S. Non-Cash Receipts

Farm family has available for consumption an estimated 395 kilograms of millet per hectare cultivated. Total value of this grain is 29,625 CFA francs (395 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 3.4 metric tons are produced per hectare of millet grown. Total value for this by-product is 3,400 CFA francs.

Table B-28

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type I with Partial Package Adoption
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0		
Seed	3,260	Crop Sales	31,725
Fertilizer	26,100	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	61	TOTAL CASH RECEIPTS	31,725
Expendable Hand Tools	2,300		
Draft Animal Maintenance	0	**Non-Cash Receipts**	
Equipment Repair and Maintenance	0	Value of On-Farm Crop Consumption/Use	30,150
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	6,600
Crop Marketing Costs	2,115		
Interest Paid	0		
TOTAL CASH EXPENSES	33,836		
Non-Cash Expenses			
Unpaid Family Labor	96,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	96,000	TOTAL NON-CASH RECEIPTS	36,750
TOTAL EXPENSES	129,836	TOTAL RECEIPTS	68,475

Total Cash Receipts Per Hectare	31,725
Total Cash Expenses Per Hectare	33,836
NET CASH INCOME PER HECTARE	(2,111)
Total Receipts Per Hectare	68,475
Total Expenses Per Hectare	129,836
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(61,361)
EFFECTIVE WAGE RATE PER MAN-DAY	361

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with partial package adoption.

B. Area Cultivated

Under The cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, 0.2 hectares of sorghum - all in pure stands, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of local millet seed (CIVT variety) per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 3,260 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 61 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 2115 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Harvesting/Threshing	15
Marketing	2
Total	96

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 825 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 31,725 CFA francs (423 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption an estimated 402 kilograms of millet per hectare cultivated. Total value of this grain is 30,150 CFA francs (402 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 6.6 metric tons are produced per hectare of millet grown. Total value for this by-product is 6,600 CFA francs.

Table B-29

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type II with Partial Package Adoption
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	31,275
Seed	3,260	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	31,275
Insecticides and/or Other Treatments	61		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	30,600
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	6,600
Other Cash Costs	0		
Crop Marketing Costs	2,085		
Interest Paid	0		
TOTAL CASH EXPENSES	33,346		
Non-Cash Expenses			
Unpaid Family Labor	96,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	96,000	TOTAL NON-CASH RECEIPTS	37,200
TOTAL EXPENSES	129,346	TOTAL RECEIPTS	68,475

Total Cash Receipts Per Hectare	31,275
Total Cash Expenses Per Hectare	33,346
NET CASH INCOME PER HECTARE	(2,071)
Total Receipts Per Hectare	68,475
Total Expenses Per Hectare	129,346
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(60,871)
EFFECTIVE WAGE RATE PER MAN-DAY	366

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with Partial Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (CIVT variety) per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 3,260 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 61 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 2085 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Harvesting/Threshing	15
Marketing	2
Total	96

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 825 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 31,725 CFA francs (417 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption an estimated 408 kilograms of millet per hectare cultivated. Total value of this grain is 30,600 CFA francs (408 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 6.6 metric tons are produced per hectare of millet grown. Total value for this by-product is 6,600 CFA francs.

Table B-30

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type III with Partial Package Adoption
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	31,200
Seed	3,260	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	31,200
Insecticides and/or Other Treatments	61		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	31,725
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	6,600
Other Cash Costs	0		
Crop Marketing Costs	2,080		
Interest Paid	0		
TOTAL CASH EXPENSES	33,226		
Non-Cash Expenses			
Unpaid Family Labor	96,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	96,000	TOTAL NON-CASH RECEIPTS	38,325
TOTAL EXPENSES	129,226	TOTAL RECEIPTS	69,525

Total Cash Receipts Per Hectare	31,200
Total Cash Expenses Per Hectare	33,226
NET CASH INCOME PER HECTARE	(2,026)
Total Receipts Per Hectare	69,525
Total Expenses Per Hectare	129,226
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(59,701)
EFFECTIVE WAGE RATE PER MAN-DAY	378

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with Partial Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectare of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (CIVT variety) per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 3,260 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thiomal for seed treatment of millet per hectare planted. Total cost is 61 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 2080 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Harvesting/Threshing	15
Marketing	2
Total	96

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 825 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 31,200 CFA francs (416 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption an estimated 423 kilograms of millet per hectare cultivated. Total value of this grain is 31,725 CFA francs (423 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 6.6 metric tons are produced per hectare of millet grown. Total value for this by-product is 6,600 CFA francs.

Table B-31

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type I with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	38,250
Seed	3,260	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	38,250
Insecticides and/or Other Treatments	61		
Expendable Hand Tools	2,300		
Draft Animal Maintenance	1,150	**Non-Cash Receipts**	
Equipment Repair and Maintenance	1,330	Value of On-Farm Crop Consumption/Use	29,925
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	7,300
Crop Marketing Costs	2,550		
Interest Paid	2,913		
TOTAL CASH EXPENSES	39,664		
Non-Cash Expenses			
Unpaid Family Labor	66,000		
Capital Recovery/ Equipment	4,637		
Capital Recovery/ Draft Animals	504		
Interest on Equity Capital @ 18%	3,200		
TOTAL NON-CASH EXPENSES	74,341	TOTAL NON-CASH RECEIPTS	37,225
TOTAL EXPENSES	114,005	TOTAL RECEIPTS	75,475

Total Cash Receipts Per Hectare	38,250
Total Cash Expenses Per Hectare	39,664
NET CASH INCOME PER HECTARE	(1,414)
Total Receipts Per Hectare	75,475
Total Expenses Per Hectare	114,005
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(38,530)
EFFECTIVE WAGE RATE PER MAN-DAY	416

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectare of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (CIVT variety) per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 3,260 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 61 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 44 days of use in animal traction crop activities. Of these total days, 15 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the millet is 1,150 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 1,330 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the millet production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 2,550 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 2,913 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Harvesting/Threshing	17	2
Marketing	2	2
Total	66	15

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	11	21	32
Animal-drawn Cart	4	8	87
Draft Animals	15	29	119

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	34.4
Animal-drawn Cart	4.6
Draft Animals	12.6

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base	18,530	0	18,530	8 years	2,316
Equipment	16,581	0	16,581	8 years	2,073
Cultivator	21,113	0	21,113	8 years	2,639
Donkey Toolbar					
Cultivator Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in millet cultivation is 4,637 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in millet cultivation is 504 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 106,481 CFA francs. Interest on equity capital pro-rated at 18% per annum is 3,200 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 909 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 38,250 CFA francs (510 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption an estimated 399 kilograms of millet per hectare cultivated. Total value of this grain is 29,925 CFA francs (399 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 7.3 metric tons are produced per hectare of millet grown. Total value for this by-product is 7,300 CFA francs.

Table B-32

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type II with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	38,250
Seed	3,260	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	38,250
Insecticides and/or Other Treatments	61		
Expendable Hand Tools	1,840		
Draft Animal Maintenance	913	**Non-Cash Receipts**	
Equipment Repair and Maintenance	849	Value of On-Farm Crop Consumption/Use	29,925
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	7,300
Crop Marketing Costs	2,550		
Interest Paid	1,860		
TOTAL CASH EXPENSES	37,433		
Non-Cash Expenses			
Unpaid Family Labor	66,000		
Capital Recovery/ Equipment	2,900		
Capital Recovery/ Draft Animals	400		
Interest on Equity Capital @ 18%	2,130		
TOTAL NON-CASH EXPENSES	71,430	TOTAL NON-CASH RECEIPTS	37,225
TOTAL EXPENSES	108,863	TOTAL RECEIPTS	75,475

Total Cash Receipts Per Hectare	38,250
Total Cash Expenses Per Hectare	37,433
NET CASH INCOME PER HECTARE	(817)
Total Receipts Per Hectare	75,475
Total Expenses Per Hectare	108,863
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(33,388)
EFFECTIVE WAGE RATE PER MAN-DAY	494

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (CIVT variety) per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 3,260 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 61 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 75 days of use in animal traction crop activities. Of these total days, 15 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the millet is 913 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 349 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the millet production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 2,550 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 1,860 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Harvesting/Threshing	17	2
Marketing	2	2
Total	66	15

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	11	43	54
Animal-drawn Cart	4	17	96
Draft Animals	15	60	150

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	20.4
Animal-drawn Cart	4.2
Draft Animals	10.0

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base	18,530	0	18,530	8 years	2,316
Equipment	16,581	0	16,581	8 years	2,073
Cultivator	21,113	0	21,113	8 years	2,639
Donkey Toolbar					
Cultivator Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in millet cultivation is 2,900 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in millet cultivation is 400 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 106,481 CFA francs. Interest on equity capital pro-rated at 18% per annum is 2,130 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 909 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 38,250 CFA francs (510 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption an estimated 399 kilograms of millet per hectare cultivated. Total value of this grain is 29,925 CFA francs (399 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 7.3 metric tons are produced per hectare of millet grown. Total value for this by-product is 7,300 CFA francs.

Table B-33

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type III with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0		
Seed	3,260	Crop Sales	38,250
Fertilizer	26,100	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	61	TOTAL CASH RECEIPTS	38,250
Expendable Hand Tools	1,725		
Draft Animal Maintenance	703	**Non-Cash Receipts**	
Equipment Repair and Maintenance	526	Value of On-Farm Crop Consumption/Use	29,925
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	7,300
Crop Marketing Costs	2,550		
Interest Paid	1,153		
TOTAL CASH EXPENSES	36,078		
Non-Cash Expenses			
Unpaid Family Labor	66,000		
Capital Recovery/ Equipment	1,747		
Capital Recovery/ Draft Animals	308		
Interest on Equity Capital @ 18%	1,389		
TOTAL NON-CASH EXPENSES	69,444	TOTAL NON-CASH RECEIPTS	37,225
TOTAL EXPENSES	105,522	TOTAL RECEIPTS	75,475

Total Cash Receipts Per Hectare	38,250
Total Cash Expenses Per Hectare	36,078
NET CASH INCOME PER HECTARE	(2,172)
Total Receipts Per Hectare	75,475
Total Expenses Per Hectare	105,522
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(30,047)
EFFECTIVE WAGE RATE PER MAN-DAY	545

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectare of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (CIVT variety) per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 3,260 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 61 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 120 days of use in animal traction crop activities. Of these total days, 15 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the millet is 703 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 526 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the millet production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 2,550 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 1,153 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Harvesting/Threshing	17	2
Marketing	2	2
Total	66	15

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	11	76	87
Animal-drawn Cart	4	29	108
Draft Animals	15	105	195

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	11.3
Animal-drawn Cart	3.7
Draft Animals	7.7

165

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base	18,530	0	18,530	8 years	2,316
Equipment	16,581	0	16,581	8 years	2,073
Cultivator	21,113	0	21,113	8 years	2,639
Donkey Toolbar					
Cultivator Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in millet cultivation is 1,747 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in millet cultivation is 308 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 106,481 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,389 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 909 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 38,250 CFA francs (510 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption an estimated 399 kilograms of millet per hectare cultivated. Total value of this grain is 29,925 CFA francs (399 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 7.3 metric tons are produced per hectare of millet grown. Total value for this by-product is 7,300 CFA francs.

Table B-34

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type I with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	45,750
Seed	3,260	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	45,750
Insecticides and/or Other Treatments	61		
Expendable Hand Tools	2,300		
Draft Animal Maintenance	6,935	**Non-Cash Receipts**	
Equipment Repair and Maintenance	1,661	Value of On-Farm Crop Consumption/Use	22,425
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	7,300
Crop Marketing Costs	3,050		
Interest Paid	4,940		
TOTAL CASH EXPENSES	48,307		
Non-Cash Expenses			
Unpaid Family Labor	56,000		
Capital Recovery/ Equipment	6,783		
Capital Recovery/ Draft Animals	594		
Interest on Equity Capital @ 18%	4,464		
TOTAL NON-CASH EXPENSES	67,841	TOTAL NON-CASH RECEIPTS	29,725
TOTAL EXPENSES	116,148	TOTAL RECEIPTS	75,475

Total Cash Receipts Per Hectare	45,750
Total Cash Expenses Per Hectare	48,307
NET CASH INCOME PER HECTARE	(2,557)
Total Receipts Per Hectare	75,475
Total Expenses Per Hectare	116,148
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(40,673)
EFFECTIVE WAGE RATE PER MAN-DAY	274

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectare of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (CIVT variety) per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 3,260 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 61 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 30 days of use in animal traction crop activities. Of these total days, 10 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the millet is 6,935 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 1,661 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the millet production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 3,050 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 33,776 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 4,940 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Harvesting/Threshing	17	2
Marketing	2	2
Total	56	10

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	6	12	18
Animal-drawn Cart	4	8	87
Draft Animals	10	20	105

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	33.3
Animal-drawn Cart	4.6
Draft Animals	9.5

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Charrue"/Plow	19,756
"Cultivateur 5 Dents"/5 Tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	183,274 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	308,274 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	30,827 CFA francs
Total loan	277,447 CFA francs
Capital payment per year	69,362 CFA francs
Interest payment per year	33,776 CFA francs
Total annual payment	103,138 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Plow	19,756	0	19,756	8 years	2,470
Cultivator	26,994	0	26,994	8 years	3,374
Cultivator Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923		96,923	8 years	12,115
Totals	183,274		183,274		30,811

Annual depreciaton of equipment pro-rated for use in millet cultivation is 6,783 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in millet cultivation is 594 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 169,551 CFA francs. Interest on equity capital pro-rated at 18% per annum is 4,464 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 909 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 45,750 CFA francs (610 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption an estimated 299 kilograms of millet per hectare cultivated. Total value of this grain is 22,425 CFA francs (299 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 7.3 metric tons are produced per hectare of millet grown. Total value for this by-product is 7,300 CFA francs.

Table B-35

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type II with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	45,750
Seed	3,260	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	45,750
Insecticides and/or Other Treatments	61		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	6,424	Value of On-Farm Crop Consumption/Use	22,425
Equipment Repair and Maintenance	1,067	Value of On-Farm Use of Crop By-Products	7,300
Other Cash Costs	0		
Crop Marketing Costs	3,050		
Interest Paid	3,544		
TOTAL CASH EXPENSES	45,346		
Non-Cash Expenses			
Unpaid Family Labor	56,000		
Capital Recovery/ Equipment	4,248		
Capital Recovery/ Draft Animals	550		
Interest on Equity Capital @ 18%	3,202		
TOTAL NON-CASH EXPENSES	64,000	TOTAL NON-CASH RECEIPTS	29,725
TOTAL EXPENSES	109,346	TOTAL RECEIPTS	75,475

Total Cash Receipts Per Hectare	45,750
Total Cash Expenses Per Hectare	45,346
NET CASH INCOME PER HECTARE	404
Total Receipts Per Hectare	75,475
Total Expenses Per Hectare	109,346
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(33,871)
EFFECTIVE WAGE RATE PER MAN-DAY	395

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (CIVT variety) per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 3,260 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 61 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 50 days of use in animal traction crop activities. Of these total days, 10 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the millet is 6,424 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 1,067 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the millet production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 3054 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 33,776 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 3,544 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Harvesting/Threshing	17	2
Marketing	2	2
Total	56	10

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	6	24	30
Animal-drawn Cart	4	16	95
Draft Animals	10	40	125

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	20.0
Animal-drawn Cart	4.2
Draft Animals	8.8

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Charrue"/Plow	19,756
"Cultivateur 5 Dents"/5 Tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	183,274 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	308,274 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	30,827 CFA francs
Total loan	277,447 CFA francs
Capital payment per year	69,362 CFA francs
Interest payment per year	33,776 CFA francs
Total annual payment	103,138 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Plow	19,756	0	19,756	8 years	2,470
Cultivator	26,994	0	26,994	8 years	3,374
Cultivator Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923		96,923	8 years	12,115
Totals	183,274		183,274		30,811

Annual depreciaton of equipment pro-rated for use in millet cultivation is 4,248 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in millet cultivation is 550 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 169,551 CFA francs. Interest on equity capital pro-rated at 18% per annum is 3,202 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 909 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 44,750 CFA francs (610 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption an estimated 299 kilograms of millet per hectare cultivated. Total value of this grain is 22,425 CFA francs (299 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 7.3 metric tons are produced per hectare of millet grown. Total value for this by-product is 7,300 CFA francs.

Table B-36

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type III with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0		
Seed	3,260	Crop Sales	45,750
Fertilizer	26,100	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	61	TOTAL CASH RECEIPTS	45,750
Expendable Hand Tools	1,725		
Draft Animal Maintenance	4,745	**Non-Cash Receipts**	
Equipment Repair and Maintenance	741	Value of On-Farm Crop Consumption/Use	22,425
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	7,300
Crop Marketing Costs	3,050		
Interest Paid	2,513		
TOTAL CASH EXPENSES	42,195		
Non-Cash Expenses			
Unpaid Family Labor	56,000		
Capital Recovery/ Equipment	2,879		
Capital Recovery/ Draft Animals	406		
Interest on Equity Capital @ 18%	2,271		
TOTAL NON-CASH EXPENSES	61,556	TOTAL NON-CASH RECEIPTS	29,725
TOTAL EXPENSES	103,751	TOTAL RECEIPTS	75,475

Total Cash Receipts Per Hectare	45,750
Total Cash Expenses Per Hectare	42,195
NET CASH INCOME PER HECTARE	3,555
Total Receipts Per Hectare	75,475
Total Expenses Per Hectare	103,751
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(28,276)
EFFECTIVE WAGE RATE PER MAN-DAY	495

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectare of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (CIVT variety) per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 3,260 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 61 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 79 days of use in animal traction crop activities. Of these total days, 10 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the millet is 4,745 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 741 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the millet production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 3,050 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 33,776 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 2,513 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Harvesting/Threshing	17	2
Marketing	2	2
Total	56	10

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	6	40	46
Animal-drawn Cart	4	29	108
Draft Animals	10	69	154

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	13.0
Animal-drawn Cart	3.7
Draft Animals	6.5

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Charrue"/Plow	19,756
"Cultivateur 5 Dents"/5 Tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	183,274 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	308,274 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	30,827 CFA francs
Total loan	277,447 CFA francs
Capital payment per year	69,362 CFA francs
Interest payment per year	33,776 CFA francs
Total annual payment	103,138 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Plow	19,756	0	19,756	8 years	2,470
Cultivator	26,994	0	26,994	8 years	3,374
Cultivator Blades	10,171	0	10,171	2 years	5, [illegible]
Ridger	10,900	0	10,900	2 years	5 [illegible]
Ox Cart	96,923		96,923	8 years	[illegible],115
Totals	183,274		183,274		30,811

Annual depreciaton of equipment pro-rated for use in millet cultivation is 2,879 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in millet cultivation is 406 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 169,551 CFA francs. Interest on equity capital pro-rated at 18% per annum is 2,271 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 909 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 45,750 CFA francs (610 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption an estimated 299 kilograms of millet per hectare cultivated. Total value of this grain is 22,425 CFA francs (299 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 7.3 metric tons are produced per hectare of millet grown. Total value for this by-product is 7,300 CFA francs.

Table B-37

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type I with Traditional Technology
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	1,575
Seed	750	Sales of Crop By-Products	0
Fertilizer	0	TOTAL CASH RECEIPTS	1,575
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Anim Maintenance	0	Value of On-Farm Crop Consumption/Use	17,925
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	2,000
Other Cash Costs	0		
Crop Marketing Costs	105		
Interest Paid	0		
TOTAL CASH EXPENSES	3,155		
Non-Cash Expenses			
Unpaid Family Labor	34,500		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	34,500	TOTAL NON-CASH RECEIPTS	19,925
TOTAL EXPENSES	37,655	TOTAL RECEIPTS	21,500

Total Cash Receipts Per Hectare	1,575
Total Cash Expenses Per Hectare	3,155
NET CASH INCOME PER HECTARE	(1,580)
Total Receipts Per Hectare	21,500
Total Expenses Per Hectare	37,655
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(16,155)
EFFECTIVE WAGE RATE PER MAN-DAY	399

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with Traditional Agricultural Technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 2.7 hectares of millet and cowpeas in association, 0.2 hectares of sorghum in pure stand, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of local millet seed per hectare from family granary stocks. Seed is valued at 75 CFA francs per kilogram. Total cost is 750 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticides/Fungicides and/or Other Treatments

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
1st Weeding	16
2nd Weeding	12
3rd Weeding	0
Harvesting/Threshing	5
Marketing	1
Total	46

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capi· l investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 260 kilograms of grain. The farm sells an average of 8 percent of the yield. Cash value of millet sales per hectare is 1,575 CFA francs (21 kilograms of millet x 75 CFA francs per kilogram). No crop by-products are sold.

S. Non-Cash Receipts

Farm family has available for consumption an estimated 239 kilograms of millet per hectare cultivated. Total value of this grain is 17,925 CFA francs (239 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 2.0 metric tons are produced per hectare of millet grown. Total value for this by-product is 2,000 CFA francs.

Table B-38

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type II with Traditional Technology
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	1,575
Seed	750	Sales of Crop By-Products	0
Fertilizer	0	TOTAL CASH RECEIPTS	1,575
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	17,925
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	2,000
Other Cash Costs	0		
Crop Marketing Costs	105		
Interest Paid	0		
TOTAL CASH EXPENSES	2,695		
Non-Cash Expenses			
Unpaid Family Labor	34,500		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	34,500	TOTAL NON-CASH RECEIPTS	19,925
TOTAL EXPENSES	37,195	TOTAL RECEIPTS	21,500

Total Cash Receipts Per Hectare	1,575
Total Cash Expenses Per Hectare	2,695
NET CASH INCOME PER HECTARE	(1,120)
Total Receipts Per Hectare	21,500
Total Expenses Per Hectare	37,195
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(15,695)
EFFECTIVE WAGE RATE PER MAN-DAY	409

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with Traditional Agricultural Technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 4.5 hectares of millet and cowpeas in association, 0.35 hectares of sorghum in pure stand, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of local millet seed per hectare from family granary stocks. Seed is valued at 75 CFA francs per kilogram. Total cost is 750 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticides/Fungicides and/or Other Treatments

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 105 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
1st Weeding	16
2nd Weeding	12
3rd Weeding	0
Harvesting/Threshing	5
Marketing	1
Total	46

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 260 kilograms of grain. The farm sells an average of 8 percent of the yield. Cash value of millet sales per hectare is 1,575 CFA francs (21 kilograms of millet x 75 CFA francs per kilogram). No crop by-products are sold.

S. Non-Cash Receipts

Farm family has available for consumption an estimated 239 kilograms of millet per hectare cultivated. Total value of this grain is 17,925 CFA francs (239 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 2.0 metric tons are produced per hectare of millet grown. Total value for this by-product is 2,000 CFA francs.

Table B-39

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type III with Traditional Technology
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	1,575
Seed	750	Sales of Crop By-Products	0
Fertilizer	0	TOTAL CASH RECEIPTS	1,575
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	17,925
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	2,000
Other Cash Costs	0		
Crop Marketing Costs	105		
Interest Paid	0		
TOTAL CASH EXPENSES	2,580		
Non-Cash Expenses			
Unpaid Family Labor	34,500		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	34,500	TOTAL NON-CASH RECEIPTS	19,925
TOTAL EXPENSES	37,080	TOTAL RECEIPTS	21,500

Total Cash Receipts Per Hectare	1,575
Total Cash Expenses Per Hectare	2,580
NET CASH INCOME PER HECTARE	(1,005)
Total Receipts Per Hectare	21,500
Total Expenses Per Hectare	37,080
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(15,580)
EFFECTIVE WAGE RATE PER MAN-DAY	411

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with Traditional Agricultural Technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 7.3 hectares of millet and cowpeas in association, 0.5 hectares of sorghum in pure stand, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of local millet seed per hectare from family granary stocks. Seed is valued at 75 CFA francs per kilogram. Total cost is 750 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticides/Fungicides and/or Other Treatments

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 105 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
1st Weeding	16
2nd Weeding	12
3rd Weeding	0
Harvesting/Threshing	5
Marketing	1
Total	46

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 260 kilograms of grain. The farm sells an average of 8 percent of the yield. Cash value of millet sales per hectare is 1,575 CFA francs (21 kilograms of millet x 75 CFA francs per kilogram). No crop by-products are sold.

S. Non-Cash Receipts

Farm family has available for consumption an estimated 239 kilograms of millet per hectare cultivated. Total value of this grain is 17,925 CFA francs (239 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 2.0 metric tons are produced per hectare of millet grown. Total value for this by-product is 2,000 CFA francs.

Table B-40

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type I with Partial Package Adoption
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	31,725
Seed	3,260	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	31,725
Insecticides and/or Other Treatments	61		
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	3,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	3,700
Other Cash Costs	0		
Crop Marketing Costs	2,115		
Interest Paid	0		
TOTAL CASH EXPENSES	33,[illegible]6		
Non-Cash Expenses			
Unpaid Family Labor	41,250		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	41,250	TOTAL NON-CASH RECEIPTS	6,700
TOTAL EXPENSES	75,086	TOTAL RECEIPTS	38,425

Total Cash Receipts Per Hectare	31,725
Total Cash Expenses Per Hectare	33,836
NET CASH INCOME PER HECTARE	(2,111)
Total Receipts Per Hectare	38,425
Total Expenses Per Hectare	75,086
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(36,661)
EFFECTIVE WAGE RATE PER MAN-DAY	83

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with Partial Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectare of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (HKP variety) per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 3,260 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 61 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 2115 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	17
2nd Weeding	13
3rd Weeding	0
Harvesting/Threshing	8
Marketing	2
Total	55

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 463 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 31,725 CFA francs (423 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption an estimated 40 kilograms of millet per hectare cultivated. Total value of this grain is 3,000 CFA francs (40 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 3.7 metric tons are produced per hectare of millet grown. Total value for this by-product is 3,700 CFA francs.

Table B-41

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type II with Partial Package Adoption
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	31,275
Seed	3,260	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	31,275
Insecticides and/or Other Treatments	61		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	3,450
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	3,700
Other Cash Costs	0		
Crop Marketing Costs	2,085		
Interest Paid	0		
TOTAL CASH EXPENSES	33,346		
Non-Cash Expenses			
Unpaid Family Labor	41,250		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	41,250	TOTAL NON-CASH RECEIPTS	7,150
TOTAL EXPENSES	74,596	TOTAL RECEIPTS	38,425

Total Cash Receipts Per Hectare	31,725
Total Cash Expenses Per Hectare	33,346
NET CASH INCOME PER HECTARE	(2,071)
Total Receipts Per Hectare	38,425
Total Expenses Per Hectare	74,596
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(36,171)
EFFECTIVE WAGE RATE PER MAN-DAY	92

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with Partial Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (HKP variety) per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 3,260 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 61 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 2085 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	17
2nd Weeding	13
3rd Weeding	0
Harvesting/Threshing	8
Marketing	2
Total	55

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 463 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 31,725 CFA francs (417 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption an estimated 46 kilograms of millet per hectare cultivated. Total value of this grain is 3,450 CFA francs (46 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 3.7 metric tons are produced per hectare of millet grown. Total value for this by-product is 3,700 CFA francs.

Table B-42

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type III with Partial Package Adoption
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	31,200
Seed	3,260	Sales of Crop By-Pr	0
Fertilizer	26,100	TOTAL CASH RE	31,200
Insecticides and/or Other Treatments	61		
Expendable Hand Tools	1,725		
Draft Animal Maintenance	0	**Non-Cash Receipts**	
Equipment Repair and Maintenance	0	Value of On-Farm Crop Consumption/Use	3,525
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	3,700
Crop Marketing Costs	2,080		
Interest Paid	0		
TOTAL CASH EXPENSES	33,226		
Non-Cash Expenses			
Unpaid Family Labor	41,250		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	41,250	TOTAL NON-CASH RECEIPTS	7,225
TOTAL EXPENSES	74,476	TOTAL RECEIPTS	38,425

Total Cash Receipts Per Hectare	31,200
Total Cash Expenses Per Hectare	33,226
NET CASH INCOME PER HECTARE	(2,026)
Total Receipts Per Hectare	38,425
Total Expenses Per Hectare	74,476
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(36,051)
EFFECTIVE WAGE RATE PER MAN-DAY	95

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with Partial Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectare of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (HKP variety) per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 3,260 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 61 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm has no animal-drawn equipment for maintenance or repair.

K. Other Cash Costs

The farm incurs no other cash costs for the millet crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 2080 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of millet grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	17
2nd Weeding	13
3rd Weeding	0
Harvesting/Threshing	8
Marketing	2
Total	55

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated millet yield per hectare is 463 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 31,200 CFA francs (415 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption an estimated 47 kilograms of millet per hectare cultivated. Total value of this grain is 3,525 CFA francs (47 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 3.7 metric tons are produced per hectare of millet grown. Total value for this by-product is 3,700 CFA francs.

Table B-43

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type I with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	37,500
Seed	3,260	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	37,500
Insecticides and/or Other Treatments	61		
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	858	Value of On-Farm Crop Consumption/Use	1,200
Equipment Repair and Maintenance	1,300	Value of On-Farm Use of Crop By-Products	4,100
Other Cash Costs	0		
Crop Marketing Costs	2,500		
Interest Paid	2,035		
TOTAL CASH EXPENSES	38,414		
Non-Cash Expenses			
Unpaid Family Labor	30,750		
Capital Recovery/ Equipment	4,494		
Capital Recovery/ Draft Animals	376		
Interest on Equity Capital @ 18%	2,262		
TOTAL NON-CASH EXPENSES	37,832	TOTAL NON-CASH RECEIPTS	5,300
TOTAL EXPENSES	76,296	TOTAL RECEIPTS	42,800

Total Cash Receipts Per Hectare	37,500
Total Cash Expenses Per Hectare	38,414
NET CASH INCOME PER HECTARE	(914)
Total Receipts Per Hectare	42,800
Total Expenses Per Hectare	76,296
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(33,496)
EFFECTIVE WAGE RATE PER MAN-DAY	(67)

*Exchange Rates in 1983. U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectare of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (CIVT variety) per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 3,260 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 61 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 31 days of use in animal traction crop activities. Of these total days, 10 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the millet is 858 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 1,300 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the millet production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 2500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 2,035 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	6	2
2nd Weeding	4	1
3rd Weeding	0	0
Harvesting/Threshing	10	2
Marketing	2	2
Total	41	10

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	6	12	18
Animal-drawn Cart	4	9	88
Draft Animals	10	21	106

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	33.3
Animal-drawn Cart	4.5
Draft Animals	9.4

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base	18,530	0	18,530	8 years	2,316
Equipment	16,581	0	16,581	8 years	2,073
Cultivator	21,113	0	21,113	8 years	2,639
Donkey Toolbar					
Cultivator					
Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in millet cultivation is 4,494 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in millet cultivation is 376 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 106,481 CFA francs. Interest on equity capital pro-rated at 18% per annum is 2,262 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 516 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 37,500 CFA francs (500 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption an estimated 16 kilograms of millet per hectare cultivated. Total value of this grain is 1,200 CFA francs (16 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 4.1 metric tons are produced per hectare of millet grown. Total value for this by-product is 4,100 CFA francs.

Table B-44

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type II with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	37,500
Seed	3,260	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	37,500
Insecticides and/or Other Treatments	61		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	730	Value of On-Farm Crop Consumption/Use	1,200
Equipment Repair and Maintenance	865	Value of On-Farm Use of Crop By-Products	4,100
Other Cash Costs	0		
Crop Marketing Costs	2,500		
Interest Paid	1,429		
TOTAL CASH EXPENSES	36,785		
Non-Cash Expenses			
Unpaid Family Labor	30,750		
Capital Recovery/ Equipment	2,937		
Capital Recovery/ Draft Animals	320		
Interest on Equity Capital @ 18%	1,651		
TOTAL NON-CASH EXPENSES	35,658	TOTAL NON-CASH RECEIPTS	5,300
TOTAL EXPENSES	72,443	TOTAL RECEIPTS	42,800

Total Cash Receipts Per Hectare	37,500
Total Cash Expenses Per Hectare	36,785
NET CASH INCOME PER HECTARE	(715)
Total Receipts Per Hectare	42,800
Total Expenses Per Hectare	72,443
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(29,643)
EFFECTIVE WAGE RATE PER MAN-DAY	27

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (CIVT variety) per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 3,260 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 61 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 50 days of use in animal traction crop activities. Of these total days, 10 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the millet is 730 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 865 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the millet production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 2500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 1,429 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	6	2
2nd Weeding	4	1
3rd Weeding	0	0
Harvesting/Threshing	10	2
Marketing	2	2
Total	41	10

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	6	23	29
Animal-drawn Cart	4	17	96
Draft Animals	10	40	125

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	20.7
Animal-drawn Cart	4.2
Draft Animals	8.0

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base	18,530	0	18,530	8 years	2,316
Equipment	16,581	0	16,581	8 years	2,073
Cultivator	21,113	0	21,113	8 years	2,639
Donkey Toolbar					
Cultivator Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in millet cultivation is 2,937 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in millet cultivation is 320 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 106,481 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,651 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 516 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 37,500 CFA francs (500 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption an estimated 16 kilograms of millet per hectare cultivated. Total value of this grain is 1,200 CFA francs (16 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 4.1 metric tons are produced per hectare of millet grown. Total value for this by-product is 4,100 CFA francs.

Table B-45

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type III with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	37,500
Seed	3,260	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	37,500
Insecticides and/or Other Treatments	61		
Expendable Hand Tools	1,725		
Draft Animal Maintenance	584	**Non-Cash Receipts**	
Equipment Repair and Maintenance	580	Value of On-Farm Crop Consumption/Use	1,200
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	4,100
Crop Marketing Costs	2,500		
Interest Paid	1,017		
TOTAL CASH EXPENSES	35,827		
Non-Cash Expenses			
Unpaid Family Labor	30,750		
Capital Recovery/ Equipment	1,989		
Capital Recovery/ Draft Animals	256		
Interest on Equity Capital @ 18%	1,203		
TOTAL NON-CASH EXPENSES	34,198	TOTAL NON-CASH RECEIPTS	5,300
TOTAL EXPENSES	70,025	TOTAL RECEIPTS	42,800

Total Cash Receipts Per Hectare	37,500
Total Cash Expenses Per Hectare	35,827
NET CASH INCOME PER HECTARE	1,673
Total Receipts Per Hectare	42,800
Total Expenses Per Hectare	70,025
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(27,225)
EFFECTIVE WAGE RATE PER MAN-DAY	86

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectare of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (HKP variety) per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 3,260 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 61 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 81 days of use in animal traction crop activities. Of these total days, 10 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the millet is 584 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 580 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the millet production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 2,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 1,017 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	6	2
2nd Weeding	4	1
3rd Weeding	0	0
Harvesting/Threshing	10	2
Marketing	2	2
Total	41	10

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	6	41	47
Animal-drawn Cart	4	30	109
Draft Animals	10	71	156

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	12.8
Animal-drawn Cart	3.7
Draft Animals	6.4

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base	18,530	0	18,530	8 years	2,316
Equipment	16,581	0	16,581	8 years	2,073
Cultivator	21,113	0	21,113	8 years	2,639
Donkey Toolbar					
Cultivator					
Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in millet cultivation is 1,929 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in millet cultivation is 256 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 106,481 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,203 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 516 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 37,500 CFA francs (500 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption an estimated 16 kilograms of millet per hectare cultivated. Total value of this grain is 1,200 CFA francs (16 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 4.1 metric tons are produced per hectare of millet grown. Total value for this by-product is 4,100 CFA francs.

Table B-46

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type I with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	38,700
Seed	3,260	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	38,700
Insecticides and/or Other Treatments	61		
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	5,840	Value of On-Farm Crop Consumption/Use	0
Equipment Repair and Maintenance	1,332	Value of On-Farm Use of Crop By-Products	4,100
Other Cash Costs	0		
Crop Marketing Costs	2,580		
Interest Paid	2,902		
TOTAL CASH EXPENSES	44,375		
Non-Cash Expenses			
Unpaid Family Labor	27,750		
Capital Recovery/ Equipment	5,961		
Capital Recovery/ Draft Animals	500		
Interest on Equity Capital @ 18%	2,625		
TOTAL NON-CASH EXPENSES	38,836	TOTAL NON-CASH RECEIPTS	4,100
TOTAL EXPENSES	81,211	TOTAL RECEIPTS	42,800

Total Cash Receipts Per Hectare	38,700
Total Cash Expenses Per Hectare	44,375
NET CASH INCOME PER HECTARE	(5,675)
Total Receipts Per Hectare	42,800
Total Expenses Per Hectare	81,211
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(38,411)
EFFECTIVE WAGE RATE PER MAN-DAY	(288)

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectare of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (HKP variety) per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 3,260 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 61 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 24 days of use in animal traction crop activities. Of these total days, 8 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the millet is 5,840 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 1,332 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the millet production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 9585 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 31,581 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 2,902 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	4	1
2nd Weeding	4	1
3rd Weeding	0	0
Harvesting/Threshing	10	2
Marketing	2	2
Total	37	8

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	4	8	12
Animal-drawn Cart	4	8	87
Draft Animals	8	16	99

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	33.3
Animal-drawn Cart	4.6
Draft Animals	8.0

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	163,518 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	288,518 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	28,852 CFA francs
Total loan	259,666 CFA francs
Capital payment per year	64,917 CFA francs
Interest payment per year	31,581 CFA francs
Total annual payment	96,498 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	26,994	0	26,994	8 years	3,374
Cultivator Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	163,518		163,518		28,341

Annual depreciaton of equipment pro-rated for use in millet cultivation is 5,961 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	125,000	93,750	31,250	5 years	6,250

Annual depreciation of donkey pro-rated for use in millet cultivation is 500 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 158,686 CFA francs. Interest on equity capital pro-rated at 18% per annum is 2,625 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 516 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 38,700 CFA francs (516 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption an estimated 0 kilograms of millet per hectare cultivated. Total value of this grain is 0 CFA francs (0 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 4.1 metric tons are produced per hectare of millet grown. Total value for this by-product is 4,100 CFA francs.

Table B-47

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type II with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	38,700
Seed	3,260	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	38,700
Insecticides and/or Other Treatments	61		
Expendable Hand Tools	1,840		
Draft Animal Maintenance	5,037	**Non-Cash Receipts**	
Equipment Repair and Maintenance	869	Value of On-Farm Crop Consumption/Use	0
Other Cash Costs	2,580	Value of On-Farm Use of Crop By-Products	4,100
Crop Marketing Costs	0		
Interest Paid	2,263		
TOTAL CASH EXPENSES	42,010		
Non-Cash Expenses			
Unpaid Family Labor	27,750		
Capital Recovery/ Equipment	3,754		
Capital Recovery/ Draft Animals	431		
Interest on Equity Capital @ 18%	2,047		
TOTAL NON-CASH EXPENSES	33,982	TOTAL NON-CASH RECEIPTS	4,100
TOTAL EXPENSES	75,992	TOTAL RECEIPTS	42,800

Total Cash Receipts Per Hectare	38,700
Total Cash Expenses Per Hectare	42,010
NET CASH INCOME PER HECTARE	(3,310)
Total Receipts Per Hectare	42,800
Total Expenses Per Hectare	75,992
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(33,192)
EFFECTIVE WAGE RATE PER MAN-DAY	(147)

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (HKP variety) per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 3,260 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 61 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 41 days of use in animal traction crop activities. Of these total days, 8 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the millet is 5,037 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 869 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the millet production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 2,580 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 31,581 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 2,263 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	4	1
2nd Weeding	4	1
3rd Weeding	0	0
Harvesting/Threshing	10	2
Marketing	2	2
Total	37	8

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	4	16	20
Animal-drawn Cart	4	17	96
Draft Animals	8	33	116

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	20.2
Animal-drawn Cart	4.2
Draft Animals	6.9

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	163,518 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	288,518 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	28,852 CFA francs
Total loan	259,666 CFA francs
Capital payment per year	64,917 CFA francs
Interest payment per year	31,581 CFA francs
Total annual payment	96,498 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	26,994	0	26,994	8 years	3,374
Cultivator Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	163,518		163,518		28,341

Annual depreciaton of equipment pro-rated for use in millet cultivation is 3,754 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of donkey pro-rated for use in millet cultivation is 431 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 158,686 CFA francs. Interest on equity capital pro-rated at 18% per annum is 2,047 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 516 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 38,700 CFA francs (516 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption an estimated 0 kilograms of millet per hectare cultivated. Total value of this grain is 0 CFA francs (0 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 4.1 metric tons are produced per hectare of millet grown. Total value for this by-product is 4,100 CFA francs.

Table B-48

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Millet
Unit: Farm Type III with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	38,700
Seed	3,260	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	38,700
Insecticides and/or Other Treatments	61		
Expendable Hand Tools	1,725		
Draft Animal Maintenance	4,161	**Non-Cash Receipts**	
Equipment Repair and Maintenance	596	Value of On-Farm Crop Consumption/Use	0
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	4,100
Crop Marketing Costs	2,580		
Interest Paid	2,159		
TOTAL CASH EXPENSES	40,642		
Non-Cash Expenses			
Unpaid Family Labor	27,750		
Capital Recovery/ Equipment	2,477		
Capital Recovery/ Draft Animals	356		
Interest on Equity Capital @ 18%	1,604		
TOTAL NON-CASH EXPENSES	32,187	TOTAL NON-CASH RECEIPTS	4,100
TOTAL EXPENSES	72,829	TOTAL RECEIPTS	42,800

Total Cash Receipts Per Hectare	38,700
Total Cash Expenses Per Hectare	40,642
NET CASH INCOME PER HECTARE	(1,942)
Total Receipts Per Hectare	42,800
Total Expenses Per Hectare	72,829
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(30,029)
EFFECTIVE WAGE RATE PER MAN-DAY	(62)

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectare of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses ten kilograms of improved millet seed (HKP variety) per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 3,260 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of millet grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses one packet of Thioral for seed treatment of millet per hectare planted. Total cost is 61 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 66 days of use in animal traction crop activities. Of these total days, 8 days are for millet production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the millet is 4,161 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the millet enterprise on a per hectare basis is estimated at 596 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the millet production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed millet sold. Total cost for marketing of millet sold is 2,580 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 31,581 CFA francs. The pro-rata cost of the animal equipment package for one hectare of millet grown is 2,159 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of millet grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	4	0
Crop Fertilization	3	0
1st Weeding/Replacement of Missing Plants	4	1
2nd Weeding	4	1
3rd Weeding	0	0
Harvesting/Threshing	10	2
Marketing	2	2
Total	37	8

Estimated use of animal traction equipment per hectare of millet grown and in total is as follows:

Equipment Used	Per Hectare of Millet	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	4	28	32
Animal-drawn Cart	4	30	109
Draft Animals	8	58	141

Percentages of total use pro-rated for millet production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Millet
Crop Equipment	12.5
Animal-drawn Cart	3.7
Draft Animals	5.7

D. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	163,518 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	288,518 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	28,852 CFA francs
Total loan	259,666 CFA francs
Capital payment per year	64,917 CFA francs
Interest payment per year	31,581 CFA francs
Total annual payment	96,498 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	26,994	0	26,994	8 years	3,374
Cultivator Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	163,518		163,518		28,341

Annual depreciaton of equipment pro-rated for use in millet cultivation is 2,477 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of donkey pro-rated for use in millet cultivation is 356 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 158,686 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,604 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 516 kilograms of grain. The farm sells at least enough millet on a per hectare basis to cover the crop production cash costs. Cash value of millet sales per hectare is 38,700 CFA francs (516 kilograms of millet sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption an estimated 0 kilograms of millet per hectare cultivated. Total value of this grain is 0 CFA francs (0 kilograms of millet x 75 CFA francs per kilogram). Millet stalks used for fence construction, animal roughage, and fuel are nominally valued at 1,000 CFA francs per metric ton. A total of 4.1 metric tons are produced per hectare of millet grown. Total value for this by-product is 4,100 CFA francs.

Table B-49

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type I with Traditional Technology
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	1,125	Crop Sales to Private Markets	3,750
Fertilizer	0	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	3,750
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	45,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	5,200
Other Cash Costs	0		
Crop Marketing Costs	250		
Interest Paid	0		
TOTAL CASH EXPENSES	3,675		
Non-Cash Expenses			
Unpaid Family Labor	106,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	106,000	TOTAL NON-CASH RECEIPTS	50,200
TOTAL EXPENSES	109,675	TOTAL RECEIPTS	53,950

Total Cash Receipts Per Hectare	3,750
Total Cash Expenses Per Hectare	3,675
NET CASH INCOME PER HECTARE	75
Total Receipts Per Hectare	53,950
Total Expenses Per Hectare	109,675
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(55,725)
EFFECTIVE WAGE RATE PER MAN-DAY	474

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

246

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 2.7 hectares of millet and cowpeas in association, 0.2 hectares of sorghum in pure stand, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of local sorghum seed per hectare from family granary stocks or the local market. Seed is valued at 75 CFA francs per kilogram. Total cost is 1,125 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), and 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 250 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Use of Unpaid Family Labor

Estimated use of family labor per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	0
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Harvesting/Threshing	23
Marketing	3
Total	106

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 650 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 3,750 CFA francs (0 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 50 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 600 kilograms of sorghum per hectare cultivated. Total value of this grain is 45,000 CFA francs (600 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 5.2 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 5,200 CFA francs.

Table B-50

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type II with Traditional Technology
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	1,125	Crop Sales to Private Markets	3,000
Fertilizer	0	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	3,000
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	45,750
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	5,200
Other Cash Costs	0		
Crop Marketing Costs	200		
Interest Paid	0		
TOTAL CASH EXPENSES	3,165		
Non-Cash Expenses			
Unpaid Family Labor	106,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	106,000	TOTAL NON-CASH RECEIPTS	50,950
TOTAL EXPENSES	109,165	TOTAL RECEIPTS	53,950

Total Cash Receipts Per Hectare	3,000
Total Cash Expenses Per Hectare	3,165
NET CASH INCOME PER HECTARE	(165)
Total Receipts Per Hectare	53,950
Total Expenses Per Hectare	109,165
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(55,215)
EFFECTIVE WAGE RATE PER MAN-DAY	479

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 4.5 hectares of millet and cowpeas in association, 0.35 hectares of sorghum in pure stand, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of local sorghum seed per hectare from family granary stocks or the local market. Seed is valued at 75 CFA francs per kilogram. Total cost is 1,125 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), and 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 200 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Use of Unpaid Family Labor

Estimated use of family labor per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	0
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Harvesting/Threshing	23
Marketing	3
Total	106

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 650 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 3,000 CFA francs (0 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 40 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 610 kilograms of sorghum per hectare cultivated. Total value of this grain is 45,750 CFA francs (610 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 5.2 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 5,200 CFA francs.

Table B-51

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type III with Traditional Technology
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	1,125	Crop Sales to Private Markets	2,850
Fertilizer	0	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	2,850
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	45,900
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	5,200
Other Cash Costs	0		
Crop Marketing Costs	190		
Interest Paid	0		
TOTAL CASH EXPENSES	3,040		
Non-Cash Expenses			
Unpaid Family Labor	106,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	106,000	TOTAL NON-CASH RECEIPTS	51,100
TOTAL EXPENSES	109,040	TOTAL RECEIPTS	53,950

Total Cash Receipts Per Hectare	2,850
Total Cash Expenses Per Hectare	3,040
NET CASH INCOME PER HECTARE	(190)
Total Receipts Per Hectare	53,950
Total Expenses Per Hectare	109,040
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(55,090)
EFFECTIVE WAGE RATE PER MAN-DAY	480

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 7.3 hectares of millet and cowpeas in association, 0.5 hectares of sorghum in pure stand, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of local sorghum seed per hectare from family granary stocks or the local market. Seed is valued at 75 CFA francs per kilogram. Total cost is 1,125 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), and 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 190 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Use of Unpaid Family Labor

Estimated use of family labor per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	0
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Harvesting/Threshing	23
Marketing	3
Total	106

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 650 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 2,850 CFA francs (0 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 38 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 612 kilograms of sorghum per hectare cultivated. Total value of this grain is 45,900 CFA francs (612 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 5.2 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 5,200 CFA francs.

Table B-52

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type I with Partial Package Adoption
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	8,000
Seed	2,250	Crop Sales to Private Markets	4,500
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	120	TOTAL CASH RECEIPTS	12,500
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	67,125
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	8,400
Other Cash Costs	0		
Crop Marketing Costs	800		
Interest Paid	0		
TOTAL CASH EXPENSES	12,720		
Non-Cash Expenses			
Unpaid Family Labor	124,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	124,000	TOTAL NON-CASH RECEIPTS	75,525
TOTAL EXPENSES	136,720	TOTAL RECEIPTS	88,025

Total Cash Receipts Per Hectare	12,500
Total Cash Expenses Per Hectare	12,720
NET CASH INCOME PER HECTARE	(220)
Total Receipts Per Hectare	88,025
Total Expenses Per Hectare	136,720
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(48,695)
EFFECTIVE WAGE RATE PER MAN-DAY	607

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical pacakge, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of local sorghum seed per hectare from family granary stocks or the local market. Seed is valued at 150 CFA francs per kilogram. Total cost is 2,250 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 120 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), and 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 800 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Use of Unpaid Family Labor

Estimated use of family labor per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Harvesting/Threshing	38
Marketing	3
Total	124

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 1,055 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 12,500 CFA francs (100 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 60 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 895 kilograms of sorghum per hectare cultivated. Total value of this grain is 67,125 CFA francs (895 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 8.4 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 8,400 CFA francs.

Table B-53

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type II with Partial Package Adoption
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	8,000
Seed	2,250	Crop Sales to Private Markets	3,975
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	120	TOTAL CASH RECEIPTS	11,975
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	67,650
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	8,400
Other Cash Costs	0		
Crop Marketing Costs	765		
Interest Paid	0		
TOTAL CASH EXPENSES	12,225		
Non-Cash Expenses			
Unpaid Family Labor	124,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	124,000	TOTAL NON-CASH RECEIPTS	76,050
TOTAL EXPENSES	136,225	TOTAL RECEIPTS	88,025

Total Cash Receipts Per Hectare	11,975
Total Cash Expenses Per Hectare	12,225
NET CASH INCOME PER HECTARE	(250)
Total Receipts Per Hectare	88,025
Total Expenses Per Hectare	136,225
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(48,200)
EFFECTIVE WAGE RATE PER MAN-DAY	611

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare from family granary stocks or the local market. Seed is valued at 150 CFA francs per kilogram. Total cost is 2,250 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 120 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), and 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 765 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Use of Unpaid Family Labor

Estimated use of family labor per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Harvesting/Threshing	38
Marketing	3
Total	124

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 1,055 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 11,975 CFA francs (100 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 53 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 902 kilograms of sorghum per hectare cultivated. Total value of this grain is 67,650 CFA francs (902 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 8.4 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 8,400 CFA francs.

Table B-54

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type III with Partial Package Adoption
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	8,000
Seed	2,250	Crop Sales to Private Markets	3,975
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	120	TOTAL CASH RECEIPTS	11,975
Expendable Hand Tools	1,795	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	67,650
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	8,400
Other Cash Costs	0		
Crop Marketing Costs	765		
Interest Paid	0		
TOTAL CASH EXPENSES	12,110		
Non-Cash Expenses			
Unpaid Family Labor	124,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	124,000	TOTAL NON-CASH RECEIPTS	76,050
TOTAL EXPENSES	136,110	TOTAL RECEIPTS	88,025

Total Cash Receipts Per Hectare	11,975
Total Cash Expenses Per Hectare	12,110
NET CASH INCOME PER HECTARE	(135)
Total Receipts Per Hectare	88 025
Total Expenses Per Hectare	136,110
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(48,085)
EFFECTIVE WAGE RATE PER MAN-DAY	612

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

-166

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare from family granary stocks or the local market. Seed is valued at 150 CFA francs per kilogram. Total cost is 2,250 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 120 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), and 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 765 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Use of Unpaid Family Labor

Estimated use of family labor per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Harvesting/Threshing	38
Marketing	3
Total	124

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 1,055 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 11,975 CFA francs (100 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 53 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 902 kilograms of sorghum per hectare cultivated. Total value of this grain is 67,650 CFA francs (902 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 8.4 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 8,400 CFA francs.

Table B-55

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type I with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	16,000
Seed	2,250	Crop Sales to Private Markets	0
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	120	TOTAL CASH RECEIPTS	16,000
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	1,232	Value of On-Farm Crop Consumption/Use	73,200
Equipment Repair and Maintenance	700	Value of On-Farm Use of Crop By-Products	9,400
Other Cash Costs	0		
Crop Marketing Costs	1,000		
Interest Paid	998		
TOTAL CASH EXPENSES	15,850		
Non-Cash Expenses			
Unpaid Family Labor	60,000		
Capital Recovery/ Equipment	2,277		
Capital Recovery/ Draft Animals	540		
Interest on Equity Capital @ 18%	1,993		
TOTAL NON-CASH EXPENSES	64,810	TOTAL NON-CASH RECEIPTS	82,600
TOTAL EXPENSES	80,660	TOTAL RECEIPTS	98,600

Total Cash Receipts Per Hectare	16,000
Total Cash Expenses Per Hectare	15,850
NET CASH INCOME PER HECTARE	150
Total Receipts Per Hectare	98,600
Total Expenses Per Hectare	80,660
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	17,940
EFFECTIVE WAGE RATE PER MAN-DAY	1,299

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectare of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 150 CFA francs per kilogram. Total cost is 2,250 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 120 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 44 days of use in animal traction crop activities. Of these total days, 3 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the sorghum is 1,232 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 700 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 1,000 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rated cost of the animal equipment package for one hectare of sorghum grown is 998 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Harvesting/Threshing	12	2
Marketing	2	2
Total	60	16

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	12	30	32
Animal-drawn Cart	4	12	87
Draft Animals	16	42	119

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	37.5
Animal-drawn Cart	4.6
Draft Animals	13.5

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Cultivator Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 2,277 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in sorghum cultivation is 540 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 80,853 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,193 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 1,176 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 16,000 CFA francs (200 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 0 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 976 kilograms of sorghum per hectare cultivated. Total value of this grain is 73,200 CFA francs (976 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 9.4 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 9,400 CFA francs.

Table B-56

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type II with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	16,000
Seed	2,250	Crop Sales to Private Markets	0
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	120	TOTAL CASH RECEIPTS	16,000
Expendable Hand Tools	1,840		
Draft Animal Maintenance	976	**Non-Cash Receipts**	
Equipment Repair and Maintenance	468	Value of On-Farm Crop Consumption/Use	73,200
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	9,400
Crop Marketing Costs	1,000		
Interest Paid	668		
TOTAL CASH EXPENSES	14,572		
Non-Cash Expenses			
Unpaid Family Labor	60,000		
Capital Recovery/ Equipment	1,483		
Capital Recovery/ Draft Animals	428		
Interest on Equity Capital @ 18%	1,409		
TOTAL NON-CASH EXPENSES	63,320	TOTAL NON-CASH RECEIPTS	82,600
TOTAL EXPENSES	77,892	TOTAL RECEIPTS	98,600

Total Cash Receipts Per Hectare	16,000
Total Cash Expenses Per Hectare	14,572
NET CASH INCOME PER HECTARE	1,428
Total Receipts Per Hectare	98,600
Total Expenses Per Hectare	77,892
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	20,708
EFFECTIVE WAGE RATE PER MAN-DAY	1,345

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

216

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 150 CFA francs per kilogram. Total cost is 2,250 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 120 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 74 days of use in animal traction crop activities. Of these total days, 6 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the sorghum is 976 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 468 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 1,000 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rated cost of the animal equipment package for one hectare of sorghum grown is 668 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Harvesting/Threshing	12	2
Marketing	2	2
Total	60	16

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	12	50	54
Animal-drawn Cart	4	19	95
Draft Animals	16	69	149

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	22.2
Animal-drawn Cart	4.2
Draft Animals	10.7

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 1,483 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in sorghum cultivation is 428 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 80,853 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,409 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 1,176 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 16,000 CFA francs (200 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 0 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 976 kilograms of sorghum per hectare cultivated. Total value of this grain is 73,200 CFA francs (976 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 9.4 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 9,400 CFA francs.

Table B-57

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type III with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	16,000
Seed	2,250	Crop Sales to Private Markets	0
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	120	TOTAL CASH RECEIPTS	16,000
Expendable Hand Tools	1,725		
Draft Animal Maintenance	757	**Non-Cash Receipts**	
Equipment Repair and Maintenance	334	Value of On-Farm Crop Consumption/Use	73,200
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	9,400
Crop Marketing Costs	1,000		
Interest Paid	476		
TOTAL CASH EXPENSES	13,912		
Non-Cash Expenses			
Unpaid Family Labor	60,000		
Capital Recovery/ Equipment	1,032		
Capital Recovery/ Draft Animals	332		
Interest on Equity Capital @ 18%	1,034		
TOTAL NON-CASH EXPENSES	62,398	TOTAL NON-CASH RECEIPTS	82,600
TOTAL EXPENSES	76,310	TOTAL RECEIPTS	98,600

Total Cash Receipts Per Hectare	16,000
Total Cash Expenses Per Hectare	13,912
NET CASH INCOME PER HECTARE	2,088
Total Receipts Per Hectare	98,600
Total Expenses Per Hectare	76,310
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	22,290
EFFECTIVE WAGE RATE PER MAN-DAY	1,372

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

282

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares for all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 150 CFA francs per kilogram. Total cost is 2,250 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 120 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 119 days of use in animal traction crop activities. Of these total days, 8 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the sorghum is 757 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 334 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 1,000 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rated cost of the animal equipment package for one hectare of sorghum grown is 476 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Harvesting/Threshing	12	2
Marketing	2	2
Total	60	16

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	12	80	86
Animal-drawn Cart	4	31	108
Draft Animals	16	111	194

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	14.0
Animal-drawn Cart	3.7
Draft Animals	8.3

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 1,032 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in sorghum cultivation is 332 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 80,853 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,034 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 1,176 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 16,000 CFA francs (200 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 0 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 976 kilograms of sorghum per hectare cultivated. Total value of this grain is 73,200 CFA francs (976 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 9.4 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 9,400 CFA francs.

Table B-58

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type I with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES

Cash Expenses	
Wage Labor	0
Seed	2,250
Fertilizer	7,250
Insecticides and/or Other Treatments	120
Expendable Hand Tools	2,300
Draft Animal Maintenance	7,665
Equipment Repair and Maintenance	813
Other Cash Costs	0
Crop Marketing Costs	1,500
Interest Paid	2,098
TOTAL CASH EXPENSES	23,996
Non-Cash Expenses	
Unpaid Family Labor	50,000
Capital Recovery/ Equipment	3,192
Capital Recovery/ Draft Animals	636
Interest on Equity Capital @ 18%	2,912
TOTAL NON-CASH EXPENSES	56,760
TOTAL EXPENSES	80,756

RECEIPTS

Cash Receipts	
Crop Sales to Government Agencies	24,000
Crop Sales to Private Markets	0
Sales of Crop By-Products	0
TOTAL CASH RECEIPTS	24,000
Non-Cash Receipts	
Value of On-Farm Crop Consumption/Use	65,700
Value of On-Farm Use of Crop By-Products	9,400
TOTAL NON-CASH RECEIPTS	75,100
TOTAL RECEIPTS	99,100

Total Cash Receipts Per Hectare	24,000
Total Cash Expenses Per Hectare	23,996
NET CASH INCOME PER HECTARE	4
Total Receipts Per Hectare	99,100
Total Expenses Per Hectare	80,756
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	18,344
EFFECTIVE WAGE RATE PER MAN-DAY	1,367

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

288

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares for all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 150 CFA francs per kilogram. Total cost is 2,250 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 120 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 30 days of use in animal traction crop activities. Of these total days, 2 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the sorghum is 7,665 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 813 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 1,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 17,271 CFA francs. The pro-rated cost of the animal equipment package for one hectare of sorghum grown is 2,098 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Harvesting/Threshing	12	2
Marketing	2	2
Total	50	11

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	7	16	17
Animal-drawn Cart	4	12	88
Draft Animals	11	28	105

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	41.2
Animal-drawn Cart	4.6
Draft Animals	10.5

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Charrue"/Plow	6,715
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	117,195 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	242,195 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	24,220 CFA francs
Total loan	217,975 CFA francs
Capital payment per year	54,494 CFA francs
Interest payment per year	17,271 CFA francs
Total annual payment	71,765 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Plow	6,715	0	6,715	8 years	839
Cultivator	9,180	0	9,180	8 years	1,148
Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	117,195		117,195		17,463

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 3,192 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of donkey pro-rated for use in sorghum cultivation is 656 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has thereby acquired a 50% equity investment in his equipment and oxen, in addition to the required 10% downpayment investment. Equity investment is therefore 133,208 CFA francs. Interest on equity capital pro-rated at 18% per annum is 2,912 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 1,176 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 24,000 CFA francs (300 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 0 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 876 kilograms of sorghum per hectare cultivated. Total value of this grain is 65,700 CFA francs (876 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 9.4 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 9,400 CFA francs.

Table B-59

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type II with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	24,000
Seed	2,250	Crop Sales to Private Markets	0
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	120	TOTAL CASH RECEIPTS	24,000
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	6,497	Value of On-Farm Crop Consumption/Use	65,700
Equipment Repair and Maintenance	559	Value of On-Farm Use of Crop By-Products	9,400
Other Cash Costs	0		
Crop Marketing Costs	1,500		
Interest Paid	1,597		
TOTAL CASH EXPENSES	21,613		
Non-Cash Expenses			
Unpaid Family Labor	50,000		
Capital Recovery/ Equipment	2,032		
Capital Recovery/ Draft Animals	556		
Interest on Equity Capital @ 18%	2,175		
TOTAL NON-CASH EXPENSES	54,763	TOTAL NON-CASH RECEIPTS	75,100
TOTAL EXPENSES	76,376	TOTAL RECEIPTS	99,100

Total Cash Receipts Per Hectare	24,000
Total Cash Expenses Per Hectare	21,613
NET CASH INCOME PER HECTARE	2,387
Total Receipts Per Hectare	99,100
Total Expenses Per Hectare	76,376
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	22,724
EFFECTIVE WAGE RATE PER MAN-DAY	1,455

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 150 CFA francs per kilogram. Total cost is 2,250 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 120 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 49 days of use in animal traction crop activities. Of these total days, 4 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the sorghum is 6,497 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 559 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 1,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 17,271 CFA francs. The pro-rated cost of the animal equipment package for one hectare of sorghum grown is 1,507 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Harvesting/Threshing	12	2
Marketing	2	2
Total	50	11

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	7	27	29
Animal-drawn Cart	4	19	95
Draft Animals	11	46	124

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	24.1
Animal-drawn Cart	4.2
Draft Animals	8.9

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Charrue"/Plow	6,715
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	117,195 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	242,195 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	24,220 CFA francs
Total loan	217,975 CFA francs
Capital payment per year	54,494 CFA francs
Interest payment per year	17,271 CFA francs
Total annual payment	71,765 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Plow	6,715	0	6,715	8 years	839
Cultivator	9,180	0	9,180	8 years	1,148
Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	117,195		117,195		17,463

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 2,032 CFA francs.

298

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of donkey pro-rated for use in sorghum cultivation is 556 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has thereby acquired a 50% equity investment in his equipment and oxen, in addition to the required 10% downpayment investment. Equity investment is therefore 133,208 CFA francs. Interest on equity capital pro-rated at 18% per annum is 2,175 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 1,176 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 24,000 CFA francs (300 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 0 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 876 kilograms of sorghum per hectare cultivated. Total value of this grain is 65,700 CFA francs (876 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 9.4 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 9,400 CFA francs.

Table B-60

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type III with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	24,000
Seed	2,250	Crop Sales to Private Markets	0
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	120	TOTAL CASH RECEIPTS	24,000
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	5,183	Value of On-Farm Crop Consumption/Use	65,700
Equipment Repair and Maintenance	313	Value of On-Farm Use of Crop By-Products	9,400
Other Cash Costs	0		
Crop Marketing Costs	1,500		
Interest Paid	1,080		
TOTAL CASH EXPENSES	19,421		
Non-Cash Expenses			
Unpaid Family Labor	50,000		
Capital Recovery/ Equipment	1,070		
Capital Recovery/ Draft Animals	444		
Interest on Equity Capital @ 18%	1,500		
TOTAL NON-CASH EXPENSES	53,014	TOTAL NON-CASH RECEIPTS	75,100
TOTAL EXPENSES	72,435	TOTAL RECEIPTS	99,100

Total Cash Receipts Per Hectare	24,000
Total Cash Expenses Per Hectare	19,421
NET CASH INCOME PER HECTARE	4,579
Total Receipts Per Hectare	99,100
Total Expenses Per Hectare	72,435
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	26,665
EFFECTIVE WAGE RATE PER MAN-DAY	1,533

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

300

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectare of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares for all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 150 CFA francs per kilogram. Total cost is 2,250 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 120 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 81 days of use in animal traction crop activities. Of these total days, 6 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the sorghum is 5,183 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 313 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 1,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 17,271 CFA francs. The pro-rated cost of the animal equipment package for one hectare of sorghum grown is 1,080 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Harvesting/Threshing	12	2
Marketing	2	2
Total	50	11

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	7	44	48
Animal-drawn Cart	4	31	108
Draft Animals	11	75	156

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	10.2
Animal-drawn Cart	3.7
Draft Animals	7.1

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,7[illegible]
"Charrette Bovine"/Ox Cart	87,[illegible]
Sub-total for equipment	110,480 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	235,480 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	23,548 CFA francs
Total loan	211,932 CFA francs
Capital payment per year	52,983 CFA francs
Interest payment per year	16,792 CFA francs
Total annual payment	69,775 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	9,180	0	9,180	8 years	1,148
Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	110,480		110,480		16,624

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 1,070 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of donkey pro-rated for use in sorghum cultivation is 444 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has thereby acquired a 50% equity investment in his equipment and oxen, in addition to the required 10% downpayment investment. Equity investment is therefore 133,208 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,500 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 1,176 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 24,000 CFA francs (300 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 0 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 876 kilograms of sorghum per hectare cultivated. Total value of this grain is 65,700 CFA francs (876 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 9.4 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 9,400 CFA francs.

Table B-61

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type I with Traditional Technology
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	1,125	Crop Sales to Private Markets	3,450
Fertilizer	0	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	3,450
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	26,550
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	3,200
Other Cash Costs	0		
Crop Marketing Costs	230		
Interest Paid	0		
TOTAL CASH EXPENSES	3,655		
Non-Cash Expenses			
Unpaid Family Labor	45,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	45,000	TOTAL NON-CASH RECEIPTS	29,750
TOTAL EXPENSES	48,655	TOTAL RECEIPTS	33,200

Total Cash Receipts Per Hectare	3,450
Total Cash Expenses Per Hectare	3,655
NET CASH INCOME PER HECTARE	(205)
Total Receipts Per Hectare	33,200
Total Expenses Per Hectare	48,655
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(15,455)
EFFECTIVE WAGE RATE PER MAN-DAY	492

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 2.7 hectares of millet and cowpeas in association, 0.2 hectares of sorghum in pure stand, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of local sorghum seed per hectare from family granary stocks or the local market. Seed is valued at 75 CFA francs per kilogram. Total cost is 1,125 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), and 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 230 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Use of Unpaid Family Labor

Estimated use of family labor per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	0
1st Weeding/Replacement of Missing Plants	16
2nd Weeding	12
3rd Weeding	0
Harvesting/Threshing	14
Marketing	2
Total	60

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 400 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 3,450 CFA francs (0 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 46 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 354 kilograms of sorghum per hectare cultivated. Total value of this grain is 26,550 CFA francs (354 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 3.2 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 3,200 CFA francs.

Table B-62

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type II with Traditional Technology
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES

Cash Expenses	
Wage Labor	0
Seed	1,125
Fertilizer	0
Insecticides and/or Other Treatments	0
Expendable Hand Tools	1,840
Draft Animal Maintenance	0
Equipment Repair and Maintenance	0
Other Cash Costs	0
Crop Marketing Costs	200
Interest Paid	0
TOTAL CASH EXPENSES	3,165
Non-Cash Expenses	
Unpaid Family Labor	45,000
Capital Recovery/ Equipment	0
Capital Recovery/ Draft Animals	0
Interest on Equity Capital @ 18%	0
TOTAL NON-CASH EXPENSES	45,000
TOTAL EXPENSES	48,165

RECEIPTS

Cash Receipts	
Crop Sales to Government Agencies	0
Crop Sales to Private Markets	3,000
Sales of Crop By-Products	0
TOTAL CASH RECEIPTS	3,000
Non-Cash Receipts	
Value of On-Farm Crop Consumption/Use	27,000
Value of On-Farm Use of Crop By-Products	3,200
TOTAL NON-CASH RECEIPTS	30,200
TOTAL RECEIPTS	33,200

Total Cash Receipts Per Hectare	3,000
Total Cash Expenses Per Hectare	3,165
NET CASH INCOME PER HECTARE	(165)
Total Receipts Per Hectare	33,200
Total Expenses Per Hectare	48,165
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(14,965)
EFFECTIVE WAGE RATE PER MAN-DAY	501

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 4.5 hectares of millet and cowpeas in association, 0.35 hectares of sorghum in pure stand, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of local sorghum seed per hectare from family granary stocks or the local market. Seed is valued at 75 CFA francs per kilogram. Total cost is 1,125 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), and 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 200 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Use of Unpaid Family Labor

Estimated use of family labor per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	0
1st Weeding/Replacement of Missing Plants	16
2nd Weeding	12
3rd Weeding	0
Harvesting/Threshing	14
Marketing	2
Total	60

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 400 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 3,000 CFA francs (0 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 40 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 360 kilograms of sorghum per hectare cultivated. Total value of this grain is 27,000 CFA francs (360 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 3.2 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 3,200 CFA francs.

Table B-63

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type III with Traditional Technology
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	1,125	Crop Sales to Private Markets	3,000
Fertilizer	0	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	3,000
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	27,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	3,200
Other Cash Costs	0		
Crop Marketing Costs	200		
Interest Paid	0		
TOTAL CASH EXPENSES	3,050		
Non-Cash Expenses			
Unpaid Family Labor	45,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	45,000	TOTAL NON-CASH RECEIPTS	30,200
TOTAL EXPENSES	48,050	TOTAL RECEIPTS	33,200

Total Cash Receipts Per Hectare	3,000
Total Cash Expenses Per Hectare	3,050
NET CASH INCOME PER HECTARE	(50)
Total Receipts Per Hectare	33,200
Total Expenses Per Hectare	48,050
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(14,850)
EFFECTIVE WAGE RATE PER MAN-DAY	503

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 7.3 hectares of millet and cowpeas in association, 0.5 hectares of sorghum in pure stand, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of local sorghum seed per hectare from family granary stocks or the local market. Seed is valued at 75 CFA francs per kilogram. Total cost is 1,125 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), and 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 200 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Use of Unpaid Family Labor

Estimated use of family labor per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	0
1st Weeding/Replacement of Missing Plants	16
2nd Weeding	12
3rd Weeding	0
Harvesting/Threshing	14
Marketing	2
Total	60

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 400 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 3,000 CFA francs (0 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 40 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 360 kilograms of sorghum per hectare cultivated. Total value of this grain is 27,000 CFA francs (360 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 3.2 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 3,200 CFA francs.

Table B-64

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type I with Partial Package Adoption
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	8,000
Seed	2,250	Crop Sales to Private Markets	4,500
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	120	TOTAL CASH RECEIPTS	12,500
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	33,225
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	4,800
Other Cash Costs	0		
Crop Marketing Costs	800		
Interest Paid	0		
TOTAL CASH EXPENSES	12,720		
Non-Cash Expenses			
Unpaid Family Labor	53,250		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	53,200	TOTAL NON-CASH RECEIPTS	38,025
TOTAL EXPENSES	65,970	TOTAL RECEIPTS	50,525

Total Cash Receipts Per Hectare	12,500
Total Cash Expenses Per Hectare	12,720
NET CASH INCOME PER HECTARE	(220)
Total Receipts Per Hectare	50,525
Total Expenses Per Hectare	65,970
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(15,445)
EFFECTIVE WAGE RATE PER MAN-DAY	532

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of local sorghum seed per hectare from family granary stocks or the local market. Seed is valued at 150 CFA francs per kilogram. Total cost is 2,250 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 120 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), and 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 800 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Use of Unpaid Family Labor

Estimated use of family labor per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	16
2nd Weeding	12
3rd Weeding	0
Harvesting/Threshing	22
Marketing	2
Total	71

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 603 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 12,500 CFA francs (100 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 60 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 443 kilograms of sorghum per hectare cultivated. Total value of this grain is 33,225 CFA francs (443 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 4.8 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 4,800 CFA francs.

Table B-65

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type II with Partial Package Adoption
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	8,000
Seed	2,250	Crop Sales to Private Markets	3,975
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	120	TOTAL CASH RECEIPTS	11,975
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	33,750
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	4,800
Other Cash Costs	0		
Crop Marketing Costs	650		
Interest Paid	0		
TOTAL CASH EXPENSES	12,110		
Non-Cash Expenses			
Unpaid Family Labor	53,250		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	53,250	TOTAL NON-CASH RECEIPTS	38,550
TOTAL EXPENSES	65,360	TOTAL RECEIPTS	50,525

Total Cash Receipts Per Hectare	10,250
Total Cash Expenses Per Hectare	12,110
NET CASH INCOME PER HECTARE	(1,860)
Total Receipts Per Hectare	50,525
Total Expenses Per Hectare	65,360
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(14,835)
EFFECTIVE WAGE RATE PER MAN-DAY	541

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of local sorghum seed per hectare from family granary stocks or the local market. Seed is valued at 150 CFA francs per kilogram. Total cost is 2,250 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 120 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), and 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 650 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Use of Unpaid Family Labor

Estimated use of family labor per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	16
2nd Weeding	12
3rd Weeding	0
Harvesting/Threshing	22
Marketing	2
Total	71

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 603 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 11,975 CFA francs (100 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 53 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 450 kilograms of sorghum per hectare cultivated. Total value of this grain is 33,750 CFA francs (450 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 4.8 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 4,800 CFA francs.

Table B-66

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type III with Partial Package Adoption
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	8,000
Seed	2,250	Crop Sales to Private Markets	3,975
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	120	TOTAL CASH RECEIPTS	11,975
Expendable Hand Tools	1,725		
Draft Animal Maintenance	0	**Non-Cash Receipts**	
Equipment Repair and Maintenance	0	Value of On-Farm Crop Consumption/Use	33,750
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	4,800
Crop Marketing Costs	765		
Interest Paid	0		
TOTAL CASH EXPENSES	12,110		
Non-Cash Expenses			
Unpaid Family Labor	53,250		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	53,250	TOTAL NON-CASH RECEIPTS	38,550
TOTAL EXPENSES	65,360	TOTAL RECEIPTS	50,525

Total Cash Receipts Per Hectare	11,975
Total Cash Expenses Per Hectare	12,110
NET CASH INCOME PER HECTARE	(135)
Total Receipts Per Hectare	50,525
Total Expenses Per Hectare	65,360
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(14,835)
EFFECTIVE WAGE RATE PER MAN-DAY	541

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectare of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares for all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of local sorghum seed per hectare from family granary stocks or the local market. Seed is valued at 150 CFA francs per kilogram. Total cost is 2,250 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 120 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), and 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 765 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Use of Unpaid Family Labor

Estimated use of family labor per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	16
2nd Weeding	12
3rd Weeding	0
Harvesting/Threshing	22
Marketing	2
Total	71

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 603 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 11,975 CFA francs (100 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 53 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 450 kilograms of sorghum per hectare cultivated. Total value of this grain is 33,750 CFA francs (450 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 4.8 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 4,800 CFA francs.

Table B-67

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type I with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	16,000
Seed	2,250	Crop Sales to Private Markets	0
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	120	TOTAL CASH RECEIPTS	16,000
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	958	Value of On-Farm Crop Consumption/Use	36,225
Equipment Repair and Maintenance	720	Value of On-Farm Use of Crop By-Products	5,500
Other Cash Costs	0		
Crop Marketing Costs	1,000		
Interest Paid	1,026		
TOTAL CASH EXPENSES	15,624		
Non-Cash Expenses			
Unpaid Family Labor	30,000		
Capital Recovery/ Equipment	2,346		
Capital Recovery/ Draft Animals	420		
Interest on Equity Capital @ 18%	1,897		
TOTAL NON-CASH EXPENSES	34,663	TOTAL NON-CASH RECEIPTS	41,725
TOTAL EXPENSES	50,287	TOTAL RECEIPTS	57,725

Total Cash Receipts Per Hectare	16,000
Total Cash Expenses Per Hectare	15,624
NET CASH INCOME PER HECTARE	376
Total Receipts Per Hectare	57,725
Total Expenses Per Hectare	50,287
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	7,438
EFFECTIVE WAGE RATE PER MAN-DAY	936

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1 hectares for all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 150 CFA francs per kilogram. Total cost is 2,250 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 120 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 30 days of use in animal traction crop activities. Of these total days, 3 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the sorghum is 958 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 720 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 1,000 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rated cost of the animal equipment package for one hectare of sorghum grown is 1,026 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	0	0
Harvesting/Threshing	8	2
Marketing	2	2
Total	40	11

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	7	16	18
Animal-drawn Cart	4	11	87
Draft Animals	11	27	105

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	38.9
Animal-drawn Cart	4.6
Draft Animals	10.5

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 2,346 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in sorghum cultivation is 420 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 80,853 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,897 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 683 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 16,000 CFA francs (200 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 0 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 483 kilograms of sorghum per hectare cultivated. Total value of this grain is 36,225 CFA francs (483 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 5.5 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 5,500 CFA francs.

Table B-68

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type II with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	16,000
Seed	2,250	Crop Sales to Private Markets	0
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	120	TOTAL CASH RECEIPTS	16,000
Expendable Hand Tools	1,840		
Draft Animal Maintenance	803	**Non-Cash Receipts**	
Equipment Repair and Maintenance	484	Value of On-Farm Crop Consumption/Use	36,225
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	5,500
Crop Marketing Costs	1,000		
Interest Paid	690		
TOTAL CASH EXPENSES	14,437		
Non-Cash Expenses			
Unpaid Family Labor	30,000		
Capital Recovery/ Equipment	1,538		
Capital Recovery/ Draft Animals	352		
Interest on Equity Capital @ 18%	1,354		
TOTAL NON-CASH EXPENSES	33,244	TOTAL NON-CASH RECEIPTS	41,725
TOTAL EXPENSES	47,681	TOTAL RECEIPTS	57,725

Total Cash Receipts Per Hectare	16,000
Total Cash Expenses Per Hectare	14,437
NET CASH INCOME PER HECTARE	1,563
Total Receipts Per Hectare	57,725
Total Expenses Per Hectare	47,681
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	10,044
EFFECTIVE WAGE RATE PER MAN-DAY	1,001

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares for all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 150 CFA francs per kilogram. Total cost is 2,250 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 120 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 50 days of use in animal traction crop activities. Of these total days, 4 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the sorghum is 803 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 484 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 1,000 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rated cost of the animal equipment package for one hectare of sorghum grown is 690 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	0	0
Harvesting/Threshing	8	2
Marketing	2	2
Total	40	11

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	7	27	30
Animal-drawn Cart	4	19	95
Draft Animals	11	46	125

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	23.3
Animal-drawn Cart	4.2
Draft Animals	8.8

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,535	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Cultivator Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 1,538 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in sorghum cultivation is 352 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 80,853 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,354 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 683 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 16,000 CFA francs (200 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 0 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 483 kilograms of sorghum per hectare cultivated. Total value of this grain is 36,225 CFA francs (483 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 5.5 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 5,500 CFA francs.

Table B-69

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type III with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	16,000
Seed	2,250	Crop Sales to Private Markets	0
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	120	TOTAL CASH RECEIPTS	16,000
Expendable Hand Tools	1,725		
Draft Animal Maintenance	648	**Non-Cash Receipts**	
Equipment Repair and Maintenance	347	Value of On-Farm Crop Consumption/Use	36,225
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	5,500
Crop Marketing Costs	1,000		
Interest Paid	494		
TOTAL CASH EXPENSES	13,834		
Non-Cash Expenses			
Unpaid Family Labor	30,000		
Capital Recovery/ Equipment	1,076		
Capital Recovery/ Draft Animals	284		
Interest on Equity Capital @ 18%	1,006		
TOTAL NON-CASH EXPENSES	32,366	TOTAL NON-CASH RECEIPTS	41,725
TOTAL EXPENSES	46,200	TOTAL RECEIPTS	57,725

Total Cash Receipts Per Hectare	16,000
Total Cash Expenses Per Hectare	13,834
NET CASH INCOME PER HECTARE	2,166
Total Receipts Per Hectare	57,725
Total Expenses Per Hectare	46,200
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	11,525
EFFECTIVE WAGE RATE PER MAN-DAY	1,038

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares for all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 150 CFA francs per kilogram. Total cost is 2,250 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 120 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 80 days of use in animal traction crop activities. Of these total days, 5 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the sorghum is 648 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 347 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 1,000 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rated cost of the animal equipment package for one hectare of sorghum grown is 494 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	0	0
Harvesting/Threshing	8	2
Marketing	2	2
Total	40	11

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	7	44	47
Animal-drawn Cart	4	31	108
Draft Animals	11	75	155

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	14.9
Animal-drawn Cart	3.7
Draft Animals	7.1

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 1,076 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in sorghum cultivation is 284 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 80,853 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,006 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 683 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 16,000 CFA francs (200 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 0 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 483 kilograms of sorghum per hectare cultivated. Total value of this grain is 36,225 CFA francs (483 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 5.5 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 5,500 CFA francs.

Table B-70

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type I with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	24,000
Seed	2,250	Crop Sales to Private Markets	0
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	120	TOTAL CASH RECEIPTS	24,000
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	7,300	Value of On-Farm Crop Consumption/Use	28,725
Equipment Repair and Maintenance	939	Value of On-Farm Use of Crop By-Products	5,500
Other Cash Costs	0		
Crop Marketing Costs	1,500		
Interest Paid	2,234		
TOTAL CASH EXPENSES	23,893		
Non-Cash Expenses			
Unpaid Family Labor	27,000		
Capital Recovery/ Equipment	3,755		
Capital Recovery/ Draft Animals	625		
Interest on Equity Capital @ 18%	3,101		
TOTAL NON-CASH EXPENSES	34,481	TOTAL NON-CASH RECEIPTS	34,225
TOTAL EXPENSES	58,374	TOTAL RECEIPTS	58,225

Total Cash Receipts Per Hectare	24,000
Total Cash Expenses Per Hectare	23,893
NET CASH INCOME PER HECTARE	107
Total Receipts Per Hectare	58,225
Total Expenses Per Hectare	58,374
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(149)
EFFECTIVE WAGE RATE PER MAN-DAY	746

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares for all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 150 CFA francs per kilogram. Total cost is 2,250 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 120 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 25 days of use in animal traction crop activities. Of these total days, 2 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the sorghum is 7,300 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 939 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 1,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 17,271 CFA francs. The pro-rated cost of the animal equipment package for one hectare of sorghum grown is 2,234 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	4	1
3rd Weeding	0	0
Harvesting/Threshing	8	2
Marketing	2	2
Total	50	11

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	6	11	12
Animal-drawn Cart	4	12	88
Draft Animals	10	23	100

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	50.0
Animal-drawn Cart	4.5
Draft Animals	10.0

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	110,480 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	235,480 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	23,548 CFA francs
Total loan	211,932 CFA francs
Capital payment per year	52,983 CFA francs
Interest payment per year	16,792 CFA francs
Total annual payment	69,775 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	9,180	0	9,180	8 years	1,148
Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	110,480		110,480		16,624

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 3,755 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of donkey pro-rated for use in sorghum cultivation is 625 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has thereby acquired a 50% equity investment in his equipment and oxen, in addition to the required 10% downpayment investment. Equity investment is therefore 133,208 CFA francs. Interest on equity capital pro-rated at 18% per annum is 3,101 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 683 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 24,000 CFA francs (300 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 0 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 383 kilograms of sorghum per hectare cultivated. Total value of this grain is 28,725 CFA francs (383 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 5.5 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 5,500 CFA francs.

Table B-71

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type II with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	24,000
Seed	2,250	Crop Sales to Private Markets	0
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	120	TOTAL CASH RECEIPTS	24,000
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	6,351	Value of On-Farm Crop Consumption/Use	28,725
Equipment Repair and Maintenance	629	Value of On-Farm Use of Crop By-Products	5,500
Other Cash Costs	0		
Crop Marketing Costs	1,500		
Interest Paid	1,675		
TOTAL CASH EXPENSES	21,615		
Non-Cash Expenses			
Unpaid Family Labor	27,000		
Capital Recovery/ Equipment	2,417		
Capital Recovery/ Draft Animals	544		
Interest on Equity Capital @ 18%	2,325		
TOTAL NON-CASH EXPENSES	32,286	TOTAL NON-CASH RECEIPTS	34,225
TOTAL EXPENSES	53,901	TOTAL RECEIPTS	58,225

Total Cash Receipts Per Hectare	24,000
Total Cash Expenses Per Hectare	21,615
NET CASH INCOME PER HECTARE	2,385
Total Receipts Per Hectare	58,225
Total Expenses Per Hectare	53,901
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	4,324
EFFECTIVE WAGE RATE PER MAN-DAY	870

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares for all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 150 CFA francs per kilogram. Total cost is 2,250 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 120 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 40 days of use in animal traction crop activities. Of these total days, 4 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the sorghum is 6,351 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 629 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 1,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 17,271 CFA francs. The pro-rated cost of the animal equipment package for one hectare of sorghum grown is 1,675 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	6	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	4	1
3rd Weeding	0	0
Harvesting/Threshing	8	2
Marketing	2	2
Total	36	10

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	6	18	20
Animal-drawn Cart	4	19	95
Draft Animals	10	37	115

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	30.0
Animal-drawn Cart	4.2
Draft Animals	8.7

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	110,480 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	235,480 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	23,548 CFA francs
Total loan	211,932 CFA francs
Capital payment per year	52,983 CFA francs
Interest payment per year	16,792 CFA francs
Total annual payment	69,775 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	9,180	0	9,180	8 years	1,148
Cultivator Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	110,480		110,480		16,624

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 2,417 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of donkey pro-rated for use in sorghum cultivation is 544 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has thereby acquired a 50% equity investment in his equipment and oxen, in addition to the required 10% downpayment investment. Equity investment is therefore 133,208 CFA francs. Interest on equity capital pro-rated at 18% per annum is 2,325 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 683 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 24,000 CFA francs (300 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 0 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 383 kilograms of sorghum per hectare cultivated. Total value of this grain is 28,725 CFA francs (383 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 5.5 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 5,500 CFA francs.

Table B-72

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type III with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	24,000
Seed	2,250	Crop Sales to Private Markets	0
Fertilizer	7,250	Sales of Crop By-Products	0
Insecticides and/or Other Treatments	120	TOTAL CASH RECEIPTS	24,000
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	5,183	Value of On-Farm Crop Consumption/Use	28,725
Equipment Repair and Maintenance	441	Value of On-Farm Use of Crop By-Products	5,500
Other Cash Costs	0		
Crop Marketing Costs	1,500		
Interest Paid	1,263		
TOTAL CASH EXPENSES	19,732		
Non-Cash Expenses			
Unpaid Family Labor	27,000		
Capital Recovery/ Equipment	1,631		
Capital Recovery/ Draft Animals	444		
Interest on Equity Capital @ 18%	1,753		
TOTAL NON-CASH EXPENSES	30,828	TOTAL NON-CASH RECEIPTS	34,225
TOTAL EXPENSES	50,560	TOTAL RECEIPTS	58,225

Total Cash Receipts Per Hectare	24,000
Total Cash Expenses Per Hectare	19,732
NET CASH INCOME PER HECTARE	4,268
Total Receipts Per Hectare	58,225
Total Expenses Per Hectare	50,560
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	7,665
EFFECTIVE WAGE RATE PER MAN-DAY	963

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectare of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares for all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 150 CFA francs per kilogram. Total cost is 2,250 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 7,250 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 100 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 120 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 60 days of use in animal traction crop activities. Of these total days, 5 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the sorghum is 5,183 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 441 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 1,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 17,271 CFA francs. The pro-rated cost of the animal equipment package for one hectare of sorghum grown is 1,263 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	6	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	4	1
3rd Weeding	0	0
Harvesting/Threshing	8	2
Marketing	2	2
Total	36	10

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	6	29	32
Animal-drawn Cart	4	31	108
Draft Animals	10	60	140

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	18.8
Animal-drawn Cart	3.7
Draft Animals	7.1

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	110,480 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	235,480 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	23,548 CFA francs
Total loan	211,932 CFA francs
Capital payment per year	52,983 CFA francs
Interest payment per year	16,792 CFA francs
Total annual payment	69,775 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	9,180	0	9,180	8 years	1,148
Cultivator Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	110,480		110,480		16,624

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 1,631 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of donkey pro-rated for use in sorghum cultivation is 444 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has thereby acquired a 50% equity investment in his equipment and oxen, in addition to the required 10% downpayment investment. Equity investment is therefore 133,208 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,735 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 683 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 24,000 CFA francs (300 kilograms of sorghum sold to the government at 80 CFA francs per kilogram and 0 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 383 kilograms of sorghum per hectare cultivated. Total value of this grain is 28,725 CFA francs (383 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 5.5 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 5,500 CFA francs.

Table B-73

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type I with Traditional Technology
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	3,750
Seed	1,125	Sales of Crop By-Products	0
Fertilizer	0	TOTAL CASH RECEIPTS	3,750
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	2,300		
Draft Animal Maintenance	0	**Non-Cash Receipts**	
Equipment Repair and Maintenance	0	Value of On-Farm Crop Consumption/Use	45,000
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	5,200
Crop Marketing Costs	250		
Interest Paid	0		
TOTAL CASH EXPENSES	3,675		
Non-Cash Expenses			
Unpaid Family Labor	106,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	106,000	TOTAL NON-CASH RECEIPTS	50,200
TOTAL EXPENSES	109,675	TOTAL RECEIPTS	53,950

Total Cash Receipts Per Hectare	3,750
Total Cash Expenses Per Hectare	3,675
NET CASH INCOME PER HECTARE	75
Total Receipts Per Hectare	53,950
Total Expenses Per Hectare	109,675
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(55,725)
EFFECTIVE WAGE RATE PER MAN-DAY	474

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 2.7 hectares of millet and cowpeas in association, 0.2 hectares of sorghum in pure stand, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of local sorghum seed per hectare from family granary stocks. Seed is valued at 75 CFA francs per kilogram. Total cost is 1,125 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals for animal traction purposes.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

The farm incurs no other cash costs for the sorghum crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 250 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	0
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Harvesting/Threshing	23
Marketing	3
Total	106

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 650 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 3,750 CFA francs (50 kilograms of sorghum x 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption and/or additional sales an estimated 600 kilograms of sorghum per hectare cultivated. Total value of this grain is 45,000 CFA francs (600 kilograms of sorghum x 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 5.2 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 5,200 CFA francs.

Table B-74

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type II with Traditional Technology
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	3,000
Seed	1,125	Sales of Crop By-Products	0
Fertilizer	0	TOTAL CASH RECEIPTS	3,000
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	1,840		
Draft Animal Maintenance	0	**Non-Cash Receipts**	
Equipment Repair and Maintenance	0	Value of On-Farm Crop Consumption/Use	45,750
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	5,200
Crop Marketing Costs	200		
Interest Paid	0		
TOTAL CASH EXPENSES	3,165		
Non-Cash Expenses			
Unpaid Family Labor	106,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	106,000	TOTAL NON-CASH RECEIPTS	50,950
TOTAL EXPENSES	109,165	TOTAL RECEIPTS	53,950

Total Cash Receipts Per Hectare	3,000
Total Cash Expenses Per Hectare	3,165
NET CASH INCOME PER HECTARE	(165)
Total Receipts Per Hectare	53,950
Total Expenses Per Hectare	109,165
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(55,215)
EFFECTIVE WAGE RATE PER MAN-DAY	479

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

370

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 4.5 hectares of millet and cowpeas in association, 0.35 hectares of sorghum in pure stand, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of local sorghum seed per hectare from family granary stocks. Seed is valued at 75 CFA francs per kilogram. Total cost is 1,125 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

The farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 200 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	0
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Harvesting/Threshing	23
Marketing	3
Total	106

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 650 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 3,000 CFA francs (40 kilograms of sorghum x 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption and/or additional sales an estimated 610 kilograms of sorghum per hectare cultivated. Total value of this grain is 45,750 CFA francs (610 kilograms of sorghum x 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 5.2 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 5,200 CFA francs.

Table B-75

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type III with Traditional Technology
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	2,850
Seed	1,125	Sales of Crop By-Products	0
Fertilizer	0	TOTAL CASH RECEIPTS	2,850
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	45,900
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	5,200
Other Cash Costs	0		
Crop Marketing Costs	190		
Interest Paid	0		
TOTAL CASH EXPENSES	3,040		
Non-Cash Expenses			
Unpaid Family Labor	106,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	106,000	TOTAL NON-CASH RECEIPTS	51,100
TOTAL EXPENSES	109,040	TOTAL RECEIPTS	53,950

Total Cash Receipts Per Hectare	2,850
Total Cash Expenses Per Hectare	3,040
NET CASH INCOME PER HECTARE	(190)
Total Receipts Per Hectare	53,950
Total Expenses Per Hectare	109,040
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(55,090)
EFFECTIVE WAGE RATE PER MAN-DAY	480

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 7.3 hectares of millet and cowpeas in association, 0.5 hectares of sorghum in pure stand, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of local sorghum seed per hectare from family granary stocks. Seed is valued at 75 CFA francs per kilogram. Total cost is 1,125 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

The farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 190 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	0
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Harvesting/Threshing	23
Marketing	3
Total	106

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 650 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 2,850 CFA francs (38 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption and/or additional sales an estimated 612 kilograms of sorghum per hectare cultivated. Total value of this grain is 45,900 CFA francs (612 kilograms of sorghum x 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 5.2 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 5,200 CFA francs.

Table B-76

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type I with Partial Package Adoption
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	33,750
Seed	4,890	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	33,750
Insecticides and/or Other Treatments	122		
Expendable Hand Tools	2,300		
Draft Animal Maintenance	0	**Non-Cash Receipts**	
Equipment Repair and Maintenance	0	Value of On-Farm Crop Consumption/Use	45,375
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	8,400
Crop Marketing Costs	2,250		
Interest Paid	0		
TOTAL CASH EXPENSES	35,662		
Non-Cash Expenses			
Unpaid Family Labor	124,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	124,000	TOTAL NON-CASH RECEIPTS	53,775
TOTAL EXPENSES	159,662	TOTAL RECEIPTS	87,525

Total Cash Receipts Per Hectare	33,750
Total Cash Expenses Per Hectare	35,662
NET CASH INCOME PER HECTARE	(1,912)
Total Receipts Per Hectare	87,525
Total Expenses Per Hectare	159,662
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(72,137)
EFFECTIVE WAGE RATE PER MAN-DAY	418

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

315

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with Partial Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of local sorghum seed per hectare purchased from the government. Seed is purchased at 326 CFA francs per kilogram. Total cost is 4,890 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 122 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Pepair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 2250 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Harvesting/Threshing	38
Marketing	3
Total	124

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 1,055 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 33,750 CFA francs (450 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption and/or additional sales an estimated 605 kilograms of sorghum per hectare cultivated. Total value of this grain is 45,375 CFA francs (605 kilograms of sorghum x 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 8.4 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 8,400 CFA francs.

Table B-77

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type II with Partial Package Adoption
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	33,000
Seed	4,890	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	33,000
Insecticides and/or Other Treatments	122		
Expendable Hand Tools	1,840		
Draft Animal Maintenance	0	**Non-Cash Receipts**	
Equipment Repair and Maintenance	0	Value of On-Farm Crop Consumption/Use	46,125
Other Cas. Costs	0	Value of On-Farm Use of Crop By-Products	8,400
Crop Marketing Costs	2,200		
Interest Paid	0		
TOTAL CASH EXPENSES	35,152		
Non-Cash Expenses			
Unpaid Family Labor	124,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	124,000	TOTAL NON-CASH RECEIPTS	54,525
TOTAL EXPENSES	159,152	TOTAL RECEIPTS	87,525

Total Cash Receipts Per Hectare	33,000
Total Cash Expenses Per Hectare	35,152
NET CASH INCOME PER HECTARE	(2,152)
Total Receipts Per Hectare	87,525
Total Expenses Per Hectare	159,152
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(71,627)
EFFECTIVE WAGE RATE PER MAN-DAY	422

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

352

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with Partial Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of local sorghum seed per hectare purchased from the government. Seed is purchased at 326 CFA francs per kilogram. Total cost is 4,890 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 122 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Harvesting/Threshing	38
Marketing	3
Total	124

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 1,055 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 33,000 CFA francs (440 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption and/or additional sales an estimated 615 kilograms of sorghum per hectare cultivated. Total value of this grain is 46,125 CFA francs (615 kilograms of sorghum x 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 8.4 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 8,400 CFA francs.

Table B-78

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type III with Partial Package Adoption
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	33,000
Seed	4,890	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	33,000
Insecticides and/or Other Treatments	122		
Expendable Hand Tools	1,725		
Draft Animal Maintenance	0	**Non-Cash Receipts**	
Equipment Repair and Maintenance	0	Value of On-Farm Crop Consumption/Use	46,125
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	8,400
Crop Marketing Costs	2,200		
Interest Paid	0		
TOTAL CASH EXPENSES	35,037		
Non-Cash Expenses			
Unpaid Family Labor	124,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	124,000	TOTAL NON-CASH RECEIPTS	54,525
TOTAL EXPENSES	159,037	TOTAL RECEIPTS	87,525

Total Cash Receipts Per Hectare	33,000
Total Cash Expenses Per Hectare	35,037
NET CASH INCOME PER HECTARE	(2,037)
Total Receipts Per Hectare	87,525
Total Expenses Per Hectare	159,037
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(71,512)
EFFECTIVE WAGE RATE PER MAN-DAY	423

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with Partial Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of local sorghum seed per hectare purchased from the government. Seed is purchased at 326 CFA francs per kilogram. Total cost is 4,890 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 122 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 2200 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Harvesting/Threshing	38
Marketing	3
Total	124

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 1,055 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 33,000 CFA francs (440 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption and/or additional sales an estimated 615 kilograms of sorghum per hectare cultivated. Total value of this grain is 46,125 CFA francs (615 kilograms of sorghum x 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 8.4 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 8,400 CFA francs.

Table B-79

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type I with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	42,750
Seed	4,890	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	42,750
Insecticides and/or Other Treatments	122		
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	1,232	Value of On-Farm Crop Consumption/Use	45,450
Equipment Repair and Maintenance	1,433	Value of On-Farm Use of Crop By-Products	9,400
Other Cash Costs	0		
Crop Marketing Costs	2,750		
Interest Paid	3,139		
TOTAL CASH EXPENSES	41,966		
Non-Cash Expenses			
Unpaid Family Labor	60,000		
Capital Recovery/ Equipment	5,013		
Capital Recovery/ Draft Animals	540		
Interest on Equity Capital @ 18%	3,444		
TOTAL NON-CASH EXPENSES	68,997	TOTAL NON-CASH RECEIPTS	54,850
TOTAL EXPENSES	110,963	TOTAL RECEIPTS	97,600

Total Cash Receipts Per Hectare	42,750
Total Cash Expenses Per Hectare	41,966
NET CASH INCOME PER HECTARE	784
Total Receipts Per Hectare	97,600
Total Expenses Per Hectare	110,963
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(13,363)
EFFECTIVE WAGE RATE PER MAN-DAY	777

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectare of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 4,890 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses one packet of Thioral for seed treatment of sorghum per hectare planted. Total cost is 122 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 44 days of use in animal traction crop activities. Of these total days, 3 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the sorghum is 1,232 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 1,433 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 2750 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rated cost of the animal equipment package for one hectare of sorghum grown is 3,139 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Harvesting/Threshing	12	2
Marketing	2	2
Total	60	16

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	12	30	32
Animal-drawn Cart	4	12	87
Draft Animals	16	42	119

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	37.5
Animal-drawn Cart	4.6
Draft Animals	13.5

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base	18,530	0	18,530	8 years	2,316
Equipment	16,581	0	16,581	8 years	2,073
Cultivator	21,113	0	21,113	8 years	2,639
Donkey Toolbar					
Cultivator Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 5,013 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in sorghum cultivation is 540 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 106,481 CFA francs. Interest on equity capital pro-rated at 18% per annum is 3,444 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 1,176 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 42,750 CFA francs (570 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 606 kilograms of sorghum per hectare cultivated. Total value of this grain is 45,450 CFA francs (606 kilograms of sorghum x 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 9.4 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 9,400 CFA francs.

Table B-80

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type II with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	42,750
Seed	4,890	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	42,750
Insecticides and/or Other Treatments	122		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	974	Value of On-Farm Crop Consumption/Use	45,450
Equipment Repair and Maintenance	909	Value of On-Farm Use of Crop By-Products	9,400
Other Cash Costs	0		
Crop Marketing Costs	2,750		
Interest Paid	1,991		
TOTAL CASH EXPENSES	39,576		
Non-Cash Expenses			
Unpaid Family Labor	60,000		
Capital Recovery/ Equipment	3,119		
Capital Recovery/ Draft Animals	428		
Interest on Equity Capital @ 18%	2,280		
TOTAL NON-CASH EXPENSES	65,827	TOTAL NON-CASH RECEIPTS	54,850
TOTAL EXPENSES	105,403	TOTAL RECEIPTS	97,600

Total Cash Receipts Per Hectare	42,750
Total Cash Expenses Per Hectare	39,576
NET CASH INCOME PER HECTARE	3,174
Total Receipts Per Hectare	97,600
Total Expenses Per Hectare	105,403
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(7,803)
EFFECTIVE WAGE RATE PER MAN-DAY	870

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

396

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 4,890 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses one packet of Thioral for seed treatment of sorghum per hectare planted. Total cost is 122 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 74 days of use in animal traction crop activities. Of these total days, 6 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the sorghum is 974 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 909 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 2,750 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rated cost of the animal equipment package for one hectare of sorghum grown is 1,991 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Harvesting/Threshing	12	2
Marketing	2	2
Total	60	16

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	12	50	54
Animal-drawn Cart	4	19	95
Draft Animals	16	69	149

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	22.2
Animal-drawn Cart	4.2
Draft Animals	10.7

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	16,581	0	16,581	8 years	2,073
Donkey Toolbar	21,113	0	21,113	8 years	2,639
Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 3,119 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in sorghum cultivation is 428 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 106,481 CFA francs. Interest on equity capital pro-rated at 18% per annum is 2,280 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 1,176 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 42,750 CFA francs (570 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 606 kilograms of sorghum per hectare cultivated. Total value of this grain is 45,450 CFA francs (606 kilograms of sorghum x 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 9.4 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 9,400 CFA francs.

Table B-81

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type III with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	42,750
Seed	4,890	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	42,750
Insecticides and/or Other Treatments	122		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	757	Value of On-Farm Crop Consumption/Use	45,450
Equipment Repair and Maintenance	616	Value of On-Farm Use of Crop By-Products	9,400
Other Cash Costs	0		
Crop Marketing Costs	2,750		
Interest Paid	1,350		
TOTAL CASH EXPENSES	38,310		
Non-Cash Expenses			
Unpaid Family Labor	60,000		
Capital Recovery/ Equipment	2,074		
Capital Recovery/ Draft Animals	332		
Interest on Equity Capital @ 18%	1,593		
TOTAL NON-CASH EXPENSES	63,999	TOTAL NON-CASH RECEIPTS	54,850
TOTAL EXPENSES	102,309	TOTAL RECEIPTS	97,600

Total Cash Receipts Per Hectare	42,750
Total Cash Expenses Per Hectare	38,310
NET CASH INCOME PER HECTARE	4,400
Total Receipts Per Hectare	97,600
Total Expenses Per Hectare	102,309
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(4,709)
EFFECTIVE WAGE RATE PER MAN-DAY	922

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectare of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 4,890 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses one packet of Thioral for seed treatment of sorghum per hectare planted. Total cost is 122 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 119 days of use in animal traction crop activities. Of these total days, 8 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the sorghum is 757 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 616 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 2,750 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rated cost of the animal equipment package for one hectare of sorghum grown is 1,350 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Harvesting/Threshing	12	2
Marketing	2	2
Total	60	16

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	12	80	86
Animal-drawn Cart	4	31	108
Draft Animals	16	111	194

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	14.0
Animal-drawn Cart	3.7
Draft Animals	8.3

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	16,581	0	16,581	8 years	2,073
Donkey Tool	21,113	0	21,113	8 years	2,639
Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 2,074 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in sorghum cultivation is 332 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 106,481 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,593 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 1,176 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 42,750 CFA francs (570 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 606 kilograms of sorghum per hectare cultivated. Total value of this grain is 45,450 CFA francs (606 kilograms of sorghum x 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 9.4 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 9,400 CFA francs.

Table B-82

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type I with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	52,500
Seed	4,890	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	52,500
Insecticides and/or Other Treatments	122		
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	7,665	Value of On-Farm Crop Consumption/Use	35,700
Equipment Repair and Maintenance	2,002	Value of On-Farm Use of Crop By-Products	9,400
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	5,824		
TOTAL CASH EXPENSES	52,403		
Non-Cash Expenses			
Unpaid Family Labor	50,000		
Capital Recovery/ Equipment	8,260		
Capital Recovery/ Draft Animals	656		
Interest on Equity Capital @ 18%	5,263		
TOTAL NON-CASH EXPENSES	64,179	TOTAL NON-CASH RECEIPTS	45,100
TOTAL EXPENSES	116,582	TOTAL RECEIPTS	97,600

Total Cash Receipts Per Hectare	52,500
Total Cash Expenses Per Hectare	52,403
NET CASH INCOME PER HECTARE	97
Total Receipts Per Hectare	97,600
Total Expenses Per Hectare	116,582
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(18,982)
EFFECTIVE WAGE RATE PER MAN-DAY	620

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

458

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectare of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 326 CFA francs per kilogram. Total cost is 4,890 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses one packet of Thioral for seed treatment of sorghum per hectare planted. Total cost is 122 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 30 days of use in animal traction crop activities. Of these total days, 2 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the sorghum is 7,665 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 2,002 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed sorghum sold. Total cost for marketing of sorghum sold is 3,375 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 33,776 CFA francs. The pro-rata cost of the animal equipment package for one hectare of sorghum grown is 5,824 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Harvesting/Threshing	12	2
Marketing	2	2
Total	50	11

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	7	16	23
Animal-drawn Cart	4	12	91
Draft Animals	11	28	114

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	.412
Animal-drawn Cart	.046
Draft Animals	.105

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Charrue"/Plow	19,756
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Asine"/Ox Cart	96,923
Sub-total for equipment	183,274 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	308,274 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	30,827 CFA francs
Total loan	277,447 CFA francs
Capital payment per year	69,362 CFA francs
Interest payment per year	33.776 CFA francs
Total annual payment	103,138 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Plow	19,756	0	19,756	8 years	2,470
Cultivator	26,994	0	26,994	8 years	3,374
Cultivator Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	183,274		183,274		30,811

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 8,260 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in sorghum cultivation is 656 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 169,551 CFA francs. Interest on equity capital pro-rated at 18% per annum is 5,263 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 1,176 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 52,500 CFA francs (700 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption an estimated 476 kilograms of sorghum per hectare cultivated. Total value of this grain is 35,700 CFA francs (476 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 9.4 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 9,400 CFA francs.

Table B-83

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type II with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	52,500
Seed	4,890	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	52,500
Insecticides and/or Other Treatments	122		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	6,497	Value of On-Farm Crop Consumption/Use	35,700
Equipment Repair and Maintenance	1,244	Value of On-Farm Use of Crop By-Products	9,400
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	3,945		
TOTAL CASH EXPENSES	48,138		
Non-Cash Expenses			
Unpaid Family Labor	50,000		
Capital Recovery/ Equipment	5,015		
Capital Recovery/ Draft Animals	556		
Interest on Equity Capital @ 18%	3,565		
TOTAL NON-CASH EXPENSES	59,136	TOTAL NON-CASH RECEIPTS	45,100
TOTAL EXPENSES	107,274	TOTAL RECEIPTS	97,600

Total Cash Receipts Per Hectare	52,500
Total Cash Expenses Per Hectare	48,138
NET CASH INCOME PER HECTARE	4,362
Total Receipts Per Hectare	97,600
Total Expenses Per Hectare	107,274
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(9,674)
EFFECTIVE WAGE RATE PER MAN-DAY	807

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 326 CFA francs per kilogram. Total cost is 4,890 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses one packet of Thioral for seed treatment of sorghum per hectare planted. Total cost is 122 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 49 days of use in animal traction crop activities. Of these total days, 4 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the sorghum is 6,497 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 1,244 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of unthreshed sorghum sold. Total cost for marketing of sorghum sold is 3,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 33,776 CFA francs. The pro-rata cost of the animal equipment package for one hectare of sorghum grown is 3,945 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Harvesting/Threshing	12	2
Marketing	2	2
Total	50	11

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	7	27	29
Animal-drawn Cart	4	19	95
Draft Animals	11	46	124

Percentages of total use pro-rated for s rghum pr)duction per hectare are:

Equipment Used	Pro-rated ercentage of Use f: : Sorghum
Crop Equipment	4.1
Animal-drawn Cart	4.2
Draft Animals	8.9

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Charrue"/Plow	19,756
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	183,274 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	308,274 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	30,827 CFA francs
Total loan	277,447 CFA francs
Capital payment per year	69,362 CFA francs
Interest payment per year	33,776 CFA francs
Total annual payment	103,138 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Plow	19,756	0	19,756	8 years	2,470
Cultivator	26,994	0	26,994	8 years	3,374
Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	183,274		183,274		30,811

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 5,015 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in sorghum cultivation is 556 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 169,551 CFA francs. Interest on equity capital pro-rated at 18% per annum is 3,565 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 1,176 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 52,500 CFA francs (700 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption an estimated 476 kilograms of sorghum per hectare cultivated. Total value of this grain is 35,700 CFA francs (476 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 9.4 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 9,400 CFA francs.

Table B-84

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type III with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	52,500
Seed	4,890	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	52,500
Insecticides and/or Other Treatments	122		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	5,183	Value of On-Farm Crop Consumption/Use	35,700
Equipment Repair and Maintenance	872	Value of On-Farm Use of Crop By-Products	9,400
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	2,331		
TOTAL CASH EXPENSES	44,721		
Non-Cash Expenses			
Unpaid Family Labor	50,000		
Capital Recovery/ Equipment	2,355		
Capital Recovery/ Draft Animals	444		
Interest on Equity Capital @ 18%	2,106		
TOTAL NON-CASH EXPENSES	54,905	TOTAL NON-CASH RECEIPTS	45,100
TOTAL EXPENSES	99,626	TOTAL RECEIPTS	97,600

Total Cash Receipts Per Hectare	52,500
Total Cash Expenses Per Hectare	44,721
NET CASH INCOME PER HECTARE	7,779
Total Receipts Per Hectare	97,600
Total Expenses Per Hectare	99,626
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(2,026)
EFFECTIVE WAGE RATE PER MAN-DAY	960

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectare of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 326 CFA francs per kilogram. Total cost is 4,890 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses one packet of Thioral for seed treatment of sorghum per hectare planted. Total cost is 122 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 81 days of use in animal traction crop activities. Of these total days, 6 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the sorghum is 5,183 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 872 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 3,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 33,776 CFA francs. The pro-rata cost of the animal equipment package for one hectare of sorghum grown is 2,331 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Harvesting/Threshing	12	2
Marketing	2	2
Total	50	11

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	7	44	48
Animal-drawn Cart	4	31	108
Draft Animals	11	75	156

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	10.2
Animal-drawn Cart	3.7
Draft Animals	7.1

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Charrue"/Plow	19,756
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Asine"/Ox Cart	96,923
Sub-total for equipment	183,274 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	308,274 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	30,827 CFA francs
Total loan	277,447 CFA francs
Capital payment per year	69,362 CFA francs
Interest payment per year	33,776 CFA francs
Total annual payment	103,138 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Plow	19,756	0	19,756	8 years	2,470
Cultivator	26,994	0	26,994	8 years	3,374
Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	183,274		183,274		30,811

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 2,355 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in sorghum cultivation is 444 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 169,551 CFA francs. Interest on equity capital pro-rated at 18% per annum is 2,106 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 1,176 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 52,500 CFA francs (700 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption an estimated 476 kilograms of sorghum per hectare cultivated. Total value of this grain is 35,700 CFA francs (476 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 9.4 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 9,400 CFA francs.

Table B-85

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type I with Traditional Technology
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	3,450
Seed	1,125	Sales of Crop By-Products	0
Fertilizer	0	TOTAL CASH RECEIPTS	3,450
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	26,550
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	3,200
Other Cash Costs	0		
Crop Marketing Costs	230		
Interest Paid	0		
TOTAL CASH EXPENSES	3,655		
Non-Cash Expenses			
Unpaid Family Labor	45,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	45,000	TOTAL NON-CASH RECEIPTS	29,750
TOTAL EXPENSES	48,655	TOTAL RECEIPTS	33,200

Total Cash Receipts Per Hectare	3,450
Total Cash Expenses Per Hectare	3,655
NET CASH INCOME PER HECTARE	(205)
Total Receipts Per Hectare	33,200
Total Expenses Per Hectare	48,655
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(15,455)
EFFECTIVE WAGE RATE PER MAN-DAY	492

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 2.7 hectares of millet and cowpeas in association, 0.2 hectares of sorghum in pure stand, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of local sorghum seed per hectare from family granary stocks. Seed is valued at 75 CFA francs per kilogram. Total cost is 1,125 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

The farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum is 230 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation	Man-days of Labor
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	0
1st Weeding/Replacement of Missing Plants	16
2nd Weeding	12
3rd Weeding	0
Harvesting/Threshing	14
Marketing	2
Total	60

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 400 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 3,450 CFA francs (46 kilograms of sorghum x 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption and/or additional sales an estimated 354 kilograms of sorghum per hectare cultivated. Total value of this grain is 26,550 CFA francs (354 kilograms of sorghum x 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 3.2 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 3,200 CFA francs.

Table B-86

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type II with Traditional Technology
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	3,000
Seed	1,125	Sales of Crop By-Products	0
Fertilizer	0	TOTAL CASH RECEIPTS	3,000
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	27,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	3,200
Other Cash Costs	0		
Crop Marketing Costs	200		
Interest Paid	0		
TOTAL CASH EXPENSES	3,165		
Non-Cash Expenses			
Unpaid Family Labor	45,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	45,000	TOTAL NON-CASH RECEIPTS	30,200
TOTAL EXPENSES	48,165	TOTAL RECEIPTS	33,200

Total Cash Receipts Per Hectare	3,000
Total Cash Expenses Per Hectare	3,165
NET CASH INCOME PER HECTARE	(165)
Total Receipts Per Hectare	33,200
Total Expenses Per Hectare	48,165
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(14,965)
EFFECTIVE WAGE RATE PER MAN-DAY	501

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 4.5 hectares of millet and cowpeas in association, 0.35 hectares of sorghum in pure stand, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare from family granary stocks. Seed is valued at 75 CFA francs per kilogram. Total cost is 1,125 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum is 200 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation	Man-days of Labor
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	0
1st Weeding/Replacement of Missing Plants	16
2nd Weeding	12
3rd Weeding	0
Harvesting/Threshing	14
Marketing	2
Total	60

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 400 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 3,000 CFA francs (40 kilograms of sorghum x 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption and/or additional sales an estimated 360 kilograms of sorghum per hectare cultivated. Total value of this grain is 27,000 CFA francs (360 kilograms of sorghum x 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 3.2 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 3,200 CFA francs.

Table B-87

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type III with Traditional Technology
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	3,000
Seed	1,125	Sales of Crop By-Products	0
Fertilizer	0	TOTAL CASH RECEIPTS	3,000
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	27,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	3,200
Other Cash Costs	0		
Crop Marketing Costs	200		
Interest Paid	0		
TOTAL CASH EXPENSES	3,050		
Non-Cash Expenses			
Unpaid Family Labor	45,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	45,000	TOTAL NON-CASH RECEIPTS	30,200
TOTAL EXPENSES	48,050	TOTAL RECEIPTS	33,200

Total Cash Receipts Per Hectare	3,000
Total Cash Expenses Per Hectare	3,050
NET CASH INCOME PER HECTARE	(50)
Total Receipts Per Hectare	33,200
Total Expenses Per Hectare	48,050
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(14,850)
EFFECTIVE WAGE RATE PER MAN-DAY	503

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 7.3 hectares of millet and cowpeas in association, 0.5 hectares of sorghum in pure stand, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of local sorghum seed per hectare from family granary stocks. Seed is valued at 75 CFA francs per kilogram. Total cost is 1,125 CFA francs per hectare.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum is 200 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation	Man-days of Labor
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	0
1st Weeding/Replacement of Missing Plants	16
2nd Weeding	12
3rd Weeding	0
Harvesting/Threshing	14
Marketing	2
Total	60

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 400 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 3,000 CFA francs (40 kilograms of sorghum x 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption and/or additional sales an estimated 360 kilograms of sorghum per hectare cultivated. Total value of this grain is 27,000 CFA francs (360 kilograms of sorghum x 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, and fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 3.2 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 3,200 CFA francs.

Table B-88

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type I with Partial Package Adoption
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	33,750
Seed	4,890	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	33,750
Insecticides and/or Other Treatments	122		
Expendable Hand Tools	2,300		
Draft Animal Maintenance	0	**Non-Cash Receipts**	
Equipment Repair and Maintenance	0	Value of On-Farm Crop Consumption/Use	11,475
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	4,800
Crop Marketing Costs	2,250		
Interest Paid	0		
TOTAL CASH EXPENSES	35,662		
Non-Cash Expenses			
Unpaid Family Labor	53,250		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	53,250	TOTAL NON-CASH RECEIPTS	16,275
TOTAL EXPENSES	88,912	TOTAL RECEIPTS	50,025

Total Cash Receipts Per Hectare	33,750
Total Cash Expenses Per Hectare	35,662
NET CASH INCOME PER HECTARE	(1,912)
Total Receipts Per Hectare	50,025
Total Expenses Per Hectare	88,912
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(38,887)
EFFECTIVE WAGE RATE PER MAN-DAY	202

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with Partial Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 326 CFA francs per kilogram. Total cost is 4,890 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 122 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 2250 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	16
2nd Weeding	12
3rd Weeding	0
Harvesting/Threshing	22
Marketing	2
Total	71

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 603 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 33,750 CFA francs (450 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption and/or additional sales an estimated 153 kilograms of sorghum per hectare cultivated. Total value of this grain is 11,475 CFA francs (153 kilograms of sorghum x 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 4.8 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 4,800 CFA francs.

Table B-89

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type II with Partial Package Adoption
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	33,000
Seed	4,890	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	33,000
Insecticides and/or Other Treatments	122		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	12,225
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	4,800
Other Cash Costs	0		
Crop Marketing Costs	2,200		
Interest Paid	0		
TOTAL CASH EXPENSES	35,152		
Non-Cash Expenses			
Unpaid Family Labor	53,250		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	53,250	TOTAL NON-CASH RECEIPTS	17,025
TOTAL EXPENSES	88,400	TOTAL RECEIPTS	50,025

Total Cash Receipts Per Hectare	33,000
Total Cash Expenses Per Hectare	35,152
NET CASH INCOME PER HECTARE	(2,152)
Total Receipts Per Hectare	50,025
Total Expenses Per Hectare	88,400
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(38,375)
EFFECTIVE WAGE RATE PER MAN-DAY	209

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with Partial Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 326 CFA francs per kilogram. Total cost is 4,890 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 122 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 2200 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	16
2nd Weeding	12
3rd Weeding	0
Harvesting/Threshing	22
Marketing	2
Total	71

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 603 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 33,000 CFA francs (440 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption and/or additional sales an estimated 163 kilograms of sorghum per hectare cultivated. Total value of this grain is 12,225 CFA francs (163 kilograms of sorghum x 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 4.8 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 4,800 CFA francs.

Table B-90

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type III with Partial Package Adoption
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	33,000
Seed	4,890	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	33,000
Insecticides and/or Other Treatments	122		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	12,225
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	4,800
Other Cash Costs	0		
Crop Marketing Costs	2,200		
Interest Paid	0		
TOTAL CASH EXPENSES	35,037		
Non-Cash Expenses			
Unpaid Family Labor	53,250		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	53,250	TOTAL NON-CASH RECEIPTS	17,025
TOTAL EXPENSES	88,287	TOTAL RECEIPTS	50,025

Total Cash Receipts Per Hectare	33,000
Total Cash Expenses Per Hectare	35,037
NET CASH INCOME PER HECTARE	(2,037)
Total Receipts Per Hectare	50,025
Total Expenses Per Hectare	88,287
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(38,262)
EFFECTIVE WAGE RATE PER MAN-DAY	211

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with Partial Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 326 CFA francs per kilogram. Total cost is 4,890 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses two packets of Thioral for seed treatment of sorghum per hectare planted. Total cost is 122 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 2200 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
Ridging	4
Crop Fertilization	3
1st Weeding/Replacement of Missing Plants	16
2nd Weeding	12
3rd Weeding	0
Harvesting/Threshing	22
Marketing	2
Total	71

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated sorghum yield per hectare is 603 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 33,000 CFA francs (440 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-Cash Receipts

Farm family has available for consumption and/or additional sales an estimated 163 kilograms of sorghum per hectare cultivated. Total value of this grain is 12,225 CFA francs (163 kilograms of sorghum x 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 4.8 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 4,800 CFA francs.

Table B-91

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type I with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	42,750
Seed	4,890	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	42,750
Insecticides and/or Other Treatments	122		
Expendable Hand Tools	2,300		
Draft Animal Maintenance	958	**Non-Cash Receipts**	
Equipment Repair and Maintenance	1,479	Value of On-Farm Crop Consumption/Use	8,475
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	5,500
Crop Marketing Costs	2,850		
Interest Paid	3,241		
TOTAL CASH EXPENSES	41,940		
Non-Cash Expenses			
Unpaid Family Labor	30,000		
Capital Recovery/ Equipment	5,182		
Capital Recovery/ Draft Animals	420		
Interest on Equity Capital @ 18%	3,401		
TOTAL NON-CASH EXPENSES	39,003	TOTAL NON-CASH RECEIPTS	13,975
TOTAL EXPENSES	80,843	TOTAL RECEIPTS	56,725

Total Cash Receipts Per Hectare	42,750
Total Cash Expenses Per Hectare	41,940
NET CASH INCOME PER HECTARE	810
Total Receipts Per Hectare	56,725
Total Expenses Per Hectare	80,843
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(24,118)
EFFECTIVE WAGE RATE PER MAN-DAY	196

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectare of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 4,890 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses one packet of Thioral for seed treatment of sorghum per hectare planted. Total cost is 122 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 30 days of use in animal traction crop activities. Of these total days, 3 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the sorghum is 958 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 1,479 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 2,850 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rated cost of the animal equipment package for one hectare of sorghum grown is 3,241 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	0	0
Harvesting/Threshing	8	2
Marketing	2	2
Total	40	11

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	7	16	18
Animal-drawn Cart	4	11	87
Draft Animals	11	27	105

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	38.9
Animal-drawn Cart	4.6
Draft Animals	10.5

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	16,581	0	16,581	8 years	2,073
Donkey Toolbar	21,113	0	21,113	8 years	2,639
Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 5,182 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in sorghum cultivation is 420 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 106,481 CFA francs. Interest on equity capital pro-rated at 18% per annum is 3,401 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 683 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 42,750 CFA francs (570 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 113 kilograms of sorghum per hectare cultivated. Total value of this grain is 8,475 CFA francs (113 kilograms of sorghum x 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 5.5 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 5,500 CFA francs.

Table B-92

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type II with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	42,750
Seed	4,890	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	42,750
Insecticides and/or Other Treatments	122		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	803	Value of On-Farm Crop Consumption/Use	8,475
Equipment Repair and Maintenance	945	Value of On-Farm Use of Crop By-Products	5,500
Other Cash Costs	0		
Crop Marketing Costs	2,850		
Interest Paid	2,071		
TOTAL CASH EXPENSES	39,621		
Non-Cash Expenses			
Unpaid Family Labor	30,000		
Capital Recovery/ Equipment	3,252		
Capital Recovery/ Draft Animals	352		
Interest on Equity Capital @ 18%	2,267		
TOTAL NON-CASH EXPENSES	35,871	TOTAL NON-CASH RECEIPTS	13,975
TOTAL EXPENSES	75,492	TOTAL RECEIPTS	56,725

Total Cash Receipts Per Hectare	42,750
Total Cash Expenses Per Hectare	39,621
NET CASH INCOME PER HECTARE	3,129
Total Receipts Per Hectare	56,725
Total Expenses Per Hectare	75,492
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(18,767)
EFFECTIVE WAGE RATE PER MAN-DAY	374

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 4,890 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses one packet of Thioral for seed treatment of sorghum per hectare planted. Total cost is 122 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 50 days of use in animal traction crop activities. Of these total days, 4 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the sorghum is 803 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 945 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 2,850 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rated cost of the animal equipment package for one hectare of sorghum grown is 2,071 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	0	0
Harvesting/Threshing	8	2
Marketing	2	2
Total	40	11

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	7	27	30
Animal-drawn Cart	4	19	95
Draft Animals	11	46	125

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	23.3
Animal-drawn Cart	4.2
Draft Animals	8.8

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	16,581	0	16,581	8 years	2,073
Donkey Toolbar	21,113	0	21,113	8 years	2,639
Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 3,252 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in sorghum cultivation is 352 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 106,481 CFA francs. Interest on equity capital pro-rated at 18% per annum is 2,267 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 683 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 42,750 CFA francs (683 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 113 kilograms of sorghum per hectare cultivated. Total value of this grain is 8,475 CFA francs (113 kilograms of sorghum x 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 5.5 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 5,500 CFA francs.

Table B-93

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type III with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	42,750
Seed	4,890	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	42,750
Insecticides and/or Other Treatments	122		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	648	Value of On-Farm Crop Consumption/Use	8,475
Equipment Repair and Maintenance	646	Value of On-Farm Use of Crop By-Products	5,500
Other Cash Costs	0		
Crop Marketing Costs	2,850		
Interest Paid	1,415		
TOTAL CASH EXPENSES	38,396		
Non-Cash Expenses			
Unpaid Family Labor	30,000		
Capital Recovery/ Equipment	2,183		
Capital Recovery/ Draft Animals	284		
Interest on Equity Capital @ 18%	1,598		
TOTAL NON-CASH EXPENSES	34,065	TOTAL NON-CASH RECEIPTS	13,975
TOTAL EXPENSES	72,461	TOTAL RECEIPTS	56,725

Total Cash Receipts Per Hectare	42,750
Total Cash Expenses Per Hectare	38,396
NET CASH INCOME PER HECTARE	4,354
Total Receipts Per Hectare	56,725
Total Expenses Per Hectare	72,461
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(15,736)
EFFECTIVE WAGE RATE PER MAN-DAY	476

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectare of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare. Seed is purchased at 326 CFA francs per kilogram. Total cost is 4,890 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses one packet of Thioral for seed treatment of sorghum per hectare planted. Total cost is 122 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 80 days of use in animal traction crop activities. Of these total days, 5 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the sorghum is 648 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 646 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the sorghum production.

L. Crop Marketing Costs

Marketing costs estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 2,850 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rated cost of the animal equipment package for one hectare of sorghum grown is 1,415 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	3
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	0	0
Harvesting/Threshing	8	2
Marketing	2	2
Total	40	11

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	7	44	47
Animal-drawn Cart	4	31	108
Draft Animals	11	75	155

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	14.9
Animal-drawn Cart	3.7
Draft Animals	7.1

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	16,581	0	16,581	8 years	2,073
Donkey Toolbar	21,113	0	21,113	8 years	2,639
Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 2,183 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in sorghum cultivation is 284 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 106,481 CFA francs. Interest on equity capital pro-rated at 18% per annum is 1,598 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 683 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 42,750 CFA francs (683 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption and/or additional sales an estimated 113 kilograms of sorghum per hectare cultivated. Total value of this grain is 8,475 CFA francs (113 kilograms of sorghum x 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 5.5 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 5,500 CFA francs.

Table B-94

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type I with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	51,225
Seed	4,890	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	51,225
Insecticides and/or Other Treatments	122		
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	7,300	Value of On-Farm Crop Consumption/Use	0
Equipment Repair and Maintenance	2,377	Value of On-Farm Use of Crop By-Products	5,500
Other Cash Costs	0		
Crop Marketing Costs	3,415		
Interest Paid	6,577		
TOTAL CASH EXPENSES	53,081		
Non-Cash Expenses			
Unpaid Family Labor	27,000		
Capital Recovery/ Equipment	9,893		
Capital Recovery/ Draft Animals	625		
Interest on Equity Capital @ 18%	5,943		
TOTAL NON-CASH EXPENSES	43,461	TOTAL NON-CASH RECEIPTS	5,500
TOTAL EXPENSES	96,542	TOTAL RECEIPTS	56,725

Total Cash Receipts Per Hectare	51,225
Total Cash Expenses Per Hectare	53,081
NET CASH INCOME PER HECTARE	(1,850)
Total Receipts Per Hectare	56,725
Total Expenses Per Hectare	96,542
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(39,817)
EFFECTIVE WAGE RATE PER MAN-DAY	(356)

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectare of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 326 CFA francs per kilogram. Total cost is 4,890 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses one packet of Thioral for seed treatment of sorghum per hectare planted. Total cost is 122 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 25 days of use in animal traction crop activities. Of these total days, 2 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the sorghum is 7,300 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 2,377 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 3,415 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 33,776 CFA francs. The pro-rata cost of the animal equipment package for one hectare of sorghum grown is 6,577 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	6	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	4	1
3rd Weeding	0	0
Harvesting/Threshing	8	2
Marketing	2	2
Total	36	10

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	6	11	12
Animal-drawn Cart	4	12	87
Draft Animals	10	23	99

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	50.0
Animal-drawn Cart	4.5
Draft Animals	10.0

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Asine"/Ox Cart	96,923
Sub-total for equipment	163,518 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	288,5'8 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	28,852 CFA francs
Total loan	259,666 CFA francs
Capital payment per year	64,917 CFA francs
Interest payment per year	31,581 CFA francs
Total annual payment	96,498 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	26,994	0	26,994	8 years	3,374
Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	163,518		163,518		28,341

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 9,893 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in sorghum cultivation is 625 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 169,551 CFA francs. Interest on equity capital pro-rated at 18% per annum is 5,943 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 683 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 51,225 CFA francs (683 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption an estimated 0 kilograms of sorghum per hectare cultivated. Total value of this grain is 0 CFA francs (0 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 5.5 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 5,500 CFA francs.

Table B-95

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type II with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	51,225
Seed	4,890	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	51,225
Insecticides and/or Other Treatments	122		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	6,351	Value of On-Farm Crop Consumption/Use	0
Equipment Repair and Maintenance	1,498	Value of On-Farm Use of Crop By-Products	5,500
Other Cash Costs	0		
Crop Marketing Costs	3,415		
Interest Paid	4,476		
TOTAL CASH EXPENSES	48,695		
Non-Cash Expenses			
Unpaid Family Labor	27,000		
Capital Recovery/ Equipment	6,118		
Capital Recovery/ Draft Animals	544		
Interest on Equity Capital @ 18%	4,044		
TOTAL NON-CASH EXPENSES	37,706	TOTAL NON-CASH RECEIPTS	5,500
TOTAL EXPENSES	86,401	TOTAL RECEIPTS	56,725

Total Cash Receipts Per Hectare	51,225
Total Cash Expenses Per Hectare	48,695
NET CASH INCOME PER HECTARE	2,530
Total Receipts Per Hectare	56,725
Total Expenses Per Hectare	86,401
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(29,676)
EFFECTIVE WAGE RATE PER MAN-DAY	(74)

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 326 CFA francs per kilogram. Total cost is 4,890 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses one packet of Thioral for seed treatment of sorghum per hectare planted. Total cost is 122 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 40 days of use in animal traction crop activities. Of these total days, 4 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the sorghum is 6 351 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 1,498 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 3,415 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 169,551 CFA francs. The pro-rata cost of the animal equipment package for one hectare of sorghum grown is 4,476 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	6	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	4	1
3rd Weeding	0	0
Harvesting/Threshing	8	2
Marketing	2	2
Total	36	10

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	6	18	20
Animal-drawn Cart	4	19	95
Draft Animals	10	37	115

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	30.0
Animal-drawn Cart	4.2
Draft Animals	8.7

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	163,518 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	288,518 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	28,852 CFA francs
Total loan	259,666 CFA francs
Capital payment per year	64,917 CFA francs
Interest payment per year	31,581 CFA francs
Total annual payment	96,498 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	26,994	0	26,994	8 years	3,374
Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	163,518		163,518		28,341

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 6,118 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in sorghum cultivation is 544 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 169,551 CFA francs. Interest on equity capital pro-rated at 18% per annum is 4,044 CFA francs.

R. Cash Receipts

Estimated sorghum yield per hectare is 683 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 51,225 CFA francs (683 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption an estimated 0 kilograms of sorghum per hectare cultivated. Total value of this grain is 0 CFA francs (0 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 5.5 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 5,500 CFA francs.

Table B-96

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Sorghum
Unit: Farm Type III with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	51,225
Seed	4,890	Sales of Crop By-Products	0
Fertilizer	26,100	TOTAL CASH RECEIPTS	51,225
Insecticides and/or Other Treatments	122		
Expendable Hand Tools	1,725		
Draft Animal Maintenance	5,183	**Non-Cash Receipts**	
Equipment Repair and Maintenance	991	Value of On-Farm Crop Consumption/Use	0
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	5,500
Crop Marketing Costs	3,415		
Interest Paid	3,144		
TOTAL CASH EXPENSES	45,570		
Non-Cash Expenses			
Unpaid Family Labor	27,000		
Capital Recovery/ Equipment	3,963		
Capital Recovery/ Draft Animals	444		
Interest on Equity Capital @ 18%	2,841		
TOTAL NON-CASH EXPENSES	34,248	TOTAL NON-CASH RECEIPTS	5,500
TOTAL EXPENSES	79,818	TOTAL RECEIPTS	56,725

Total Cash Receipts Per Hectare	51,225
Total Cash Expenses Per Hectare	45,570
NET CASH INCOME PER HECTARE	5,655
Total Receipts Per Hectare	56,725
Total Expenses Per Hectare	79,818
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	(23,093)
EFFECTIVE WAGE RATE PER MAN-DAY	(109)

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with Full Package Adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectare of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses fifteen kilograms of improved sorghum seed per hectare purchased from the government. Seed is purchased at 326 CFA francs per kilogram. Total cost is 4,890 CFA francs per hectare.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate and 100 kilograms of urea per hectare of sorghum grown. Fertilizer cost is 26,100 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 100 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses one packet of Thioral for seed treatment of sorghum per hectare planted. Total cost is 122 CFA francs per hectare.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 60 days of use in animal traction crop activities. Of these total days, 5 days are for sorghum production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the sorghum is 5,183 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the sorghum enterprise on a per hectare basis is estimated at 991 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs in sorghum production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of sorghum sold. Total cost for marketing of sorghum sold is 3,415 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 169,551 CFA francs. The pro-rata cost of the animal equipment package for one hectare of sorghum grown is 3,144 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of sorghum grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	6	2
Use of Row Tracer	2	0
Seeding/Thinning of Plants	2	0
Ridging	2	1
Crop Fertilization	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	4	1
3rd Weeding	0	0
Harvesting/Threshing	8	2
Marketing	2	2
Total	36	10

Estimated use of animal traction equipment per hectare of sorghum grown and in total is as follows:

Equipment Used	Per Hectare of Sorghum	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	6	29	32
Animal-drawn Cart	4	31	108
Draft Animals	10	60	140

Percentages of total use pro-rated for sorghum production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Sorghum
Crop Equipment	18.8
Animal-drawn Cart	3.7
Draft Animals	7.1

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	163,518 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	288,518 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	28,852 CFA francs
Total loan	259,666 CFA francs
Capital payment per year	64,917 CFA francs
Interest payment per year	31,581 CFA francs
Total annual payment	96,498 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	26,994	0	26,994	8 years	3,374
Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	163,518		163,518		28,341

Annual depreciaton of equipment pro-rated for use in sorghum cultivation is 3,963 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in sorghum cultivation is 444 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment. Equity investment is therefore 169,551 CFA francs. Interest on equity capital pro-rated at 18% per annum is 2,841 CFA francs.

R. Cash Receipts

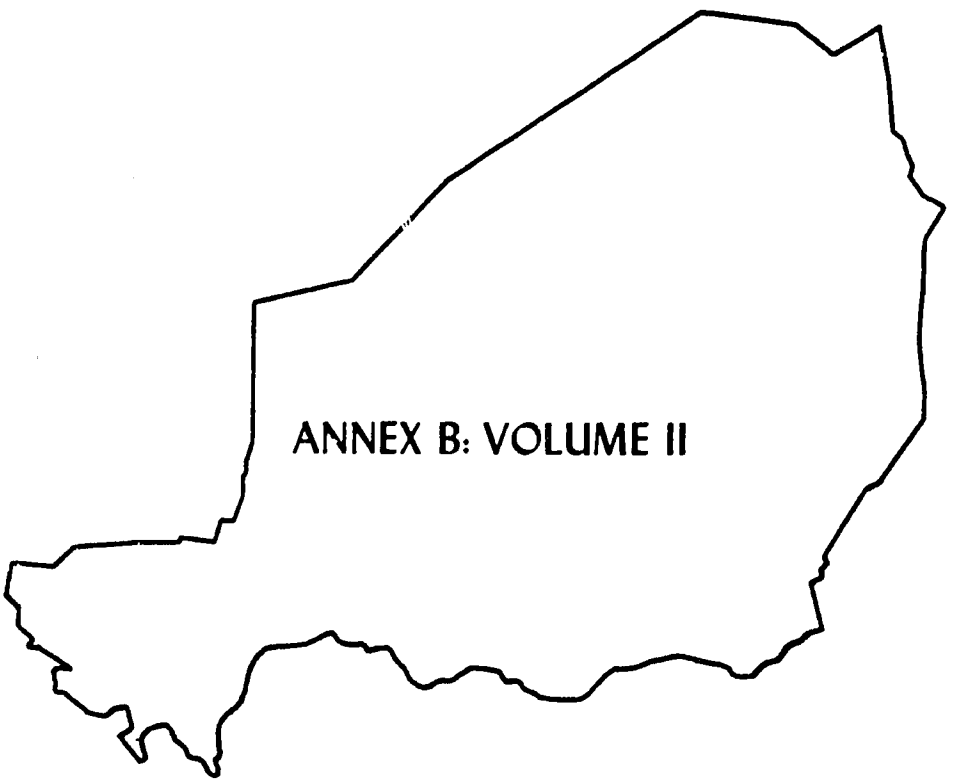
Estimated sorghum yield per hectare is 683 kilograms of grain. The farm sells at least enough sorghum on a per hectare basis to cover the crop production cash costs. Cash value of sorghum sales per hectare is 51,225 CFA francs (683 kilograms of sorghum sold on the local market at 75 CFA francs per kilogram).

S. Non-cash Receipts

Farm family has available for consumption an estimated 0 kilograms of sorghum per hectare cultivated. Total value of this grain is 0 CFA francs (0 kilograms of sorghum at 75 CFA francs per kilogram). Sorghum stalks used for fence construction, animal roughage, fuel and all other purposes are nominally valued at 1,000 CFA francs per metric ton. A total of 5.5 metric tons are produced per hectare of sorghum grown. Total value for this by-product is 5,500 CFA francs.

PN-ABB-789

AN EVALUATION OF THE AGRICULTURAL TECHNICAL PACKAGES FOR THE REPUBLIC OF NIGER



ITHACA INTERNATIONAL LIMITED
EAST HILL BRANCH, P.O.BOX 2687,
ITHACA, NEW YORK 14850

AN EVALUATION OF THE AGRICULTURAL TECHNICAL PACKAGES FOR THE REPUBLIC OF NIGER

ANNEX B: VOLUME II

prepared for the
U.S. Agency for International Development

by

Ithaca International Limited
East Hill Branch, P.O. Box 2687,
Ithaca, New York 14850

Contract Number: AID-683-929.6-3039-00

December 1983

ANNEX B: VOLUME II

TABLE	CROP	FARM TYPE	LEVEL	NORTH/SOUTH	FINANCIAL/ ECONOMIC
B-97	Cowpeas	I	traditional	S	F
B-98	Cowpeas	II	traditional	S	F
B-99	Cowpeas	III	traditional	S	F
B-100	Cowpeas	I	partial	S	F
B-101	Cowpeas	II	partial	S	F
B-102	Cowpeas	III	partial	S	F
B-103	Cowpeas	I	full/donkey	S	F
B-104	Cowpeas	II	full/donkey	S	F
B-105	Cowpeas	III	full/donkey	S	F
B-106	Cowpeas	I	full/oxen	S	F
B-107	Cowpeas	II	full/oxen	S	F
B-108	Cowpeas	III	full/oxen	S	F
B-109	Cowpeas	I	traditional	N	F
B-110	Cowpeas	II	traditional	N	F
B-111	Cowpeas	III	traditional	N	F
B-112	Cowpeas	I	partial	N	F
B-113	Cowpeas	II	partial	N	F
B-114	Cowpeas	III	partial	N	F
B-115	Cowpeas	I	full/donkey	N	F
B-116	Cowpeas	II	full/donkey	N	F
B-117	Cowpeas	III	full/donkey	N	F
B-118	Cowpeas	I	full/oxen	N	F
B-119	Cowpeas	II	full/oxen	N	F
B-120	Cowpeas	III	full/oxen	N	F
B-121	Cowpeas	I	traditional	S	E
B-122	Cowpeas	II	traditional	S	E
B-123	Cowpeas	III	traditional	S	E
B-124	Cowpeas	I	partial	S	E
B-125	Cowpeas	II	partial	S	E
B-126	Cowpeas	III	partial	S	E

TABLE	CROP	FARM TYPE	LEVEL	NORTH/SOUTH	FINANCIAL/ ECONOMIC
B-127	Cowpeas	I	full/donkey	S	E
B-128	Cowpeas	II	full/donkey	S	E
B-129	Cowpeas	III	full/donkey	S	E
B-130	Cowpeas	I	full/oxen	S	E
B-131	Cowpeas	II	full/oxen	S	E
B-132	Cowpeas	III	full/oxen	S	E
B-133	Cowpeas	I	traditional	N	E
B-134	Cowpeas	II	traditional	N	E
B-135	Cowpeas	III	traditional	N	E
B-136	Cowpeas	I	partial	N	E
B-137	Cowpeas	II	partial	N	E
B-138	Cowpeas	III	partial	N	E
B-139	Cowpeas	I	full/donkey	N	E
B-140	Cowpeas	II	full/donkey	N	E
B-141	Cowpeas	III	full/donkey	N	E
B-142	Cowpeas	I	full/oxen	N	E
B-143	Cowpeas	II	full/oxen	N	E
B-144	Cowpeas	III	full/oxen	N	E
B-145	Peanuts	I	traditional	S	F
B-146	Peanuts	II	traditional	S	F
B-147	Peanuts	III	traditional	S	F
B-148	Peanuts	I	partial	S	F
B-149	Peanuts	II	partial	S	F
B-150	Peanuts	III	partial	S	F
B-151	Peanuts	I	full/donkey	S	F
B-152	Peanuts	II	full/donkey	S	F
B-153	Peanuts	III	full/donkey	S	F
B-154	Peanuts	I	full/oxen	S	F
B-155	Peanuts	II	full/oxen	S	F
B-156	Peanuts	III	full/oxen	S	F
B-157	Peanuts	I	traditional	N	F
B-158	Peanuts	II	traditional	N	F
B-159	Peanuts	III	traditional	N	F

TABLE	CROP	FARM TYPE	LEVEL	NORTH/SOUTH	FINANCIAL/ ECONOMIC
B-160	Peanuts	I	partial	N	F
B-161	Peanuts	II	partial	N	F
B-162	Peanuts	III	partial	N	F
B-163	Peanuts	I	full/donkey	N	F
B-164	Peanuts	II	full/donkey	N	F
B-165	Peanuts	III	full/donkey	N	F
B-166	Peanuts	I	full/oxen	N	F
B-167	Peanuts	II	full/oxen	N	F
B-168	Peanuts	III	full/oxen	N	F
B-169	Peanuts	I	traditional	S	E
B-170	Peanuts	II	traditional	S	E
B-171	Peanuts	III	traditional	S	E
B-172	Peanuts	I	partial	S	E
B-173	Peanuts	II	partial	S	E
B-174	Peanuts	III	partial	S	E
B-175	Peanuts	I	full/donkey	S	E
B-176	Peanuts	II	full/donkey	S	E
B-177	Peanuts	III	full/donkey	S	E
B-178	Peanuts	I	full/oxen	S	E
B-179	Peanuts	II	full/oxen	S	E
B-180	Peanuts	III	full/oxen	S	E
B-181	Peanuts	I	traditional	N	E
B-182	Peanuts	II	traditional	N	E
B-183	Peanuts	III	traditional	N	E
B-184	Peanuts	I	partial	N	E
B-185	Peanuts	II	partial	N	E
B-186	Peanuts	III	partial	N	E
B-187	Peanuts	I	full/donkey	N	E
B-188	Peanuts	II	full/donkey	N	E
B-189	Peanuts	III	full/donkey	N	E
B-190	Peanuts	I	full/oxen	N	E
B-191	Peanuts	II	full/oxen	N	E
B-192	Peanuts	III	full/oxen	N	E

ASSUMPTIONS AS TO TYPE OF FARM OPERATION FOR ENTERPRISE BUDGETS

The budget exercise which follows is one part of the analysis of the financial and economic results to be derived from farmer adoption of the agricultural technical packages currently being promoted by the Government of Niger with the assistance of external donor agencies. In order that consideration of different farm sizes be realistically introduced into this evaluation, three models of "representative" farms of different sizes were constructed. The sources of data used in constructing these farm models were the various issues of the Annual Reports of the Director of Agriculture in the Ministry of Rural Development and the Agricultural Census for Niger of 1980. The farm models used in the enterprise budgets are defined as follows:

A. Farm Type I

This farm consists of three hectares of arable cropland in production in 1983. The farm supports a family of five persons and has an active work force of two full-time man equivalents.

Under traditional farming technologies, this farm allocates the available cropland to 2.7 hectares of millet and cowpeas in association, 0.3 hectares of sorghum in pure stand, and 0.1 hectares to all other crops.

Under the cropping patterns of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.3 hectares of sorghum - all in pure stands, and 0.1 hectares to all other crops.

B. Farm Type II

This farm consists of five hectares of arable cropland in production in 1983. The farm supports a family of seven people and has an active work force of three full-time man-equivalents.

Under traditional farming technologies, this farm allocates the available cropland to 4.5 hectares of millet and cowpeas in association, 0.35 hectares of sorghum in pure stand, and 0.15 hectares to all other crops.

Under the cropping patterns of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Farm Type III

This farm consists of eight hectares of arable cropland in production in 1983. The farm supports a family of nine people and has an active work force of four full-time man-equivalents.

Under traditional farming technology, this farm allocates the available cropland to 7.3 hectares of millet and cowpeas in association, 0.5 hectares of sorghum in pure stands, and 0.2 hectares for all other crops.

Under the cropping patterns of the agricultural technical package, the cropland allocation for this farm is 5.5 hectares of millet in pure stands, 1.8 hectares of cowpeas in pure stands, 0.5 hectares of sorghum in pure stands, and 0.2 hectares for all other crops.

Table B-97

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type I with Traditional Technology
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	2,400	Crop Sales to Private Markets	5,000
Fertilizer	0	Sales of Crop by-Products	30,000
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	35,000
Expendable Hand Tools	2,300		
Draft Animal Maintenance	0	**Non-Cash Receipts**	
Equipment Repair and Maintenance	0	Value of On-Farm Crop Consumption/Use	13,000
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	12,000
Crop Marketing Costs	50		
Interest Paid	0		
TOTAL CASH EXPENSES	5,450		
Non-Cash Expenses			
Unpaid Family Labor	21,200		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	21,200	TOTAL NON-CASH RECEIPTS	25,000
TOTAL EXPENSES	26,650	TOTAL RECEIPTS	60,000

Total Cash Receipts Per Hectare	35,000
Total Cash Expenses Per Hectare	5,450
NET CASH INCOME PER HECTARE	29,550
Total Receipts Per Hectare	60,000
Total Expenses Per Hectare	26,650
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	31,650
EFFECTIVE WAGE RATE PER MAN-DAY	2,573

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 2.7 hectares of millet and cowpeas in association, 0.2 hectares of sorghum in pure stand, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 20 kilograms of local cowpea seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

The farm incurs no other cash costs in cowpea production.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 750 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation	Number of Man-days Needed*
Land/Soil Preparation	1.2
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	3
2nd Weeding	2
3rd Weeding	1
Crop Fertilization	0
Crop Protection	0
Harvesting/Grain Preparation	6
Marketing	4
Total	21.2

*When grown in association with millet.

O. Capital Recovery/Equipment

No equipment maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment on the farm.

R. Cash Receipts

Estimated cowpea yield per hectare is 180 kilograms of grain and 0.7 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 35,000 CFA francs (50 kilograms of cowpeas at 100 CFA francs per kilogram and 0.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 130 kilograms of cowpeas per hectare cultivated. Total value of this grain is 13,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.2 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 12,000 CFA francs.

Table B-98

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type II with Traditional Technology
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	2,400	Crop Sales to Private Markets	5,000
Fertilizer	0	Sales of Crop By-Products	30,000
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	35,000
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	13,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	12,000
Other Cash Costs	0		
Crop Marketing Costs	750		
Interest Paid	0		
TOTAL CASH EXPENSES	4,990		
Non-Cash Expenses			
Unpaid Family Labor	21,200		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	21,200	TOTAL NON-CASH RECEIPTS	25,000
TOTAL EXPENSES	26,190	TOTAL RECEIPTS	60,000

Total Cash Receipts Per Hectare	35,000
Total Cash Expenses Per Hectare	4,990
NET CASH INCOME PER HECTARE	30,010
Total Receipts Per Hectare	60,000
Total Expenses Per Hectare	26,190
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	33,810
EFFECTIVE WAGE RATE PER MAN-DAY	2,595

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 5,250 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 2,750 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 10 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three sprayings of the crop are necessary. Total cost of the crop protection activities is 9,000 CFA francs (9 liters of insecticide at 1,000 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 74 days of use in animal traction crop activities. Of these total days, 16 days are for cowpea production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the cowpeas per hectare is 976 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the cowpeas enterprise on a per hectare basis is estimated at 483 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop per hectare is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rata cost of the animal equipment package for one hectare of cowpeas grown is 689 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	10	3
Seeding/Thinning of Plants	2	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	73	16

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	11	43	54
Animal-drawn Cart	5	15	95
Draft Animals	16	58	149

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	20.4
Animal-drawn Cart	5.3
Draft Animals	10.7

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Cultivator Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciation of equipment pro-rated for use in cowpea cultivation is 1,431 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in cowpea cultivation is 428 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the don. . Equity investment is therefore 80,853 CFA francs. Interest of equity capital at 18% per annum is 1,430 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-99

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type III with Traditional Technology
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	2,400	Crop Sales to Private Markets	5,000
Fertilizer	0	Sales of Crop By-Products	30,000
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	35,000
Expendable Hand Tools	1,725		
Draft Animal Maintenance	0	**Non-Cash Receipts**	
Equipment Repair and Maintenance	0	Value of On-Farm Crop Consumption/Use	13,000
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	12,000
Crop Marketing Costs	750		
Interest Paid	0		
TOTAL CASH EXPENSES	4,875		
Non-Cash Expenses			
Unpaid Family Labor	21,200		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	21,200	TOTAL NON-CASH RECEIPTS	25,000
TOTAL EXPENSES	26,075	TOTAL RECEIPTS	60,000

Total Cash Receipts Per Hectare	35,000
Total Cash Expenses Per Hectare	4,875
NET CASH INCOME PER HECTARE	30,125
Total Receipts Per Hectare	60,000
Total Expenses Per Hectare	26,075
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	33,925
EFFECTIVE WAGE RATE PER MAN-DAY	2,600

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 7.3 hectares of millet and cowpeas in association, 0.5 hectares of sorghum in pure stand, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 20 kilograms of local cowpea seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 4 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

The farm incurs no other cash costs for the cowpea crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 750 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation	Number of Man-days Needed*
Land/Soil Preparation	1.2
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	3
2nd Weeding	2
3rd Weeding	1
Crop Fertilization	0
Crop Protection	0
Harvesting/Grain Preparation	6
Marketing	4
Total	21.2

*When grown in association with millet.

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 180 kilograms of grain and 0.7 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 35,000 CFA francs (50 kilograms of cowpeas at 100 CFA francs per kilogram and 0.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 130 kilograms of cowpeas per hectare cultivated. Total value of this grain is 13,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.2 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 12,000 CFA francs.

Table B-100

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type I with Partial Package Adoption
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	5,250	Crop Sales to Private Markets	20,000
Fertilizer	2,750	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	9,000	TOTAL CASH RECEIPTS	110,000
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	38,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	48,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	0		
TOTAL CASH EXPENSES	27,800		
Non-Cash Expenses			
Unpaid Family Labor	105,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	105,000	TOTAL NON-CASH RECEIPTS	86,000
TOTAL EXPENSES	132,800	TOTAL RECEIPTS	196,000

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	27,800
NET CASH INCOME PER HECTARE	82,200
Total Receipts Per Hectare	196,000
Total Expenses Per Hectare	132,800
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	63,200
EFFECTIVE WAGE RATE PER MAN-DAY	1,602

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 5,250 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 2,750 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 10 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three sprayings of the crop are necessary. Total cost of the crop protection activities is 9,000 CFA francs (9 liters of insecticide at 1,000 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), and 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Crop Fertilization	2
Crop Protection	3
Harvesting/Grain Preparation	20
Marketing	4
Total	105

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 580 kilograms of grain and 2.3 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 380 kilograms of cowpeas per hectare cultivated. Total value of this grain is 38,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.8 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 48,000 CFA francs.

Table B-101

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type II with Partial Package Adoption
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	5,250	Crop Sales to Private Markets	20,000
Fertilizer	2,750	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	9,000	TOTAL CASH RECEIPTS	110,000
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	38,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	48,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	0		
TOTAL CASH EXPENSES	27,340		
Non-Cash Expenses			
Unpaid Family Labor	105,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	105,000	TOTAL NON-CASH RECEIPTS	86,000
TOTAL EXPENSES	132,340	TOTAL RECEIPTS	196,000

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	27,340
NET CASH INCOME PER HECTARE	82,660
Total Receipts Per Hectare	196,000
Total Expenses Per Hectare	132,340
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	63,660
EFFECTIVE WAGE RATE PER MAN-DAY	1,606

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

611

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 5,250 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 2,750 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 10 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three sprayings of the crop are necessary. Total cost of the crop protection activities is 9,000 CFA francs (9 liters of insecticide at 1,000 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), and 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Crop Fertilization	2
Crop Protection	3
Harvesting/Grain Preparation	20
Marketing	4
Total	105

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 580 kilograms of grain and 2.3 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 380 kilograms of cowpeas per hectare cultivated. Total value of this grain is 38,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.8 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 48,000 CFA francs.

Table B-102

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type III with Partial Package Adoption
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES

Cash Expenses

Wage Labor	0
Seed	5,250
Fertilizer	2,750
Insecticides and/or Other Treatments	9,000
Expendable Hand Tools	1,725
Draft Animal Maintenance	0
Equipment Repair and Maintenance	0
Other Cash Costs	0
Crop Marketing Costs	8,500
Interest Paid	0
TOTAL CASH EXPENSES	27,225

Non-Cash Expenses

Unpaid Family Labor	105,000
Capital Recovery/ Equipment	0
Capital Recovery/ Draft Animals	0
Interest on Equity Capital @ 18%	0
TOTAL NON-CASH EXPENSES	105,000
TOTAL EXPENSES	132,225

RECEIPTS

Cash Receipts

Crop Sales to Government Agencies	0
Crop Sales to Private Markets	20,000
Sales of Crop By-Products	90,000
TOTAL CASH RECEIPTS	110,000

Non-Cash Receipts

Value of On-Farm Crop Consumption/Use	38,000
Value of On-Farm Use of Crop By-Products	48,000
TOTAL NON-CASH RECEIPTS	86,[illegible]00
TOTAL RECEIPTS	196 00

Total Cash Receipts Per Hectare	110 000
Total Cash Expenses Per Hectare	27 25
NET CASH INCOME PER HECTARE	82 75
Total Receipts Per Hectare	196,000
Total Expenses Per Hectare	132,225
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	63,775
EFFECTIVE WAGE RATE PER MAN-DAY	1,607

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 5,250 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 2,750 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 10 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three sprayings of the crop are necessary. Total cost of the crop protection activities is 9,000 CFA francs (9 liters of insecticide at 1,000 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), and 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Crop Fertilization	2
Crop Protection	3
Harvesting/Grain Preparation	20
Marketing	4
Total	105

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 580 kilograms of grain and 2.3 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 380 kilograms of cowpeas per hectare cultivated. Total value of this grain is 38,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.8 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 48,000 CFA francs.

Table B-103

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type I with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	5,250	Crop Sales to Private Markets	20,000
Fertilizer	2,750	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	9,000	TOTAL CASH RECEIPTS	110,000
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maincenance	1,214	Value of On-Farm Crop Consumption/Use	49,600
Equipment Repair and Maintenance	696	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	993		
TOTAL CASH EXPENSES	30,703		
Non-Cash Expenses			
Unpaid Family Labor	73,000		
Capital Recovery/ Equipment	2,224		
Capital Recovery/ Draft Animals	532		
Interest on Equity Capital @ 18%	1,977		
TOTAL NON-CASH EXPENSES	77,733	TOTAL NON-CASH RECEIPTS	127,600
TOTAL EXPENSES	108,436	TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	30,703
NET CASH INCOME PER HECTARE	79,297
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	108,436
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	129,164
EFFECTIVE WAGE RATE PER MAN-DAY	2,769

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 5,250 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 2,750 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 10 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three sprayings of the crop are necessary. Total cost of the crop protection activities is 9,000 CFA francs (9 liters of insecticide at 1,000 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 45 days of use in animal traction crop activities. Of these total days, 16 days are for cowpea production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the cowpeas per hectare is 1,214 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the cowpeas enterprise on a per hectare basis is estimated at 696 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop per hectare is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rata cost of the animal equipment package for one hectare of cowpeas grown is 993 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	10	3
Seeding/Thinning of Plants	2	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	73	16

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	11	24	32
Animal-drawn Cart	5	9	88
Draft Animals	16	33	120

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	34.4
Animal-drawn Cart	5.7
Draft Animals	13.3

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Cultivator Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciation of equipment pro-rated for use in cowpea cultivation is 2,224 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in cowpea cultivation is 532 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the donkey. Equity investment is therefore 80,853 CFA francs. Interest of equity capital at 18% per annum is 1,977 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-104

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type II with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	5,250	Crop Sales to Private Markets	20,000
Fertilizer	2,750	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	9,000	TOTAL CASH RECEIPTS	110,000
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	976	Value of On-Farm Crop Consumption/Use	49,600
Equipment Repair and Maintenance	483	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	689		
TOTAL CASH EXPENSES	29,488		
Non-Cash Expenses			
Unpaid Family Labor	73,000		
Capital Recovery/ Equipment	1,431		
Capital Recovery/ Draft Animals	428		
Interest on Equity Capital @ 18%	1,438		
TOTAL NON-CASH EXPENSES	76,297	TOTAL NON-CASH RECEIPTS	127,600
TOTAL EXPENSES	105,785	TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	29,488
NET CASH INCOME PER HECTARE	80,512
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	105,785
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	131,815
EFFECTIVE WAGE RATE PER MAN-DAY	2,806

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

Table B-105

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type III with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES

Cash Expenses	
Wage Labor	0
Seed	5,250
Fertilizer	2,750
Insecticides and/or Other Treatments	9,000
Expendable Hand Tools	1,725
Draft Animal Maintenance	748
Equipment Repair and Maintenance	350
Other Cash Costs	0
Crop Marketing Costs	8,500
Interest Paid	499
TOTAL CASH EXPENSES	28,822
Non-Cash Expenses	
Unpaid Family Labor	73,000
Capital Recovery/ Equipment	1,055
Capital Recovery/ Draft Animals	328
Interest on Equity Capital @ 18%	1,300
TOTAL NON-CASH EXPENSES	75,683
TOTAL EXPENSES	104,505

RECEIPTS

Cash Receipts	
Crop Sales to Government Agencies	0
Crop Sales to Private Markets	20,000
Sales of Crop By-Products	90,000
TOTAL CASH RECEIPTS	110,000
Non-Cash Receipts	
Value of On-Farm Crop Consumption/Use	49,600
Value of On-Farm Use of Crop By-Products	78,000
TOTAL NON-CASH RECEIPTS	127,600
TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	- 28,822
NET CASH INCOME PER HECTARE	81,178
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	104,505
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	133,095
EFFECTIVE WAGE RATE PER MAN-DAY	2,823

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 5,250 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 2,750 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 10 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three sprayings of the crop are necessary. Total cost of the crop protection activities is 9,000 CFA francs (9 liters of insecticide at 1,000 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 119 days of use in animal traction crop activities. Of these total days, 16 days are for cowpeas production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the cowpeas per hectare is 748 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the cowpeas enterprise on a per hectare basis is estimated at 350 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop per hectare is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rata cost of the animal equipment package for one hectare of cowpeas grown is 499 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	10	3
Seeding/Thinning of Plants	2	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	73	16

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	11	67	86
Animal-drawn Cart	5	24	108
Draft Animals	16	91	194

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	12.8
Animal-drawn Cart	4.6
Draft Animals	8.2

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Cultivator Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciation of equipment pro-rated for use in cowpea cultivation is 1,055 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in cowpea cultivation is 328 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the donkey. Equity investment is therefore 80,853 CFA francs. Interest of equity capital at 18% per annum is 1,300 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-106

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type I with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES

Cash Expenses

Wage Labor	0
Seed	5,250
Fertilizer	2,750
Insecticides and/or Other Treatments	9,000
Expendable Hand Tools	2,300
Draft Animal Maintenance	7,592
Equipment Repair and Maintenance	744
Other Cash Costs	0
Crop Marketing Costs	8,500
Interest Paid	1,990
TOTAL CASH EXPENSES	38,126

Non-Cash Expenses

Unpaid Family Labor	63,000
Capital Recovery/ Equipment	2,796
Capital Recovery/ Draft Animals	650
Interest on Equity Capital @ 18%	2,762
TOTAL NON-CASH EXPENSES	69,208
TOTAL EXPENSES	107,334

RECEIPTS

Cash Receipts

Crop Sales to Government Agencies	0
Crop Sales to Private Markets	20,000
Sales of Crop By-Products	90,000
TOTAL CASH RECEIPTS	110,000

Non-Cash Receipts

Value of On-Farm Crop Consumption/Use	49,600
Value of On-Farm Use of Crop By-Products	78,000
TOTAL NON-CASH RECEIPTS	127,600
TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	38,126
NET CASH INCOME PER HECTARE	71,874
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	107,334
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	130,266
EFFECTIVE WAGE RATE PER MAN-DAY	3,068

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

Table B-107

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type II with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	5,250	Crop Sales to Private Markets	20,000
Fertilizer	2,750	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	9,000	TOTAL CASH RECEIPTS	110,000
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	6,570	Value of On-Farm Crop Consumption/Use	49,600
Equipment Repair and Maintenance	544	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	1,578		
TOTAL CASH EXPENSES	36,032		
Non-Cash Expenses			
Unpaid Family Labor	63,000		
Capital Recovery/ Equipment	1,941		
Capital Recovery/ Draft Animals	563		
Interest on Equity Capital @ 18%	2,191		
TOTAL NON-CASH EXPENSES	67,695	TOTAL NON-CASH RECEIPTS	127,600
TOTAL EXPENSES	103,727	TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	36,032
NET CASH INCOME PER HECTARE	73,968
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	103,727
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	133,873
EFFECTIVE WAGE RATE PER MAN-DAY	3,125

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I1 with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 5,250 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 2,750 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 10 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three sprayings of the crop are necessary. Total cost of the crop protection activities is 9,000 CFA francs (9 liters of insecticide at 1,000 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 47 days of use in animal traction crop activities. Of these total days, 11 days are for cowpeas production on the one hectare for this enterprise budget. Total pro-rated cost for oxen maintenance for the cowpeas is 6,570 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rated cost for the cowpeas enterprise on a per hectare basis is estimated at 544 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop per hectare is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 17,271 CFA francs. The pro-rated cost of the animal equipment package for one hectare of cowpeas grown is 1,578 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	8	2
Seeding/Thinning of Plants	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	63	11

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	6	23	29
Animal-drawn Cart	5	13	93
Draft Animals	11	36	122

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	20.7
Animal-drawn Cart	5.4
Draft Animals	9.0

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Charrue"/Plow	6,715
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	117,195 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	242,195 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	24,220 CFA francs
Total loan	217,975 CFA francs
Capital payment per year	54,494 CFA francs
Interest payment per year	17,271 CFA francs
Total annual payment	71,765 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Plow	6,715	0	6,715	8 years	839
Cultivator	9,180	0	9,180	8 years	1,148
Cultivator Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	117,195		117,195		17,463

Annual depreciation of equipment pro-rated for use in cowpea cultivation is 1,941 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in cowpea cultivation is 563 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment and oxen, in addition to the required 10% downpayment investment. Equity investment is therefore 133,208 CFA francs. Interest of equity capital at 18% per annum is 2,191 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-108

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type III with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES

Cash Expenses	
Wage Labor	0
Seed	5,250
Fertilizer	2,750
Insecticides and/or Other Treatments	9,000
Expendable Hand Tools	1,725
Draft Animal Maintenance	5,183
Equipment Repair and Maintenance	501
Other Cash Costs	0
Crop Marketing Costs	8,500
Interest Paid	1,191
TOTAL CASH EXPENSES	34,100
Non-Cash Expenses	
Unpaid Family Labor	63,000
Capital Recovery/ Equipment	1,338
Capital Recovery/ Draft Animals	444
Interest on Equity Capital @ 18%	1,654
TOTAL NON-CASH EXPENSES	66,436
TOTAL EXPENSES	100,536

RECEIPTS

Cash Receipts	
Crop Sales to Government Agencies	0
Crop Sales to Private Markets	20,000
Sales of Crop By-Products	90,000
TOTAL CASH RECEIPTS	110,000
Non-Cash Receipts	
Value of On-Farm Crop Consumption/Use	49,600
Value of On-Farm Use of Crop By-Products	78,000
TOTAL NON-CASH RECEIPTS	127,600
TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	34,100
NET CASH INCOME PER HECTARE	75,900
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	100,536
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	137,064
EFFECTIVE WAGE RATE PER MAN-DAY	3,176

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 5,250 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 2,750 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 10 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three sprayings of the crop are necessary. Total cost of the crop protection activities is 9,000 CFA francs (9 liters of insecticide at 1,000 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 80 days of use in animal traction crop activities. Of these total days, 11 days are for cowpeas production on the one hectare for this enterprise budget. Total pro-rated cost for oxen maintenance for the cowpeas is 5,183 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rated cost for the cowpeas enterprise on a per hectare basis is estimated at 501 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop per hectare is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 17,271 CFA francs. The pro-rated cost of the animal equipment package for one hectare of cowpeas grown is 1,191 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	8	2
Seeding/Thinning of Plants	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	63	11

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	6	37	47
Animal-drawn Cart	5	24	108
Draft Animals	11	61	155

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	12.8
Animal-drawn Cart	4.6
Draft Animals	7.1

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Charrue"/Plow	6,715
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	117,195 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	242,195 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	24,220 CFA francs
Total loan	217,975 CFA francs
Capital payment per year	54,494 CFA francs
Interest payment per year	17,271 CFA francs
Total annual payment	71,765 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Plow	6,715	0	6,715	8 years	839
Cultivator	9,180	0	9,180	8 years	1,148
Cultivator Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	117,195		117,195		17,463

Annual depreciation of equipment pro-rated for use in cowpea cultivation is 1,338 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in cowpea cultivation is 444 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment and oxen, in addition to the required 10% downpayment investment. Equity investment is therefore 133,208 CFA francs. Interest of equity capital at 18% per annum is 1,654 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-109

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type I with Traditional Technology
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	2,400	Crop Sales to Private Markets	5,000
Fertilizer	0	Sales of Crop By-Products	30,000
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	35,000
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	13,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	12,000
Other Cash Costs	0		
Crop Marketing Costs	750		
Interest Paid	0		
TOTAL CASH EXPENSES	5,450		
Non-Cash Expenses			
Unpaid Family Labor	13,650		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	13,650	TOTAL NON-CASH RECEIPTS	25,000
TOTAL EXPENSES	19,100	TOTAL RECEIPTS	60,000

Total Cash Receipts Per Hectare	35,000
Total Cash Expenses Per Hectare	5,450
NET CASH INCOME PER HECTARE	29,550
Total Receipts Per Hectare	60,000
Total Expenses Per Hectare	19,100
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	40,900
EFFECTIVE WAGE RATE PER MAN-DAY	2,997

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 2.7 hectares of millet and cowpeas in association, 0.2 hectares of sorghum in pure stand, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 20 kilograms of local cowpea seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 750 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation	Number of Man-days Needed*
Land/Soil Preparation	1.2
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	2
2nd Weeding	1
3rd Weeding	0
Crop Fertilization	0
Crop Protection	0
Harvesting/Grain Preparation	6
Marketing	4
Total	18.2

*When grown in association with millet.

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 180 kilograms of grain and 0.7 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 35,000 CFA francs (50 kilograms of cowpeas at 100 CFA francs per kilogram and 0.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 130 kilograms of cowpeas per hectare cultivated. Total value of this grain is 13,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.2 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 12,000 CFA francs.

Table B-110

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type II with Traditional Technology
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	2,400	Crop Sales to Private Markets	5,000
Fertilizer	0	Sales of Crop By-Products	30,000
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	35,000
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	13,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	12,000
Other Cash Costs	0		
Crop Marketing Costs	750		
Interest Paid	0		
TOTAL CASH EXPENSES	4,990		
Non-Cash Expenses			
Unpaid Family Labor	13,650		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	13,650	TOTAL NON-CASH RECEIPTS	25,000
TOTAL EXPENSES	18,640	TOTAL RECEIPTS	60,000

Total Cash Receipts Per Hectare	35,000
Total Cash Expenses Per Hectare	4,990
NET CASH INCOME PER HECTARE	30,010
Total Receipts Per Hectare	60,000
Total Expenses Per Hectare	18,640
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	41,360
EFFECTIVE WAGE RATE PER MAN-DAY	3,023

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 4.5 hectares of millet and cowpeas in association, 0.35 hectares of sorghum in pure stand, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 20 kilograms of local cowpea seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 750 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation	Number of Man-days Needed*
Land/Soil Preparation	1.2
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	2
2nd Weeding	1
3rd Weeding	0
Crop Fertilization	0
Crop Protection	0
Harvesting/Grain Preparation	6
Marketing	4
Total	18.2

*When grown in association with millet.

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 180 kilograms of grain and 0.7 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 35,000 CFA francs (50 kilograms of cowpeas at 100 CFA francs per kilogram and 0.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 130 kilograms of cowpeas per hectare cultivated. Total value of this grain is 13,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.2 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 12,000 CFA francs.

Table B-111

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type III with Traditional Technology
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	2,400	Crop Sales to Private Markets	5,000
Fertilizer	0	Sales of Crop By-Products	30,000
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	35,000
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	13,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	12,000
Other Cash Costs	0		
Crop Marketing Costs	750		
Interest Paid	0		
TOTAL CASH EXPENSES	4,875		
Non-Cash Expenses			
Unpaid Family Labor	13,650		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	13,650	TOTAL NON-CASH RECEIPTS	25,000
TOTAL EXPENSES	18,525	TOTAL RECEIPTS	60,000

Total Cash Receipts Per Hectare	35,000
Total Cash Expenses Per Hectare	4,875
NET CASH INCOME PER HECTARE	30,125
Total Receipts Per Hectare	60,000
Total Expenses Per Hectare	18,525
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	41,475
EFFECTIVE WAGE RATE PER MAN-DAY	3,029

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 7.3 hectares of millet and cowpeas in association, 0.5 hectares of sorghum in pure stand, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 20 kilograms of local cowpea seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 750 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation	Number of Man-days Needed*
Land/Soil Preparation	1.2
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	2
2nd Weeding	1
3rd Weeding	0
Crop Fertilization	0
Crop Protection	0
Harvesting/Grain Preparation	6
Marketing	4
Total	18.2

*When grown in association with millet.

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 180 kilograms of grain and 0.7 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 35,000 CFA francs (50 kilograms of cowpeas at 100 CFA francs per kilogram and 0.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 130 kilograms of cowpeas per hectare cultivated. Total value of this grain is 13,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.2 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 12,000 CFA francs.

Table B-112

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type I with Partial Package Adoption
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES

Cash Expenses

Wage Labor	0
Seed	5,250
Fertilizer	2,750
Insecticides and/or Other Treatments	9,000
Expendable Hand Tools	2,300
Draft Animal Maintenance	0
Equipment Repair and Maintenance	0
Other Cash Costs	0
Crop Marketing Costs	8,500
Interest Paid	0
TOTAL CASH EXPENSES	27,800

Non-Cash Expenses

Unpaid Family Labor	51,750
Capital Recovery/ Equipment	0
Capital Recovery/ Draft Animals	0
Interest on Equity Capital @ 18%	0
TOTAL NON-CASH EXPENSES	51,750
TOTAL EXPENSES	79,550

RECEIPTS

Cash Receipts

Crop Sales to Government Agencies	0
Crop Sales to Private Markets	20,000
Sales of Crop By-Products	90,000
TOTAL CASH RECEIPTS	110,000

Non-Cash Receipts

Value of On-Farm Crop Consumption/Use	38,000
Value of On-Farm Use of Crop By-Products	48,000
TOTAL NON-CASH RECEIPTS	86,000
TOTAL RECEIPTS	196,000

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	27,800
NET CASH INCOME PER HECTARE	82,200
Total Receipts Per Hectare	196,000
Total Expenses Per Hectare	79,550
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	116,450
EFFECTIVE WAGE RATE PER MAN-DAY	2,438

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 5,250 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 2,750 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 10 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three sprayings of the crop are necessary. Total cost of the crop protection activities is 9,000 CFA francs (9 liters of insecticide at 1,000 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), and 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	16
2nd Weeding	12
3rd Weeding	0
Crop Fertilization	2
Crop Protection	3
Harvesting/Grain Preparation	20
Marketing	4
Total	69

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 580 kilograms of grain and 2.3 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 380 kilograms of cowpeas per hectare cultivated. Total value of this grain is 38,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.8 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 48,000 CFA francs.

Table B-113

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type II with Partial Package Adoption
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	5,250	Crop Sales to Private Markets	20,000
Fertilizer	2,750	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	9,000	TOTAL CASH RECEIPTS	110,000
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	38,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	48,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	0		
TOTAL CASH EXPENSES	27,340		
Non-Cash Expenses			
Unpaid Family Labor	51,750		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	51,750	TOTAL NON-CASH RECEIPTS	86,000
TOTAL EXPENSES	79,090	TOTAL RECEIPTS	196,000

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	27,340
NET CASH INCOME PER HECTARE	82,660
Total Receipts Per Hectare	196,000
Total Expenses Per Hectare	79,090
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	116,910
EFFECTIVE WAGE RATE PER MAN-DAY	2,444

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 5,250 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 2,750 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 10 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three sprayings of the crop are necessary. Total cost of the crop protection activities is 9,000 CFA francs (9 liters of insecticide at 1,000 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), and 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	16
2nd Weeding	12
3rd Weeding	0
Crop Fertilization	2
Crop Protection	3
Harvesting/Grain Preparation	20
Marketing	4
Total	69

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 580 kilograms of grain and 2.3 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 380 kilograms of cowpeas per hectare cultivated. Total value of this grain is 38,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.8 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 48,000 CFA francs.

Table B-114

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type III with Partial Package Adoption
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	5,250	Crop Sales to Private Markets	20,000
Fertilizer	2,750	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	9,000	TOTAL CASH RECEIPTS	110,000
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	38,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	48,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	0		
TOTAL CASH EXPENSES	27,225		
Non-Cash Expenses			
Unpaid Family Labor	51,750		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	51,750	TOTAL NON-CASH RECEIPTS	86,000
TOTAL EXPENSES	78,975	TOTAL RECEIPTS	196,000

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	27,225
NET CASH INCOME PER HECTARE	82,775
Total Receipts Per Hectare	196,000
Total Expenses Per Hectare	78,975
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	117,025
EFFECTIVE WAGE RATE PER MAN-DAY	2,446

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectare of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 5,250 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 2,750 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 10 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three sprayings of the crop are necessary. Total cost of the crop protection activities is 9,000 CFA francs (9 liters of insecticide at 1,000 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), and 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	16
2nd Weeding	12
3rd Weeding	0
Crop Fertilization	2
Crop Protection	3
Harvesting/Grain Preparation	20
Marketing	4
Total	69

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 580 kilograms of grain and 2.3 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 380 kilograms of cowpeas per hectare cultivated. Total value of this grain is 38,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.8 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 48,000 CFA francs.

Table B-115

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type I with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES

Cash Expenses	
Wage Labor	0
Seed	5,250
Fertilizer	2,750
Insecticides and/or Other Treatments	9,000
Expendable Hand Tools	2,300
Draft Animal Maintenance	958
Equipment Repair and Maintenance	681
Other Cash Costs	0
Crop Marketing Costs	8,500
Interest Paid	970
TOTAL CASH EXPENSES	30,409
Non-Cash Expenses	
Unpaid Family Labor	44,250
Capital Recovery/ Equipment	2,170
Capital Recovery/ Draft Animals	420
Interest on Equity Capital @ 18%	1,820
TOTAL NON-CASH EXPENSES	48,660
TOTAL EXPENSES	79,069

RECEIPTS

Cash Receipts	
Crop Sales to Government Agencies	0
Crop Sales to Private Markets	20,000
Sales of Crop By-Products	90,000
TOTAL CASH RECEIPTS	110,000
Non-Cash Receipts	
Value of On-Farm Crop Consumption/Use	49,600
Value of On-Farm Use of Crop By-Products	78,000
TOTAL NON-CASH RECEIPTS	127,600
TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	30,409
NET CASH INCOME PER HECTARE	79,591
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	79,069
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	158,531
EFFECTIVE WAGE RATE PER MAN-DAY	3,437

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 5,250 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 2,750 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 10 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three sprayings of the crop are necessary. Total cost of the crop protection activities is 9,000 CFA francs (9 liters of insecticide at 1,000 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 30 days of use in animal traction crop activities. Of these total days, 11 days are for cowpea production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the cowpeas per hectare is 958 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the cowpeas enterprise on a per hectare basis is estimated at 681 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop per hectare is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rata cost of the animal equipment package for one hectare of cowpeas grown is 970 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	10	3
Seeding/Thinning of Plants	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	0	0
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	59	11

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	6	13	18
Animal-drawn Cart	5	9	87
Draft Animals	11	22	105

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	33.3
Animal-drawn Cart	5.7
Draft Animals	10.5

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Cultivator Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciation of equipment pro-rated for use in cowpea cultivation is 2,170 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in cowpea cultivation is 420 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the donkey. Equity investment is therefore 80,853 CFA francs. Interest of equity capital at 18% per annum is 1,820 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-116

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type II with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES

Cash Expenses

Wage Labor	0
Seed	5,250
Fertilizer	2,750
Insecticides and/or Other Treatments	9,000
Expendable Hand Tools	1,840
Draft Animal Maintenance	812
Equipment Repair and Maintenance	488
Other Cash Costs	0
Crop Marketing Costs	8,500
Interest Paid	695
TOTAL CASH EXPENSES	29,335

Non-Cash Expenses

Unpaid Family Labor	44,250
Capital Recovery/ Equipment	1,510
Capital Recovery/ Draft Animals	356
Interest on Equity Capital @ 18%	1,365
TOTAL NON-CASH EXPENSES	47,481
TOTAL EXPENSES	76,816

RECEIPTS

Cash Receipts

Crop Sales to Government Agencies	0
Crop Sales to Private Markets	20,000
Sales of Crop By-Products	90,000
TOTAL CASH RECEIPTS	110,000

Non-Cash Receipts

Value of On-Farm Crop Consumption/Use	49,600
Value of On-Farm Use of Crop By-Products	78,000
TOTAL NON-CASH RECEIPTS	127,600
TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	29,335
NET CASH INCOME PER HECTARE	80,665
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	76,816
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	160,784
EFFECTIVE WAGE RATE PER MAN-DAY	3,475

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 5,250 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 2,750 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 10 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three sprayings of the crop are necessary. Total cost of the crop protection activities is 9,000 CFA francs (9 liters of insecticide at 1,000 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 49 days of use in animal traction crop activities. Of these total days, 11 days are for cowpea production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the cowpeas per hectare is 812 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the cowpeas enterprise on a per hectare basis is estimated at 488 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop per hectare is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rata cost of the animal equipment package for one hectare of cowpeas grown is 695 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	10	3
Seeding/Thinning of Plants	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	0	0
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	59	11

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	6	23	29
Animal-drawn Cart	5	15	95
Draft Animals	11	38	124

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	20.7
Animal-drawn Cart	5.3
Draft Animals	8.9

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grard total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Cultivator Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciation of equipment pro-rated for use in cowpea cultivation is 1,510 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in cowpea cultivation is 356 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the donkey. Equity investment is therefore 80,853 CFA francs. Interest of equity capital at 18% per annum is 1,365 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-117

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type III with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES

Cash Expenses

Wage Labor	0
Seed	5,250
Fertilizer	2,750
Insecticides and/or Other Treatments	9,000
Expendable Hand Tools	1,725
Draft Animal Maintenance	648
Equipment Repair and Maintenance	350
Other Cash Costs	0
Crop Marketing Costs	3,500
Interest Paid	499
TOTAL CASH EXPENSES	28,722

Non-Cash Expenses

Unpaid Family Labor	44,250
Capital Recovery/ Equipment	1,055
Capital Recovery/ Draft Animals	284
Interest on Equity Capital @ 18%	1,012
TOTAL NON-CASH EXPENSES	46,601
TOTAL EXPENSES	75,323

RECEIPTS

Cash Receipts

Crop Sales to Government Agencies	0
Crop Sales to Private Markets	20,000
Sales of Crop By-Products	90,000
TOTAL CASH RECEIPTS	110,000

Non-Cash Receipts

Value of On-Farm Crop Consumption/Use	49,600
Value of On-Farm Use of Crop By-Products	78,000
TOTAL NON-CASH RECEIPTS	127,600
TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	28,722
NET CASH INCOME PER HECTARE	81,278
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	75,323
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	162,277
EFFECTIVE WAGE RATE PER MAN-DAY	3,500

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares for all other crops.

C. Cultivation Methods

Farms uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 5,250 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 2,750 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 10 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three sprayings of the crop are necessary. Total cost of the crop protection activities is 9,000 CFA francs (9 liters of insecticide at 1,000 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 80 days of use in animal traction crop activities. Of these total days, 11 days are for cowpeas production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the cowpeas per hectare is 648 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the cowpeas enterprise on a per hectare basis is estimated at 350 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop per hectare is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rata cost of the animal equipment package for one hectare of cowpeas grown is 499 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	10	3
Seeding/Thinning of Plants	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	0	0
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	59	11

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	6	37	47
Animal-drawn Cart	5	24	108
Draft Animals	11	61	155

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	12.8
Animal-drawn Cart	4.6
Draft Animals	7.1

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Cultivator Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciation of equipment pro-rated for use in cowpea cultivation is 1,055 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in cowpea cultivation is 284 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the donkey. Equity investment is therefore 80,853 CFA francs. Interest of equity capital at 18% per annum is 1,012 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-118

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(In CFA Francs)*

Crop: Cowpeas
Unit: Farm Type I with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	5,250	Crop Sales to Private Markets	20,000
Fertilizer	2,750	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	9,000	TOTAL CASH RECEIPTS	110,000
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	6,643	Value of On-Farm Crop Consumption/Use	49,600
Equipment Repair and Maintenance	744	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	1,874		
TOTAL CASH EXPENSES	37,061		
Non-Cash Expenses			
Unpaid Family Labor	41,250		
Capital Recovery/ Equipment	2,796		
Capital Recovery/ Draft Animals	569		
Interest on Equity Capital @ 18%	2,601		
TOTAL NON-CASH EXPENSES	47,216	TOTAL NON-CASH RECEIPTS	127,600
TOTAL EXPENSES	84,277	TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	37,061
NET CASH INCOME PER HECTARE	72,936
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	84,277
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	153,323
EFFECTIVE WAGE RATE PER MAN-DAY	3,538

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

581

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 5,250 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 2,750 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 10 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three sprayings of the crop are necessary. Total cost of the crop protection activities is 9,000 CFA francs (9 liters of insecticide at 1,000 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 24 days of use in animal traction crop activities. Of these total days, 9 days are for cowpeas production on the one hectare for this enterprise budget. Total pro-rated cost for oxen maintenance for the cowpeas is 6,643 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rated cost for the cowpeas enterprise on a per hectare basis is estimated at 744 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop per hectare is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 17,271 CFA francs. The pro-rated cost of the animal equipment package for one hectare of cowpeas grown is 1,874 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	8	2
Seeding/Thinning of Plants	2	0
1st Weeding/Replacement of Missing Plants	6	1
2nd Weeding	6	1
3rd Weeding	0	0
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	55	9

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	4	9	12
Animal-drawn Cart	5	9	87
Draft Animals	9	18	99

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	33.3
Animal-drawn Cart	5.7
Draft Animals	9.1

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	110,480 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	235,480 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	23,548 CFA franc
Total loan	211,932 CFA francs
Capital payment per year	52,983 CFA francs
Interest payment per year	16,792 CFA francs
Total annual payment	69,775 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	9,180	0	9,180	8 years	1,148
Cultivator Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	110,480		110,480		16,624

Annual depreciation of equipment pro-rated for use in cowpea cultivation is 2,796 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in cowpea cultivation is 569 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment and oxen, in addition to the required 10% downpayment investment. Equity investment is therefore 133,208 CFA francs. Interest of equity capital at 18% per annum is 2,601 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-119

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type II with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES

Cash Expenses

Wage Labor	0
Seed	5,250
Fertilizer	2,750
Insecticides and/or Other Treatments	9,000
Expendable Hand Tools	1,840
Draft Animal Maintenance	5,694
Equipment Repair and Maintenance	529
Other Cash Costs	0
Crop Marketing Costs	8,500
Interest Paid	1,450
TOTAL CASH EXPENSES	35,013

Non-Cash Expenses

Unpaid Family Labor	41,250
Capital Recovery/ Equipment	1,885
Capital Recovery/ Draft Animals	488
Interest on Equity Capital @ 18%	2,014
TOTAL NON-CASH EXPENSES	45,637
TOTAL EXPENSES	80,650

RECEIPTS

Cash Receipts

Crop Sales to Government Agencies	0
Crop Sales to Private Markets	20,000
Sales of Crop By-Products	90,000
TOTAL CASH RECEIPTS	110,000

Non-Cash Receipts

Value of On-Farm Crop Consumption/Use	49,600
Value of On-Farm Use of Crop By-Products	78,000
TOTAL NON-CASH RECEIPTS	127,600
TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	35,013
NET CASH INCOME PER HECTARE	74,987
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	80,650
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	156,950
EFFECTIVE WAGE RATE PER MAN-DAY	3,604

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

59

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectares of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 5,250 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 2,750 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 10 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three sprayings of the crop are necessary. Total cost of the crop protection activities is 9,000 CFA francs (9 liters of insecticide at 1,000 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members of hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 40 days of use in animal traction crop activities. Of these total days, 9 days are for cowpeas production on the one hectare for this enterprise budget. Total pro-rated cost for oxen maintenance for the cowpeas is 5,694 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rated cost for the cowpeas enterprise on a per hectare basis is estimated at 529 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop per hectare is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 17,271 CFA francs. The pro-rated cost of the animal equipment package for one hectare of cowpeas grown is 1,450 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	8	2
Seeding/Thinning of Plants	2	0
1st Weeding/Replacement of Missing Plants	6	1
2nd Weeding	6	1
3rd Weeding	0	0
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	55	9

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	4	16	20
Animal-drawn Cart	5	15	95
Draft Animals	9	31	115

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	20.0
Animal-drawn Cart	5.3
Draft Animals	7.8

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	110,480 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	235,480 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	23,548 CFA francs
Total loan	211,932 CFA francs
Capital payment per year	52,983 CFA francs
Interest payment per year	16,792 CFA francs
Total annual payment	69,775 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	9,180	0	9,180	8 years	1,148
Cultivator Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	110,480		110,480		16,624

Annual depreciation of equipment pro-rated for use in cowpea cultivation is 1,885 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in cowpea cultivation is 488 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment and oxen, in addition to the required 10% downpayment investment. Equity investment is therefore 133,208 CFA francs. Interest of equity capital at 18% per annum is 2,014 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-120

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type III with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	0
Seed	5,250	Crop Sales to Private Markets	20,000
Fertilizer	2,750	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	9,000	TOTAL CASH RECEIPTS	110,000
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	4,526	Value of On-Farm Crop Consumption/Use	49,600
Equipment Repair and Maintenance	378	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	8.500		
Interest Paid	1,092		
TOTAL CASH EXPENSES	33,221		
Non-Cash Expenses			
Unpaid Family Labor	41,250		
Capital Recovery/ Equipment	1,297		
Capital Recovery/ Draft Animals	388		
Interest on Equity Capital @ 18%	1,517		
TOTAL NON-CASH EXPENSES	44,452	TOTAL NON-CASH RECEIPTS	127,600
TOTAL EXPENSES	77,673	TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	33,221
NET CASH INCOME PER HECTARE	76,779
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	77,673
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	159,927
EFFECTIVE WAGE RATE PER MAN-DAY	3,658

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 5,250 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 2,750 CFA francs (50 kilograms of triple superphosphate at 45 CFA francs per kilogram and 10 kilograms of urea at 50 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three sprayings of the crop are necessary. Total cost of the crop protection activities is 9,000 CFA francs (9 liters of insecticide at 1,000 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members of hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 71 days of use in animal traction crop activities. Of these total days, 9 days are for cowpeas production on the one hectare for this enterprise budget. Total pro-rated cost for oxen maintenance for the cowpeas is 4,526 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rated cost for the cowpeas enterprise on a per hectare basis is estimated at 378 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the cowpea crop per hectare is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 17,271 CFA francs. The pro-rated cost of the animal equipment package for one hectare of cowpeas grown is 1,092 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	8	2
Seeding/Thinning of Plants	2	0
1st Weeding/Replacement of Missing Plants	6	1
2nd Weeding	6	1
3rd Weeding	0	0
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	55	9

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	4	25	32
Animal-drawn Cart	5	30	114
Draft Animals	9	55	146

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	12.5
Animal-drawn Cart	4.4
Draft Animals	6.2

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	110,480 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	235,480 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	23,548 CFA francs
Total loan	211,932 CFA francs
Capital payment per year	52,983 CFA francs
Interest payment per year	16,792 CFA francs
Total annual payment	69,775 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	9,180	0	9,180	8 years	1,148
Cultivator Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	110,480		110,480		16,624

Annual depreciation of equipment pro-rated for use in cowpea cultivation is 1,297 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in cowpea cultivation is 388 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment and oxen, in addition to the required 10% downpayment investment. Equity investment is therefore 133,208 CFA francs. Interest of equity capital at 18% per annum is 1,517 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-121

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type I with Traditional Technology
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	5,000
Seed	2,400	Sales of Crop By-Products	30,000
Fertilizer	0	TOTAL CASH RECEIPTS	35,000
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	2,300		
Draft Animal Maintenance	0	**Non-Cash Receipts**	
Equipment Repair and Maintenance	0	Value of On-Farm Crop Consumption/Use	13,000
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	12,000
Crop Marketing Costs	750		
Interest Paid	0		
TOTAL CASH EXPENSES	5,450		
Non-Cash Expenses			
Unpaid Family Labor	21,200		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	21,200	TOTAL NON-CASH RECEIPTS	25,000
TOTAL EXPENSES	26,650	TOTAL RECEIPTS	60,000

Total Cash Receipts Per Hectare	35,000
Total Cash Expenses Per Hectare	5,450
NET CASH INCOME PER HECTARE	29,550
Total Receipts Per Hectare	60,000
Total Expenses Per Hectare	26,650
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	33,350
EFFECTIVE WAGE RATE PER MAN-DAY	2,573

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 2.7 hectares of millet and cowpeas in association, 0.2 hectares of sorghum in pure stand, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 20 kilograms of local cowpea seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing of cowpea crop is 750 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	1.2
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	3
2nd Weeding	2
3rd Weeding	1
Crop Fertilization	0
Crop Protection	0
Harvesting/Grain Preparation	6
Marketing	4
Total	21.2

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 180 kilograms of grain and 0.7 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 35,000 CFA francs (50 kilograms of cowpeas at 100 CFA francs per kilogram and 0.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 130 kilograms of cowpeas per hectare cultivated. Total value of this grain is 13,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.2 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 12,000 CFA francs.

Table B-122

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type II with Traditional Technology
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	5,000
Seed	2,400	Sales of Crop By-Products	30,000
Fertilizer	0	TOTAL CASH RECEIPTS	35,000
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	13,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	12,000
Other Cash Costs	0		
Crop Marketing Costs	750		
Interest Paid	0		
TOTAL CASH EXPENSES	4,990		
Non-Cash Expenses			
Unpaid Family Labor	21,200		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	21,200	TOTAL NON-CASH RECEIPTS	25,000
TOTAL EXPENSES	26,190	TOTAL RECEIPTS	60,000

Total Cash Receipts Per Hectare	35,000
Total Cash Expenses Per Hectare	4,990
NET CASH INCOME PER HECTARE	30,010
Total Receipts Per Hectare	60,000
Total Expenses Per Hectare	26,190
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	33,810
EFFECTIVE WAGE RATE PER MAN-DAY	2,595

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 4.5 hectares of millet and cowpeas in association, 0.35 hectares of sorghum in pure stand, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 20 kilograms of local cowpea seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing of cowpea crop is 750 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	1.2
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	3
2nd Weeding	2
3rd Weeding	1
Crop Fertilization	0
Crop Protection	0
Harvesting/Grain Preparation	6
Marketing	4
Total	21.2

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 180 kilograms of grain and 0.7 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 35,000 CFA francs (50 kilograms of cowpeas at 100 CFA francs per kilogram and 0.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 130 kilograms of cowpeas per hectare cultivated. Total value of this grain is 13,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.2 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 12,000 CFA francs.

Table B-123

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type III with Traditional Technology
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0		
Seed	2,400	Crop Sales	5,000
Fertilizer	0	Sales of Crop By-Products	30,000
		TOTAL CASH RECEIPTS	35,000
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	1,725		
		Non-Cash Receipts	
Draft Animal Maintenance	0		
		Value of On-Farm Crop Consumption/Use	13,000
Equipment Repair and Maintenance	0		
		Value of On-Farm Use of Crop By-Products	12,000
Other Cash Costs	0		
Crop Marketing Costs	750		
Interest Paid	0		
TOTAL CASH EXPENSES	4,875		
Non-Cash Expenses			
Unpaid Family Labor	21,200		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	21,200	TOTAL NON-CASH RECEIPTS	25,000
TOTAL EXPENSES	26,075	TOTAL RECEIPTS	60,000

Total Cash Receipts Per Hectare	35,000
Total Cash Expenses Per Hectare	4,875
NET CASH INCOME PER HECTARE	30,125
Total Receipts Per Hectare	60,000
Total Expenses Per Hectare	26,075
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	33,925
EFFECTIVE WAGE RATE PER MAN-DAY	2,600

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 7.3 hectares of millet and cowpeas in association, 0.5 hectares of sorghum in pure stand, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 20 kilograms of local cowpea seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing of cowpea crop is 750 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	1.2
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	3
2nd Weeding	2
3rd Weeding	1
Crop Fertilization	0
Crop Protection	0
Harvesting/Grain Preparation	6
Marketing	4
Total	21.2

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 180 kilograms of grain and 0.7 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 35,000 CFA francs (50 kilograms of cowpeas at 100 CFA francs per kilogram and 0.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 130 kilograms of cowpeas per hectare cultivated. Total value of this grain is 13,000 CFA francs at 120 CFA francs per kilogram. In addition, the farm family has available 0.2 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 12,000 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Crop Fertilization	2
Crop Protection	3
Harvesting/Grain Preparation	20
Marketing	4
Total	105

O. Capital Recovery/Equipment

Farm maintains no equipment.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 12,880 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 10,350 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 10 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three spraying of the crop are necessary. Total cost of the crop protection activities is 16,200 CFA francs (9 liters of insecticide at 1,800 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

Table B-124

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type I with Partial Package Adoption
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	20,000
Seed	12,880	Sales of Crop By-Products	90,000
Fertilizer	10,350	TOTAL CASH RECEIPTS	110,000
Insecticides and/or Other Treatments	16,200		
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	38,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	48,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	0		
TOTAL CASH EXPENSES	50,230		
Non-Cash Expenses			
Unpaid Family Labor	105,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	105,000	TOTAL NON-CASH RECEIPTS	86,000
TOTAL EXPENSES	155,230	TOTAL RECEIPTS	196,000

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	50,230
NET CASH INCOME PER HECTARE	59,770
Total Receipts Per Hectare	196,000
Total Expenses Per Hectare	155,230
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	40,770
EFFECTIVE WAGE RATE PER MAN-DAY	1,388

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

614

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 580 kilograms of grain and 2.3 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas sold at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 380 kilograms of cowpeas per hectare cultivated. Total value of this grain is 38,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.8 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 48,000 CFA francs.

Table B-125

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type II with Partial Package Adoption
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	20,000
Seed	12,880	Sales of Crop By-Products	90,000
Fertilizer	10,350	TOTAL CASH RECEIPTS	110,000
Insecticides and/or Other Treatments	16,200		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	38,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	48,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	0		
TOTAL CASH EXPENSES	49,770		
Non-Cash Expenses			
Unpaid Family Labor	105,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	105,000	TOTAL NON-CASH RECEIPTS	86,000
TOTAL EXPENSES	154,770	TOTAL RECEIPTS	196,000

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	49,770
NET CASH INCOME PER HECTARE	60,230
Total Receipts Per Hectare	196,000
Total Expenses Per Hectare	154,770
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	41,230
EFFECTIVE WAGE RATE PER MAN-DAY	1,393

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 12,880 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 10,350 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 10 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three spraying of the crop are necessary. Total cost of the crop protection activities is 16,200 CFA francs (9 liters of insecticide at 1,800 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Crop Fertilization	2
Crop Protection	3
Harvesting/Grain Preparation	20
Marketing	4
Total	105

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 580 kilograms of grain and 2.3 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas sold at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 380 kilograms of cowpeas per hectare cultivated. Total value of this grain is 38,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.8 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 48,000 CFA francs.

Table B-126

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type III with Partial Package Adoption
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	20,000
Seed	12,880	Sales of Crop By-Products	90,000
Fertilizer	10,350	TOTAL CASH RECEIPTS	110,000
Insecticides and/or Other Treatments	16,200		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	38,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	48,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	0		
TOTAL CASH EXPENSES	49,655		
Non-Cash Expenses			
Unpaid Family Labor	105,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	105,000	TOTAL NON-CASH RECEIPTS	86,000
TOTAL EXPENSES	154,655	TOTAL RECEIPTS	196,000

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	49,655
NET CASH INCOME PER HECTARE	60,345
Total Receipts Per Hectare	196,000
Total Expenses Per Hectare	154,655
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	41,345
EFFECTIVE WAGE RATE PER MAN-DAY	1,394

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 12,880 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 10,350 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 10 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three spraying of the crop are necessary. Total cost of the crop protection activities is 16,200 CFA francs (9 liters of insecticide at 1,800 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days Needed
Land/Soil Preparation	12
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	30
2nd Weeding	20
3rd Weeding	10
Crop Fertilization	2
Crop Protection	3
Harvesting/Grain Preparation	20
Marketing	4
Total	105

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 580 kilograms of grain and 2.3 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas sold at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 380 kilograms of cowpeas per hectare cultivated. Total value of this grain is 38,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.8 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 48,000 CFA francs.

Table B-127

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type I with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	20,000
Seed	12,880	Sales of Crop By-Products	90,000
Fertilizer	10,350	TOTAL CASH RECEIPTS	110,000
Insecticides and/or Other Treatments	16,200		
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	1,214	Value of On-Farm Crop Consumption/Use	49,600
Equipment Repair and Maintenance	1,375	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	3,012		
TOTAL CASH EXPENSES	55,831		
Non-Cash Expenses			
Unpaid Family Labor	73,000		
Capital Recovery/ Equipment	4,750		
Capital Recovery/ Draft Animals	532		
Interest on Equity Capital @ 18%	3,320		
TOTAL NON-CASH EXPENSES	81,602	TOTAL NON-CASH RECEIPTS	127,600
TOTAL EXPENSES	137,433	TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	55,831
NET CASH INCOME PER HECTARE	54,169
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	137,433
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	100,167
EFFECTIVE WAGE RATE PER MAN-DAY	2,372

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 12,880 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpea sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 10,350 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 10 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three spraying of the crop are necessary. Total cost of the crop protection activities is 16,200 CFA francs (9 liters of insecticide at 1,800 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 45 days of use in animal traction crop activities. Of these total days, 16 days are for cowpea production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the cowpeas per hectare is 1,214 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rated cost for the cowpeas enterprise on a per hectare basis is estimated at 1,375 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rata cost of the animal equipment package for one hectare of cowpeas grown is 3,012 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	10	3
Seeding/Thinning of Plants	2	0
Crop Fertilization	12	4
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	73	16

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	11	24	32
Animal-drawn Cart	5	9	88
Draft Animals	16	33	120

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	34.4
Animal-drawn Cart	5.7
Draft Animals	13.3

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	16,581	0	16,581	8 years	2,073
Donkey Toolbar	21,113	0	21,113	8 years	2,639
Cultivator Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in cowpea cultivation is 4,750 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in cowpea cultivation is 532 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the donkey. Equity investment is therefore 106,481 CFA francs. Interest of equity capital at 18% per annum is 3,320 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas sold at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-128

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type II with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	20,000
Seed	12,880	Sales of Crop By-Products	90,000
Fertilizer	10,350	TOTAL CASH RECEIPTS	110,000
Insecticides and/or Other Treatments	16,200		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	976	Value of On-Farm Crop Consumption/Use	49,600
Equipment Repair and Maintenance	894	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	1,958		
TOTAL CASH EXPENSES	53,598		
Non-Cash Expenses			
Unpaid Family Labor	73,000		
Capital Recovery/ Equipment	3,013		
Capital Recovery/ Draft Animals	428		
Interest on Equity Capital @ 18%	2,251		
TOTAL NON-CASH EXPENSES	78,692	TOTAL NON-CASH RECEIPTS	127,600
TOTAL EXPENSES	132,290	TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	53,598
NET CASH INCOME PER HECTARE	56,402
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	132,290
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	105,310
EFFECTIVE WAGE RATE PER MAN-DAY	2,442

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectares of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 12,880 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpea sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 10,350 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 10 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three spraying of the crop are necessary. Total cost of the crop protection activities is 16,200 CFA francs (9 liters of insecticide at 1,800 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 74 days of use in animal traction crop activities. Of these total days, 16 days are for cowpea production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the cowpeas per hectare is 976 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rated cost for the cowpeas enterprise on a per hectare basis is estimated at 894 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rata cost of the animal equipment package for one hectare of cowpeas grown is 1,958 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	10	3
Seeding/Thinning of Plants	2	0
Crop Fertilization	12	4
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	8	2
3rd Weeding	8	2
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	73	16

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	11	43	54
Animal-drawn Cart	5	15	95
Draft Animals	16	58	149

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	20.4
Animal-drawn Cart	5.3
Draft Animals	10.7

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	16,581	0	16,581	8 years	2,073
Donkey Toolbar	21,113	0	21,113	8 years	2,639
Cultivator Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in cowpea cultivation is 3,013 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in cowpea cultivation is 428 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the donkey. Equity investment is therefore 106,481 CFA francs. Interest of equity capital at 18% per annum is 2,251 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas sold at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-129

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type III with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	20,000
Seed	12,880	Sales of Crop By-Products	90,000
Fertilizer	10,350	TOTAL CASH RECEIPTS	110,000
Insecticides and/or Other Treatments	16,200		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	748	Value of On-Farm Crop Consumption/Use	49,600
Equipment Repair and Maintenance	6[illegible]3	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	1,343		
TOTAL CASH EXPENSES	52,359		
Non-Cash Expenses			
Unpaid Family Labor	73,000		
Capital Recovery/ Equipment	2,021		
Capital Recovery/ Draft Animals	328		
Interest on Equity Capital @ 18%	1,582		
TOTAL NON-CASH EXPENSES	76,931	TOTAL NON-CASH RECEIPTS	127,600
TOTAL EXPENSES	129,290	TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	52,359
NET CASH INCOME PER HECTARE	57,641
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	129,290
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	108,310
EFFECTIVE WAGE RATE PER MAN-DAY	2,484

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 12,880 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpea sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 10,350 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 10 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three spraying of the crop are necessary. Total cost of the crop protection activities is 16,200 CFA francs (9 liters of insecticide at 1,800 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 119 days of use in animal traction crop activities. Of these total days, 16 days are for cowpea production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the cowpeas per hectare is 748 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rated cost for the cowpeas enterprise on a per hectare basis is estimated at 613 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rata cost of the animal equipment package for one hectare of cowpeas grown is 1,343 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	10	3
Seeding/Thinning of Plants	2	0
Crop Fertilization	12	4
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	8	2
3rd Weeding	8	2
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	73	16

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	11	67	86
Animal-drawn Cart	5	24	108
Draft Animals	16	91	194

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	12.8
Animal-drawn Cart	4.6
Draft Animals	8.2

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	16,581	0	16,581	8 years	2,073
Donkey Toolbar	21,113	0	21,113	8 years	2,639
Cultivator Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in cowpea cultivation is 2,021 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in cowpea cultivation is 328 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the donkey. Equity investment is therefore 106,481 CFA francs. Interest of equity capital at 18% per annum is 1,582 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas sold at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-130

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type I with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	20,000
Seed	12,880	Sales of Crop By-Products	90,000
Fertilizer	10,350	TOTAL CASH RECEIPTS	110,000
Insecticides and/or Other Treatments	16,200		
Expendable Hand Tools	2,300		
Draft Animal Maintenance	7,592	**Non-Cash Receipts**	
Equipment Repair and Maintenance	1,714	Value of On-Farm Crop Consumption/Use	49,600
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	78,000
Crop Marketing Costs	8,500		
Interest Paid	5,180		
TOTAL CASH EXPENSES	64,716		
Non-Cash Expenses			
Unpaid Family Labor	63,000		
Capital Recovery/ Equipment	6,916		
Capital Recovery/ Draft Animals	650		
Interest on Equity Capital @ 18%	4,680		
TOTAL NON-CASH EXPENSES	75,246	TOTAL NON-CASH RECEIPTS	127,600
TOTAL EXPENSES	139,962	TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	64,716
NET CASH INCOME PER HECTARE	45,284
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	139,962
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	97,638
EFFECTIVE WAGE RATE PER MAN-DAY	2,550

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectare of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 12,880 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 10,350 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 10 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three spraying of the crop are necessary. Total cost of the crop protection activities is 16,200 CFA francs (9 liters of insecticide at 1,800 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 31 days of use in animal traction crop activities. Of these total days, 11 days are for cowpea production on the one hectare for this enterprise budget. Total pro-rated cost for oxen maintenance for the cowpeas is 7,592 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rated cost for the cowpea enterprise on a per hectare basis is estimated at 1,714 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 FA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 33,776 CFA francs. The pro-rata cost of the animal equipment package for one hectare of cowpeas grown is 5,180 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	9	2
Seeding/Thinning of Plants	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	63	11

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	6	14	18
Animal-drawn Cart	5	9	88
Draft Animals	11	23	106

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	33.3
Animal-drawn Cart	5.7
Draft Animals	10.4

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Charrue"/Plow	19,756
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	183,274 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	308,274 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	30,827 CFA francs
Total loan	277,447 CFA francs
Capital payment per year	69,362 CFA francs
Interest payment per year	33,776 CFA francs
Total annual payment	103,138 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Plow	19,756	0	19,756	8 years	2,470
Cultivator	26,994	0	26,994	8 years	3,374
Cultivator Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	183,274		183,274		30,811

Annual depreciaton of equipment pro-rated for use in cowpea cultivation is 6,916 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in cowpea cultivation is 650 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment and oxen, in addition to the required downpayment investment. Equity investment is therefore 169,551 CFA francs. Interest on equity capital at 18% per annum is 4,680 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-131

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type II with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	20,000
Seed	12,880	Sales of Crop By-Products	90,000
Fertilizer	10,350	TOTAL CASH RECEIPTS	110,000
Insecticides and/or Other Treatments	16,200		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	6,570	Value of On-Farm Crop Consumption/Use	49,600
Equipment Repair and Maintenance	1,155	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	3,764		
TOTAL CASH EXPENSES	61,259		
Non-Cash Expenses			
Unpaid Family Labor	63,000		
Capital Recovery/ Equipment	4,524		
Capital Recovery/ Draft Animals	563		
Interest on Equity Capital @ 18%	3,402		
TOTAL NON-CASH EXPENSES	71,489	TOTAL NON-CASH RECEIPTS	127,600
TOTAL EXPENSES	132,748	TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	61,259
NET CASH INCOME PER HECTARE	48,741
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	132,748
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	104,852
EFFECTIVE WAGE RATE PER MAN-DAY	2,664

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 12,880 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 10,350 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 10 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three spraying of the crop are necessary. Total cost of the crop protection activities is 16,200 CFA francs (9 liters of insecticide at 1,800 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 47 days of use in animal traction crop activities. Of these total days, 11 days are for cowpea production on the one hectare for this enterprise budget. Total pro-rated cost for oxen maintenance for the cowpeas is 6,570 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rated cost for the cowpea enterprise on a per hectare basis is estimated at 1,155 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 33,776 CFA francs. The pro-rata cost of the animal equipment package for one hectare of cowpeas grown is 3,764 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	8	2
Seeding/Thinning of Plants	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	63	11

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	6	23	29
Animal-drawn Cart	5	13	93
Draft Animals	11	36	122

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	20.7
Animal-drawn Cart	5.4
Draft Animals	9.0

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Charrue"/Plow	19,756
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	183,274 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	308,274 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	30,827 CFA francs
Total loan	277,447 CFA francs
Capital payment per year	69,362 CFA francs
Interest payment per year	33,776 CFA francs
Total annual payment	103,138 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Plow	19,756	0	19,756	8 years	2,470
Cultivator	26,994	0	26,994	8 years	3,374
Cultivator Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	183,274		183,274		30,811

Annual depreciaton of equipment pro-rated for use in cowpea cultivation is 4,524 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in cowpea cultivation is 563 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment and oxen, in addition to the required downpayment investment. Equity investment is therefore 169,551 CFA francs. Interest on equity capital at 18% per annum is 3,402 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-132

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type III with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	20,000
Seed	12,880	Sales of Crop By-Products	90,000
Fertilizer	10,350	TOTAL CASH RECEIPTS	110,000
Insecticides and/or Other Treatments	16,200		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	5,183	Value of On-Farm Crop Consumption/Use	49,600
Equipment Repair and Maintenance	776	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	2,672		
TOTAL CASH EXPENSES	58,286		
Non-Cash Expenses			
Unpaid Family Labor	63,000		
Capital Recovery/ Equipment	2,950		
Capital Recovery/ Draft Animals	444		
Interest on Equity Capital @ 18%	2,768		
TOTAL NON-CASH EXPENSES	69,162	TOTAL NON-CASH RECEIPTS	127,600
TOTAL EXPENSES	127,448	TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	58,286
NET CASH INCOME PER HECTARE	51,714
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	127,448
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	110,152
EFFECTIVE WAGE RATE PER MAN-DAY	2,748

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 12,880 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 10,350 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 10 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three spraying of the crop are necessary. Total cost of the crop protection activities is 16,200 CFA francs (9 liters of insecticide at 1,800 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 80 days of use in animal traction crop activities. Of these total days, 11 days are for cowpea production on the one hectare for this enterprise budget. Total pro-rated cost for oxen maintenance for the cowpeas is 5,183 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rated cost for the cowpea enterprise on a per hectare basis is estimated at 776 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 33,776 CFA francs. The pro-rata cost of the animal equipment package for one hectare of cowpeas grown is 2,672 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	8	2
Seeding/Thinning of Plants	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	63	11

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	6	37	47
Animal-drawn Cart	5	24	108
Draft Animals	11	61	155

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	12.8
Animal-drawn Cart	4.6
Draft Animals	7.1

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Charrue"/Plow	19,756
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	183,274 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	308,274 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	30,827 CFA francs
Total loan	277,447 CFA francs
Capital payment per year	69,362 CFA francs
Interest payment per year	33,776 CFA francs
Total annual payment	103,138 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Plow	19,756	0	19,756	8 years	2,470
Cultivator	26,994	0	26,994	8 years	3,374
Cultivator Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	183,274		183,274		30,811

Annual depreciaton of equipment pro-rated for use in cowpea cultivation is 2,950 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in cowpea cultivation is 444 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment and oxen, in addition to the required downpayment investment. Equity investment is therefore 169,551 CFA francs. Interest on equity capital at 18% per annum is 2,768 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-133

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type I with Traditional Technology
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	5,000
Seed	2,400	Sales of Crop By-Products	30,000
Fertilizer	0	TOTAL CASH RECEIPTS	35,000
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	13,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	12,000
Other Cash Costs	0		
Crop Marketing Costs	750		
Interest Paid	0		
TOTAL CASH EXPENSES	5,450		
Non-Cash Expenses			
Unpaid Family Labor	13,650		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	13,650	TOTAL NON-CASH RECEIPTS	25,000
TOTAL EXPENSES	19,100	TOTAL RECEIPTS	60,000

Total Cash Receipts Per Hectare	35,000
Total Cash Expenses Per Hectare	5,450
NET CASH INCOME PER HECTARE	29,550
Total Receipts Per Hectare	60,000
Total Expenses Per Hectare	19,100
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	40,900
EFFECTIVE WAGE RATE PER MAN-DAY	2,997

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 2.7 hectares of millet and cowpeas in association, 0.2 hectares of sorghum in pure stand, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 20 kilograms of local cowpea seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing of cowpea crop is 750 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation	Number of Man-days Needed*
Land/Soil Preparation	1.2
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	2
2nd Weeding	1
3rd Weeding	0
Crop Fertilization	0
Crop Protection	0
Harvesting/Grain Preparation	6
Marketing	4
Total	18.2

*When grown in association with millet.

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 180 kilograms of grain and 0.7 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 35,000 CFA francs (50 kilograms of cowpeas at 100 CFA francs per kilogram and 0.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 130 kilograms of cowpeas per hectare cultivated. Total value of this grain is 13,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.2 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 12,000 CFA francs.

Table B-134

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type II with Traditional Technology
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	5,000
Seed	2,400	Sales of Crop By-Products	30,000
Fertilizer	0	TOTAL CASH RECEIPTS	35,000
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	13,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	12,000
Other Cash Costs	0		
Crop Marketing Costs	750		
Interest Paid	0		
TOTAL CASH EXPENSES	4,990		
Non-Cash Expenses			
Unpaid Family Labor	13,650		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	13,650	TOTAL NON-CASH RECEIPTS	25,000
TOTAL EXPENSES	18,640	TOTAL RECEIPTS	60,000

Total Cash Receipts Per Hectare	35,000
Total Cash Expenses Per Hectare	4,990
NET CASH INCOME PER HECTARE	30,010
Total Receipts Per Hectare	60,000
Total Expenses Per Hectare	18,640
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	41,360
EFFECTIVE WAGE RATE PER MAN-DAY	3,023

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 4.5 hectares of millet and cowpeas in association, 0.35 hectares of sorghum in pure stand, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 20 kilograms of local cowpea seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide, Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing of cowpea crop is 750 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation	Number of Man-days Needed*
Land/Soil Preparation	1.2
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	2
2nd Weeding	1
3rd Weeding	0
Crop Fertilization	0
Crop Protection	0
Harvesting/Grain Preparation	6
Marketing	4
Total	18.2

*When grown in association with millet.

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 180 kilograms of grain and 0.7 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 35,000 CFA francs (50 kilograms of cowpeas at 100 CFA francs per kilogram and 0.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 130 kilograms of cowpeas per hectare cultivated. Total value of this grain is 13,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.2 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 12,000 CFA francs.

Table B-135

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type III with Traditional Technology
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	5,000
Seed	2,400	Sales of Crop By-Products	30,000
Fertilizer	0	TOTAL CASH RECEIPTS	35,000
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	13,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	12,000
Other Cash Costs	0		
Crop Marketing Costs	750		
Interest Paid	0		
TOTAL CASH EXPENSES	4,875		
Non-Cash Expenses			
Unpaid Family Labor	13,650		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	13,650	TOTAL NON-CASH RECEIPTS	25,000
TOTAL EXPENSES	18,525	TOTAL RECEIPTS	60,000

Total Cash Receipts Per Hectare	35,000
Total Cash Expenses Per Hectare	4,875
NET CASH INCOME PER HECTARE	30,125
Total Receipts Per Hectare	60,000
Total Expenses Per Hectare	18,525
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	41,475
EFFECTIVE WAGE RATE PER MAN-DAY	3,029

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 7.3 hectares of millet and cowpeas in association, 0.5 hectares of sorghum in pure stand, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 20 kilograms of local cowpea seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing of cowpea crop is 750 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation	Number of Man-days Needed*
Land/Soil Preparation	1.2
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	2
2nd Weeding	1
3rd Weeding	0
Crop Fertilization	0
Crop Protection	0
Harvesting/Grain Preparation	6
Marketing	4
Total	18.2

*When grown in association with millet.

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 180 kilograms of grain and 0.7 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 35,000 CFA francs (50 kilograms of cowpeas at 100 CFA francs per kilogram and 0.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 130 kilograms of cowpeas per hectare cultivated. Total value of this grain is 13,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.2 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 12,000 CFA francs.

Table B-136

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type I with Partial Package Adoption
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0		
Seed	12,880	Crop Sales	20,000
Fertilizer	10,350	Sales of Crop By-Products	90,000
		TOTAL CASH RECEIPTS	110,000
Insecticides and/or Other Treatments	16,200		
Expendable Hand Tools	2,300		
		Non-Cash Receipts	
Draft Animal Maintenance	0		
Equipment Repair and Maintenance	0	Value of On-Farm Crop Consumption/Use	38,000
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	48,000
Crop Marketing Costs	8,500		
Interest Paid	0		
TOTAL CASH EXPENSES	50,230		
Non-Cash Expenses			
Unpaid Family Labor	51,750		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	51,750	TOTAL NON-CASH RECEIPTS	86,000
TOTAL EXPENSES	101,980	TOTAL RECEIPTS	196,000

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	50,230
NET CASH INCOME PER HECTARE	59,770
Total Receipts Per Hectare	196,000
Total Expenses Per Hectare	101,980
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	94,020
EFFECTIVE WAGE RATE PER MAN-DAY	2,113

*Exchange rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 12,880 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 10,350 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 10 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three spraying of the crop are necessary. Total cost of the crop protection activities is 16,200 CFA francs (9 liters of insecticide at 1,800 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days Needed
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	16
2nd Weeding	12
3rd Weeding	0
Crop Fertilization	2
Crop Protection	3
Harvesting/Grain Preparation	20
Marketing	4
Total	69

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 580 kilograms of grain and 2.3 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas sold at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 380 kilograms of cowpeas per hectare cultivated. Total value of this grain is 38,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.8 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 48,000 CFA francs.

Table B-137

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type II with Partial Package Adoption
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	20,000
Seed	12,880	Sales of Crop By-Products	90,000
Fertilizer	10,350	TOTAL CASH RECEIPTS	110,000
Insecticides and/or Other Treatments	16,200		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	38,000
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	48,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	0		
TOTAL CASH EXPENSES	49,770		
Non-Cash Expenses			
Unpaid Family Labor	51,750		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	51,750	TOTAL NON-CASH RECEIPTS	86,000
TOTAL EXPENSES	101,520	TOTAL RECEIPTS	196,000

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	49,770
NET CASH INCOME PER HECTARE	60,230
Total Receipts Per Hectare	196,000
Total Expenses Per Hectare	101,520
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	94,480
EFFECTIVE WAGE RATE PER MAN-DAY	2,119

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 12,880 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 10,350 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 10 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three spraying of the crop are necessary. Total cost of the crop protection activities is 16,200 CFA francs (9 liters of insecticide at 1,800 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days Needed
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	16
2nd Weeding	12
3rd Weeding	0
Crop Fertilization	2
Crop Protection	3
Harvesting/Grain Preparation	20
Marketing	4
Total	69

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 580 kilograms of grain and 2.3 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas sold at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 380 kilograms of cowpeas per hectare cultivated. Total value of this grain is 38,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.8 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 48,000 CFA francs.

Table B-138

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type III with Partial Package Adoption
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0		
		Crop Sales	20,000
Seed	12,880		
		Sales of Crop By-Products	90,000
Fertilizer	10,350		
		TOTAL CASH RECEIPTS	110,000
Insecticides and/or Other Treatments	16,200		
Expendable Hand Tools	1,725		
		Non-Cash Receipts	
Draft Animal Maintenance	0		
		Value of On-Farm Crop Consumption/Use	38,000
Equipment Repair and Maintenance	0		
		Value of On-Farm Use of Crop By-Products	48,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	0		
TOTAL CASH EXPENSES	49,655		
Non-Cash Expenses			
Unpaid Family Labor	51,750		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	51,750	TOTAL NON-CASH RECEIPTS	86,000
TOTAL EXPENSES	101,405	TOTAL RECEIPTS	196,000

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	49,655
NET CASH INCOME PER HECTARE	60,345
Total Receipts Per Hectare	196,000
Total Expenses Per Hectare	101,405
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	94,595
EFFECTIVE WAGE RATE PER MAN-DAY	2,121

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 12,880 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 10,350 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 10 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three spraying of the crop are necessary. Total cost of the crop protection activities is 16,200 CFA francs (9 liters of insecticide at 1,800 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used.

N. Unpaid Family Labor

Estimated family labor time per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days Needed
Land/Soil Preparation	8
Seeding/Thinning of Plants	4
1st Weeding/Replacement of Missing Plants	16
2nd Weeding	12
3rd Weeding	0
Crop Fertilization	2
Crop Protection	3
Harvesting/Grain Preparation	20
Marketing	4
Total	69

O. Capital Recovery/Equipment

Farm maintains no equipment.

P. Capital Recovery/Draft Animals

Farm maintains no draft animals.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated cowpea yield per hectare is 580 kilograms of grain and 2.3 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas sold at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-Cash Receipts

Farm family has available for consumption and/or other uses an estimated 380 kilograms of cowpeas per hectare cultivated. Total value of this grain is 38,000 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 0.8 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 48,000 CFA francs.

Table B-139

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type I with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	20,000
Seed	12,880	Sales of Crop By-Products	90,000
Fertilizer	10,350	TOTAL CASH RECEIPTS	110,000
Insecticides and/or Other Treatments	16,200		
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	958	Value of On-Farm Crop Consumption/Use	49,600
Equipment Repair and Maintenance	1,338	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	2,932		
TOTAL CASH EXPENSES	55,458		
Non-Cash Expenses			
Unpaid Family Labor	44,250		
Capital Recovery/ Equipment	4,616		
Capital Recovery/ Draft Animals	420		
Interest on Equity Capital @ 18%	3,122		
TOTAL NON-CASH EXPENSES	52,408	TOTAL NON-CASH RECEIPTS	127,600
TOTAL EXPENSES	107,866	TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	55,458
NET CASH INCOME PER HECTARE	54,542
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	107,865
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	129,735
EFFECTIVE WAGE RATE PER MAN-DAY	2,949

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per nectare is 12,880 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpea sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 10,350 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 10 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three spraying of the crop are necessary. Total cost of the crop protection activities is 16,200 CFA francs (9 liters of insecticide at 1,800 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 30 days of use in animal traction crop activities. Of these total days, 11 days are for cowpea production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the cowpeas per hectare is 958 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rated cost for the cowpeas enterprise on a per hectare basis is estimated at 1,338 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rata cost of the animal equipment package for one hectare of cowpeas grown is 2,932 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	10	3
Seeding/Thinning of Plants	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	0	0
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	59	11

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	6	13	18
Animal-drawn Cart	5	9	87
Draft Animals	11	22	105

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	33.3
Animal-drawn Cart	5.7
Draft Animals	10.5

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses", Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	16,581	0	16,581	8 years	2,073
Donkey Toolbar	21,113	0	21,113	8 years	2,639
Cultivator Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in cowpea cultivation is 4,616 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in cowpea cultivation is 420 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the donkey. Equity investment is therefore 106,481 CFA francs. Interest of equity capital at 18% per annum is 3,122 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas sold at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-140

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type II with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	20,000
Seed	12,880	Sales of Crop By-Products	90,000
Fertilizer	10,350	TOTAL CASH RECEIPTS	110,000
Insecticides and/or Other Treatments	16,200		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	812	Value of On-Farm Crop Consumption/Use	49,600
Equipment Repair and Maintenance	904	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	1,980		
TOTAL CASH EXPENSES	53,466		
Non-Cash Expenses			
Unpaid Family Labor	44,250		
Capital Recovery/ Equipment	3,049		
Capital Recovery/ Draft Animals	356		
Interest on Equity Capital @ 18%	2,190		
TOTAL NON-CASH EXPENSES	49,845	TOTAL NON-CASH RECEIPTS	127,600
TOTAL EXPENSES	103,311	TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	53,466
NET CASH INCOME PER HECTARE	56,534
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	103,311
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	134,289
EFFECTIVE WAGE RATE PER MAN-DAY	3,026

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 12,880 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpea sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 10,350 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 10 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three spraying of the crop are necessary. Total cost of the crop protection activities is 16,200 CFA francs (9 liters of insecticide at 1,800 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 49 days of use in animal traction crop activities. Of these total days, 11 days are for cowpea production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the cowpeas per hectare is 812 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rated cost for the cowpeas enterprise on a per hectare basis is estimated at 904 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rata cost of the animal equipment package for one hectare of cowpeas grown is 1,980 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	10	3
Seeding/Thinning of Plants	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	0	0
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	59	11

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	6	23	29
Animal-drawn Cart	5	15	95
Draft Animals	11	38	124

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	20.7
Animal-drawn Cart	5.3
Draft Animals	8.9

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	16,581	0	16,581	8 years	2,073
Donkey Toolbar	21,113	0	21,113	8 years	2,639
Cultivator Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in cowpea cultivation is 3,049 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in cowpea cultivation is 356 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the donkey. Equity investment is therefore 106,481 CFA francs. Interest of equity capital at 18% per annum is 2,190 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas sold at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-141

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type III with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	20,000
Seed	12,880	Sales of Crop By-Products	90,000
Fertilizer	10,350	TOTAL CASH RECEIPTS	110,000
Insecticides and/or Other Treatments	16,200		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	648	Value of On-Farm Crop Consumption/Use	49,600
Equipment Repair and Maintenance	613	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	1,343		
TOTAL CASH EXPENSES	52,259		
Non-Cash Expenses			
Unpaid Family Labor	44,250		
Capital Recovery/ Equipment	2,021		
Capital Recovery/ Draft Animals	284		
Interest on Equity Capital @ 18%	1,533		
TOTAL NON-CASH EXPENSES	48,088	TOTAL NON-CASH RECEIPTS	127,600
TOTAL EXPENSES	100,347	TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	52,259
NET CASH INCOME PER HECTARE	57,741
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	100,347
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	137,253
EFFECTIVE WAGE RATE PER MAN-DAY	3,076

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 12,880 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpea sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 10,350 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 10 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three spraying of the crop are necessary. Total cost of the crop protection activities is 16,200 CFA francs (9 liters of insecticide at 1,800 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 80 days of use in animal traction crop activities. Of these total days, 11 days are for cowpea production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the cowpeas per hectare is 648 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rated cost for the cowpeas enterprise on a per hectare basis is estimated at 613 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rata cost of the animal equipment package for one hectare of cowpeas grown is 1,343 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	10	3
Seeding/Thinning of Plants	2	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	0	0
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	59	11

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	6	37	47
Animal-drawn Cart	5	24	108
Draft Animals	11	61	155

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	12.8
Animal-drawn Cart	4.6
Draft Animals	7.1

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	16,581	0	16,581	8 years	2,073
Donkey Toolbar	21,113	0	21,113	8 years	2,639
Cultivator Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in cowpea cultivation is 2,021 CFA francs.

P. Capital Recovery/Draft Animals

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in cowpea cultivation is 284 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the donkey. Equity investment is therefore 106,481 CFA francs. Interest of equity capital at 18% per annum is 1,533 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas sold at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-142

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type I with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	20,000
Seed	12,880	Sales of Crop By-Products	90,000
Fertilizer	10,350	TOTAL CASH RECEIPTS	110,000
Insecticides and/or Other Treatments	16,200		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	6,643	Value of On-Farm Crop Consumption/Use	49,600
Equipment Repair and Maintenance	1,714	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	5,002		
TOTAL CASH EXPENSES	63,014		
Non-Cash Expenses			
Unpaid Family Labor	41,250		
Capital Recovery/ Equipment	6,916		
Capital Recovery/ Draft Animals	569		
Interest on Equity Capital @ 18%	4,519		
TOTAL NON-CASH EXPENSES	53,254	TOTAL NON-CASH RECEIPTS	127,600
TOTAL EXPENSES	116,268	TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	63,014
NET CASH INCOME PER HECTARE	46,986
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	116,268
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	121,332
EFFECTIVE WAGE RATE PER MAN-DAY	2,956

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of cowpeas, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 12,880 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 10,350 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 10 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three spraying of the crop are necessary. Total cost of the crop protection activities is 16,200 CFA francs (9 liters of insecticide at 1,800 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 24 days of use in animal traction crop activities. Of these total days, 9 days are for cowpea production on the one hectare for this enterprise budget. Total pro-rated cost for oxen maintenance for the cowpeas is 6,643 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rated cost for the cowpeas enterprise on a per hectare basis is estimated at 1,714 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 31,581 CFA francs. The pro-rata cost of the animal equipment package for one hectare of cowpeas grown is 5,002 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	8	2
Seeding/Thinning of Plants	2	0
1st Weeding/Replacement of Missing Plants	6	1
2nd Weeding	6	1
3rd Weeding	0	0
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	55	9

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	4	9	12
Animal-drawn Cart	5	9	87
Draft Animals	9	18	99

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	33.3
Animal-drawn Cart	5.7
Draft Animals	9.1

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	163,518 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	288,518 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	28,852 CFA francs
Total loan	259,666 CFA francs
Capital payment per year	64,917 CFA francs
Interest payment per year	31,581 CFA francs
Total annual payment	96,498 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	26,994	0	26,994	8 years	3,374
Cultivator Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	163,518		163,518		28,341

Annual depreciaton of equipment pro-rated for use in cowpea cultivation is 6,916 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in cowpea cultivation is 569 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment and oxen, in addition to the required downpayment investment. Equity investment is therefore 169,551 CFA francs. Interest on equity capital at 18% per annum is 4,519 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-143

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type II with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	20,000
Seed	12,880	Sales of Crop By-Products	90,000
Fertilizer	10,350	TOTAL CASH RECEIPTS	110,000
Insecticides and/or Other Treatments	16,200		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	5,694	Value of On-Farm Crop Consumption/Use	49,600
Equipment Repair and Maintenance	1,120	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	3,523		
TOTAL CASH EXPENSES	60,107		
Non-Cash Expenses			
Unpaid Family Labor	41,250		
Capital Recovery/ Equipment	4,381		
Capital Recovery/ Draft Animals	488		
Interest on Equity Capital @ 18%	3,183		
TOTAL NON-CASH EXPENSES	49,302	TOTAL NON-CASH RECEIPTS	127,600
TOTAL EXPENSES	109,409	TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	60,107
NET CASH INCOME PER HECTARE	49,893
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	109,409
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	128,191
EFFECTIVE WAGE RATE PER MAN-DAY	3,081

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

719

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of cowpeas, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 12,880 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 10,350 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 10 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three spraying of the crop are necessary. Total cost of the crop protection activities is 16,200 CFA francs (9 liters of insecticide at 1,800 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 40 days of use in animal traction crop activities. Of these total days, 9 days are for cowpea production on the one hectare for this enterprise budget. Total pro-rated cost for oxen maintenance for the cowpeas is 5,694 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rated cost for the cowpeas enterprise on a per hectare basis is estimated at 1,120 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 33,776 CFA francs. The pro-rata cost of the animal equipment package for one hectare of cowpeas grown is 3,523 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	8	2
Seeding/Thinning of Plants	2	0
1st Weeding/Replacement of Missing Plants	6	1
2nd Weeding	6	1
3rd Weeding	0	0
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	55	9

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	4	16	20
Animal-drawn Cart	5	15	95
Draft Animals	9	31	115

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	20.0
Animal-drawn Cart	5.3
Draft Animals	7.8

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	163,518 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	288,518 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	28,852 CFA francs
Total loan	259,666 CFA francs
Capital payment per year	64,917 CFA francs
Interest payment per year	31,581 CFA francs
Total annual payment	96,498 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	26,994	0	26,994	8 years	3,374
Cultivator Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	163,518		163,518		28,341

Annual depreciaton of equipment pro-rated for use in cowpea cultivation is 4,381 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in cowpea cultivation is 488 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment and oxen, in addition to the required downpayment investment. Equity investment is therefore 169,551 CFA francs. Interest on equity capital at 18% per annum is 3,183 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-144

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Cowpeas
Unit: Farm Type III with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	20,000
Seed	12,880	Sales of Crop By-Products	90,000
Fertilizer	10,350	TOTAL CASH RECEIPTS	110,000
Insecticides and/or Other Treatments	16,200		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	4,526	Value of On-Farm Crop Consumption/Use	49,600
Equipment Repair and Maintenance	753	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	8,500		
Interest Paid	2,499		
TOTAL CASH EXPENSES	57,433		
Non-Cash Expenses			
Unpaid Family Labor	41,250		
Capital Recovery/ Equipment	2,870		
Capital Recovery/ Draft Animals	388		
Interest on Equity Capital @ 18%	2,258		
TOTAL NON-CASH EXPENSES	46,766	TOTAL NON-CASH RECEIPTS	127,600
TOTAL EXPENSES	104,199	TOTAL RECEIPTS	237,600

Total Cash Receipts Per Hectare	110,000
Total Cash Expenses Per Hectare	57,433
NET CASH INCOME PER HECTARE	52,567
Total Receipts Per Hectare	237,600
Total Expenses Per Hectare	104,199
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	133,401
EFFECTIVE WAGE RATE PER MAN-DAY	3,175

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of cowpeas, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 35 kilograms of improved cowpea seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 12,880 CFA francs.

F. Fertilizer

Farm uses 50 kilograms of triple superphosphate (i.e. 22.5 kilograms of P_2O_5) per hectare of cowpeas sown. In addition, 10 kilograms of urea are used per hectare of cowpeas as a starter fertilizer for the crop. The total cost of these inorganic fertilizers per hectare of cowpeas is 10,350 CFA francs (50 kilograms of triple superphosphate at 172 CFA francs per kilogram and 10 kilograms of urea at 175 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses three liters of insecticide per hectare of cowpeas per spraying. Three spraying of the crop are necessary. Total cost of the crop protection activities is 16,200 CFA francs (9 liters of insecticide at 1,800 CFA per liter).

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 71 days of use in animal traction crop activities. Of these total days, 9 days are for cowpea production on the one hectare for this enterprise budget. Total pro-rated cost for oxen maintenance for the cowpeas is 4,526 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rated cost for the cowpeas enterprise on a per hectare basis is estimated at 753 CFA francs.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of grain sold and 5 CFA francs per packet of cowpea hay sold. Total cost for marketing the cowpea crop is 8,500 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 33,776 CFA francs. The pro-rata cost of the animal equipment package for one hectare of cowpeas grown is 2,499 CFA francs.

N. Use of Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of cowpeas grown is as follows:

Field Operation Performed	Number of Man-days	Number of Days of Animal Use
Land/Soil Preparation	8	2
Seeding/Thinning of Plants	2	0
1st Weeding/Replacement of Missing Plants	6	1
2nd Weeding	6	1
3rd Weeding	0	0
Crop Fertilization	2	0
Crop Protection	3	0
Harvesting/Grain Preparation	24	3
Marketing	4	2
Total	55	9

Estimated use of animal traction equipment per hectare of cowpeas grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Cowpeas	Use for All Other Crops	Total Use of Equipment
Crop Equipment	4	25	32
Animal-drawn Cart	5	30	114
Draft Animals	9	55	146

Percentages of total use pro-rated for cowpea production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Cowpeas
Crop Equipment	12.5
Animal-drawn Cart	4.4
Draft Animals	6.2

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteuts"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	163,518 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	288,518 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	28,852 CFA francs
Total loan	259,666 CFA francs
Capital payment per year	64,917 CFA francs
Interest payment per year	31,581 CFA francs
Total annual payment	96,498 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	26,994	0	26,994	8 years	3,374
Cultivator Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	163,518		163,518		28,341

Annual depreciaton of equipment pro-rated for use in cowpea cultivation is 2,870 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in cowpea cultivation is 388 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment and oxen, in addition to the required downpayment investment. Equity investment is therefore 169,551 CFA francs. Interest on equity capital at 18% per annum is 2,258 CFA francs.

R. Cash Receipts

Estimated cowpea yield per hectare is 696 kilograms of grain and 2.8 tons of cowpea hay. The farm sells at least enough cowpeas and cowpea hay on a per hectare basis to cover the crop production cash expenses. Cash value of cowpea sales per hectare is 110,000 CFA francs (200 kilograms of cowpeas at 100 CFA francs per kilogram and 1.5 tons of cowpea hay at 60,000 CFA francs per ton).

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 496 kilograms of cowpeas per hectare cultivated. Total value of this grain is 49,600 CFA francs at 100 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of cowpea hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-145

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type I with Traditional Technology
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	35,000
Seed	2,400	Crop Sales to Private Markets	0
Fertilizer	0	Sales of Crop By-Products	60,000
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	95,000
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	15,400
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	72,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	8,200		
Non-Cash Expenses			
Unpaid Family Labor	103,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	103,000	TOTAL NON-CASH RECEIPTS	87,400
TOTAL EXPENSES	111,200	TOTAL RECEIPTS	182,400

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	8,200
NET CASH INCOME PER HECTARE	86,800
Total Receipts Per Hectare	182,400
Total Expenses Per Hectare	111,200
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	71,200
EFFECTIVE WAGE RATE PER MAN-DAY	1,691

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

126

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 2.7 hectares of millet and peanuts in association, 0.2 hectares of sorghum in pure stand, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 30 kilograms of local peanut seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), and 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	10
Ridging	8
Crop Fertilization	0
Crop Protection	0
Harvesting	16
Marketing	5
Total	103

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals maintained on the farm.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated peanut yield per hectare is 720 kilograms of peanuts in the shell and 2.2 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 220 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 15,400 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.2 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 72,000 CFA francs.

Table B-146

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type II with Traditional Technology
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	35,000
Seed	2,400	Crop Sales to Private Markets	0
Fertilizer	0	Sales of Crop By-Products	60,000
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	95,000
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	15,400
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	72,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	7,740		
Non-Cash Expenses			
Unpaid Family Labor	103,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	103,000	TOTAL NON-CASH RECEIPTS	87,400
TOTAL EXPENSES	110,740	TOTAL RECEIPTS	182,400

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	7,740
NET CASH INCOME PER HECTARE	87,260
Total Receipts Per Hectare	182,400
Total Expenses Per Hectare	110,740
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	71,660
EFFECTIVE WAGE RATE PER MAN-DAY	1,696

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 4.5 hectares of millet and peanuts in association, 0.35 hectares of sorghum in pure stand, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 30 kilograms of local peanut seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), and 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	10
Ridging	8
Crop Fertilization	0
Crop Protection	0
Harvesting	16
Marketing	5
Total	103

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

Farm has no equity capital investment.

R. Cash Receipts

Estimated peanut yield per hectare is 720 kilograms of peanuts in the shell and 2.2 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 220 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 15,400 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.2 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 72,000 CFA francs.

Table B-147

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type III with Traditional Technology
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	35,000
Seed	2,400	Crop Sales to Private Markets	0
Fertilizer	0	Sales of Crop By-Products	60,000
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	95,000
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	15,400
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	72,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	7,625		
Non-Cash Expenses			
Unpaid Family Labor	103,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	103,000	TOTAL NON-CASH RECEIPTS	87,400
TOTAL EXPENSES	110,625	TOTAL RECEIPTS	182,400

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	7,625
NET CASH INCOME PER HECTARE	87,375
Total Receipts Per Hectare	182,400
Total Expenses Per Hectare	110,625
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	71,775
EFFECTIVE WAGE RATE PER MAN-DAY	1,697

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 7.3 hectares of millet and peanuts in association, 0.5 hectares of sorghum in pure stand, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 30 kilograms of local peanut seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), and 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	10
Ridging	8
Crop Fertilization	0
Crop Protection	0
Harvesting	16
Marketing	5
Total	103

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 720 kilograms of peanuts in the shell and 2.2 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 220 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 15,400 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.2 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 72,000 CFA francs.

Table B-148

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type I with Partial Package Adoption
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	35,000
Seed	11,250	Crop Sales to Private Markets	0
Fertilizer	1,530	Sales of Crop By-Products	60,000
Insecticides and/or Other Treatments	360	TOTAL CASH RECEIPTS	95,000
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	24,850
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	96,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	18,940		
Non-Cash Expenses			
Unpaid Family Labor	108,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	108,000	TOTAL NON-CASH RECEIPTS	120,850
TOTAL EXPENSES	126,940	TOTAL RECEIPTS	215,850

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	18,940
NET CASH INCOME PER HECTARE	76,060
Total Receipts Per Hectare	215,850
Total Expenses Per Hectare	126,940
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	88,910
EFFECTIVE WAGE RATE PER MAN-DAY	1,823

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of peanuts, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 11,250 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 1,530 CFA francs (34 kilograms of triple superphosphate at 45 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 360 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), and 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	10
Ridging	8
Crop Fertilization	1
Crop Protection	0
Harvesting	20
Marketing	5
Total	108

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 855 kilograms of peanuts in the shell and 2.6 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 355 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 24,850 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.6 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 96,000 CFA francs.

Table B-149

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type II with Partial Package Adoption
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	35,000
Seed	11,250	Crop Sales to Private Markets	0
Fertilizer	1,530	Sales of Crop By-Products	60,000
Insecticides and/or Other Treatments	360	TOTAL CASH RECEIPTS	95,000
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	24,850
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	96,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	18,480		
Non-Cash Expenses			
Unpaid Family Labor	108,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	108,000	TOTAL NON-CASH RECEIPTS	120,850
TOTAL EXPENSES	126,480	TOTAL RECEIPTS	215,850

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	18,480
NET CASH INCOME PER HECTARE	76,520
Total Receipts Per Hectare	215,850
Total Expenses Per Hectare	126,480
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	89,370
EFFECTIVE WAGE RATE PER MAN-DAY	1,828

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of peanuts, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 11,250 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 1,530 CFA francs (34 kilograms of triple superphosphate at 45 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 366 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), and 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	10
Ridging	8
Crop Fertilization	1
Crop Protection	0
Harvesting	20
Marketing	5
Total	108

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 855 kilograms of peanuts in the shell and 2.6 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.2 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 355 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 24,850 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.6 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 96,000 CFA francs.

Table B-150

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type III with Partial Package Adoption
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	35,000
Seed	11,250	Crop Sales to Private Markets	0
Fertilizer	1,530	Sales of Crop By-Products	60,000
Insecticides and/or Other Treatments	360	TOTAL CASH RECEIPTS	95,000
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	24,850
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	96,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	18,365		
Non-Cash Expenses			
Unpaid Family Labor	108,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	108,000	TOTAL NON-CASH RECEIPTS	120,850
TOTAL EXPENSES	126,365	TOTAL RECEIPTS	215,850

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	18,365
NET CASH INCOME PER HECTARE	76,635
Total Receipts Per Hectare	215,850
Total Expenses Per Hectare	126,365
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	89,485
EFFECTIVE WAGE RATE PER MAN-DAY	1,829

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

116

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectare of peanuts, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 11,250 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 1,530 CFA francs (34 kilograms of triple superphosphate at 45 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 360 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), and 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	10
Ridging	8
Crop Fertilization	1
Crop Protection	0
Harvesting	20
Marketing	5
Total	108

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 855 kilograms of peanuts in the shell and 2.6 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 355 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 24,850 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.6 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 96,000 CFA francs.

Table B-151

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type I with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES

Cash Expenses

Wage Labor	0
Seed	11,250
Fertilizer	1,530
Insecticides and/or Other Treatments	360
Expendable Hand Tools	2,300
Draft Animal Maintenance	1,369
Equipment Repair and Maintenance	1,115
Other Cash Costs	0
Crop Marketing Costs	5,000
Interest Paid	1,590
TOTAL CASH EXPENSES	24,514

Non-Cash Expenses

Unpaid Family Labor	77,000
Capital Recovery/ Equipment	3,341
Capital Recovery/ Draft Animals	600
Interest on Equity Capital @ 18%	2,882
TOTAL NON-CASH EXPENSES	83,823
TOTAL EXPENSES	108,337

RECEIPTS

Cash Receipts

Crop Sales to Government Agencies	49,000
Crop Sales to Private Markets	0
Sales of Crop By-Products	90,000
TOTAL CASH RECEIPTS	139,000

Non-Cash Receipts

Value of On-Farm Crop Consumption/Use	21,000
Value of On-Farm Use of Crop By-Products	90,000
TOTAL NON-CASH RECEIPTS	110,000
TOTAL RECEIPTS	250,000

Total Cash Receipts Per Hectare	139,000
Total Cash Expenses Per Hectare	24,514
NET CASH INCOME PER HECTARE	114,486
Total Receipts Per Hectare	250,000
Total Expenses Per Hectare	108,337
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	141,663
EFFECTIVE WAGE RATE PER MAN-DAY	2,840

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

-150

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of peanuts, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 11,250 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 1,530 CFA francs (34 kilograms of triple superphosphate at 45 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 360 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 45 days of use in animal traction crop activities. Of these total days, 18 days are for peanut production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the peanut is 1,369 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the peanut enterprise on a per hectare basis is estimated at 1,115 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in th shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 5,000 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rata cost of the animal equipment package for one hectare of peanuts grown is 1,590 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Seeding	9	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	77	18

Estimated use of animal traction equipment per hectare of peanuts grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Peanuts	Use for All Other Crops	Total Use of Equipment
Crop Equipment	13	24	33
Animal-drawn Cart	5	9	87
Draft Animals	18	33	120

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	39.4
Animal-drawn Cart	15.2
Draft Animals	15.0

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Cultivator Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciation of equipment pro-rated for use in Peanut cultivation is 3,341 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in Peanut cultivation is 600 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment of 10% of the equipment and the full cost of the donkey. Equity investment is therefore 80,853 CFA francs. Interest of equity capital at 18% per annum is 2,882 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 1,000 kilograms of peanuts in the shell and 3.0 tons of peanut hay. The farm sells 700 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 49,000 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 300 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 21,000 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.5 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 90,000 CFA francs.

Table B-152

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type II with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	49,000
Seed	11,250	Crop Sales to Private Markets	0
Fertilizer	1,530	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	360	TOTAL CASH RECEIPTS	139,000
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	1,086	Value of On-Farm Crop Consumption/Use	21,000
Equipment Repair and Maintenance	523	Value of On-Farm Use of Crop By Products	90,000
Other Cash Costs	0		
Crop Marketing Costs	5,000		
Interest Paid	745		
TOTAL CASH EXPENSES	22,334		
Non-Cash Expenses			
Unpaid Family Labor	77,000		
Capital Recovery/ Equipment	1,633		
Capital Recovery/ Draft Animals	476		
Interest on Equity Capital @ 18%	1,570		
TOTAL NON-CASH EXPENSES	80,679	TOTAL NON-CASH RECEIPTS	110,000
TOTAL EXPENSES	103,013	TOTAL RECEIPTS	250,000

Total Cash Receipts Per Hectare	139,000
Total Cash Expenses Per Hectare	22,334
NET CASH INCOME PER HECTARE	116,666
Total Receipts Per Hectare	250,000
Total Expenses Per Hectare	103,013
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	146,987
EFFECTIVE WAGE RATE PER MAN-DAY	2,909

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of peanuts, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 11,250 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 1,530 CFA francs (34 kilograms of triple superphosphate at 45 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 360 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 76 days of use in animal traction crop activities. Of these total days, 18 days are for peanut production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the peanut is 1,086 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the peanut enterprise on a per hectare basis is estimated at 523 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 5,000 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rata cost of the animal equipment package for one hectare of peanuts grown is 745 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Seeding	9	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	77	18

Estimated use of animal traction equipment per hectare of peanuts grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Peanuts	Use for All Other Crops	Total Use of Equipment
Crop Equipment	13	43	56
Animal-drawn Cart	5	15	95
Draft Animals	18	58	151

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	23.2
Animal-drawn Cart	5.3
Draft Animals	11.9

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Cultivator Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciation of equipment pro-rated for use in Peanut cultivation is 1,633 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in Peanut cultivation is 476 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment of 10% of the equipment and the full cost of the donkey. Equity investment is therefore 80,853 CFA francs. Interest on equity capital at 18% per annum is 1,570 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 1,000 kilograms of peanuts in the shell and 3.0 tons of peanut hay. The farm sells 700 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 49.000 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 300 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 21,000 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.5 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 90,000 CFA francs.

Table B-153

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type III with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	49,000
Seed	11,250	Crop Sales to Private Markets	0
Fertilizer	1,530	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	360	TOTAL CASH RECEIPTS	139,000
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	830	Value of On-Farm Crop Consumption/Use	21,000
Equipment Repair and Maintenance	372	Value of On-Farm Use of Crop By-Products	90,000
Other Cash Costs	0		
Crop Marketing Costs	5,000		
Interest Paid	531		
TOTAL CASH EXPENSES	21,598		
Non-Cash Expenses			
Unpaid Family Labor	77,000		
Capital Recovery/ Equipment	1,134		
Capital Recovery/ Draft Animals	364		
Interest on Equity Capital @ 18%	1,147		
TOTAL NON-CASH EXPENSES	79,645	TOTAL NON-CASH RECEIPTS	110,000
TOTAL EXPENSES	101,243	TOTAL RECEIPTS	250,000

Total Cash Receipts Per Hectare	139,000
Total Cash Expenses Per Hectare	21,598
NET CASH INCOME PER HECTARE	117,402
Total Receipts Per Hectare	250,000
Total Expenses Per Hectare	101,243
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	148,757
EFFECTIVE WAGE RATE PER MAN-DAY	2,932

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of peanuts, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 11,250 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 1,530 CFA francs (34 kilograms of triple superphosphate at 45 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 360 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 123 days of use in animal traction crop activities. Of these total days, 18 days are for peanut production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the peanuts per hectare is 830 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rated cost for the peanut enterprise on a per hectare basis is estimated at 372 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 5,000 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rata cost of the animal equipment package for one hectare of peanuts grown is 531 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Seeding	9	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	77	18

Estimated use of animal traction equipment per hectare of peanuts grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Peanuts	Use for All Other Crops	Total Use of Equipment
Crop Equipment	13	67	90
Animal-drawn Cart	5	24	108
Draft Animals	18	91	198

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	14.4
Animal-drawn Cart	4.6
Draft Animals	9.1

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Cultivator Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciation of equipment pro-rated for use in Peanut cultivation is 1,134 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in Peanut cultivation is 364 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment of 10% of the equipment and the full cost of the donkey. Equity investment is therefore 80,853 CFA francs. Interest of equity capital at 18% per annum is 1,147 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 1,000 kilograms of peanuts in the shell and 3.0 tons of peanut hay. The farm sells 700 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 49,000 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 300 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 21,000 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.5 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 90,000 CFA francs.

Table B-154

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type I with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	49,000
Seed	11,250	Crop Sales to Private Markets	0
Fertilizer	1,530	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	360	TOTAL CASH RECEIPTS	139,000
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	10,220	Value of On-Farm Crop Consumption/Use	21,000
Equipment Repair and Maintenance	992	Value of On-Farm Use of Crop By-Products	90,000
Other Cash Costs	0		
Crop Marketing Costs	5,000		
Interest Paid	2,665		
TOTAL CASH EXPENSES	34,317		
Non-Cash Expenses			
Unpaid Family Labor	67,000		
Capital Recovery/ Equipment	3,886		
Capital Recovery/ Draft Animals	875		
Interest on Equity Capital @ 18%	3,700		
TOTAL NON-CASH EXPENSES	75,461	TOTAL NON-CASH RECEIPTS	111,000
TOTAL EXPENSES	109,778	TOTAL RECEIPTS	250,000

Total Cash Receipts Per Hectare	139,000
Total Cash Expenses Per Hectare	34,317
NET CASH INCOME PER HECTARE	104,683
Total Receipts Per Hectare	250,000
Total Expenses Per Hectare	109,778
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	140,222
EFFECTIVE WAGE RATE PER MAN-DAY	3,093

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of peanuts, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 11,250 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 1,530 CFA francs (34 kilograms of triple superphosphate at 45 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 360 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members of hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 32 days of use in animal traction crop activities. Of these total days, 15 days are for peanut production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the peanuts is 10,220 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rated cost for the peanut enterprise on a per hectare basis is estimated at 992 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 5,000 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 17,271 CFA francs. The pro-rated cost of the animal equipment package for one hectare of peanuts grown is 2,665 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Seeding	9	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	67	15

Estimated use of animal traction equipment per hectare of peanuts grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Peanuts	Use for All Other Crops	Total Use of Equipment
Crop Equipment	10	13	20
Animal-drawn Cart	5	9	87
Draft Animals	15	22	107

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	50.0
Animal-drawn Cart	5.7
Draft Animals	14.0

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Charrue"/Plow	6,715
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	117,195 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	242,195 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	24,220 CFA francs
Total loan	217,975 CFA francs
Capital payment per year	54,494 CFA francs
Interest payment per year	17,271 CFA francs
Total annual payment	71,765 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Plow	6,715	0	6,715	8 years	839
Cultivator	9,180	0	9,180	8 years	1,148
Cultivator Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	117,195		117,195		17,463

Annual depreciation of equipment pro-rated for use in Peanut cultivation is 3,886 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in Peanut cultivation is 875 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment and oxen, in addition to the required 10% downpayment investment. Equity investment is therefore 133,208 CFA francs. Interest of equity capital at 18% per annum is 3,700 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 1,000 kilograms of peanuts in the shell and 3.0 tons of peanut hay. The farm sells 700 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 49,000 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 300 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 21,000 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.5 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 90,000 CFA francs.

Table B-155

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type II with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	49,000
Seed	11,250	Crop Sales to Private Markets	0
Fertilizer	1,530	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	360	TOTAL CASH RECEIPTS	139,000
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	8,541	Value of On-Farm Crop Consumption/Use	21,000
Equipment Repair and Maintenance	677	Value of On-Farm Use of Crop By-Products	90,000
Other Cash Costs	0		
Crop Marketing Costs	5,000		
Interest Paid	2,004		
TOTAL CASH EXPENSES	31,202		
Non-Cash Expenses			
Unpaid Family Labor	67,000		
Capital Recovery/ Equipment	2,537		
Capital Recovery/ Draft Animals	731		
Interest on Equity Capital @ 18%	2,791		
TOTAL NON-CASH EXPENSES	73,059	TOTAL NON-CASH RECEIPTS	111,000
TOTAL EXPENSES	104,261	TOTAL RECEIPTS	250,000

Total Cash Receipts Per Hectare	139,000
Total Cash Expenses Per Hectare	31,202
NET CASH INCOME PER HECTARE	107,798
Total Receipts Per Hectare	250,000
Total Expenses Per Hectare	104,261
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	145,739
EFFECTIVE WAGE RATE PER MAN-DAY	3,175

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of peanuts, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 11,250 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 1,530 CFA francs (34 kilograms of triple superphosphate at 45 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 360 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members of hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 53 days of use in animal traction crop activities. Of these total days, 15 days are for peanut production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the peanuts is 8,541 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rated cost for the peanut enterprise on a per hectare basis is estimated at 677 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 5,000 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 17,271 CFA francs. The pro-rated cost of the animal equipment package for one hectare of peanuts grown is 2,004 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Seeding	9	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Ridging	4	1
Crop Fertilization	1	2
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	67	15

Estimated use of animal traction equipment per hectare of peanuts grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Peanuts	Use for All Other Crops	Total Use of Equipment
Crop Equipment	10	23	33
Animal-drawn Cart	5	15	95
Draft Animals	15	38	128

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	30.0
Animal-drawn Cart	5.3
Draft Animals	11.7

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Charrue"/Plow	6,715
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	117,195 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	242,195 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	24,220 CFA francs
Total loan	217,975 CFA francs
Capital payment per year	54,494 CFA francs
Interest payment per year	17,271 CFA francs
Total annual payment	71,765 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Plow	6,715	0	6,715	8 years	839
Cultivator	9,180	0	9,180	8 years	1,148
Cultivator Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	117,195		117,195		17,463

Annual depreciation of equipment pro-rated for use in Peanut cultivation is 2,537 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in Peanut cultivation is 731 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment and oxen, in addition to the required 10% downpayment investment. Equity investment is therefore 133,208 CFA francs. Interest of equity capital at 18% per annum is 2,791 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 1,000 kilograms of peanuts in the shell and 3.0 tons of peanut hay. The farm sells 700 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 49,000 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 300 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 21,000 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.5 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 90,000 CFA francs.

Table B-156

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type III with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 millimeters)

EXPENSES

Cash Expenses

Wage Labor	0
Seed	11,250
Fertilizer	1,530
Insecticides and/or Other Treatments	360
Expendable Hand Tools	1,725
Draft Animal Maintenance	6,716
Equipment Repair and Maintenance	472
Other Cash Costs	0
Crop Marketing Costs	5,000
Interest Paid	1,493
TOTAL CASH EXPENSES	28,546

Non-Cash Expenses

Unpaid Family Labor	67,000
Capital Recovery/ Equipment	1,691
Capital Recovery/ Draft Animals	575
Interest on Equity Capital @ 18%	2,073
TOTAL NON-CASH EXPENSES	71,339
TOTAL EXPENSES	99,885

RECEIPTS

Cash Receipts

Crop Sales to Government Agencies	49,000
Crop Sales to Private Markets	0
Sales of Crop By-Products	90,000
TOTAL CASH RECEIPTS	139,000

Non-Cash Receipts

Value of On-Farm Crop Consumption/Use	21,000
Value of On-Farm Use of Crop By-Products	90,000
TOTAL NON-CASH RECEIPTS	111,000
TOTAL RECEIPTS	250,000

Total Cash Receipts Per Hectare	139,000
Total Cash Expenses Per Hectare	28,546
NET CASH INCOME PER HECTARE	110,454
Total Receipts Per Hectare	250,000
Total Expenses Per Hectare	99,885
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	150,115
EFFECTIVE WAGE RATE PER MAN-DAY	3,241

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of peanuts, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 11,250 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 1,530 CFA francs (34 kilograms of triple superphosphate at 45 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 360 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members of hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 88 days of use in animal traction crop activities. Of these total days, 15 days are for peanut production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the peanuts is 6,716 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rated cost for the peanut enterprise on a per hectare basis is estimated at 472 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 5,000 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 17,271 CFA francs. The pro-rated cost of the animal equipment package for one hectare of peanuts grown is 1,493 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Seeding	9	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Ridging	4	1
Crop Fertilization	1	2
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	67	15

Estimated use of animal traction equipment per hectare of peanuts grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Peanuts	Use for All Other Crops	Total Use of Equipment
Crop Equipment	10	37	55
Animal-drawn Cart	5	24	108
Draft Animals	15	61	163

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	18.2
Animal-drawn Cart	4.6
Draft Animals	9.2

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Financial Price
"Bati de Base et Chaine'/Base Equipment	6,300 CFA francs
"Charrue"/Plow	6,715
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Deux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	117,195 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	242,195 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	24,220 CFA francs
Total loan	217,975 CFA francs
Capital payment per year	54,494 CFA francs
Interest payment per year	17,271 CFA francs
Total annual payment	71,765 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Plow	6,715	0	6,715	8 years	839
Cultivator	9,180	0	9,180	8 years	1,148
Cultivator Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	117,195		117,195		17,463

Annual depreciation of equipment pro-rated for use in Peanut cultivation is 1,691 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in Peanut cultivation is 575 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment and oxen, in addition to the required 10% downpayment investment. Equity investment is therefore 133,208 CFA francs. Interest of equity capital at 18% per annum is 2,073 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 1,000 kilograms of peanuts in the shell and 3.0 tons of peanut hay. The farm sells 700 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 49,000 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 300 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 21,000 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.5 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 90,000 CFA francs.

Table B-157

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type I with Traditional Technology
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	35,000
Seed	2,400	Crop Sales to Private Markets	0
Fertilizer	0	Sales of Crop By-Products	60,000
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	95,000
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	9,450
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	54,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	8,200		
Non-Cash Expenses			
Unpaid Family Labor	66,750		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	66,750	TOTAL NON-CASH RECEIPTS	63,450
TOTAL EXPENSES	74,950	TOTAL RECEIPTS	158,450

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	8,200
NET CASH INCOME PER HECTARE	86,800
Total Receipts Per Hectare	158,450
Total Expenses Per Hectare	74,950
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	83,500
EFFECTIVE WAGE RATE PER MAN-DAY	1,688

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 2.7 hectares of millet and peanuts in association, 0.2 hectares of sorghum in pure stand, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 30 kilograms of local peanut seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), and 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	0
Ridging	8
Crop Fertilization	0
Crop Protection	0
Harvesting	12
Marketing	5
Total	89

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 635 kilograms of peanuts in the shell and 1.9 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 135 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 9,450 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available .9 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 54,000 CFA francs.

Table B-158

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type II with Traditional Technology
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	35,000
Seed	2,400	Crop Sales to Private Markets	0
Fertilizer	0	Sales of Crop By-Products	60,000
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	95,000
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	9,450
Equipment Repair and Maintenance	0	Value of On-Far Use of Crop By-Products	54,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	7,740		
Non-Cash Expenses			
Unpaid Family Labor	66,750		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	66,750	TOTAL NON-CASH RECEIPTS	63,450
TOTAL EXPENSES	74,490	TOTAL RECEIPTS	158,450

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	7,740
NET CASH INCOME PER HECTARE	87,260
Total Receipts Per Hectare	158,450
Total Expenses Per Hectare	74,490
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	83,960
EFFECTIVE WAGE RATE PER MAN-DAY	1,693

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 4.5 hectares of millet and peanuts in association, 0.35 hectares of sorghum in pure stand, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 30 kilograms of local peanut seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), and 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	0
Ridging	8
Crop Fertilization	0
Crop Protection	0
Harvesting	12
Marketing	5
Total	89

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 635 kilograms of peanuts in the shell and 1.9 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 135 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 9,450 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available .9 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 54,000 CFA francs.

Table B-159

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type III with Traditional Technology
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	35,000
Seed	2,400	Crop Sales to Private Markets	0
Fertilizer	0	Sales of Crop By-Products	60,000
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	95,000
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	9,450
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	54,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	7,625		
Non-Cash Expenses			
Unpaid Family Labor	66,750		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	66,750	TOTAL NON-CASH RECEIPTS	63,450
TOTAL EXPENSES	74,375	TOTAL RECEIPTS	158,450

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	7,625
NET CASH INCOME PER HECTARE	87,375
Total Receipts Per Hectare	158,450
Total Expenses Per Hectare	74,375
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	84,075
EFFECTIVE WAGE RATE PER MAN-DAY	1,695

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 7 [illegible] hectares of millet and peanuts in association, 0.5 hec[illegible] of sorghum in pure stand, and 0.2 hectares to all othe[illegible].

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 30 kilograms of local peanut seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), and 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	0
Ridging	8
Crop Fertilization	0
Crop Protection	0
Harvesting	12
Marketing	5
Total	89

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 635 kilograms of peanuts in the shell and 1.9 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 135 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 9,450 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available .9 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 54,000 CFA francs.

Table B-160

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type I with Partial Package Adoption
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	35,000
Seed	11,250	Crop Sales to Private Markets	0
Fertilizer	1,530	Sales of Crop By-Products	60,000
Insecticides and/or Other Treatments	360	TOTAL CASH RECEIPTS	95,000
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	18,900
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	18,940		
Non-Cash Expenses			
Unpaid Family Labor	70,500		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	70,500	TOTAL NON-CASH RECEIPTS	96,900
TOTAL EXPENSES	89,440	TOTAL RECEIPTS	191,900

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	18,940
NET CASH INCOME PER HECTARE	76,060
Total Receipts Per Hectare	191,900
Total Expenses Per Hectare	89,440
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	102,460
EFFECTIVE WAGE RATE PER MAN-DAY	1,840

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of peanuts, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 11,250 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 1,530 CFA francs (34 kilograms of triple superphosphate at 45 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 360 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), and 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	0
Ridging	8
Crop Fertilization	1
Crop Protection	0
Harvesting	16
Marketing	5
Total	94

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 770 kilograms of peanuts in the shell and 2.3 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 270 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 18,900 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-161

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type II with Partial Package Adoption
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	35,000
Seed	11,250	Crop Sales to Private Markets	0
Fertilizer	1,530	Sales of Crop By-Products	60,000
Insecticides and/or Other Treatments	360	TOTAL CASH RECEIPTS	95,000
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	18,900
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	18,480		
Non-Cash Expenses			
Unpaid Family Labor	70,500		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	70,500	TOTAL NON-CASH RECEIPTS	96,900
TOTAL EXPENSES	88,980	TOTAL RECEIPTS	191,900

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	18,480
NET CASH INCOME PER HECTARE	76,520
Total Receipts Per Hectare	191,900
Total Expenses Per Hectare	88,980
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	102,920
EFFECTIVE WAGE RATE PER MAN-DAY	1,845

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of peanuts, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 11,250 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 1,530 CFA francs (34 kilograms of triple superphosphate at 45 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 360 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), and 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	0
Ridging	8
Crop Fertilization	1
Crop Protection	0
Harvesting	16
Marketing	5
Total	94

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 770 kilograms of peanuts in the shell and 2.3 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 78,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 270 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 18,900 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-162

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type III with Partial Package Adoption
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	35,000
Seed	11,250	Crop Sales to Private Markets	0
Fertilizer	1,530	Sales of Crop By-Products	60,000
Insecticides and/or Other Treatments	360	TOTAL CASH RECEIPTS	95,000
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	18,900
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	18,365		
Non-Cash Expenses			
Unpaid Family Labor	70,500		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	70,500	TOTAL NON-CASH RECEIPTS	96,900
TOTAL EXPENSES	88,865	TOTAL RECEIPTS	191,900

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	18,365
NET CASH INCOME PER HECTARE	76,635
Total Receipts Per Hectare	191,900
Total Expenses Per Hectare	88,865
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	103,035
EFFECTIVE WAGE RATE PER MAN-DAY	1,846

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectare of peanuts, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 11,250 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 1,530 CFA francs (34 kilograms of triple superphosphate at 45 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 360 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), and 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation	Number of Man-days Needed
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	0
Ridging	8
Crop Fertilization	1
Crop Protection	0
Harvesting	16
Marketing	5
Total	94

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 770 kilograms of peanuts in the shell and 2.3 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 270 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 18,900 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-163

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type I with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	43,960
Seed	11,250	Crop Sales to Private Markets	0
Fertilizer	1,530	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	360	TOTAL CASH RECEIPTS	133,960
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	1,122	Value of On-Farm Crop Consumption/Use	18,830
Equipment Repair and Maintenance	5[illegible]	Value of On-Farm Use of Crop By-Products	72,000
Other Cash Costs	0		
Crop Marketing Costs	4,640		
Interest Paid	1,153		
TOTAL CASH EXPENSES	22,952		
Non-Cash Expenses			
Unpaid Family Labor	63,000		
Capital Recovery/ Equipment	2,615		
Capital Recovery/ Draft Animals	492		
Interest on Equity Capital @ 18%	2,154		
TOTAL NON-CASH EXPENSES	68,261	TOTAL NON-CASH RECEIPTS	90,830
TOTAL EXPENSES	91,213	TOTAL RECEIPTS	224,790

Total Cash Receipts Per Hectare	133,960
Total Cash Expenses Per Hectare	22,952
NET CASH INCOME PER HECTARE	111,008
Total Receipts Per Hectare	224,790
Total Expenses Per Hectare	91,213
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	133,577
EFFECTIVE WAGE RATE PER MAN-DAY	3,120

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of peanuts, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 11,250 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 1,530 CFA francs (34 kilograms of triple superphosphate at 45 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 360 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 31 days of use in animal traction crop activities. Of these total days, 13 days are for peanut production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the peanut is 1,122 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the peanut enterprise on a per hectare basis is estimated at 597 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 4,640 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rata cost of the animal equipment package for one hectare of peanuts grown is 1,153 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Seeding	9	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	0	0
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	63	13

Estimated use of animal traction equipment per hectare of peanuts grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Peanuts	Use for All Other Crops	Total Use of Equipment
Crop Equipment	8	13	19
Animal-drawn Cart	5	9	87
Draft Animals	13	22	106

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	42.1
Animal-drawn Cart	5.8
Draft Animals	12.3

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Cultivator Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciation of equipment pro-rated for use in Peanut cultivation is 2,615 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in Peanut cultivation is 492 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment of 10% of the equipment and the full cost of the donkey. Equity investment is therefore 80,853 CFA francs. Interest of equity capital at 18% per annum is 2,154 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 897 kilograms of peanuts in the shell and 2.7 tons of peanut hay. The farm sells 628 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 43,960 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 269 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 18,830 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.2 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 72,000 CFA francs.

Table B-164

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type II with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	43,960
Seed	11,250	Crop Sales to Private Markets	0
Fertilizer	1,530	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	360	TOTAL CASH RECEIPTS	133,960
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	940	Value of On-Farm Crop Consumption/Use	18,830
Equipment Repair and Maintenance	560	Value of On-Farm Use of Crop By-Products	72,000
Other Cash Costs	0		
Crop Marketing Costs	4,640		
Interest Paid	798		
TOTAL CASH EXPENSES	21,918		
Non-Cash Expenses			
Unpaid Family Labor	63,000		
Capital Recovery/ Equipment	1,762		
Capital Recovery/ Draft Animals	412		
Interest on Equity Capital @ 18%	1,571		
TOTAL NON-CASH EXPENSES	66,745	TOTAL NON-CASH RECEIPTS	90,830
TOTAL EXPENSES	88,663	TOTAL RECEIPTS	224,790

Total Cash Receipts Per Hectare	133,960
Total Cash Expenses Per Hectare	21,918
NET CASH INCOME PER HECTARE	112,042
Total Receipts Per Hectare	224,790
Total Expenses Per Hectare	88,663
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	136,127
EFFECTIVE WAGE RATE PER MAN-DAY	3,161

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of peanuts, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 11,250 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 1,530 CFA francs (34 kilograms of triple superphosphate at 45 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 360 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 51 days of use in animal traction crop activities. Of these total days, 13 days are for peanut production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the peanut is 940 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rata cost for the peanut enterprise on a per hectare basis is estimated at 560 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 4,640 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rata cost of the animal equipment package for one hectare of peanuts grown is 798 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Seeding	9	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	0	0
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	63	13

Estimated use of animal traction equipment per hectare of peanuts grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Peanuts	Use for All Other Crops	Total Use of Equipment
Crop Equipment	8	23	31
Animal-drawn Cart	5	15	95
Draft Animals	13	38	126

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	25.8
Animal-drawn Cart	5.3
Draft Animals	10.3

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Cultivator Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciation of equipment pro-rated for use in Peanut cultivation is 1,762 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in Peanut cultivation is 412 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment of 10% of the equipment and the full cost of the donkey. Equity investment is therefore 80,853 CFA francs. Interest of equity capital at 18% per annum is 1,571 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 897 kilograms of peanuts in the shell and 2.7 tons of peanut hay. The farm sells 628 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 43,960 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 269 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 18,830 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.2 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 72,000 CFA francs.

Table B-165

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type III with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	43,960
Seed	11,250	Crop Sales to Private Markets	0
Fertilizer	1,530	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	360	TOTAL CASH RECEIPTS	133,960
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	748	Value of On-Farm Crop Consumption/Use	18,830
Equipment Repair and Maintenance	391	Value of On-Farm Use of Crop By-Products	72,000
Other Cash Costs	0		
Crop Marketing Costs	4,640		
Interest Paid	557		
TOTAL CASH EXPENSES	21,201		
Non-Cash Expenses			
Unpaid Family Labor	63,000		
Capital Recovery/ Equipment	1,198		
Capital Recovery/ Draft Animals	328		
Interest on Equity Capital @ 18%	1,143		
TOTAL NON-CASH EXPENSES	65,669	TOTAL NON-CASH RECEIPTS	90,830
TOTAL EXPENSES	86,870	TOTAL RECEIPTS	224,790

Total Cash Receipts Per Hectare	133,960
Total Cash Expenses Per Hectare	21,201
NET CASH INCOME PER HECTARE	112,759
Total Receipts Per Hectare	224,790
Total Expenses Per Hectare	86,870
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	137,920
EFFECTIVE WAGE RATE PER MAN-DAY	3,189

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of peanuts, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 11,250 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 1,530 CFA francs (34 kilograms of triple superphosphate at 45 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 360 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 84 days of use in animal traction crop activities. Of these total days, 13 days are for peanut production on the one hectare for this enterprise budget. Total pro-rata cost for donkey maintenance for the peanut is 748 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rated cost for the peanut enterprise on a per hectare basis is estimated at 391 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 4,640 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 7,241 CFA francs. The pro-rata cost of the animal equipment package for one hectare of peanuts grown is 557 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Seeding	9	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	0	0
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	63	13

Estimated use of animal traction equipment per hectare of peanuts grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Peanuts	Use for All Other Crops	Total Use of Equipment
Crop Equipment	8	37	51
Animal-drawn Cart	5	24	108
Draft Animals	13	61	159

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	15.7
Animal-drawn Cart	4.6
Draft Animals	8.2

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	5,635
"Houe Asines"/Donkey Toolbar	12,665
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Charrette Asine"/Donkey Cart	73,200
Sub-total for equipment	101,550 CFA francs
One donkey	25,000 CFA francs
Grand total for package	126,550 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	35,155 CFA francs
Total loan	91,395 CFA francs
Capital payment per year	22,849 CFA francs
Interest payment per year	7,241 CFA francs
Total annual payment	30,090 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	5,635	0	5,635	8 years	704
Donkey Toolbar	12,665	0	12,665	8 years	1,583
Cultivator Blades	3,750	0	3,750	2 years	1,875
Donkey Cart	73,200	0	73,200	8 years	9,150
Totals	101,550		101,550		14,100

Annual depreciation of equipment pro-rated for use in Peanut cultivation is 1,198 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in Peanut cultivation is 328 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment of 10% of the equipment and the full cost of the donkey. Equity investment is therefore 80,853 CFA francs. Interest of equity capital at 18% per annum is 1,143 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 897 kilograms of peanuts in the shell and 2.7 tons of peanut hay. The farm sells 628 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 43,960 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 269 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 18,830 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.2 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 72,000 CFA francs.

Table B-166

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type I with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	43,960
Seed	11,250	Crop Sales to Private Markets	0
Fertilizer	1,530	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	360	TOTAL CASH RECEIPTS	133,960
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	8,030	Value of On-Farm Crop Consumption/Use	18,830
Equipment Repair and Maintenance	840	Value of On-Farm Use of Crop By-Products	72,000
Other Cash Costs	0		
Crop Marketing Costs	4,640		
Interest Paid	2,323		
TOTAL CASH EXPENSES	31,273		
Non-Cash Expenses			
Unpaid Family Labor	59,000		
Capital Recovery/ Equipment	3,649		
Capital Recovery/ Draft Animals	688		
Interest on Equity Capital @ 18%	3,226		
TOTAL NON-CASH EXPENSES	66,563	TOTAL NON-CASH RECEIPTS	90,830
TOTAL EXPENSES	97,836	TOTAL RECEIPTS	224,790

Total Cash Receipts Per Hectare	133,960
Total Cash Expenses Per Hectare	31,273
NET CASH INCOME PER HECTARE	102,687
Total Receipts Per Hectare	224,790
Total Expenses Per Hectare	97,836
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	126,954
EFFECTIVE WAGE RATE PER MAN-DAY	3,152

*Exchange Rates in 1983. U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of peanuts, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 11,250 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 1,530 CFA francs (34 kilograms of triple superphosphate at 45 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 360 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36 500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members of hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 25 days of use in animal traction crop activities. Of these total days, 11 days are for peanut production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the peanuts is 8,030 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rated cost for the peanut enterprise on a per hectare basis is estimated at 840 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 4,640 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 17,271 CFA francs. The pro-rated cost of the animal equipment package for one hectare of peanuts grown is 2,323 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Seeding	9	0
1st Weeding/Replacement of Missing Plants	6	1
2nd Weeding	6	1
3rd Weeding	0	0
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	59	11

Estimated use of animal traction equipment per hectare of peanuts grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Peanuts	Use for All Other Crops	Total Use of Equipment
Crop Equipment	6	9	13
Animal-drawn Cart	5	9	87
Draft Animals	11	18	100

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	46.2
Animal-drawn Cart	5.8
Draft Animals	11.0

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	110,480 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	235,480 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	23,548 CFA francs
Total loan	211,932 CFA francs
Capital payment per year	52,983 CFA francs
Interest payment per year	16,792 CFA francs
Total annual payment	69,775 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	9,180	0	9,180	8 years	1,148
Cultivator Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	110,480		110,480		16,624

Annual depreciation of equipment pro-rated for use in Peanut cultivation is 3,649 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in Peanut cultivation is 688 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment and oxen, in addition to the required 10% downpayment investment. Equity investment is therefore 133,208 CFA francs. Interest of equity capital at 18% per annum is 3,226 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 897 kilograms of peanuts in the shell and 2.7 tons of peanut hay. The farm sells 628 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 43,960 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 269 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 18,830 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.2 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 72,000 CFA francs.

Table B-167

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type II with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	43,960
Seed	11,250	Crop Sales to Private Markets	0
Fertilizer	1,530	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	360	TOTAL CASH RECEIPTS	133,960
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	6,862	Value of On-Farm Crop Consumption/Use	18,830
Equipment Repair and Maintenance	637	Value of On-Farm Use of Crop By-Products	72,000
Other Cash Costs	0		
Crop Marketing Costs	4,640		
Interest Paid	1,779		
TOTAL CASH EXPENSES	28,898		
Non-Cash Expenses			
Unpaid Family Labor	59,000		
Capital Recovery/ Equipment	2,361		
Capital Recovery/ Draft Animals	588		
Interest on Equity Capital @ 18%	2,427		
TOTAL NON-CASH EXPENSES	64,376	TOTAL NON-CASH RECEIPTS	90,830
TOTAL EXPENSES	93,274	TOTAL RECEIPTS	224,790

Total Cash Receipts Per Hectare	133,960
Total Cash Expenses Per Hectare	28,898
NET CASH INCOME PER HECTARE	105,062
Total Receipts Per Hectare	224,790
Total Expenses Per Hectare	93,274
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	131,516
EFFECTIVE WAGE RATE PER MAN-DAY	3,229

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of peanuts, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 11,250 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 1,530 CFA francs (34 kilograms of triple superphosphate at 45 CFA francs per kilogram).

G. Insecticides/Fungicides and/or Other Treatments

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 360 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members of hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 42 days of use in animal traction crop activities. Of these total days, 11 days are for peanut production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the peanuts is 6,362 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rated cost for the peanut enterprise on a per hectare basis is estimated at 637 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 4,640 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 17,271 CFA francs. The pro-rated cost of the animal equipment package for one hectare of peanuts grown is 1,779 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Seeding	9	0
1st Weeding/Replacement of Missing Plants	6	1
2nd Weeding	6	1
3rd Weeding	0	0
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	59	11

Estimated use of animal traction equipment per hectare of peanuts grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Peanuts	Use for All Other Crops	Total Use of Equipment
Crop Equipment	6	16	22
Animal-drawn Cart	5	15	95
Draft Animals	11	31	117

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	27.3
Animal-drawn Cart	5.3
Draft Animals	9.4

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	110,480 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	235,480 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	23,548 CFA francs
Total loan	211,932 CFA francs
Capital payment per year	52,983 CFA francs
Interest payment per year	16,792 CFA francs
Total annual payment	69,775 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	9,180	0	9,180	8 years	1,148
Cultivator Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	110,480		110,480		16,624

Annual depreciation of equipment pro-rated for use in Peanut cultivation is 2,361 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in Peanut cultivation is 588 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment and oxen, in addition to the required 10% downpayment investment. Equity investment is therefore 133,208 CFA francs. Interest of equity capital at 18% per annum is 2,427 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 897 kilograms of peanuts in the shell and 2.7 tons of peanut hay. The farm sells 628 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 43,960 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 269 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 18,830 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.2 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 72,000 CFA francs.

Table B-168

REPUBLIC OF NIGER 1983
INDICATIVE FINANCIAL CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type III with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales to Government Agencies	43,960
Seed	11,250	Crop Sales to Private Markets	0
Fertilizer	1,530	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	360	TOTAL CASH RECEIPTS	133,960
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	5,548	Value of On-Farm Crop Consumption/Use	18,830
Equipment Repair and Maintenance	449	Value of On-Farm Use of Crop By-Products	72,000
Other Cash Costs	0		
Crop Marketing Costs	4,640		
Interest Paid	1,310		
TOTAL CASH EXPENSES	26,812		
Non-Cash Expenses			
Unpaid Family Labor	59,000		
Capital Recovery/ Equipment	1,593		
Capital Recovery/ Draft Animals	475		
Interest on Equity Capital @ 18%	1,831		
TOTAL NON-CASH EXPENSES	62,899	TOTAL NON-CASH RECEIPTS	18,830
TOTAL EXPENSES	89,711	TOTAL RECEIPTS	72,000

Total Cash Receipts Per Hectare	133,960
Total Cash Expenses Per Hectare	26,812
NET CASH INCOME PER HECTARE	107,148
Total Receipts Per Hectare	224,790
Total Expenses Per Hectare	89,711
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	135,079
EFFECTIVE WAGE RATE PER MAN-DAY	3,289

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of peanuts, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farms uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 150 CFA francs per kilogram. Total seed cost per hectare is 11,250 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 1,530 CFA francs (34 kilograms of triple superphosphate at 45 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 360 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members of hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 69 days of use in animal traction crop activities. Of these total days, 11 days are for peanut production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the peanuts is 5,548 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and care are estimated at 5% of their purchase value per year of use. The pro-rated cost for the peanut enterprise on a per hectare basis is estimated at 449 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 4,640 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 17,271 CFA francs. The pro-rated cost of the animal equipment package for one hectare of peanuts grown is 1,310 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Seeding	9	0
1st Weeding/Replacement of Missing Plants	6	1
2nd Weeding	6	1
3rd Weeding	0	0
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	59	11

Estimated use of animal traction equipment per hectare of peanuts grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Peanuts	Use for All Other Crops	Total Use of Equipment
Crop Equipment	6	25	36
Animal-drawn Cart	5	24	108
Draft Animals	11	49	144

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	16.7
Animal-drawn Cart	4.6
Draft Animals	7.6

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Financial Price
"Bati de Base et Chaine"/Base Equipment	6,300 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	9,180
"Jeux Lames Sarcleuses"/Cultivator Blades	3,750
"Butteurs"/Ridger	3,750
"Charrette Bovine"/Ox Cart	87,500
Sub-total for equipment	110,480 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	235,480 CFA francs

Animal traction package loan terms are four years at 12% interest with 10% required for downpayment.

Downpayment	23,548 CFA francs
Total loan	211,932 CFA francs
Capital payment per year	52,983 CFA francs
Interest payment per year	16,792 CFA francs
Total annual payment	69,775 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	6,300	0	6,300	8 years	788
Cultivator	9,180	0	9,180	8 years	1,148
Cultivator Blades	3,750	0	3,750	2 years	1,875
Ridger	3,750	0	3,750	2 years	1,875
Ox Cart	87,500	0	87,500	8 years	10,938
Totals	110,480		110,480		16,624

Annual depreciation of equipment pro-rated for use in Peanut cultivation is 1,593 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in Peanut cultivation is 475 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment and oxen, in addition to the required 10% downpayment investment. Equity investment is therefore 133,208 CFA francs. Interest of equity capital at 18% per annum is 1,831 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 897 kilograms of peanuts in the shell and 2.7 tons of peanut hay. The farm sells 628 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 43,960 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 269 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 18,830 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.2 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 72,000 CFA francs.

Table B-169

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type I with Traditional Technology
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	35,000
Seed	2,400	Sales of Crop By-Products	60,000
Fertilizer	0	TOTAL CASH RECEIPTS	95,000
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	15,400
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	72,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	8,200		
Non-Cash Expenses			
Unpaid Family Labor	103,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	103,000	TOTAL NON-CASH RECEIPTS	87,400
TOTAL EXPENSES	111,200	TOTAL RECEIPTS	182,400

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	8,200
NET CASH INCOME PER HECTARE	86,800
Total Receipts Per Hectare	182,400
Total Expenses Per Hectare	111,200
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	71,200
EFFECTIVE WAGE RATE PER MAN-DAY	1,691

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 2.7 hectares of millet and peanuts in association, 0.2 hectares of sorghum in pure stand, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 30 kilograms of local peanut seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	10
Ridging	8
Crop Fertilization	0
Crop Protection	0
Harvesting	16
Marketing	5
Total	103

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 720 kilograms of peanuts in the shell and 2.2 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 220 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 15,400 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.2 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 72,000 CFA francs.

Table B-170

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type II with Traditional Technology
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0		
Seed	2,400	Crop Sales	35,000
Fertilizer	0	Sales of Crop By-Products	60,000
Insecticides and/or Other Treatments	0	TOTAL CASH RECEIPTS	
Expendable Hand Tools	1,840		
Draft Animal Maintenance	0	**Non-Cash Receipts**	
Equipment Repair and Maintenance	0	Value of On-Farm Crop Consumption/Use	15,400
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	72,000
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	7,740		
Non-Cash Expenses			
Unpaid Family Labor	103,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	103,000	TOTAL NON-CASH RECEIPTS	87,400
TOTAL EXPENSES	110,740	TOTAL RECEIPTS	182,400

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	7,740
NET CASH INCOME PER HECTARE	87,260
Total Receipts Per Hectare	182,400
Total Expenses Per Hectare	110,740
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	71,660
EFFECTIVE WAGE RATE PER MAN-DAY	1,696

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 4.5 hectares of millet and peanuts in association, 0.35 hectares of sorghum in pure stand, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 30 kilograms of local peanut seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	10
Ridging	8
Crop Fertilization	0
Crop Protection	0
Harvesting	16
Marketing	5
Total	103

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 720 kilograms of peanuts in the shell and 2.2 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of pearut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 220 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 15,400 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.2 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 72,000 CFA francs.

Table B-171

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type III with Traditional Technology
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	35,000
Seed	2,400	Sales of Crop By-Products	60,000
Fertilizer	0	TOTAL CASH RECEIPTS	95,000
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	15,400
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	72,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	7,625		
Non-Cash Expenses			
Unpaid Family Labor	103,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	103,000	TOTAL NON-CASH RECEIPTS	87,400
TOTAL EXPENSES	110,625	TOTAL RECEIPTS	182,400

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	7,625
NET CASH INCOME PER HECTARE	87,375
Total Receipts Per Hectare	182,400
Total Expenses Per Hectare	110,625
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	71,775
EFFECTIVE WAGE RATE PER MAN-DAY	1,697

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 7.3 hectares of millet and peanuts in association, 0.5 hectares of sorghum in pure stand, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 30 kilograms of local peanut seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	10
Ridging	8
Crop Fertilization	0
Crop Protection	0
Harvesting	16
Marketing	5
Total	103

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 720 kilograms of peanuts in the shell and 2.2 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 220 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 15,400 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.2 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 72,000 CFA francs.

Table B-172

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type I with Partial Package Adoption
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	35,000
Seed	27,600	Sales of Crop By-Products	60,000
Fertilizer	5,848	TOTAL CASH RECEIPTS	95,000
Insecticides and/or Other Treatments	366		
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	24,850
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	96,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	39,614		
Non-Cash Expenses			
Unpaid Family Labor	108,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	108,000	TOTAL NON-CASH RECEIPTS	120,850
TOTAL EXPENSES	147,614	TOTAL RECEIPTS	215,850

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	39,614
NET CASH INCOME PER HECTARE	55,385
Total Receipts Per Hectare	215,850
Total Expenses Per Hectare	147,614
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	68,236
EFFECTIVE WAGE RATE PER MAN-DAY	1,632

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of peanuts, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 27,600 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 5,848 CFA francs (34 kilograms of triple superphosphate at 172 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 366 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	10
Ridging	8
Crop Fertilization	1
Crop Protection	0
Harvesting	20
Marketing	5
Total	108

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 855 kilograms of peanuts in the shell and 2.6 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 355 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 24,850 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.6 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 96,000 CFA francs.

Table B-173

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type II with Partial Package Adoption
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	35,000
Seed	27,600	Sales of Crop By-Products	60,000
Fertilizer	5,848	TOTAL CASH RECEIPTS	95,000
Insecticides and/or Other Treatments	366		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	24,850
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	96,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	39,154		
Non-Cash Expenses			
Unpaid Family Labor	108,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	108,000	TOTAL NON-CASH RECEIPTS	120,850
TOTAL EXPENSES	147,154	TOTAL RECEIPTS	215,850

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	39,154
NET CASH INCOME PER HECTARE	55,845
Total Receipts Per Hectare	215,850
Total Expenses Per Hectare	147,154
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	68,696
EFFECTIVE WAGE RATE PER MAN-DAY	1,636

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of peanuts, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 27,600 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 5,848 CFA francs (34 kilograms of triple superphosphate at 172 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 366 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	10
Ridging	8
Crop Fertilization	1
Crop Protection	0
Harvesting	20
Marketing	5
Total	108

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 855 kilograms of peanuts in the shell and 2.6 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 355 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 24,850 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.6 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 96,000 CFA francs.

Table B-174

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type III with Partial Package Adoption
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	35,000
Seed	27,600	Sales of Crop By-Products	60,000
Fertilizer	5,848	TOTAL CASH RECEIPTS	95,000
Insecticides and/or Other Treatments	366		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	24,850
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	96,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	39,039		
Non-Cash Expenses			
Unpaid Family Labor	108,000		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES		TOTAL NON-CASH RECEIPTS	120,850
TOTAL EXPENSES	147,039	TOTAL RECEIPTS	215,850

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	39,039
NET CASH INCOME PER HECTARE	55,961
Total Receipts Per Hectare	215,850
Total Expenses Per Hectare	147,039
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	68,811
EFFECTIVE WAGE RATE PER MAN-DAY	1,637

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of peanuts, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 27,600 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 5,848 CFA francs (34 kilograms of triple superphosphate at 172 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 366 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	10
Ridging	8
Crop Fertilization	1
Crop Protection	0
Harvesting	20
Marketing	5
Total	108

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 855 kilograms of peanuts in the shell and 2.6 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 355 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 24,850 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.6 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 96,000 CFA francs.

Table B-175

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type I with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	49,000
Seed	27,600	Sales of Crop By-Products	90,000
Fertilizer	5,848	TOTAL CASH RECEIPTS	139,000
Insecticides and/or Other Treatments	366		
Expendable Hand Tools	2,300		
Draft Animal Maintenance	1,369	**Non-Cash Receipts**	
Equipment Repair and Maintenance	1,308	Value of On-Farm Crop Consumption/Use	21,000
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	90,000
Crop Marketing Costs	5,000		
Interest Paid	4,227		
TOTAL CASH EXPENSES	48,018		
Non-Cash Expenses			
Unpaid Family Labor	77,000		
Capital Recovery/ Equipment	6,326		
Capital Recovery/ Draft Animals	600		
Interest on Equity Capital @ 18%	4,494		
TOTAL NON-CASH EXPENSES	88,420	TOTAL NON-CASH RECEIPTS	111,000
TOTAL EXPENSES	136,438	TOTAL RECEIPTS	250,000

Total Cash Receipts Per Hectare	139,000
Total Cash Expenses Per Hectare	48,018
NET CASH INCOME PER HECTARE	90,982
Total Receipts Per Hectare	250,000
Total Expenses Per Hectare	136,438
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	113,562
EFFECTIVE WAGE RATE PER MAN-DAY	2,475

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of peanuts, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 27,600 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 5,848 CFA francs (34 kilograms of triple superphosphate at 172 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 366 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 45 days of use in animal traction crop activities. Of these total days, 18 days are for peanut production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the peanuts per hectare is 1,369 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rated cost for the peanut enterprise on a per hectare basis is estimated at 1,308 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 5,000 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rated cost of the animal equipment package for one hectare of peanuts grown is 4,227 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Seeding	9	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	77	18

Estimated use of animal traction equipment per hectare of peanuts grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Peanuts	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	13	24	33
Animal-drawn Cart	5	9	87
Draft Animals	18	33	120

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	39.4
Animal-drawn Cart	15.2
Draft Animals	15.0

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	16,581	0	16,581	8 years	2,073
Donkey Toolbar	21,113	0	21,113	8 years	2,639
Cultivator Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in peanut cultivation is 6,326 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in peanut cultivation is 600 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the donkey. Equity investment is therefore 106,481 CFA francs. Interest on equity capital at 18% per annum is 4,494 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 1,000 kilograms of peanuts in the shell and 3.0 tons of peanut hay. The farm sells 700 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 49,000 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 300 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 21,000 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.5 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 90,000 CFA francs.

Table B-176

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type II with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	49,000
Seed	27,600	Sales of Crop By-Products	90,000
Fertilizer	5,848	TOTAL CASH RECEIPTS	139,000
Insecticides and/or Other Treatments	366		
Expendable Hand Tools	1,840		
Draft Animal Maintenance	1,086	**Non-Cash Receipts**	
Equipment Repair and Maintenance	987	Value of On-Farm Crop Consumption/Use	21,000
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	90,000
Crop Marketing Costs	5,000		
Interest Paid	2,162		
TOTAL CASH EXPENSES	44,889		
Non-Cash Expenses			
Unpaid Family Labor	77,000		
Capital Recovery/ Equipment	3,352		
Capital Recovery/ Draft Animals	476		
Interest on Equity Capital @ 18%	2,489		
TOTAL NON-CASH EXPENSES	83,317	TOTAL NON-CASH RECEIPTS	111,000
TOTAL EXPENSES	128,206	TOTAL RECEIPTS	250,000

Total Cash Receipts Per Hectare	139,000
Total Cash Expenses Per Hectare	44,889
NET CASH INCOME PER HECTARE	94,111
Total Receipts Per Hectare	250,000
Total Expenses Per Hectare	128,206
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	121,794
EFFECTIVE WAGE RATE PER MAN-DAY	2,582

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of peanuts, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 27,600 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 5,848 CFA francs (34 kilograms of triple superphosphate at 172 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 366 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 76 days of use in animal traction crop activities. Of these total days, 18 days are for peanut production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the peanuts per hectare is 1,086 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rated cost for the peanut enterprise on a per hectare basis is estimated at 987 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 5,000 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rated cost of the animal equipment package for one hectare of peanuts grown is 2,162 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Seeding	9	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	77	18

Estimated use of animal traction equipment per hectare of peanuts grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Peanuts	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	13	43	56
Animal-drawn Cart	5	15	95
Draft Animals	18	58	151

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	23.2
Animal-drawn Cart	5.3
Draft Animals	11.9

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Deux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	16,581	0	16,581	8 years	2,073
Donkey Toolbar	21,113	0	21,113	8 years	2,639
Cultivator Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in peanut cultivation is 3,352 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in peanut cultivation is 476 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the donkey. Equity investment is therefore 106,481 CFA francs. Interest on equity capital at 18% per annum is 2,489 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 1,000 kilograms of peanuts in the shell and 3.0 tons of peanut hay. The farm sells 700 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 49,000 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 300 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 21,000 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.5 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 90,000 CFA francs.

Table B-177

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type III with Full Package Adoption (Donkey)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0		
Seed	27,600	Crop Sales	49,000
Fertilizer	5,848	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	366	TOTAL CASH RECEIPTS	139,000
Expendable Hand Tools	1,725		
Draft Animal Maintenance	830	**Non-Cash Receipts**	
Equipment Repair and Maintenance	666	Value of On-Farm Crop Consumption/Use	21,000
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	90,000
Crop Marketing Costs	5,000		
Interest Paid	1,459		
TOTAL CASH EXPENSES	43,494		
Non-Cash Expenses			
Unpaid Family Labor	77,000		
Capital Recovery/ Equipment	2,215		
Capital Recovery/ Draft Animals	364		
Interest on Equity Capital @ 18%	1,728		
TOTAL NON-CASH EXPENSES	81,307	TOTAL NON-CASH RECEIPTS	111,000
TOTAL EXPENSES	124,801	TOTAL RECEIPTS	250,000

Total Cash Receipts Per Hectare	139,000
Total Cash Expenses Per Hectare	43,494
NET CASH INCOME PER HECTARE	95,506
Total Receipts Per Hectare	250,000
Total Expenses Per Hectare	124,801
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	125,199
EFFECTIVE WAGE RATE PER MAN-DAY	2,626

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of peanuts, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 27,600 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 5,848 CFA francs (34 kilograms of triple superphosphate at 172 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 366 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 123 days of use in animal traction crop activities. Of these total days, 18 days are for peanut production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the peanuts per hectare is 830 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rated cost for the peanut enterprise on a per hectare basis is estimated at 666 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 5,000 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rated cost of the animal equipment package for one hectare of peanuts grown is 1,459 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Seeding	9	0
1st Weeding/Replacement of Missing Plants	12	4
2nd Weeding	8	2
3rd Weeding	8	2
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	77	18

Estimated use of animal traction equipment per hectare of peanuts grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Peanuts	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	13	67	90
Animal-drawn Cart	5	24	108
Draft Animals	18	91	198

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	14.4
Animal-drawn Cart	4.6
Draft Animals	9.1

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	16,581	0	16,581	8 years	2,073
Donkey Toolbar	21,113	0	21,113	8 years	2,639
Cultivator Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in peanut cultivation is 2,215 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in peanut cultivation is 364 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the donkey. Equity investment is therefore 106,481 CFA francs. Interest on equity capital at 18% per annum is 1,728 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 1,000 kilograms of peanuts in the shell and 3.0 tons of peanut hay. The farm sells 700 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 49,000 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 300 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 21,000 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.5 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 90,000 CFA francs.

Table B-178

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type I with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	49,000
Seed	27,600	Sales of Crop By-Products	90,000
Fertilizer	5,848	TOTAL CASH RECEIPTS	139,000
Insecticides and/or Other Treatments	366		
Expendable Hand Tools	2,300		
Draft Animal Maintenance	10,220	**Non-Cash Receipts**	
Equipment Repair and Maintenance	2,435	Value of On-Farm Crop Consumption/Use	21,000
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	90,000
Crop Marketing Costs	5,000		
Interest Paid	7,235		
TOTAL CASH EXPENSES	61,022		
Non-Cash Expenses			
Unpaid Family Labor	67,000		
Capital Recovery/ Equipment	10,039		
Capital Recovery/ Draft Animals	875		
Interest on Equity Capital @ 18%	6,554		
TOTAL NON-CASH EXPENSES	84,468	TOTAL NON-CASH RECEIPTS	111,000
TOTAL EXPENSES	145,490	TOTAL RECEIPTS	250,000

Total Cash Receipts Per Hectare	139,000
Total Cash Expenses Per Hectare	61,022
NET CASH INCOME PER HECTARE	77,978
Total Receipts Per Hectare	250,000
Total Expenses Per Hectare	145,490
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	104,510
EFFECTIVE WAGE RATE PER MAN-DAY	2,560

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of peanuts, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 27,600 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 5,848 CFA francs (34 kilograms of triple superphosphate at 172 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 366 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 32 days of use in animal traction crop activities. Of these total days, 15 days are for peanut production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the peanut is 10,220 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the peanut enterprise on a per hectare basis is estimated at 2,435 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 5000 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 33,776 CFA francs. The pro-rated cost of the animal equipment package for one hectare of peanuts grown is 7,253 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Seeding	9	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	67	15

Estimated use of animal traction equipment per hectare of peanuts grown and in total is as follows:

Equipment Used	Per Hectare of Peanuts	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	10	13	20
Animal-drawn Cart	5	9	87
Draft Animals	15	22	107

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	50.0
Animal-drawn Cart	5.7
Draft Animals	14.0

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Charrue"/Plow	19,756
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	183,274 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	308,274 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	30,827 CFA francs
Total loan	277,447 CFA francs
Capital payment per year	69,362 CFA francs
Interest payment per year	33,776 CFA francs
Total annual payment	103,138 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Plow	19,756	0	19,756	8 years	2,470
Cultivator	26,994	0	26,994	8 years	3,374
Cultivator Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	183,274		183,274		30,811

Annual depreciaton of equipment pro-rated for use in peanut cultivation is 10,039 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in peanut cultivation is 875 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the oxen. Equity investment is therefore 169,551 CFA francs. Interest on equity capital at 18% per annum is 6,554 CFA francs.

R. Cash Receipts

Estimated millet yield per hectare is 1,000 kilograms of peanuts in the shell and 3.0 tons of peanut hay. The farm sells 700 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 49,000 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses estimated 300 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 21,000 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.5 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 90,000 CFA francs.

Table B-179

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type II with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0		
Seed	27,600	Crop Sales	49,000
Fertilizer	5,848	Sales of Crop By-Products	90,000
Insecticides and/or Other Treatments	366	TOTAL CASH RECEIPTS	139,000
Expendable Hand Tools	1,840		
Draft Animal Maintenance	8,541	**Non-Cash Receipts**	
Equipment Repair and Maintenance	1,552	Value of On-Farm Crop Consumption/Use	21,000
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	90,000
Crop Marketing Costs	5,000		
Interest Paid	5,004		
TOTAL CASH EXPENSES	55,751		
Non-Cash Expenses			
Unpaid Family Labor	67,000		
Capital Recovery/ Equipment	6,251		
Capital Recovery/ Draft Animals	731		
Interest on Equity Capital @ 18%	4,521		
TOTAL NON-CASH EXPENSES	78,502	TOTAL NON-CASH RECEIPTS	111,000
TOTAL EXPENSES	134,253	TOTAL RECEIPTS	250,000

Total Cash Receipts Per Hectare	139,000
Total Cash Expenses Per Hectare	55,751
NET CASH INCOME PER HECTARE	83,249
Total Receipts Per Hectare	250,000
Total Expenses Per Hectare	134,253
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	115,747
EFFECTIVE WAGE RATE PER MAN-DAY	2,728

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of peanuts, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 27,600 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 5,848 CFA francs (34 kilograms of triple superphosphate at 172 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 366 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 53 days of use in animal traction crop activities. Of these total days, 15 days are for peanut production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the peanut is 8,541 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the peanut enterprise on a per hectare basis is estimated at 1,552 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 5000 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 33,776 CFA francs. The pro-rated cost of the animal equipment package for one hectare of peanuts grown is 5,004 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Seeding	9	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	67	15

Estimated use of animal traction equipment per hectare of peanuts grown and in total is as follows:

Equipment Used	Per Hectare of Peanuts	For All Other Crops Grown	Total Use of Equipment
Crop Equipment	10	23	33
Animal-drawn Cart	5	15	95
Draft Animals	15	38	128

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	30.0
Animal-drawn Cart	5.3
Draft Animals	11.7

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Charrue"/Plow	19,756
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	183,274 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	308,274 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	30,827 CFA francs
Total loan	277,447 CFA francs
Capital payment per year	69,362 CFA francs
Interest payment per year	33,776 CFA francs
Total annual payment	103,138 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Plow	19,756	0	19,756	8 years	2,470
Cultivator	26,994	0	26,994	8 years	3,374
Cultivator Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	183,274		183,274		30,811

Annual depreciaton of equipment pro-rated for use in peanut cultivation is 6,251 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in peanut cultivation is 731 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the oxen. Equity investment is therefore 169,551 CFA francs. Interest on equity capital at 18% per annum is 4,521 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 1,000 kilograms of peanuts in the shell and 3.0 tons of peanut hay. The farm sells 700 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 49,000 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses estimated 300 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 21,000 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.5 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 90,000 CFA francs.

Table B-180

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type III with Full Package Adoption (Oxen)
Location: Southern Niamey Department (400-600 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	49,000
Seed	27,600	Sales of Crop By-Products	90,000
Fertilizer	5,848	TOTAL CASH RECEIPTS	139,000
Insecticides and/or Other Treatments	366		
Expendable Hand Tools	1,725		
Draft Animal Maintenance	6,716	**Non-Cash Receipts**	
Equipment Repair and Maintenance	1,043	Value of On-Farm Crop Consumption/Use	21,000
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	90,000
Crop Marketing Costs	5,000		
Interest Paid	3,471		
TOTAL CASH EXPENSES	51,769		
Non-Cash Expenses			
Unpaid Family Labor	67,000		
Capital Recovery/ Equipment	3,960		
Capital Recovery/ Draft Animals	575		
Interest on Equity Capital @ 18%	3,136		
TOTAL NON-CASH EXPENSES	74,671	TOTAL NON-CASH RECEIPTS	111,000
TOTAL EXPENSES	126,440	TOTAL RECEIPTS	250,000

Total Cash Receipts Per Hectare	139,000
Total Cash Expenses Per Hectare	51,769
NET CASH INCOME PER HECTARE	87,231
Total Receipts Per Hectare	250,000
Total Expenses Per Hectare	126,440
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	123,560
EFFECTIVE WAGE RATE PER MAN-DAY	2,844

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectare of peanuts, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 27,600 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 5,848 CFA francs (34 kilograms of triple superphosphate at 172 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 366 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 88 days of use in animal traction crop activities. Of these total days, 15 days are for peanut production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the peanut is 6,716 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the peanut enterprise on a per hectare basis is estimated at 1,043 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 5000 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 33,776 CFA francs. The pro-rated cost of the animal equipment package for one hectare of peanuts grown is 3,471 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Seeding	9	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	6	1
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	67	15

Estimated use of animal traction equipment per hectare of peanuts grown and in total is as follows:

Equipment Used	Per Hectare of Peanuts	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	10	37	55
Animal-drawn Cart	5	24	108
Draft Animals	15	61	163

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	18.2
Animal-drawn Cart	4.6
Draft Animals	9.2

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Charrue"/Plow	19,756
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	183,274 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	308,274 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	30,827 CFA francs
Total loan	277,447 CFA francs
Capital payment per year	69,362 CFA francs
Interest payment per year	33,776 CFA francs
Total annual payment	103,138 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Plow	19,756	0	19,756	8 years	2,470
Cultivator	26,994	0	26,994	8 years	3,374
Cultivator Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	183,274		183,274		30,811

Annual depreciaton of equipment pro-rated for use in peanut cultivation is 3,960 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in peanut cultivation is 575 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the oxen. Equity investment is therefore 169,551 CFA francs. Interest on equity capital at 18% per annum is 3,136 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 1,000 kilograms of peanuts in the shell and 3.0 tons of peanut hay. The farm sells 700 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 49,000 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses estimated 300 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 21,000 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.5 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 90,000 CFA francs.

Table B-181

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type I with Traditional Technology
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	35,000
Seed	2,400	Sales of Crop By-Products	60,000
Fertilizer	0	TOTAL CASH RECEIPTS	95,000
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	2,300		
Draft Animal Maintenance	0	**Non-Cash Receipts**	
Equipment Repair and Maintenance	0	Value of On-Farm Crop Consumption/Use	9,450
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	54,000
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	8,200		
Non-Cash Expenses			
Unpaid Family Labor	66,750		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	66,750	TOTAL NON-CASH RECEIPTS	63,450
TOTAL EXPENSES	74,950	TOTAL RECEIPTS	158,450

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	8,200
NET CASH INCOME PER HECTARE	86,800
Total Receipts Per Hectare	158,450
Total Expenses Per Hectare	74,950
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	83,500
EFFECTIVE WAGE RATE PER MAN-DAY	1,688

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 2.7 hectares of millet and peanuts in association, 0.2 hectares of sorghum in pure stand, and 0.1 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 30 kilograms of local peanut seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	0
Ridging	8
Crop Fertilization	0
Crop Protection	0
Harvesting	12
Marketing	5
Total	89

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 635 kilograms of peanuts in the shell and 1.9 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 135 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 9,450 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available .9 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 54,000 CFA francs.

Table B-182

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type II with Traditional Technology
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	35,000
Seed	2,400	Sales of Crop By-Products	60,000
Fertilizer	0	TOTAL CASH RECEIPTS	95,000
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	9,450
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	54,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	7,740		
Non-Cash Expenses			
Unpaid Family Labor	66,750		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	66,750	TOTAL NON-CASH RECEIPTS	63,450
TOTAL EXPENSES	74,490	TOTAL RECEIPTS	158,450

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	7,740
NET CASH INCOME PER HECTARE	87,260
Total Receipts Per Hectare	158,450
Total Expenses Per Hectare	74,490
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	83,960
EFFECTIVE WAGE RATE PER MAN-DAY	1,693

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 1.5 hectares of millet and peanuts in association, 0.35 hectares of sorghum in pure stand, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 30 kilograms of local peanut seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	0
Ridging	8
Crop Fertilization	0
Crop Protection	0
Harvesting	12
Marketing	5
Total	89

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 635 kilograms of peanuts in the shell and 1.9 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 135 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 9,450 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available .9 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 54,000 CFA francs.

Table B-183

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type III with Traditional Technology
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	35,000
Seed	2,400	Sales of Crop By-Products	60,000
Fertilizer	0	TOTAL CASH RECEIPTS	95,000
Insecticides and/or Other Treatments	0		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	9,450
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	54,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	7,625		
Non-Cash Expenses			
Unpaid Family Labor	66,750		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	66,750	TOTAL NON-CASH RECEIPTS	63,450
TOTAL EXPENSES	74,375	TOTAL RECEIPTS	158,450

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	7,625
NET CASH INCOME PER HECTARE	87,375
Total Receipts Per Hectare	158,450
Total Expenses Per Hectare	74,375
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	84,075
EFFECTIVE WAGE RATE PER MAN-DAY	1,695

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with traditional agricultural technology.

B. Area Cultivated

Under traditional agricultural technology, this farm allocates the available cropland to 7.3 hectares of millet and peanuts in association, 0.5 hectares of sorghum in pure stand, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 30 kilograms of local peanut seed per hectare sown in association with millet. Cost of the seed on the local market is 120 CFA francs per kilogram. Total seed cost per hectare is 2,400 CFA francs.

F. Fertilizer

Farm uses no inorganic fertilizer.

G. Insecticide/Fungicide

Farm uses no chemical treatments.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	0
Ridging	8
Crop Fertilization	0
Crop Protection	0
Harvesting	12
Marketing	5
Total	89

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 635 kilograms of peanuts in the shell and 1.9 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 135 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 9,450 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available .9 tons of peanut hay per hectare cultivated valued at 60.000 CFA francs per ton. Total value of this by-product is 54,000 CFA francs.

Table B-184

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type I with Partial Package Adoption
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	35,000
Seed	27,600	Sales of Crop By-Products	60,000
Fertilizer	5,848	TOTAL CASH RECEIPTS	95,000
Insecticides and/or Other Treatments	366		
Expendable Hand Tools	2,300	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	13,900
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	39,614		
Non-Cash Expenses			
Unpaid Family Labor	70,500		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	70,500	TOTAL NON-CASH RECEIPTS	96,900
TOTAL EXPENSES	110,114	TOTAL RECEIPTS	191,900

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	39,614
NET CASH INCOME PER HECTARE	55,386
Total Receipts Per Hectare	191,900
Total Expenses Per Hectare	110,114
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	81,786
EFFECTIVE WAGE RATE PER MAN-DAY	1,620

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of peanuts, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 27,600 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 5,848 CFA francs (34 kilograms of triple superphosphate at 172 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 366 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Croo Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	0
Ridging	8
Crop Fertilization	1
Crop Protection	0
Harvesting	16
Marketing	5
Total	94

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 770 kilograms of peanuts in the shell and 2.3 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 270 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 18,900 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-185

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type II with Partial Package Adoption
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	35,000
Seed	27,600	Sales of Crop By-Products	60,000
Fertilizer	5,848	TOTAL CASH RECEIPTS	95,000
Insecticides and/or Other Treatments	366		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	18,900
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	39,154		
Non-Cash Expenses			
Unpaid Family Labor	70,500		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	70,500	TOTAL NON-CASH RECEIPTS	96,900
TOTAL EXPENSES	109,654	TOTAL RECEIPTS	191,900

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	39,154
NET CASH INCOME PER HECTARE	55,846
Total Receipts Per Hectare	191,900
Total Expenses Per Hectare	109,654
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	82,246
EFFECTIVE WAGE RATE PER MAN-DAY	1,625

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of peanuts, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 27,600 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 5,848 CFA francs (34 kilograms of triple superphosphate at 172 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 366 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	0
Ridging	8
Crop Fertilization	1
Crop Protection	0
Harvesting	16
Marketing	5
Total	94

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 770 kilograms of peanuts in the shell and 2.3 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 270 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 18,900 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-186

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type III with Partial Package Adoption
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	35,000
Seed	27,600	Sales of Crop By-Products	60,000
Fertilizer	5,848	TOTAL CASH RECEIPTS	95,000
Insecticides and/or Other Treatments	366		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	0	Value of On-Farm Crop Consumption/Use	18,900
Equipment Repair and Maintenance	0	Value of On-Farm Use of Crop By-Products	78,000
Other Cash Costs	0		
Crop Marketing Costs	3,500		
Interest Paid	0		
TOTAL CASH EXPENSES	39,039		
Non-Cash Expenses			
Unpaid Family Labor	70,500		
Capital Recovery/ Equipment	0		
Capital Recovery/ Draft Animals	0		
Interest on Equity Capital @ 18%	0		
TOTAL NON-CASH EXPENSES	70,500	TOTAL NON-CASH RECEIPTS	96,900
TOTAL EXPENSES	109,539	TOTAL RECEIPTS	191,900

Total Cash Receipts Per Hectare	95,000
Total Cash Expenses Per Hectare	39,039
NET CASH INCOME PER HECTARE	55,961
Total Receipts Per Hectare	191,900
Total Expenses Per Hectare	109,539
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	82,361
EFFECTIVE WAGE RATE PER MAN-DAY	1,626

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with partial package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of peanuts, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Traditional hoe cultivation. No use is made of animal-drawn equipment for tillage, cultivation or cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 27,600 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 5,848 CFA francs (34 kilograms of triple superphosphate at 172 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 366 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Farm maintains no draft animals.

J. Equipment Repair and Maintenance

Farm maintains no equipment.

K. Other Cash Costs

Farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 3500 CFA francs.

M. Interest Paid

Farm incurs no interest payments because no credit facility is used to obtain agricultural inputs.

N. Unpaid Family Labor

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor
Land/Soil Preparation	20
Seeding	9
1st Weeding/Replacement of Missing Plants	20
2nd Weeding	15
3rd Weeding	0
Ridging	8
Crop Fertilization	1
Crop Protection	0
Harvesting	16
Marketing	5
Total	94

O. Capital Recovery/Equipment

No equipment is maintained on the farm.

P. Capital Recovery/Draft Animals

No draft animals are maintained on the farm.

Q. Interest on Equity Capital

No equity capital investment in the farm.

R. Cash Receipts

Estimated peanut yield per hectare is 770 kilograms of peanuts in the shell and 2.3 tons of peanut hay. The farm sells 500 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1 ton of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 35,000 CFA francs of peanuts and 60,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 270 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 18,900 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.3 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 78,000 CFA francs.

Table B-187

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type I with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES

Cash Expenses

Wage Labor	0
Seed	27,600
Fertilizer	5,848
Insecticides and/or Other Treatments	366
Expendable Hand Tools	2,300
Draft Animal Maintenance	1,122
Equipment Repair and Maintenance	1,635
Other Cash Costs	0
Crop Marketing Costs	4,640
Interest Paid	3,581
TOTAL CASH EXPENSES	47,092

Non-Cash Expenses

Unpaid Family Labor	63,000
Capital Recovery/ Equipment	5,693
Capital Recovery/ Draft Animals	492
Interest on Equity Capital @ 18%	3,789
TOTAL NON-CASH EXPENSES	72,974
TOTAL EXPENSES	120,066

RECEIPTS

Cash Receipts

Crop Sales	43,960
Sales of Crop By-Products	90,000
TOTAL CASH RECEIPTS	133,960

Non-Cash Receipts

Value of On-Farm Crop Consumption/Use	18,830
Value of On-Farm Use of Crop By-Products	72,000
TOTAL NON-CASH RECEIPTS	90,830
TOTAL RECEIPTS	224,790

Total Cash Receipts Per Hectare	133,960
Total Cash Expenses Per Hectare	47,092
NET CASH INCOME PER HECTARE	86,868
Total Receipts Per Hectare	224,790
Total Expenses Per Hectare	120,066
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	104,724
EFFECTIVE WAGE RATE PER MAN-DAY	2,662

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of peanuts, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 27,600 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 5,848 CFA francs (34 kilograms of triple superphosphate at 172 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 366 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 31 days of use in animal traction crop activities. Of these total days, 13 days are for peanut production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the peanuts per hectare is 1,122 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rated cost for the peanut enterprise on a per hectare basis is estimated at 1,635 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 4,640 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rated cost of the animal equipment package for one hectare of peanuts grown is 3,581 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Seeding	9	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	0	0
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	63	13

Estimated use of animal traction equipment per hectare of peanuts grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Peanuts	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	8	13	19
Animal-drawn Cart	5	9	87
Draft Animals	13	22	106

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	42.1
Animal-drawn Cart	5.8
Draft Animals	12.3

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	16,581	0	16,581	8 years	2,073
Donkey Toolbar	21,113	0	21,113	8 years	2,639
Cultivator Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in peanut cultivation is 5,693 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in peanut cultivation is 492 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the donkey. Equity investment is therefore 106,481 CFA francs. Interest on equity capital at 18% per annum is 3,789 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 897 kilograms of peanuts in the shell and 2.7 tons of peanut hay. The farm sells 700 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 43,960 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 269 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 18,830 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.2 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 72,000 CFA francs.

Table B-188

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type II with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	43,960
Seed	27,600	Sales of Crop By-Products	90,000
Fertilizer	5,848	TOTAL CASH RECEIPTS	133,960
Insecticides and/or Other Treatments	366		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	940	Value of On-Farm Crop Consumption/Use	18,830
Equipment Repair and Maintenance	1,073	Value of On-Farm Use of Crop By-Products	72,000
Other Cash Costs	0		
Crop Marketing Costs	4,640		
Interest Paid	2,351		
TOTAL CASH EXPENSES	44,658		
Non-Cash Expenses			
Unpaid Family Labor	63,000		
Capital Recovery/ Equipment	3,667		
Capital Recovery/ Draft Animals	412		
Interest on Equity Capital @ 18%	2,588		
TOTAL NON-CASH EXPENSES	69,667	TOTAL NON-CASH RECEIPTS	90,830
TOTAL EXPENSES	114,325	TOTAL RECEIPTS	224,790

Total Cash Receipts Per Hectare	133,960
Total Cash Expenses Per Hectare	44,658
NET CASH INCOME PER HECTARE	89,302
Total Receipts Per Hectare	224,790
Total Expenses Per Hectare	114,325
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	110,465
EFFECTIVE WAGE RATE PER MAN-DAY	2,753

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of peanuts, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 27,600 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 5,848 CFA francs (34 kilograms of triple superphosphate at 172 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 366 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 51 days of use in animal traction crop activities. Of these total days, 13 days are for peanut production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the peanuts per hectare is 940 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rated cost for the peanut enterprise on a per hectare basis is estimated at 1,073 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 4,640 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rated cost of the animal equipment package for one hectare of peanuts grown is 2,351 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Seeding	9	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	0	0
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	63	13

Estimated use of animal traction equipment per hectare of peanuts grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Peanuts	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	8	23	31
Animal-drawn Cart	5	15	95
Draft Animals	13	38	126

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	25.8
Animal-drawn Cart	5.3
Draft Animals	10.3

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	16,581	0	16,581	8 years	2,073
Donkey Toolbar	21,113	0	21,113	8 years	2,639
Cultivator Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in peanut cultivation is 3,667 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in peanut cultivation is 412 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the donkey. Equity investment is therefore 106,481 CFA francs. Interest on equity capital at 18% per annum is 2,588 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 897 kilograms of peanuts in the shell and 2.7 tons of peanut hay. The farm sells 628 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 43,960 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 269 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 18,830 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.2 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 72,000 CFA francs.

Table B-189

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type III with Full Package Adoption (Donkey)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	43,960
Seed	27,600	Sales of Crop By-Products	90,000
Fertilizer	5,848	TOTAL CASH RECEIPTS	133,960
Insecticides and/or Other Treatments	366		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	748	Value of On-Farm Crop Consumption/Use	18,830
Equipment Repair and Maintenance	709	Value of On-Farm Use of Crop By-Products	72,000
Other Cash Costs	0		
Crop Marketing Costs	4,640		
Interest Paid	1,554		
TOTAL CASH EXPENSES	43,190		
Non-Cash Expenses			
Unpaid Family Labor	63,000		
Capital Recovery/ Equipment	2,372		
Capital Recovery/ Draft Animals	328		
Interest on Equity Capital @ 18%	1,773		
TOTAL NON-CASH EXPENSES	67,473	TOTAL NON-CASH RECEIPTS	90,830
TOTAL EXPENSES	110,663	TOTAL RECEIPTS	224,790

Total Cash Receipts Per Hectare	133,960
Total Cash Expenses Per Hectare	43,190
NET CASH INCOME PER HECTARE	90,770
Total Receipts Per Hectare	224,790
Total Expenses Per Hectare	110,663
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	114,127
EFFECTIVE WAGE RATE PER MAN-DAY	2,812

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of peanuts, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of donkey-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 27,600 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 5,848 CFA francs (34 kilograms of triple superphosphate at 172 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 366 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of donkey maintenance estimated at 25 CFA francs per day per head. Total cost per head per year is 9,125 CFA francs for veterinary costs, feed supplements, herding labor costs for family members, and all other costs.

Estimated use of the donkey is 75 days per year of off-farm use with the donkey cart and 84 days of use in animal traction crop activities. Of these total days, 13 days are for peanut production on the one hectare for this enterprise budget. Total pro-rated cost for donkey maintenance for the peanuts per hectare is 748 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rated cost for the peanut enterprise on a per hectare basis is estimated at 709 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 4,640 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 16,231 CFA francs. The pro-rated cost of the animal equipment package for one hectare of peanuts grown is 1,554 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated use of family labor and draft animals per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	10	3
Seeding	9	0
1st Weeding/Replacement of Missing Plants	8	2
2nd Weeding	6	1
3rd Weeding	0	0
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	63	13

Estimated use of animal traction equipment per hectare of peanuts grown and in total for the farm is as follows:

Equipment Used	Per Hectare of Peanuts	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	8	37	51
Animal-drawn Cart	5	24	108
Draft Animals	13	61	159

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	15.7
Animal-drawn Cart	4.6
Draft Animals	8.2

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for donkey is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 3 Dents"/3 tooth Cultivator	16,581
"Houe Asines"/Donkey Toolbar	21,113
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Charrette Asine"/Donkey Cart	81,750
Sub-total for equipment	148,145 CFA francs
One donkey	25,000 CFA francs
Grand total for package	173,145 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment (10% of equipment plus full cost of the donkey)	39,815 CFA francs
Total loan	133,330 CFA francs
Capital payment per year	33,333 CFA francs
Interest payment per year	16,231 CFA francs
Total annual payment	49,564 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	16,581	0	16,581	8 years	2,073
Donkey Toolbar	21,113	0	21,113	8 years	2,639
Cultivator Blades	10,171	0	10,171	2 years	5,086
Donkey Cart	81,750	0	81,750	8 years	10,219
Totals	148,145		148,145		22,333

Annual depreciaton of equipment pro-rated for use in peanut cultivation is 2,372 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Donkey

Donkeys Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
1	25,000	5,000	20,000	4 years	4,000

Annual depreciation of donkey pro-rated for use in peanut cultivation is 328 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the donkey. Equity investment is therefore 106,481 CFA francs. Interest on equity capital at 18% per annum is 1,773 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 897 kilograms of peanuts in the shell and 2.7 tons of peanut hay. The farm sells 628 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 43,960 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses an estimated 269 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 18,830 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.2 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 72,000 CFA francs.

Table B-190

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type I with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	43,960
Seed	27,600	Sales of Crop By-Products	90,000
Fertilizer	5,848	TOTAL CASH RECEIPTS	133,960
Insecticides and/or Other Treatments	366		
Expendable Hand Tools	2,300		
Draft Animal Maintenance	8,030	**Non-Cash Receipts**	
Equipment Repair and Maintenance	2,276	Value of On-Farm Crop Consumption/Use	18,830
Other Cash Costs	0	Value of On-Farm Use of Crop By-Products	72,000
Crop Marketing Costs	4,640		
Interest Paid	6,246		
TOTAL CASH EXPENSES	57,306		
Non-Cash Expenses			
Unpaid Family Labor	59,000		
Capital Recovery/ Equipment	9,340		
Capital Recovery/ Draft Animals	688		
Interest on Equity Capital @ 18%	5,867		
TOTAL NON-CASH EXPENSES	74,895	TOTAL NON-CASH RECEIPTS	90,830
TOTAL EXPENSES	132,201	TOTAL RECEIPTS	224,790

Total Cash Receipts Per Hectare	133,960
Total Cash Expenses Per Hectare	57,306
NET CASH INCOME PER HECTARE	76,654
Total Receipts Per Hectare	224,790
Total Expenses Per Hectare	132,201
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	92,589
EFFECTIVE WAGE RATE PER MAN-DAY	2,569

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type I with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 2.0 hectares of millet, 0.7 hectares of peanuts, and 0.2 hectares of sorghum - all in pure stands, and 0.1. hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 27,600 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 5,848 CFA francs (34 kilograms of triple superphosphate at 172 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 366 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 3 large hand hoes, 3 small hand hoes, 3 hand cultivating hoes (i.e. "hilere" in French), 3 hand axes. Total cost of these hand tools is 6,900 CFA francs. Total cost per hectare cultivated is 2,300 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 25 days of use in animal traction crop activities. Of these total days, 11 days are for peanut production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the peanut is 8,030 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rata cost for the peanut enterprise on a per hectare basis is estimated at 2,276 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 4,640 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 33,776 CFA francs. The pro-rated cost of the animal equipment package for one hectare of peanuts grown is 6,246 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Seeding	9	0
1st Weeding/Replacement of Missing Plants	6	1
2nd Weeding	6	1
3rd Weeding	0	0
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	59	11

Estimated use of animal traction equipment per hectare of peanuts grown and in total is as follows:

Equipment Used	Per Hectare of Peanuts	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	6	9	13
Animal-drawn Cart	5	9	87
Draft Animals	11	18	100

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	46.2
Animal-drawn Cart	5.8
Draft Animals	11.0

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	163,518 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	288,518 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	28,852 CFA francs
Total loan	259,666 CFA francs
Capital payment per year	64,917 CFA francs
Interest payment per year	31,581 CFA francs
Total annual payment	96,498 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	26,994	0	26,994	8 years	3,374
Cultivator Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	163,518		163,518		28,341

Annual depreciaton of equipment pro-rated for use in peanut cultivation is 9,340 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in peanut cultivation is 688 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the oxen. Equity investment is therefore 169,551 CFA francs. Interest on equity capital at 18% per annum is 5,867 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 897 kilograms of peanuts in the shell and 2.7 tons of peanut hay. The farm sells 628 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 43,960 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses estimated 269 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 18,830 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.2 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 72,000 CFA francs.

Table B-191

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type II with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	43,960
Seed	27,600	Sales of Crop By-Products	90,000
Fertilizer	5,848	TOTAL CASH RECEIPTS	133,960
Insecticides and/or Other Treatments	366		
Expendable Hand Tools	1,840	**Non-Cash Receipts**	
Draft Animal Maintenance	6,862	Value of On-Farm Crop Consumption/Use	18,830
Equipment Repair and Maintenance	1,435	Value of On-Farm Use of Crop By-Products	72,000
Other Cash Costs	0		
Crop Marketing Costs	4,640		
Interest Paid	4,433		
TOTAL CASH EXPENSES	53,024		
Non-Cash Expenses			
Unpaid Family Labor	59,000		
Capital Recovery/ Equipment	5,746		
Capital Recovery/ Draft Animals	588		
Interest on Equity Capital @ 18%	4,005		
TOTAL NON-CASH EXPENSES	69,339	TOTAL NON-CASH RECEIPTS	90,830
TOTAL EXPENSES	122,363	TOTAL RECEIPTS	224,790

Total Cash Receipts Per Hectare	133,960
Total Cash Expenses Per Hectare	53,024
NET CASH INCOME PER HECTARE	80,936
Total Receipts Per Hectare	224,790
Total Expenses Per Hectare	122,363
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	102,427
EFFECTIVE WAGE RATE PER MAN-DAY	2,736

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

951

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type II with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 3.5 hectares of millet, 1.0 hectare of peanuts, and 0.35 hectares of sorghum - all in pure stands, and 0.15 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 27,600 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 5,848 CFA francs (34 kilograms of triple superphosphate at 172 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 366 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 4 large hand hoes, 4 small hand hoes, 4 hand cultivating hoes (i.e. "hilere" in French), 4 hand axes. Total cost of these hand tools is 9,200 CFA francs. Total cost per hectare cultivated is 1,840 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 42 days of use in animal traction crop activities. Of these total days, 11 days are for peanut production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the peanut is 6,862 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rated cost for the peanut enterprise on a per hectare basis is estimated at 1,435 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 4,640 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 33,776 CFA francs. The pro-rated cost of the animal equipment package for one hectare of peanuts grown is 4,433 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Seeding	9	0
1st Weeding/Replacement of Missing Plants	6	1
2nd Weeding	6	1
3rd Weeding	0	0
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	59	11

Estimated use of animal traction equipment per hectare of peanuts grown and in total is as follows:

Equipment Used	Per Hectare of Peanuts	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	6	16	22
Animal-drawn Cart	5	15	95
Draft Animals	11	31	117

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	27.3
Animal-drawn Cart	5.3
Draft Animals	9.4

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	163,518 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	288,518 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	28,852 CFA francs
Total loan	259,666 CFA francs
Capital payment per year	64,917 CFA francs
Interest payment per year	31,581 CFA francs
Total annual payment	96,498 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	26,994	0	26,994	8 years	3,374
Cultivator Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	163,518		163,518		28,341

Annual depreciation of equipment pro-rated for use in peanut cultivation is 5,746 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in peanut cultivation is 588 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the oxen. Equity investment is therefore 169,551 CFA francs. Interest on equity capital at 18% per annum is 4,005 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 897 kilograms of peanuts in the shell and 2.7 tons of peanut hay. The farm sells 628 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 43,960 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses estimated 269 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 18,830 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.2 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 72,000 CFA francs.

Table B-192

REPUBLIC OF NIGER 1983
INDICATIVE ECONOMIC CROP BUDGET
(in CFA Francs)*

Crop: Peanuts
Unit: Farm Type III with Full Package Adoption (Oxen)
Location: Northern Niamey Department (200-400 Millimeters)

EXPENSES		RECEIPTS	
Cash Expenses		**Cash Receipts**	
Wage Labor	0	Crop Sales	43,960
Seed	27,600	Sales of Crop By-Products	90,000
Fertilizer	5,848	TOTAL CASH RECEIPTS	133,960
Insecticides and/or Other Treatments	366		
Expendable Hand Tools	1,725	**Non-Cash Receipts**	
Draft Animal Maintenance	5,548	Value of On-Farm Crop Consumption/Use	18,830
Equipment Repair and Maintenance	944	Value of On-Farm Use of Crop By-Products	72,000
Other Cash Costs	0		
Crop Marketing Costs	4,640		
Interest Paid	3,109		
TOTAL CASH EXPENSES	49,780		
Non-Cash Expenses			
Unpaid Family Labor	59,000		
Capital Recovery/ Equipment	3,680		
Capital Recovery/ Draft Animals	475		
Interest on Equity Capital @ 18%	2,810		
TOTAL NON-CASH EXPENSES	65,965	TOTAL NON-CASH RECEIPTS	90,830
TOTAL EXPENSES	115,745	TOTAL RECEIPTS	224,790

Total Cash Receipts Per Hectare	133,960
Total Cash Expenses Per Hectare	49,780
NET CASH INCOME PER HECTARE	84,180
Total Receipts Per Hectare	224,790
Total Expenses Per Hectare	115,745
OPERATOR LABOR AND MANAGEMENT RETURN PER HECTARE	109,045
EFFECTIVE WAGE RATE PER MAN-DAY	2,848

*Exchange Rates in 1983: U.S. $1.00 = FCFA 360.

BUDGETARY ASSUMPTIONS

A. Size and Type of Farm Operation

Farm Type III with full package adoption.

B. Area Cultivated

Under the cropping pattern of the agricultural technical package, the cropland allocation for this farm changes to 5.5 hectares of millet, 1.8 hectares of peanuts, and 0.5 hectares of sorghum - all in pure stands, and 0.2 hectares to all other crops.

C. Cultivation Methods

Farm uses a complete set of ox-drawn equipment for tillage, cultivation and cartage.

D. Wage Labor

Farm hires no outside, wage labor.

E. Seed

Farm uses 75 kilograms of improved peanut seed per hectare sown in pure stands. Cost of the seed from government is 368 CFA francs per kilogram. Total seed cost per hectare is 27,600 CFA francs.

F. Fertilizer

Farm uses 34 kilograms of triple superphosphate (i.e. 15 kilograms of P_2O_5) per hectare of peanuts sown. No application of nitrogen fertilizer is recommended. Total cost of the inorganic fertilizer per hectare of peanuts is 5,848 CFA francs (34 kilograms of triple superphosphate at 172 CFA francs per kilogram).

G. Insecticide/Fungicide

Farm uses 6 packets of Thioral insecticide/fungicide as seed treatment per hectare of peanuts sown. Total cost of the treatment is 366 CFA francs.

H. Expendable Hand Tools

Hand tool inventory for the farm includes: 6 large hand hoes, 6 small hand hoes, 6 hand cultivating hoes (i.e. "hilere" in French), 6 hand axes. Total cost of these hand tools is 13,800 CFA francs. Total cost per hectare cultivated is 1,725 CFA francs.

I. Draft Animal Maintenance

Cost of oxen maintenance estimated at 100 CFA francs per day per head. Total cost per head per year is 36,500 CFA francs for veterinary costs, feed supplements, herding labor costs for family members or hired herder, and all other costs. A pair of draft oxen costs 73,000 CFA francs.

Estimated use of the oxen is 75 days per year of off-farm use with the ox cart and 69 days of use in animal traction crop activities. Of these total days, 11 days are for peanut production on the one hectare for this enterprise budget. Total pro-rata cost for oxen maintenance for the peanut is 5,548 CFA francs.

J. Equipment Repair and Maintenance

Equipment repair and maintenance for the animal-traction equipment and cart are estimated at 5% of their purchase value per year of use. The pro-rated cost for the peanut enterprise on a per hectare basis is estimated at 944 CFA francs.

K. Other Cash Costs

The farm incurs no other cash costs for the crop.

L. Crop Marketing Costs

Estimated at 5 CFA francs per kilogram of peanuts sold in the shell and 5 CFA francs per packet of peanut hay sold. Total cost for marketing the peanut crop per hectare is 4,640 CFA francs.

M. Interest Paid

The average annual interest payment on the farm's animal equipment package is 33,776 CFA francs. The pro-rated cost of the animal equipment package for one hectare of peanuts grown is 3,109 CFA francs.

N. Unpaid Family Labor and Draft Animals

Estimated family labor time per hectare of peanuts grown is as follows:

Field Operation Performed	Man-days of Labor	Days of Animal Use
Land/Soil Preparation	8	2
Seeding	9	0
1st Weeding/Replacement of Missing Plants	6	1
2nd Weeding	6	1
3rd Weeding	0	0
Ridging	4	2
Crop Fertilization	1	0
Crop Protection	0	0
Harvesting	20	3
Marketing	5	2
Total	59	11

Estimated use of animal traction equipment per hectare of peanuts grown and in total is as follows:

Equipment Used	Per Hectare of Peanuts	For All Other Crops Grown	Total Use Of Equipment
Crop Equipment	6	25	36
Animal-drawn Cart	5	24	108
Draft Animals	11	49	144

Percentages of total use pro-rated for peanut production per hectare are:

Equipment Used	Pro-rated Percentage of Use for Peanuts
Crop Equipment	16.7
Animal-drawn Cart	4.6
Draft Animals	7.6

O. Capital Recovery/Equipment

The inventory and cost of the animal traction package for oxen is as follows:

Equipment	Economic Price
"Bati de Base et Chaine"/Base Equipment	18,530 CFA francs
"Cultivateur 5 Dents"/5 tooth Cultivator	26,994
"Jeux Lames Sarcleuses"/Cultivator Blades	10,171
"Butteurs"/Ridger	10,900
"Charrette Bovine"/Ox Cart	96,923
Sub-total for equipment	163,518 CFA francs
One pair of oxen	125,000 CFA francs
Grand total for package	288,518 CFA francs

Animal traction package loan terms are four years at 18% interest with 10% required for downpayment.

Downpayment	28,852 CFA francs
Total loan	259,666 CFA francs
Capital payment per year	64,917 CFA francs
Interest payment per year	31,581 CFA francs
Total annual payment	96,498 CFA francs

Depreciation Schedule for Equipment

Equipment Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
Base Equipment	18,530	0	18,530	8 years	2,316
Cultivator	26,994	0	26,994	8 years	3,374
Cultivator Blades	10,171	0	10,171	2 years	5,086
Ridger	10,900	0	10,900	2 years	5,450
Ox Cart	96,923	0	96,923	8 years	12,115
Totals	163,518		163,518		28,341

Annual depreciaton of equipment pro-rated for use in peanut cultivation is 3,680 CFA francs.

P. Capital Recovery/Draft Animals

Depreciation Schedule for Oxen

Oxen Purchased	Purchase Price	Salvage Value	Capital Cost	Depreciation Term	Annual Cost
2	125,000	93,750	31,250	5 years	6,250

Annual depreciation of oxen pro-rated for use in peanut cultivation is 475 CFA francs.

Q. Interest on Equity Capital

For budgeting purposes, it is assumed that the farmer has successfully paid two annual loan payments on his animal traction package and has acquired a 50% equity investment in his equipment, in addition to the required downpayment investment for 10% of the equipment and the full cost of the oxen. Equity investment is therefore 169,551 CFA francs. Interest on equity capital at 18% per annum is 2,810 CFA francs.

R. Cash Receipts

Estimated peanut yield per hectare is 897 kilograms of peanuts in the shell and 2.7 tons of peanut hay. The farm sells 628 kilograms of peanuts in the shell at 70 CFA francs per kilogram and 1.5 tons of peanut hay at 60,000 CFA francs per ton. Total value of crop sales is 43,960 CFA francs of peanuts and 90,000 CFA francs for peanut hay.

S. Non-cash Receipts

Farm family has available for consumption and/or other uses estimated 269 kilograms of peanuts per hectare cultivated. Total value of these peanuts is 18,830 CFA francs at 70 CFA francs per kilogram. In addition, the farm family has available 1.2 tons of peanut hay per hectare cultivated valued at 60,000 CFA francs per ton. Total value of this by-product is 72,000 CFA francs.