

688-12-130-201
 PD-405-175-01

AGENCY FOR INTERNATIONAL DEVELOPMENT
PROJECT PAPER FACESHEET
 TO BE COMPLETED BY ORIGINATING OFFICE

1. TRANSACTION CODE (X) APPROPRIATE BOX
 ORIGINAL CHANGE
 ADD DELETE

DOCUMENT CODE
 PP
 3

2. COUNTRY/REGIONAL ENTITY/GRAANTEE
 MALI

3. DOCUMENT REVISION NUMBER
 2

4. PROJECT NUMBER
 688-12-130-201

5. BUREAU
 A. SYMBOL AFR B. CODE 1

6. ESTIMATED FY OF PROJECT COMPLETION
 FY 79

7. PROJECT TITLE - SHORT (STAY WITHIN BRACKETS)
 MALE LIVESTOCK DEVELOPMENT

8. ESTIMATED FY OF AUTHORIZATION/OBLIGATION
 MO. YR.
 A. INITIAL 6 78 B. FINAL FY 7 81

9. SECONDARY TECHNICAL CODES (MAXIMUM SIX CODES OF THREE POSITIONS EACH)

10. ESTIMATED TOTAL COST (\$000 OR EQUIVALENT, \$1# _____)

A. PROGRAM FINANCING	FIRST YEAR			ALL YEARS		
	B. FX	C. L/C	D. TOTAL	E. FX	F. L/C	G. TOTAL
AID APPROPRIATED TOTAL	4000		4000	4000		4000
(GRANT)	(4000)	()	(4000)	(4000)	()	(4000)
(LOAN)	(-)	()	(-)	(-)	()	(-)
OTHER 1.						
U.S. 2.	4000		4000	4000		4000
HOST GOVERNMENT	1564		1564	1564		1564
OTHER DONOR(S)						
TOTALS	5564		5564	5564		5564

11. ESTIMATED COSTS/AID APPROPRIATED FUNDS (\$000)

A. APPROPRIATION (ALPHA CODE)	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE	FY 78		FY 79		FY 80		ALL YEARS	
			D. GRANT	E. LOAN	F. GRANT	G. LOAN	H. GRANT	I. LOAN	J. GRANT	K. LOAN
AD			3400		500					4000
TOTALS			3400		500					4000

12. ESTIMATED EXPENDITURES 3400 500

13. PROJECT PURPOSE(S) (STAY WITHIN BRACKETS) CHECK IF DIFFERENT FROM PID/PRP

To increase meat production and marketing in Mali through a series of actions: to reduce calf mortality, improve range management, augment forage resources and shift cattle feeding increasingly to areas where forage production may be possible; to serve as a model of an integrated approach to increasing meat production which may be expanded.

14. WERE CHANGES MADE IN THE PID/PRP FACESHEET DATA NOT INCLUDED ABOVE? IF YES, ATTACH CHANGED PID AND/OR PRP FACESHEET.
 Yes No

15. ORIGINATING OFFICE CLEARANCE

SIGNATURE *Ronald A. Lewis*

TITLE Country Development Officer/Banako

DATE SIGNED
 MO. DAY YR. 7 10 78

16. DATE RECEIVED IN AID/W OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION
 MO. DAY YR.

ACTION MEMORANDUM FOR THE ADMINISTRATOR

THRU : ES
FROM : AA/PPC Philip Birnbaum
SUBJECT : MALI LIVESTOCK PROJECT - AMENDMENT NO. 1

Problem: The proposed amendment increases the amount of an original grant of \$3.4 million to \$4.0 million. Being an increase to a project already exceeding \$2.0 million, the proposed amendment (\$600,000) requires your authorization.

Discussion: The Mali Livestock Project was authorized August, 1974, in the amount of \$3.408 million, later adjusted to \$3.4 million, for financing the cost of equipment materials, construction, livestock advice, project coordination and administration services, and research services to carry out a series of related actions to improve beef cattle production and marketing in Mali. The Project is to provide a model of an integrated approach to increase beef production that may be expanded on a regional basis. This Amendment makes but very little change in the original purpose and design as defined in the PROP/PP. One relatively minor "parallel" activity - the tse-tse zone ranch survey - now included in the follow-on Mali Livestock Sector Grant, is removed from the Project and a second "parallel" activity -- the inventory of range resources -- has been greatly expanded into another project outside the funding mentioned above. The scope of work for an economic model of the Mali Livestock Sector has been expanded into something substantially greater than the original concept.

Implementation of this Project began soon after the signing of a Grant Agreement on August 30, 1974, obligating the full amount of the authorized \$3.4 million. One implementation step was the negotiation of a grantee contract for a major portion of the project activity. The negotiation followed the usual procedure of sending out Requests for Proposals and then selecting one for negotiation. CDO/Bamako and REDSO representatives were present during all negotiations between the contractor and the GRM and later approved the final contract with Experience Incorporated, Minneapolis, Minnesota. The final contract cost \$2,554 million, including overhead and fixed fee. It exceeded the previously budgeted amount of \$2.064 million resulting in an overrun of \$490,000. The contract overrun came about principally because of an increase in personnel costs, i.e. 5 full time resident technicians instead of 4 contemplated in the PROP/PP, and more equipment, overhead and fixed fee than was contemplated in the REDSO budget.

Another overrun will occur if the Economic Model is to be developed. Originally estimated at \$184,000, it will apparently cost \$384,000 as suggested by the Scope of Work developed by a contractor following his visit to Mali and then with AID/W participation.

The contract overrun of \$490,000 plus the \$200,000 proposed overrun for the economic model, offset by \$94,000 for the range inventory activity which was removed from the Project, is \$596,000 (i.e. \$600,000), the proposed increased funding for this Project.

Appropriate revisions to the PROP/PP, along with explanatory material, are attached to this Memorandum.

Recommendation: That you approve the attached Amendment No. 1 and authorize for immediate obligation the amount of \$600,000, increasing the total obligation from \$3.4 million to \$4.0 million.

Approved: _____

Disapproved: _____

Date: _____

MALI LIVESTOCK PROJECT

(608-201)

The purpose of the Mali Livestock Project remains essentially the same as defined and explained in the original project paper (PROP/PP). One relatively minor "parallel" activity - the tse-tse zone ranch survey -- now included in the follow-on Mali Livestock Sector Grant is removed from the Project. A second "parallel" activity, the inventory of range resources, has been greatly expanded into another project outside the original funding of this Project. The scope of work for the economic model has been expanded into something substantially greater than the original concept.

Implementation experience to date with activities planned in the Project shows one substantial cost overrun and one contemplated cost overrun. The actual overrun came about in negotiation of the technical assistance contract, estimated by REDSO to cost \$2.064 million, but when negotiated with the contractor, after the normal process of issuing a scope of work and calling for proposals, cost \$2.554 million, resulting in the overrun of \$490,000. Analysis of the contract which GRM signed with Experience Incorporated of Minneapolis, Minnesota, reveals that the overrun consists principally of (1) increased cost of personnel, part of which came from increasing the full time complement from 4 envisioned in the PROP to 5; (2) more overhead and fixed fee than was included in the planning figure; and (3) \$89,000 more for equipment. The following comparison (using REDSO's budget of July, 1974, because it was the common reference in all communications with AID/W) will further explain the origin of the overrun.

	A	B	(B - A)
	REDSO Revised Budget 1974	E/I Contract	(B - A)
	\$000	\$000	\$000
Contract personnel and costs	750	864	114
Equipment	367	456	89
Construction	393	393	0
Overhead	192	355	163
Contractor fixed fee	-	78	78
Contractor equipment and supplies	-	96	96
Project operating costs	-	312	312
Escalation	60	-	-(60)
Contingency	302	-	-(302)
	2,064	2,554	490

In the negotiations which took place between GRM and the contractor, and with CDO/Bamako and REDSO approval, the following personnel requirements were agreed upon:

<u>Permanent Field Team</u>	<u>M/M</u>
Team Leader	48
First Animal Husbandry Specialist	48
Second Animal Husbandry Specialist	19
Range Management Specialist	48
Credit Specialist	<u>42</u>
Subtotal	205
<u>Short-Term Personnel</u>	
Land Clearing Specialist	2
Administrative Specialist	3
Home Office Procurement Specialist	4
Home Office Supervision	2
Field Visits, Home Office Personnel	<u>2</u>
Subtotal	<u>15</u>
TOTAL	220

In Figure 6 (Amendment No. 1) attached, the sum of \$864,000 covers the salaries, per diem, transportation and other direct costs of contractor personnel but does not include any overhead or fixed fee. If one allocated about 75% of the overhead and fixed fees to personnel (i.e. about \$324,650) the personnel costs would then increase to \$1,188,650 and the average cost per MM would be \$5400. When compared with the average MM cost of PASA's or AID direct hire, the figure is not excessive. Nor does the number of personnel appear to be excessive when viewed in the light of (1) the accomplishments expected of the contractor, (2) the time lags in communications and deliveries of commodities and (3) cultural barriers to be overcome.

The second overrun, which actually is only a contemplated overrun since it has not occurred yet, comes from the Candler Scope of Work for the Economic Model. Under a technical assistance contract, Dr. Wilfred Candler visited Mali and developed a scope of work for the economic model, which upon review in AID/W was broadened to include a third year to insure its firm establishment in the GRM. An estimate of cost for obtaining this model does not appear in the original PROP/PP but appears in REDSO's budget of July 1974, at \$184,000. As determined between AID/W and Candler, following the inclusion of the third year of work, the estimate became \$384,000 with \$200,000 as overrun. Several universities have been queried for expressions of interest and there have been some responses. CDO/Bamako has requested AID/W to hold in suspense requests for proposals, pending resolution of the funding request of this Amendment to the PROP/PP.

The actual overrun of \$490,000 in the prime contract plus the contemplated overrun of \$200,000 in the economic model minus an offset of \$94,000 which was budgeted for the ranch survey, but which has been eliminated from the Project leaves a net of \$596,000 (i.e. rounded to \$600,000). This is the amount of the add-on for which this Amendment seeks approval.

Funding Shortfalls

In the case of shortfalls in funding for the various project elements, the priorities for available funding are by rank order as follows:

1. Completion of E.I. contract, including construction of feedlots and development of grazing areas.
2. Credit capitalization
3. Participant training
4. Research program
 - (1) Sociology research
 - (2) Animal nutrition and veterinary research
 - (3) Economic model.

This order of priorities is based on the probable contribution of each to project outputs as set into the Project Logical Framework and not necessarily as to its ultimate economic contribution, which is much more difficult to assess. If funding is assured through the first three priorities, the project will reach the small farmers as per project design.

In actual practice, the above priorities should be adjusted between themselves, or in the case of the prime contract, between activities within the contract which would have their own order of priorities. The local project management will exercise its best judgment, consistent with obtaining the maximum degree of the project outputs specified in the Logical Framework, in effecting trade-offs. For example, if the collective judgment of the GRM and CDO is that the amount of land to be fenced at Doukoloumba (financed in the E.I. contract) could be reduced a certain number of acres in order to allow completion of the Tienfalla feedlots, this would be a trade-off that local project management could best decide. Other small trade-offs between the higher rank priorities may also suggest themselves as necessary.

Summary of Progress to Date

A General Agreement granting the sum of \$3.4 million was signed August 30, 1974. In accordance with the terms of the GA, the GRM issued a scope of work and Request for Proposals for technical assistance, procurement of project equipment and supplies, construction of temporary and permanent cattle feeding facilities, developing and fencing two national grazing areas totaling approximately 30,000 acres, and a credit program for small, sedentary

cattle growers. A contract was negotiated with Experience Incorporated of Minneapolis, Minnesota, for \$2,554,540.

The contract between Experience Incorporated and the GRM is now being implemented. The team leader and three of the long-term personnel are aboard. The fifth long-term technician is expected in November, 1975. An expert in feedlot design has completed the design of the two feedlots, for Segou and Tienfalla, and the plans are virtually complete. A land-clearing machinery expert has been approved by the GRM for early arrival to work on a short-term assignment. The range survey of the grazing area at Tienfalla is complete and the survey for Doukolouma is underway. The credit program has been designed and is being reviewed by the GRM. Budgets for all construction costs are being developed. Several project vehicles have been delivered.

Much of the preliminary work on initiating the research activities has already been accomplished. As already mentioned, a scope of work for developing the economic model and getting it installed in the appropriate organization in the GRM has been submitted to universities for expressions of interest. Contacts with the University of Florida for technical assistance have identified a consultant who could visit Mali to help the GRM plan its animal nutrition research program, but finalizing a personal services contract is being postponed, pending resolution of the funding problem for the Project. The funding for sociology has been expended to provide vehicles for sociologists under a REDSO funded contract.

Five participants are now at U.S. universities studying range management and feedlot operations to prepare themselves for active roles in the Project.

DIRECTIONS FOR REVISION

1. Page i, TABLE OF CONTENTS, remove and replace with Page i (Amendment No. 1)
2. Page ii, TABLE OF CONTENTS (cont'd), remove and replace with
Page ii (Amendment No. 1)
3. Page iii, LIST OF FIGURES, remove and replace with Page iii (Amendment No. 1)
4. Page iv, SUMMARY AND RECOMMENDATIONS, remove and replace with Page iv
(Amendment No. 1)
5. Page v, SUMMARY AND RECOMMENDATIONS (cont'd), remove and replace with Page v
(Amendment No. 1)
6. Page 32, delete page 32 and insert Page 32 (Amendment No. 1)
7. Pages 33 and 34, remove both pages and insert blank page 33 (Amendment No. 1)
and Page 34 (Amendment No. 1)
8. Pages 37 and 38, remove and replace with Pages 37, 37a, 38 and 38a, all
(Amendment No. 1)
9. ANNEX F, Page F-17, delete and insert Page F-17 (Amendment No. 1)
10. ANNEX G, page G-5, delete and insert Page G-5 (Amendment No. 1)
11. ANNEX H, page H-2 and H-3, remove and insert Page H-2 (Amendment No. 1)

Note: If preferred, Amendment No. 1 may be attached to the original PROP and notation made on appropriate pages: "Deleted. See new page in Amendment No. 1".

MALI: MALI LIVESTOCK PROJECT

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MALI; MALI LIVESTOCK PROJECT

SUMMARY AND RECOMMENDATIONS

- A. Grantee: The Government of Mali
- B. Beneficiary: The Malian Office of Cattle and Meat (OMBEVI);
Ministry of Production
- C. Amount: U.S. \$4.0 million
- D. Terms: Repayment not required
- E. Purpose: Finance the cost of equipment, materials, construction, livestock advice, project coordination and administration services, and research services to carry out a series of related actions to improve beef cattle production and marketing in Mali. The Project will provide a model of an integrated approach to increased beef production that may be expanded on a regional basis.

Four sub-projects directly address the Project's cattle management and beef production objectives: (1) expansion of livestock production by sedentary farmers in the vicinity of Koulikoro and Douna; (2) construction and operation of a 2,500 animal capacity feedlot at Segou; (3) construction, operation of, and range research concerning a 27,100-acre managed grazing area at Doukolouma Park; (4) construction and operation of a 1000-animal feedlot and managed grazing area at Tienfalla Forest.

In support of these four direct livestock sub-projects, three supporting activities will be carried out: (1) a credit fund will be capitalized and operated through the administrative services of the Mali Development Bank; (2) veterinary equipment and supplies will be provided to the Malian Veterinary Services at Bamako and Segou; (3) a participant training program will be established to train selected Malians in the U.S. for return to Mali and integration into sub-project management roles.

One parallel activity will be part of the Project. It is a research program consisting of three parts: (1) sociology, (2) animal nutrition and veterinary research, and (3) an economic model of the livestock subsector.

- F. Total Cost: U.S. \$ 5,564 million equivalent: U.S. \$ 4.000 million for the foreign exchange and some local costs, and the equivalent of U.S. \$ 1.564 million¹ for Malian franc costs to be provided by the Government of Mali.

¹Conversion rates used throughout this paper are \$1 dollar U.S. = 400 Malian Francs: 1000 Malian Francs = \$2.50 dollars U.S.

SUMMARY AND RECOMMENDATIONS (cont'd)

- G. Other Sources of financing : Other donors are financing related initiatives in the Malian livestock sub-sector. The Ex-Im Bank is not interested in financing this project.
- H. Issues : None
- I. Statutory Criteria: All statutory criteria have been met. (See Annex A)
- J. Country Development Office and Embassy views: The Country Team recommends authorization of this project grant. (See Annex B)
- K. Recommendation: Authorize a grant to the Government of Mali an amount not to exceed U.S. \$ 4.000 million to finance the foreign exchange and some local costs of executing this livestock project on terms and conditions set forth in the grant authorization. (See Annex D for Draft Grant Authorization).

Project Committee

Chairman and Coordinator
Engineering Advisor
Legal Advisor
Livestock Project Manager
Financial Advisor

Justin Williams, REDSO/HA
W. Sapon, REDSO/HA
James Phippard, REDSO/HA
James Robinson, CDC/Bamako
Raymond King, AID/II/COET.

V. OTHER ASSOCIATED ACTIVITIES

In addition to the four direct livestock sub-projects and three supporting activities described above, a parallel research activity will be carried out.

- A. Research Program. The research activities to be carried out as part of this project are (1) sociological study; (2) economic model of the livestock subsector and (3) veterinary and animal nutrition research.

B L A N K

- B. Research Program - There are three research activities that will be carried out as part of this Project: (1) animal nutrition and Veterinary parasitology research and (2) sociological study, and (3) an economic model of the Livestock Sector.

Sociological studies will be conducted concerning the acceptability of the changes that the Mali Livestock Project proposes to make in the livestock production systems of nomads, sedentary farmers and wholesale butchers. The sociological studies will examine statistical data on families and livestock in the Project area; the sociology of the various ethnic groups as it affects livestock management decisions; systems of livestock production; probable responses to introduction of innovations such as the use of supplementary feeds and branding of cattle; the economics of family livestock production, including milk consumption, family crop production, and craftsmanship; and the need for and responses to credit. To accomplish these studies two sociologists will be required.

The economic model will be dynamic. It will indicate the effect of disasters such as drought on sub-sector production and income over a five to ten year period and will provide a tool for evaluation of individual projects. If carried out in cooperation with the French AID and Cooperation Fund (FAC) and other institutions, it will provide the institutions that have made most of the livestock sub-sector studies with improved analytical techniques. The results will in this way be acceptable to the major donors. The model could then be used as a pilot for development of a regional economic model that would demonstrate the effect of cooperation within a region and stimulate development of effective regional strategies for meat production and delivery.

VI. PROJECT ANALYSIS AND EVALUATION¹

A. Cost Estimate. The total cost of this project is estimated to be \$5,564,000 --- \$4,000,000 in foreign exchange (dollar) costs to be financed by A.I.D., \$ 1,564,000 equivalent in Malian franc costs to be provided by the Government of Mali.

Costing of Project Outputs/Inputs may be found on page 37a (Amendment No. 1) which follows this page.

B. Technical Analysis. The technical planning required to carry out this Project is substantially complete. Design details appear in the final report of the design team. Design standards are considered reasonable and appropriate for the character of proposed cattle handling facilities and for their anticipated use during the next 20 years. Such facilities as cattle pens have been designed and located to permit expansion if required.

¹ Walker, Jack, A.I.D., "Mali Livestock Design Report." December, 1973.

COSTING PROJECT OUTPUTS/INPUTS
\$000 or equivalent

PROJECT PAPER

Project # _____ TITLE MALI LIVESTOCK PROJECT

PROJECT INPUTS *	PROJECT OUTPUTS					TOTAL
	#1 (1a)	#2 (1b)	#3 (1c)	#4 (1d)	#5 (2a)	
AID Appropriated						
1. U.S. Advisors	190.2	416.0	249.6	332.8	343.0	1,531.0
2. Commodities and construction	219.5	478.0	286.0	382.5		1,366.0
3. Participant Training		53.5	53.5	53.5	53.5	214.0
4. Revolving credit fund	264.8	342.0	194.0			800.0
5. Local GRM Proj. Op. Costs	14.3	31.0	19.1	24.7		89.0
						<u>4,000.0</u>
Host Country						
1. Personnel costs	16.6	16.6	16.6	16.6	48.6	115.0
2. Construction				1355.0**		1,355.0
3. Participant Training		23.5	23.5	23.5	23.5	94.0
	704.5	1,360.6	842.3	2188.6	468.6	5,564.0

* Refer to Logical Framework: OUTPUTS:
 1a = Sedentary Farmers
 1b = Segou Feedlot
 1c = Tienfalla Feedlot
 1d = Doukolouma Grazing Area
 2a = Research Institutions

** 27,000 acres of land valued at \$50.00 per acre.

FIGURE 6

RECAPITULATION OF PROJECT COSTS

	<u>MF equiv.</u> <u>\$000</u>	<u>Dollars</u> <u>\$000</u>	<u>Total</u> <u>\$000</u>
<u>I. Contract Services</u>			
1. Prime contract for TA, construction procurement of commodities:			
a. Consultant and advisory personnel, including travel, transportation, other direct	83.0	864.0	947.0
b. Project operating costs		312.0	312.0
c. Overhead		354.6	354.6
d. Contractor equipment and supplies		96.8	96.8
e. Equipment		456.0	456.0
f. Construction	1,355.0*	393.0	1,748.0
g. Contractor fixed fee		78.2	78.2
Sub-total prime contract		2,554.6	
2. Research Program			
a. Construction Economic Model		384.0	384.0
b. Animal Nutrition & Parasitology	32.0	34.0	66.0
c. Sociology Research		18.0	18.0
<u>II. Participant Training</u>	94.0	121.0	215.0
<u>III. Other Costs</u>			
1. Credit capitalization		800.0	800.0
2. GRM local costs for Project Management		88.4	88.4
			5,564.0

* Includes 27,000 acres of land valued at \$50.0 per acre.

Under the contract between GRM and Experience Incorporated of Minneapolis, Minnesota, the contractor is to provide all the services indicated in items a, b, d, e, and f, Figure 6, page 38. The total of the prime contract is \$2,554,540 (i.e. \$2,554,600).

Item II Participant Training is obligated in the General Agreement. Other Costs (II.1 and 2) are considered to be accurate and firm estimates, with item III.2, being sub-obligated.

Equipment and Construction. Item f, Figure 6, "Construction" was the amount specified by the GRM for inclusion in the contract as a tentative estimate, pending the Contractor's calculations of construction costs determined from detailed plans for feedlots and the fencing of the grazing areas at Tienfalla and Doukoluma. (The \$393,000 is the same as the original PROP/PP estimate in the original Figure 6.) The Contractor is now well along in the preparation of firm cost estimates. The estimated cost of equipment has not changed from the original PROP/PP.

Additional local cost requirements. GRM required local cost financing of \$88,500 to initiate the operations of ECIBEV in the management of the project. This amount was authorized by Implementation Letter No. 3.

Three research activities will be carried out as part of this project.

They are as follows: (1) sociological study, (2) economic model of livestock sub-sector, (3) veterinary and animal nutrition research.

PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK (Cont'd)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS														
<p>Project Inputs: (D-1)*</p> <ol style="list-style-type: none"> 1. U.S. Advisors: <table style="margin-left: 20px; border: none;"> <tr> <td>a. Team Leader</td> <td style="text-align: right;">48 MM</td> </tr> <tr> <td>b. Animal Husbandry Specialist</td> <td style="text-align: right;">48</td> </tr> <tr> <td>c. An.Husb. Spec.</td> <td style="text-align: right;">19</td> </tr> <tr> <td>d. Range Mgt. Spec.</td> <td style="text-align: right;">48</td> </tr> <tr> <td>e. Credit Specialist</td> <td style="text-align: right;">48</td> </tr> <tr> <td>f. Other short term</td> <td style="text-align: right;">15</td> </tr> <tr> <td style="padding-left: 20px;">Total</td> <td style="text-align: right; border-top: 1px solid black;">220 MM</td> </tr> </table> 2. Commodities and construction <ol style="list-style-type: none"> a. Feedlot construction materials and equipment b. Fencing materials c. Vehicles d. Misc. livestock and veterinary supplies 3. Participant training for all sub-activities 4. Funding support for GRM project management organization 5. Funding for revolving credit fund 6. GRM project contributions in land and services. 	a. Team Leader	48 MM	b. Animal Husbandry Specialist	48	c. An.Husb. Spec.	19	d. Range Mgt. Spec.	48	e. Credit Specialist	48	f. Other short term	15	Total	220 MM	<p>Implementation Target (Type and Quantity): (D-2)</p>	<p>(D-3)</p> <ol style="list-style-type: none"> 1. Grant agreement and other funding documents 2. Commodity purchases by contracted firm and observed construction 3. Contract for technical assistance (and construction, procurement and management). 4. Observation of CVL and CNIZ programs 5. Mali Development Bank records 6. Host country law for creation of a Public Institution (Etablissement Publique) 7. Monthly progress reports of contract firm. 8. Controller reports on disbursements 9. Satisfaction of CP/d on turnover of land use rights. 	<p>Assumption for providing Inputs: (D-4)</p> <ol style="list-style-type: none"> 1. GRM will be able to select qualified contract firm within 4 months of grant approval 2. Continued U.S. funding will be available for the project 3. Appropriate and time inputs in veterinary services will be available from the Sahel relief and rehabilitation program 4. Qualified candidates for training will be identified on a timely basis and will be placed in key positions upon return from training.
a. Team Leader	48 MM																
b. Animal Husbandry Specialist	48																
c. An.Husb. Spec.	19																
d. Range Mgt. Spec.	48																
e. Credit Specialist	48																
f. Other short term	15																
Total	220 MM																

4 Livestock Patrolmen; employees of the Forestry Service to patrol the Doukolouma Park Grazing Reserve.

3. Research Projects

a. Range Research at Doukolouma Park

1 Range researcher for 3 years; to be sent to the U.S. as a participant and return to Mali to perform applied range research.

b. Sociological Study

2 Sociologist counterparts; to work in cooperation with team of 2 U.S. sociologists.

c. Veterinary Parasitology of Calves

1 Technician

d. Calf Nutrition and Fertility

1 Technician

e. Economic Model Construction

3 Malian technicians; U.S. training to M.S. level. M.S. students also to have "on-the-job" training in Mali as part of the team constructing the model and assembling required data.

Note: This summary does not include the senior officials of the Government of Mali, such as the Director of OMBEVI, the Chief of the Veterinary Service at Segou, or the Director of CNIZ, who will provide general executive direction and supervision of the Project.