

6330067 (2)

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BOTSWANA

**Agricultural Planning
Project Paper**

633-0067

UNCLASSIFIED

20 MAR 1978

ACTION MEMORANDUM FOR THE ASSISTANT ADMINISTRATOR FOR AFRICA

FROM: AFR/DR, John L. Withers *JLW*

Problem: Your approval is required to execute a grant of \$4,778,650 from the SSA appropriation to Botswana for the Agricultural Planning Project (633-0067).

Discussion: The proposed project is designed to assist the Government of Botswana (GOB) improve its rural planning capabilities by providing technical assistance and training to the GOB's Ministry of Agriculture, Planning and Statistics Unit. Accordingly, the purpose of the project is to develop a localized GOB economic and analytical capacity to rationally plan and program responses to the issues of rural sector development. It is anticipated that an improved planning capability will contribute to the overall project goal of improving the welfare of Botswana's small-scale farmers and herders. Both the development of skilled manpower and the improvement of the welfare of Botswana's farmers have been identified by both GOB and AID as areas requiring priority attention. The project is thus in conformance with both AID's and the GOB's strategy for Botswana's development.

To accomplish the project purpose, \$1,145,000 is requested for obligation in FY 78. The life-of-project funding required is \$4,778,650 to be expended over the five year project life. The following budget outlines dollar expenditures by component of funds requested:

	FY 1978			Life of
	<u>FX</u>	<u>LC</u>	<u>Total</u>	<u>Project</u>
Technical Assistance	490		490	2,020,000
Participant Training	49		49	616,000
Commodities and Project Support	107.85	100	207.85	679,500
Construction	232		232	232,000
Contingency	60.25	50	110.25	497,250
Price Inflation	45.9	10	55.9	733,900
TOTAL	<u>985</u>	<u>160</u>	<u>1145</u>	<u>4,778,650</u>

The Government of Botswana will contribute \$2,075,500 to this project which will cover local personnel costs, commodities and office space.

The activities proposed in the project are socially, technically, and economically feasible. The implementing GOB institutions have been thoroughly examined and are believed to have the capacity to absorb and effectively utilize the training to be provided under the project. There appear to be no financial constraints to preclude the GOB from providing the required funding for project implementation. Finally, the social analysis identifies no cultural barriers which would impede project implementation.

The Initial Environmental Examination is attached for your concurrence. A negative determination is recommended.

There are two conditions precedent to disbursement which are included in the attached authorization. The first requires written evidence that land will be provided for AID-financed project housing. The second condition precedent requires the submission of final plans for housing and office/library facilities prior to disbursement of funds for construction. In addition to the two conditions precedent aforementioned, there are four covenants in the authorization all of which are self-explanatory.

The following waivers and approvals are required:

- (1) A procurement and source origin waiver from AID Geographic Code 000 (U.S. only) to Code 935 for procurement of construction materials and of Project vehicles;
- (2) Waiver of the policy set forth in AID Handbook 11 (limiting procurement of grant-financed services to U.S. and local source and origin) to permit the procurement of construction services, and equipment maintenance and repair services from Free World firms in equal preference to U.S. and local firms, and/or joint ventures of such firms.
- (3) Approval to deviate from the policy expressed in AID Handbook 11, Chapter 2, which limits employment of third country nationals on AID-financed construction to 20 percent of the non-local work force since the source for services may be free world firms.

The justification for the above waivers and approvals is included on page 59 and in Annex N of the Project Paper.

AGENCY FOR INTERNATIONAL DEVELOPMENT
**PROJECT AUTHORIZATION AND REQUEST
 FOR ALLOTMENT OF FUNDS PART I**

1. TRANSACTION CODE

A ADD
 C CHANGE
 D DELETE

PAF

3. DOCUMENT CODE
 5

3. COUNTRY/ENTITY

Botswana

4. DOCUMENT REVISION NUMBER

5. PROJECT NUMBER (7 digits)

[633-0067]

6. BUREAU/OFFICE

A SYMBOL B CORR
 AFR [1]

7. PROJECT TITLE (Maximum 40 characters)

[Agricultural Planning]

8. PROJECT

ACTION TAKEN

APPROVAL
 DECISION

A APPROVED
 D DISAPPROVED
 DE DEAUTHORIZED

9. EST. PERIOD OF IMPLEMENTATION

YRS. [0] [5] QTRS [2]

10. APPROVED BUDGET AID APPROPRIATED FUNDS (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. 1ST FY <u>78</u>		H. 2ND FY <u>79</u>		K. 3RD FY <u>80</u>	
		C GRANT	D LOAN	F GRANT	G LOAN	I GRANT	J. LOAN	L GRANT	M. LOAN
(1) SSA	192	052		1145					
(2) FN						1078.3		941.2	
(3)									
(4)									
TOTALS				1145		1078.3		941.2	

A. APPROPRIATION	N. 4TH FY <u>81</u>		O. 5TH FY <u>82</u>		LIFE OF PROJECT		11 PROJECT FUNDING AUTHORIZED (ENTER APPROPRIATE CODE(S)) 1 - LIFE OF PROJECT 2 - INCREMENTAL LIFE OF PROJECT	A. GRANT	B. LOAN
	C. GRANT	P. LOAN	R. GRANT	S. LOAN	T. GRANT	U. LOAN			
(1) SSA					1145				
(2) FN	934.3		679.85		3633.65				
(3)									
(4)									
TOTALS					4778.65				

C. PROJECT FUNDING AUTHORIZED THRU
 PY [8] [2]

12. INITIAL PROJECT FUNDING ALLOTMENT REQUESTED (\$000)

A. APPROPRIATION	B. ALLOTMENT REQUEST NO. _____	
	C. GRANT	D. LOAN
(1) SSA	1,145	
(2)		
(3)		
(4)		
TOTALS		1,145

13. FUNDS RESERVED FOR ALLOTMENT

Dannie G. Baker

TYPED NAME (Check SER:FM/PSD)

SIGNATURE

DATE

14. SOURCE/ORIGIN OF GOODS AND SERVICES

000 941 LOCAL OTHER _____

15. FOR AMENDMENTS, NATURE OF CHANGE PROPOSED

FOR PPC/PIAS USE ONLY	16. AUTHORIZING OFFICE SYMBOL	17. ACTION DATE	18. ACTION REFERENCE (Optional)	ACTION REFERENCE DATE
		MM DD YY		MM DD YY

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D. C. 20523

**ASSISTANT
ADMINISTRATOR**

**PROJECT AUTHORIZATION AND REQUEST
FOR ALLOTMENT OF FUNDS (PART II)**

Country: Botswana
Project Name: Agricultural Planning
Project Number: 633-0067

Pursuant to Part II, Chapter 4, Section 531 and 532 of the Foreign Assistance Act of 1961, as amended, I hereby authorize a Grant to Botswana (the "Cooperating Country") of not to exceed One Million One Hundred and Forty-Five Thousand United States Dollars (\$1,145,000) (the "Authorized Amount") to help in financing certain foreign exchange and local currency costs of goods and services required for the project as described in the following paragraphs.

The project will assist Botswana to develop a localized economic and analytical capacity to rationally plan and program responses to the issues of rural sector development. The project will accelerate localization of rural development planning by providing Botswana with practical in-country training and advanced overseas coursework, and will provide to the Government of Botswana the services of expatriate planning experts to manage immediate rural development planning needs while nationals are being trained.

I approve the total level of A.I.D. appropriated funding planned for this project during the period of FY 1978 through FY 1982 of not to exceed Four Million Seven Hundred Seventy-Eight Thousand Six-Hundred and Fifty United States Dollars (\$4,778,650) (the "Grant") subject to the availability of funds in accordance with A.I.D. allotment procedures.

I hereby authorize the initiation of negotiations and execution of the Project Agreement by the officer to whom such authority has been delegated in accordance with A.I.D. regulations and Delegations of Authority subject to the following essential terms and covenants and major conditions together with such other terms and conditions as A.I.D. may deem appropriate:

(a) Source and Origin of Goods and Services

Except as provided below in paragraph b, goods and services financed by A.I.D. under the project shall have their source and origin in countries included in A.I.D. Geographic Code 941, except as A.I.D. may otherwise agree in writing.

Ocean shipping financed under the Grant shall be procured in any eligible source country except the Cooperating Country.

(b) I hereby approve the financing of local currency costs in the approximate amount of \$601,500 for construction materials, local training and support.

(c) Condition Precedent to Signing the Project Agreement

Prior to the date of execution of the Project Agreement, the Grantee shall furnish in form and substance satisfactory to A.I.D., written evidence that adequate land is available and that such land has been allocated for AID-financed project housing. The Grantee may, however, provide such evidence as is satisfactory to A.I.D. that adequate housing will be issued to the AID-financed technicians, on a timely basis, and that such housing may be used by the A.I.D. technicians until sites are identified and allocated and construction completed on technicians' homes.

(d) Conditions Precedent to Disbursement for Construction

Prior to any disbursement, or the issuance of any commitment documents under the Project Agreement, to finance the construction of technicians' housing or the construction of office and library facilities, the Grantee shall furnish in form and substance satisfactory to A.I.D., in the case of housing, final plans and specifications inclusive of evidence indicating that appropriated sites have been allocated for this purpose; and in the case of office/library facilities, final plans, specifications and tender documents. The conditions stated herein may be satisfied separately for technicians' housing and office/library facilities.

(e) Covenants

The Grantee shall covenant, substantially, as follows:

(1) Appropriate positions within the Ministry of Agriculture will be established on the Grantee's Establishment List for the A.I.D. financed technicians.

(2) The Grantee will assure that participants trained under this project will be assigned, upon completion of training, positions within the government commensurate with the nature and level of their training. The Grantee's normal bonding requirements will be made applicable to those trained under the project.

(3) The Grantee will take such steps as may be practicable, including the establishment of dual incumbency positions, where feasible, to maximize the extent of overlap of AID technical assistance personnel with Grantee personnel trained under the project.

(4) The Grantee will covenant that all project-financed technicians will be given office space within the new Ministry of Agriculture Headquarters building.

(f) Waivers

Based upon the justification set forth in Annex N of the Project Paper, the following waivers to A.I.D. regulations are hereby approved:

(1) The policy set forth in Handbook 11 limiting procurement of services under grant-financed projects to U.S. and local firms is waived to permit procurement of construction services (approximately \$232,000) and equipment repair and maintenance services (minimal amount) from Free World firms in equal preference to U.S. and local firms, and/or joint venture of such firms

(2) The policy set forth in Handbook 11 limiting employment of third country nationals for AID-financed construction projects to 20 percent of the non-local workforce is waived.

(3) The requirement under Handbook 15 that commodities procured with grant funds have their source and origin in the U.S. (A.I.D. Geographic Code 000) is waived to permit procurement of approximately \$124,000 of construction materials which have their source and origin in countries included in A.I.D. Geographic Code 935 (Special Free World). Exclusion of procurement of these construction materials from Code 935 countries would seriously impede attainment of U.S. foreign policy objectives and the objectives of the foreign assistance program.

(4) The requirement under Handbook 15 that commodities procured with grant funds have their source and origin in the U.S. (A.I.D. Geographic Code 000) is waived to permit the procurement of four project vehicles and spare parts at an approximate cost of \$51,000, which have as their source and origin countries included in A.I.D. Geographic Code 935 (Special Free World). Exclusion of procurement of the project vehicles from countries included in Code 935 would seriously impede

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT PAPER FACESHEET

1. TRANSACTION CODE

A

A ADD
C CHANGE
D DELETE

PP

2. DOCUMENT CODE
3

3. COUNTRY ENTITY

BOTSWANA

4. DOCUMENT REVISION NUMBER

5. PROJECT NUMBER (7 digits)

633-0067

6. BUREAU/OFFICE

A. SYMBOL

AFR

B. CODE

1

7. PROJECT TITLE (Maximum 40 characters)

AGRICULTURAL PLANNING

8. ESTIMATED FY OF PROJECT COMPLETION

fy **83**

9. ESTIMATED DATE OF OBLIGATION

A. INITIAL FY **78**
C. FINAL FY **83**

B. QUARTER **2**
(Enter 1, 2, 3 or 4)

10. ESTIMATED COSTS (\$000 OR EQUIVALENT \$) -

A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FY	C. - C	D. TOTAL	E. PR	F. LC	G. TOTAL
AID APPROPRIATED TOTAL	805	340	1145	4177.15	601.5	4778.65
GRANT	805	340	1145	4177.15	601.5	4778.65
LOAN						
OTHER U.S.						
HOST COUNTRY	-	-	-		2075.5	2075.5
OTHER DONOR(S)						
TOTALS	805	340	1145	4177.15	2677	6854.15

11. PROPOSED BUDGET APPROPRIATED FUNDS (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. 1ST FY <u>78</u>		H. 2ND FY <u>79</u>		K. 3RD FY <u>80</u>	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	I. GRANT	J. LOAN	L. GRANT	M. LOAN
(1) SA	192	052		1145		1078.3		941.2	
(2)									
(3)									
(4)									
TOTALS				1145		1078.3		941.2	

A. APPROPRIATION	N. 4TH FY <u>81</u>		O. 5TH FY <u>82</u>		LIFE OF PROJECT		12. IN-DEPTH EVALUATION SCHEDULED
	P. GRANT	Q. LOAN	R. GRANT	S. LOAN	T. GRANT	U. LOAN	
(1)							<div style="border: 1px solid black; padding: 5px; display: inline-block;"> MM YY 10 80 </div>
(2)	934.3		679.85		4778.65		
(3)							
(4)							
TOTALS					4778.65		

13. DATA CHANGE INDICATOR WERE CHANGE MADE IN THE PID FACESHEET DATA BLOCKS 12, 13, 14, OR 15 OR IN PRP FACESHEET DATA, BLOCK 12? IF YES ATTACH CHANGED PID FACESHEET

YES

14. ORIGINATING OFFICE CLEARANCE

SIGNATURE

TITLE

Regional Development Officer

DATE SIGNED

12 01 77

15. DATE DOCUMENT RECEIVED IN AID/W OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION

MM DD YY

Botswana Agricultural Planning

Project Paper

Project No. 690-0067

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GLOSSARY OF TERMS

AID	Agency for International Development
AID/W	AID Washington, D.C., headquarters
AOO/Gaborone	AID operations office/Gaborone
AFR/DR	AID Africa Bureau, Development Resources Office
Botswana	The country
Batswana	The people of Botswana (singular is Motswana)
CAE	Chief Agricultural Economist, GOB Ministry of Agriculture
GOB	Government of Botswana
MFDP	GOB Ministry of Finance and Development Planning
MCA	GOB Ministry of Agriculture
MCA/PSU	GOB Ministry of Agriculture Planning and Statistics Unit
Motswana	One Botswana National
OJT	On-the-job training; period of attachment
OSARAC	AID Office of Southern African Regional Affairs Coordination (located in Mbabane, Swaziland)
Participant	Trainee; participant in AID-sponsored training program
REDSO/EA	AID Regional Economic Development Services Offices, East Africa (located in Nairobi, Kenya)
SADPT	Southern African Development Personnel and Training
SAE	Senior Agricultural Economist, Ministry of Agriculture, PSU.
UBS	University of Botswana and Swaziland
USDA	U.S. Department of Agriculture

PROJECT PAPER
BOTSWANA AGRICULTURAL PLANNING PROJECT
PROJECT NUMBER 690-0067

I. PROJECT SUMMARY AND RECOMMENDATIONS

A. RECOMMENDATION

Authorization of a grant of \$4,778,650 for the Project, subject to the following waivers and approvals:

- A procurement source and origin waiver from AID Geographic code 000 (US only) to Code 935 for procurement of construction materials and of Project vehicles (three 1-ton and one 3/4-ton pickup trucks) and a waiver of the provisions of Section 636 (i) of the Foreign Assistance Act to permit procurement of project vehicles from non-US source and origin.
- Approval to deviate from the policy expressed in AID Handbook II, Chapter 2, which limits employment of third country nationals on AID-financed construction to 20 percent of the non-local work force.
- Waiver of the policy set forth in AID Handbook 11 (limiting procurement of grant-financed services to US and local source and origin) to permit the procurement of construction services, and equipment maintenance and repair services from Free World firms in equal preference to US and local firms, and/or joint ventures of such firms.

B. PROJECT DESCRIPTION

1. Scope

The proposed Project is designed to help the Government of Botswana (GOB) improve its rural development planning capabilities. The Project has two facets: (1) to accelerate localization by providing Botswana with practical in-country training and advanced overseas coursework, and (2) to provide the GOB Ministry of Agriculture, Planning and Statistics Unit (MDA, PSU) with expatriate planning experts to handle the GOB's immediate rural development planning needs while Botswana are being trained.

The Project builds on the successful agricultural planning work done over the past three years under SADPT funding. AID's previous SADPT program has provided MDA, PSU with three planning experts and overseas training for Botswana. The existing SADPT OPEX positions would become a part of this project.

Since agriculture is the heart of rural development, the project places major emphasis on MDA, PSU. It will expand and improve this unit's capability to provide sound analyses and plans for developing the agricultural sector. A smaller portion of Project resources will also be made available for training rural development planners in other Ministries and in parastatal organizations.

Over five years the Project will train 16-20 Batswana in agricultural economics and related rural development fields. The training program will be flexible since the academic skills/weaknesses of the trainees will differ greatly. Trainees will be both recent University of Botswana and Swaziland (UBS) BA (Economics) and BS (Agriculture) graduates as well as selected MOA and other GOB employees who have been identified as good candidates to benefit from overseas academic upgrading.

Most trainees will have a year OJT (on-the-job training) at MOA. The training will include remedial math and economics classes as well as practical experience. Trainees with a strong academic background will then go to a US university for 1½ - 2 years of MS coursework. Most of these MS candidates will return to Botswana for ½ - 1 year of thesis research and then return to the US to defend their theses. Other trainees, with a weaker academic background, will do 1½ - 3 years of US university study consisting of a mixture of advanced undergraduate and graduate courses which will lead to a Bachelor's Degree or a non-thesis Master's Degree.

While Batswana are being trained, the Project-funded technicians will help expand MOA, PSU's capability to do better rural sector planning. By improving MOA, PSU capacity, an institutional basis will be created for rural sector development planning.

In addition to these activities, the Project will provide houses for five of the seven planning technicians (the GOB will provide houses for the other three); six offices for the seven planners; an administrative support office to serve Project and technician management and logistical needs; four vehicles to do field research; a library for use by the trainees during their OJT and for general MOA reference needs; and miscellaneous "other costs".

2. AID Inputs

(a) <u>Technical Assistance</u>		<u>\$2,020,000</u>
Chief Agricultural Economist	4	staff years
Senior Agricultural Economist	5	staff years
Farm Management Economist	4	staff years
Agricultural Statistician	2	staff years
Rural Sociologist	2	staff years
Livestock Economist	2	staff years
Agricultural Economist/Trainer	5	staff years
Short-term consultants	<u>1 1/4</u>	<u>staff years</u>
Total	25 1/4	staff years

(b) <u>Participant Training</u>		<u>\$ 616,000</u>
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It is planned that 20 participants (half BS and half MS) will receive the following training:

In-country remedial and OJT	23	participant years
US university training	<u>44</u>	<u>participant years</u>
	67	participant years

(c) Commodities and Project Support \$ 679,500

Four vehicles and spare parts (three, 1-ton 4-wheel drive pickup trucks at \$11,500 each; and one, 3/4 ton, 4-wheel drive pickup at \$10,500).

Library books (\$28,000 for 1,400 reference books, research books, and periodicals).

An administrative officer and office to provide Project logistics and management support (\$453,000).

Miscellaneous operating "other costs" (\$60,000 for field surveys, office equipment, office supplies, and miscellaneous commodities).

Special short-training courses (\$80,000).

Funding for two GOB officials to travel to the U.S. to assist in contractor selection (\$7,500).

(d) Construction \$ 232,000

Five technician three-bedroom houses at \$35,000.

Six offices at \$7,000 per office of 16.25 square meters.

One library room at \$15,000 for 32.5 square meters.

(e) Contingency \$ 497,250

at 15 percent of all Project costs except construction.

(f) Price Inflation \$ 733,900

at 8 percent per annum cumulated except construction.

(g) Grand Total \$ 4,778,650

3. Implementation

The Project is to be implemented through a contract with a US institution. The GOB wishes to ensure the institutional development of MOA, PSU by establishing a relationship with a US "institutional" contractor rather than an "OPEX-type" contractor. It plans to consider US universities or USDA (US Department of Agriculture). Participant trainee selection will be done jointly by the GOB, MOA, MFDP (Ministry of Finance and Development Planning), and the Directorate of Personnel. The Project Contractor (not AID) will be responsible for all Project implementation except construction. This will include all training, purchases of commodities, procurement of vehicles, and technician personnel matters. A Project funded Administrative

Officer working with the CAE, will provide all such administrative support. Construction of the offices, library and housing will be handled on a Fixed Amount Reimbursement (FAR) basis. Required details on contracting procedures will be included in the Project Agreement (ProAg). "Other Costs" for MOA operational support will be handled on a reimbursable basis. Again, procedural details will be included in the ProAg.

4. End of Project Status

At the end of the Project, Botswana will have: (1) a 1982-87 Development Plan with rural development goals analyzed and developed in a systematic manner primarily by Botswana planners; (2) a better managed MOA, PSU at least 50 percent staffed by trained Botswana planners; and (3) a larger number and at least 50 percent greater value of agricultural and rural development projects planned and approved. These achievements will contribute to improving the welfare of Botswana's small-scale farmers and herders. Institutional development and localization are long-term processes. Even with successful Project completion, similar and more comprehensive efforts will still be required. It is expected that the activities discussed in this PP will be supplemented by follow-on MOA efforts and/or subsequent donor projects.

C. SUMMARY OF FINDINGS

A review of the analyses in Parts III and IV of this PP confirms that the Project is ready for implementation. The analyses demonstrates that:

- While Botswana has a relatively high average per capita income, present agricultural production techniques and investment do not favor the small-scale farmer or herder. The average rural household has an income that would place it among the poorest of the world's Less Developed Countries (LDCs);
- The GOB has made a major commitment to transfer resources from the modern mining sector to the rural poor. The GOB has implemented a number of programs to improve rural welfare;
- The need to increase the flow of resources and improved technology to the rural sector is great. Improved rural sector analysis and planning is an essential precondition to accelerated action. Botswana needs to increase its immediate planning capacity and, in the longer-run, to fully localize that capacity if it is to be relevant and self-sustaining;
- The technical design and inputs will help meet that need in an effective manner;
- Manpower requirements analysis indicates that adequate Botswana trainees will be available to produce the required planners;
- The MOA, PSU is a suitable institution which can be developed to provide the institutional basis for improved rural sector planning;
- The Government of Botswana is strongly committed to the Project objectives and to ensuring Project success;
- The magnitudes and timing of Project activities are appropriately scheduled;

- Periodic evaluations and an independent Special Evaluation in the second year are planned to assess progress and suggest possible revisions to the Project design if necessary; and
- The Project meets all applicable statutory criteria (see Annex A).

D. PROJECT ISSUES

Questions related to the number of trainees, types of training, and type of institutional development being supported have been thoroughly examined in the PID, PRP, and this PP. Full agreement has been reached with the GOB on these and other aspects of Project structure. They are described in the body of this PP (Sections II B, III B, and IV). There are no major issues remaining.

II. BACKGROUND AND DETAILED DESCRIPTION

A. BACKGROUND

1. Rural Development Planning Needs

The following is a brief overview of Botswana's rural development problem. It is a short summary of material which is presented in greater detail in Section III B, "Technical Analysis".

Botswana's rural population receives one of the lowest incomes in Africa (45 percent of the rural population has income below the necessary minimum level). It is faced as well with a shortage of arable land (6 percent of total land area is arable) and increasing problems with rangeland use and conservation. These problems are intensified by two major development constraints: water is in short supply (rainfall is low and widely scattered; 75 percent of the people and animals depend on ground water), and there is a serious shortage of manpower to plan and implement development activities.

The need for skilled manpower is particularly pressing. It was recognized as a major development constraint in the Botswana DAP substitute and by each of Botswana's four National Development Plans. Approximately 80 percent of senior-level government positions are held by expatriates. The GOB is determined that many of these positions be "localized" (the September 1977 "localization report" calls for localization of most professional positions over the next five years).

The Ministry of Agriculture suffers both a severe shortage of planning manpower in general and of trained Batswana in particular. The MOA Planning and Statistics Unit has eight professional positions, with only one held by a Botswana. Agriculture Development Budget expenditure rates have been low; only 30 percent of the planned budget was expended over the period 1973/74-1975/67. The need to immediately increase both (1) analysis and planning capacity and (2) the number of trained Batswana planners is clear.

2. Project Development Background

At the request of the GOB, OSARAC prepared a (PID) in late 1975. It identified skilled manpower as a major constraint to improved rural development planning. The PID proposed training for 10 or more participants who would become agricultural sector planners in MOA and MFDP. While the training was taking place, six OPEX staff and short-term consultants would help the GOB meet current agricultural planning needs. The PID Logical Framework was very similar to the one in this PP.

In November 1976 a PRP was prepared. The PRP greatly expanded upon the basic PID approach. It was patterned after the innovative AID Lesotho Agricultural Sector Assistance Project (LASA). The participant training and technical expert levels were more than triple the PID levels. To make training of planners self-sustaining, the University of Botswana and Swaziland (UBS) was integrated into a large-scale in-country training program. Rural sector analysis (to form the basis of an Agricultural Strategy Analysis) was a major project output. To tie all of the components together a US university was proposed as the contractor in order to establish a "collaborative" institutional relationship with MOA and UBS.

The PRP was a sophisticated "ideal" of how agricultural analysis, training and institutional linkage could be interrelated. However, it went beyond Botswana's present needs and absorptive capacity. After discussions with the GOB it became clear that the PRP approach was too massive, too costly, required more Botswana manpower than was available, and involved overly sophisticated institutional relationships.

In moving from the PRP to the PP it was decided to design a project structure using the best concepts from the PID and PRP. It is a synthesis of the two, but probably closer to the PID. The PID had very limited institutional development objectives: OPEX technicians in both MDA and MFDP were to fill planning positions and the 10 participants were to receive the bulk of their training in the U.S. While not going as far as the PRP, this Project will have a US institution (rather than an "OPEX type") as a contractor, all technicians will be concentrated in MDA, a substantial in-country training component is included, some Botswana trainees will receive MS thesis supervision in Botswana, and the number of trainees and the training time is about double the PID level. The GOB strongly supports such an approach. It meets Botswana's training and manpower requirements within an institutional framework that does not exceed Botswana's absorptive capacity. The GOB worked closely with the PP Design Team and was involved throughout the design process. Both the GOB and AID are in agreement and both strongly support this Project approach.

B. DETAILED PROJECT DESCRIPTION

1. Goal

To improve the welfare of Botswana's small-scale farmers and herders. The goal is a higher-order objective which the Project will only indirectly affect. This Project, by itself, will not result in goal level achievement. However, the Project along with the other GOB rural development programs will help move the country toward goal level achievement.

Although the goal is a broad objective, achievement can be measured through several indicators. If small holder welfare improves, rural income surveys will show higher per capita income. Botswana Meat Commission records on small-holder cattle sales will give some measure of increased meat production. The same would apply for sample surveys of crop marketing. Small-holder nutrition surveys will indicate whether caloric and protein intake has increased. Food consumption (both quantity and quality) is probably one of the best measures of changes in small-holder welfare. Of course, subjective judgements will have to be used when determining how much of the change can be directly related to this Project.

2. Purpose

To develop a localized GOB economic and analytical capacity to rationally plan and program responses to the issues of rural sector development. This is a technical or managerial objective.

The purpose cuts across a number of functional and interministerial areas. It covers planning not only for agricultural and livestock output (for on-farm consumption or sale) but also off-farm wage employment and improved social welfare services/infrastructure (e.g., potable water, rural health clinics, schools, roads, electric power, etc.). Botswana's Five Year Development Plan provides the economic and social analysis of alternative strategies and resource allocations to maximize rural economic and social

welfare. The Project goal will be achieved by Batswana preparing the agricultural portion of the Plan. Much of the planning is now done by expatriate experts working for the GOB. For planning to both reflect Botswana's needs and to be self-sustaining it must be done by Batswana planners. Localization is key to relevant development planning.

In addition to the existence of a Plan, the rate of localization is another End of Project Status (EOPS) indicator of purpose achievement. While the GOB would clearly like to see almost all MOA, PSU positions localized within five years, there probably will not be enough trained Botswana planners. By the end of this project, the MOA, PSU planning staff will total at least twelve positions. The Project purpose will have been achieved if at least half of these positions are localized.

If MOA, PSU planning efficiency is improved it should be able to prepare a greater number of rural development projects. While numbers are important, speed of implementation is also critical. Agricultural projects have been implemented at a rate much below that achieved by other Ministries. Agricultural Development Budget expenditures have shown large short-falls. Since implementation can be improved by good planning and design, another EOPS indicator is the production of a larger number of projects. The target is a 50 percent increase in the value of projects planned and approved. Ideally this should result in at least a 50 percent increase in expenditures, but this cannot be made a full EOPS condition since the actual MOA implementing agency has final control over expenditure rates.

The above Project EOPS can be verified by (1) the existence of a Batswana prepared Plan which reflects improved analytical analysis; (2) the MOA, PSU Establishment List which indicates the number of localized planning positions; (3) the Plan and Annual Budget, which will show the increased number and value of agricultural rural development projects; and (4) the Project's Special Evaluation which will evaluate the quality factors, i.e., improved analysis; a better managed and structured MOA, PSU; and improved quality of project preparation.

The assumptions on which Project purpose achievement depends are a continued GOB commitment of planning through the highest levels of the GOB, adequate planning resources, and a rational localization plan.

3. Outputs

To increase the immediate capacity of the GOB to plan and evaluate projects and assess and modify rural development policies and strategies.

To increase the number of middle and upper level Batswana with relevant skills in rural development research, analysis, planning, implementation, and evaluation.

The outputs are institutional development objectives. By the end of the Project, MOA, PSU will have a largely localized and self-sustaining capacity to do policy analysis, planning, and evaluation. PSU will be using improved sector analysis to develop rural sector programs and policies. This analysis will be reflected in the 1982-87 Development Plan. Another output is the return of at least sixteen trainees to middle and upper level GOB planning positions. The final output is an agricultural planning library of 1400 volumes to provide data, information, and theory for both the trainees and professional staff in their policy analysis and planning work.

<u>Contingency</u> at 15 percent of project costs	\$ 229,500
<u>Inflation</u> at 8 percent per annum, cumulated	\$ 315,900
TOTAL	<u>\$2,075,500</u> *****

5. Linkages in the Logical Framework

At the goal and purpose level the major assumptions have to do with the GOB's continuing commitment to planning and small-holder/rural development. As discussed throughout this paper, the GOB places major emphasis on improving rural welfare. The Tribal Grazing Lands Policy, the soon-to-be published Crop Lands Policy Paper, and the Five Year Development Plan all support this commitment. There is no reason to expect the GOB to change its policy.

To improve rural welfare (the goal), the GOB needs to be able to analyze data and then plan and program actions which will have a favorable impact on rural welfare. The linkages between the goal (of improved rural welfare) and the purpose (analysis and planning) is direct and clear. Since planning must be sensitive to local conditions and self-sustaining, it should be done by Batswana and not by expatriates. Thus, localization of the planning process is an essential part of the Project purpose.

One of the outputs is trained Batswana planners. Achievement of this output will assure that the Project purpose (localized planning capacity) is met. The other output (immediate GOB planning capacity) is provided by the AID technical experts. This output is needed since the GOB lacks localized planning manpower. It is also required since the GOB will be pulling Batswana planners (inexperienced though they are) off the job for OJT and US university training. The two outputs (immediate planning capacity and Batswana planners) will directly contribute to achieving the Project purpose.

The inputs are technical assistance personnel, commodities, buildings, and participant training. The inputs directly key into the two Project outputs. However, there is one weakness in the link between inputs and outputs. The outputs indirectly include institutional development of MOA, PSU, but not all of the trainees will become planners in PSU. Some will become rural development planners in other ministries and parastatals. While this "leakage" should be recognized, it is not serious. The number of trainees required by MOA, PSU could not justify the resources required to mount an AID project. By bringing in the trainees from other ministries, the overhead can be spread in a more cost effective manner. The goal and purpose objectives will still be supported by improved planning in departments other than PSU. Rural development is not the responsibility of MOA/PSU alone, but MOA in collaboration with various ministries and parastatals. In effect, MOA will be helping in the institutional training and development of other ministries and parastatals.

III. PROJECT ANALYSIS

A. THE ECONOMIC OVERVIEW

Botswana is a country of 570,000 km² (about the same size, climate and ecology of Texas, but with a population only six percent of Texas). Botswana lies at the center of the Southern African Plateau. It is landlocked, bordered by South Africa, Namibia (South West Africa), Zambia, and Zimbabwe (Rhodesia). About 80 percent of its borders are on territories administered by the Republic of South Africa. It has a continental and semi-arid climate with highly erratic annual rainfall of 450 mm. Rainfall varies from less than 250 mm in the southwest to more than 650 mm in the northwest. More than 90 percent of the rain falls in the summer months, between November and April, but in a highly unpredictable manner. Over 80 percent of the country is covered by Kalahari sand supporting arid to semi-arid thorn bush savanna vegetation. Only about 6 percent of the land is suitable for farming; the rest is desert and very marginal rangeland. The Limpopo Valley Region on the eastern side of the country has nearly 80 percent of the population, relatively good soil, and usually just sufficient rainfall for some dryland crops and cattle. This region also has the benefit of the Rhodesian Railway and a limited road network.

Annual per capita GDP in 1976 was estimated at \$400 with the lowest 40 percent receiving under \$100. The non-citizen population is less than 2 percent of the total population but receives roughly 40 percent of the GDP. Population growth is estimated at 3 percent with urban growth at 16 percent. As in most other LDCs the population is young; 46 percent of the population is 14 or younger. According to the 1971 Census, out of a total population of 630,000, some 46,000 were migrant workers in South Africa or Rhodesia; 39,000 were employed in Botswana's own industrial and service sectors; and the rest worked in agriculture.

Botswana's economy is small, underdeveloped, and vulnerable. However, after a long period of stagnation, Botswana has recently witnessed high investment levels and rapid economic growth. This transformation is largely due to the renegotiation of the Customs Union revenue sharing arrangement with South Africa and exploitation of Botswana's substantial mineral resources (diamonds, copper, nickel, coal, and brine). Private foreign investment in the Orapa diamond mine and the Shashe copper/nickel mine during 1970-1973 was about \$350 million, twice the 1970 GDP level.

From 1965 to 1976/77 mining increased from 0.6 percent to 18 percent of GDP and agriculture declined from 34 percent to 25 percent. GDP at market prices has increased at an annual compound rate of 19 percent. While per capita GDP rose from \$87 in 1965 to about \$400 in 1975/76, income distribution probably became more skewed, with little improvement in living standards for those in the lower 40 percent.

The GOB believes strongly in the necessity for planning the social and economic development of the nation. The responsibility for the preparation of national plans rests with the Ministry of Finance and Development Planning (MFDP), which is headed by the Vice President. The Ministry has a Division of Financial Affairs, which is primarily concerned with financial administration, and a Division of Economic Affairs responsible for planning and for providing economic advice, generally to government departments.

B. TECHNICAL ANALYSIS

1. Overall Rational and Analysis--The Development Imperative

(a) The problem

The GOB has identified the shortage of planning capacity within the MDA as a major constraint to achievement of its rural/agricultural development plan. The Government has decided not only to expand the range and skills available for agricultural planning, but also to move more rapidly toward "localizing" the professional planning positions now staffed by expatriates.

Botswana's need for expanded agricultural planning capacity emanates from a principal source--one universal to developing nations--rural poverty. The problem is attended by the usual inter-related set of circumstances: (1) the rural/urban population distribution, including migration; (2) access to and ownership of resources--in Botswana's case, land, water, and cattle; (3) income distribution, both within the rural sector and between it and the urban sector; and (4) the level of health, education, and general infrastructure services.

It is to be noted that the GOB has in no way ignored its "rural development imperative"; between 1966 and 1976 Gross Domestic Product increased more than eight times (P37 million to P300 million). This is in many ways a remarkably successful development experience, yet much remains to be accomplished. The major factors which create the need for an expanded agricultural planning capability are set out in this portion of the Project Paper.^{1/} A later section of the PP outlines current planning capacity in general and of MDA in particular.

(b) Population

From 1971-1976 Botswana's de jure population increased from 636,379 to 725,000 (average of 2.8 percent per year). The de facto population increased from 590,644 to 679,500 (3 percent per year). At the same time the percent of the de facto population living in towns increased from 8.2 to 14.9. The urban population is expected to grow approximately 10 percent per year from 1975 to 1981, which means it will increase by about 77 percent. Botswana's development planning system must be prepared to deal with this urban growth, particularly since current urban life services are strained. The real challenge, however, will be for rural development (in conjunction with an urban strategy) because most of the urban growth will represent rural-urban migration. The quality of rural life must be improved if this migration is to be held within reasonable bounds.

There is another type of migration which impacts on development planning: the movement of young men from rural areas to external employment centers. As a result of this migration 37

^{1/} Data quoted in this section may be found in the Republic of Botswana National Development Plan 1976-1981, Government Printer, Gaborone, Botswana (May 1977).

percent of rural men in the 20-34 year age group are absent and 40 percent of rural households are without male heads. It follows that many rural women are left to their own resources for food production and family support.

(c) Resource ownership

Land ownership in Botswana is divided into three classes: tribal, state, and freehold (general expatriate). The distribution between the three types is as follows.

<u>Land Holding Type</u>	<u>Percentage of Land</u>		
	<u>1973</u>	<u>1976</u>	<u>Change</u>
Tribal	48	71	23
State	47	23	-24
Freehold	5	6	1

The development significance of this land holding pattern rests in its use and productivity. Of the maximum 3.3 million hectares that could be cultivated (6 percent of Botswana's land), less than 500,000 hectares is under cultivation or fallow. Grain (mainly sorghum, maize, and millet) and pulses (beans and cowpeas) account for 85 percent of total crop production. Crop production techniques are still largely traditional. A major problem is inadequate draft power for plowing. Two-thirds of the small farmers are unable to meet their plowing requirements (not enough oxen or the oxen are weak from the long dry season). Present sorghum yields of 400 kg/ha are low, even by African standards. Crops research, technology, input distribution, extension services and marketing services must be improved to help ease the grain marketing problem the ODB created BMB. This Agency buys and stores major crops. It is expanding its warehouses and depots should help ease small-holder marketing problems.

The main livestock-related land problem centers on environmental deterioration from overgrazing. The recent ODB Tribal Grazing Land Policy is a major step towards dealing with problems of overgrazing. It classifies land into zones and sets policies for land users. It calls for fencing of tribal grazing lands to encourage rotational grazing and enforcement of optimal livestock stocking rates. Large cattle owners will be encouraged to move from communal grazing areas onto new lands where they will be given grazing land leases as long as they practice proper water management and cattle stocking rates.

Water supply is a serious constraint for Botswana agriculture. An estimated 75 percent of its animal and human population depend on ground water (boreholes). There were over 400 boreholes in 1976. Development activities are expected to increase water supply by about 2.5 percent per year, and demand is expected to increase by 8 percent per year. It is apparent that a sound water development/use policy is necessary.

Livestock provides Botswana's major agricultural output. In 1976, 80 percent of agricultural production was from livestock. The national livestock herd increased 75 percent between 1965 and 1976 (1.5 million to 2.6 million head). The herd was estimated to be 2.9 million head in 1976 (an increase over 1975 of 11 percent). The ownership of cattle is heavily skewed; 45 percent of the rural households own no cattle and 50 percent of

the cattle are owned by 5 percent of the households. Small stock ownership is more evenly distributed.

The Botswana Meat Commission (BMC) accounts for about 85 percent of marketed cattle and all meat exports. BMC has acquired an excellent reputation for quality products and exports most of its meat to the UK. BMC is operating at about the limit of its slaughtering capacity and a plant expansion is required.

(d) Income distribution

The two physical constraints represented by the supply of arable land and the supply of water, in conjunction with the pattern of cattle ownership, combine to produce Botswana's major development imperative--reducing rural poverty. It has been estimated that, in 1974 (a good year), 40 percent of the rural households had incomes below the Poverty Datum Line (the PDL is a calculated minimum income dependent on family composition).^{1/} Income distribution is heavily skewed as well; the top 5 percent of rural households gained as much income as the lower 70 percent. Incomes are also skewed toward urban employment. In 1975 urban workers (as measured by Central Government wages) earned over four times as much as rural workers.

(e) The GOB response

The GOB recognizes the need for greater rural development and has attached high priority to rural related programs. The goal of GOB rural development policy is to provide improved living standards for the rural population both, through increased rural production and the improvement of rural social/welfare facilities.

The broad aims of GOB's agricultural policy are:

- The development of the livestock industry on a basis of sustained production;
- The development of basic food crop production to provide improved and more reliable food supplies for most farm families and, for those that show sufficient management ability, the encouragement of commercial production to increase cash incomes and provide the basis for a progressive arable industry;
- The introduction of systems of land use that will allow increased production while conserving natural resources; and
- Improvement of the effectiveness of the various institutions concerned with agricultural development.

In support of its agricultural policy the GOB has planned an ambitious development program centered in NDA. Thirty-nine projects have been approved for the period 1976-1981. The total estimated cost at current prices is P30 million (10 percent of total development expenditures), an average of P6 million per year. At current staff levels the prospects for successfully completing the total plan are not good; this is discussed further in the following sections.

^{1/} The Rural Income Distribution Survey in Botswana, 1974/75, CSO, MEMP, Gaborone, Botswana, 1976.

2. Botswana's Present Rural Development Planning Capacity

(a) The planning function

In its simplest form, the planning process consists of five steps: (1) goal identification, (2) strategy analysis to determine the optimum process for achieving goals, (3) project and policy selection, (4) policy and project implementation, and (5) evaluation. This step-by-step process must be repeated continually in order to determine appropriate modifications of targets, strategies, projects, and policies.

The nature of the planning function implies a complex set of relationships, both between and within governmental agencies. National aspirations and socio/economic realities combine to form national goals, which are then articulated at the highest levels. The functional arms of government must then formulate and evaluate alternatives and, finally, select strategies for achievement of the goals.

Following this, policies must be established and appropriate projects selected, implemented, and monitored. Implicit in the process is continual evaluation at all levels to monitor the relevance of projects and policies to develop strategies, and the adherence of strategies to the dynamics of development goals.

Unfortunately, many countries lack the resources and technical sophistication to perform the complete planning function. Rather, policy and project planning is carried out with little or no analysis beyond the confines of the immediate project. The intermediate steps are skipped-- projects and policies are implemented, but without a clearly specified and analyzed strategy. In the absence of a planning capacity an intuitive process is utilized which cannot unravel the complexity of the interaction of the forces which are being put into motion. An understanding of these forces and interactions requires an application of the techniques and theories of the economist and the sociologist to determine the multiple impacts and interactions of specific strategies, policies, and projects. The specific analytical methods chosen must vary with the nature of the problem and the purpose for which the analysis will be used. The complexity and relevance of the analysis (not necessarily correlated) will depend upon the quantity and quality of human and financial resources at hand, and on the quantity and quality of data available or in some way accessible.

In brief, performance of the planning function implies the need for an experienced and well-trained staff of social scientists capable of undertaking complex analyses related to both sectoral monitoring and project design and evaluation. This staff should be supported by statisticians, by biological scientists, and by physical scientists. Statisticians are required to plan the collections of data: biological and physical scientists must assist in the specification of technical relationships necessary to the analysis. In addition, the planners must be supported by a cadre of sub-professional personnel to collect and process data.

(b) Overall GOB planning

A well-defined structure exists in Botswana for coordinating and approving policy change. Policy recommendations are normally prepared by ministerial planning offices and, after clearance, are forwarded to one of several inter-ministerial committees (for instance, the Rural Development Coordinating Committee, the Rural Extension Coordinating Committee, the

Tribal Grazing Lands Policy Committee, the Land Policy and Land Development Committee, the Non-formal Education Committee, and the National Brigades Committee). These committees, made up of permanent secretaries or senior staff of the program or policy area, then consider the recommendations. The final step in the process is consideration by the Cabinet.

Major responsibility for planning and policy coordination lies with the MFDP which is headed by the Vice President/Minister of Finance. The MFDP articulates overall national goals and policies, allocates budgets to the various ministries, and coordinates the plans of these ministries. MFDP also has primary responsibility for maintaining relationships with international and bilateral assistance agencies.

The MFDP is divided into several Divisions and a Central Statistics Office. Two MFDP Divisions deal with budgets and financial affairs and a third, the Division of Economics Affairs (DEA), is the principal planning arm of the MFDP. The DEA is organized with positions of:

Director
 Chief Economist
 Principal Planning Officers (PPO)
 Planning Officers (PO), and
 Economic Consultants and other advisors

It contains six Batswana in professional positions. The four PPOs have oversight responsibility for an average of three PCs who are in turn responsible for coordination of planning activities in individual ministries, and for relationships with donor agencies.

The sectoral ministries each have a planning office which is responsible for developing sectoral strategies, plans, policies, and projects and for evaluating on-going projects. There are 41 persons involved in these planning activities, including MFDP. Of this total nine are Batswana and the remainder expatriate (Table I).

TABLE 1 PLANNING STAFF IN GOB MINISTRIES

<u>Ministry</u>	<u>Number of Planning Positions</u>			<u>Total</u>
	<u>Expatriate</u>	<u>Batswana</u>	<u>Vacant</u>	
Agriculture	7	1	-	8
Commerce, Industry, Mineral Resources and Water Affairs	1	-	-	1
Education	2	1	-	3
Finance and Development Planning	14	6	1	21
Health, Labour and Home Affairs	2	-	-	2
Local Government and Lands	4	-	-	4
Works and Communications	2	1	1	4
TOTAL	32	9	2	43

Source: Data for MOA from Chief Agricultural Economist; remainder from Report of Presidential Commission on Localisation and Training in the Botswana Public Service, 1977

This combination of planning units has produced four National Development Plans (NDP) since independence in 1966. The plans have become increasingly comprehensive and sophisticated, and they have been largely the product of expatriate effort. The latest NDP (1976-1981) includes plans to expend P300 million (at 1976 prices) for the five year period. The NDPs and the associated data are evidence of a planning capacity available to the GOB. The plans themselves have been largely expenditure and input oriented, and have consisted of well-articulated goals in conjunction with lists of proposed projects. There is little analysis of the impacts of present or previous projects on the development goals; most post mortem analysis is expenditure related; i.e., short-falls or over-runs.

Expenditure short-falls, which can (cautiously) be viewed as a measure of planning/implementation success, vary considerably on a ministry/sector basis. For the period 1973/74-1975/76, 67 percent of planned expenditures were actually expended, with a low of 30 percent in Agriculture and a high of 170 percent in Rural Development, Ministry of Local Government and Lands (Table 2). Even considering that these data will be affected by such things as understatement of original costs, delays in donor funding, and the type of project involved, they do show the result in Agriculture of a shortage of planning manpower, perhaps in association with a development plan which is either too large or mis-scheduled.

TABLE 2 PLANNED AND ACTUAL DEVELOPMENT EXPENDITURES
1973/74-1975/76

	Planned Expenditure P'000	Actual Expenditure P'000	Percentage Implemen- tation
Agriculture	9,600	2,885	30
Commerce, Industry and Tourism	1,704	695	41
Water Affairs and Geological Surveys	5,615	5,904	105
Education	11,246	11,941	106
Health	3,247	1,855	57
Roads and Airfields	28,809	18,755	65
Government Infrastructure	8,131	3,771	46
Posts and Telecommunications	4,624	2,951	64
Urban Development	15,930	9,590	60
Rural Development, Ministry of Local Government and Lands	1,765	2,994	170
Miscellaneous	1,212	460	38
Total	91,883	61,801	67

Source: Ministry of Finance and Development Planning, National Development Plan 1976-1981, Government Printer, May 1977

Notes to Table 2

1. All figures adjusted to constant 1973/74 prices; "100 percent implementation" does not mean that all projects were carried out as original costs were frequently under-estimated.
2. "Government infrastructure" comprises Government buildings, CTO, all MFDP projects, Government Printer, Electrical Department, Meteorology Department, Police, Prisons, and Justice Department.
3. "Miscellaneous" comprises the National Museum, Libraries, Information Services, Broadcasting, and Sports.

(c) Planning in the Ministry of Agriculture

In MOA, the Chief Agricultural Economist (CAE), as head of PSU has overall control of the planning function and reports directly to the MOA Permanent Secretary. Liaison is maintained with the three MOA operating departments in order to collaboratively plan and evaluate projects (Figure 1). Liaison between MOA and MFDP is maintained through the CAE and a Planning Officer in the MFDP.

TABLE 3 STAFF IN THE MOA PLANNING AND STATISTICS UNIT

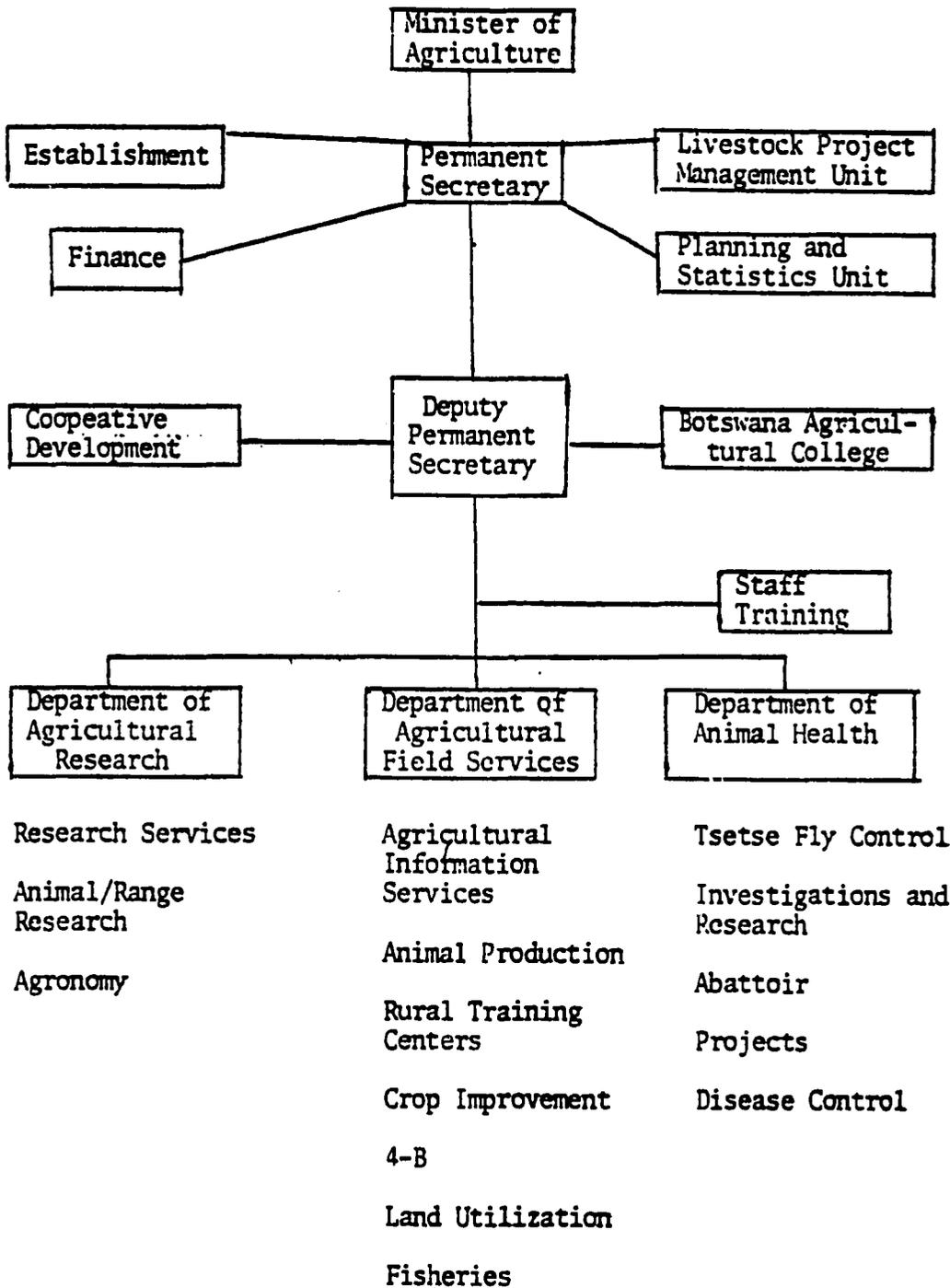
Position	Nationality	Degree
<u>Professional</u>		
Chief Agricultural Economist	USA	PhD
Agricultural Economist/Livestock	USA	BS
Agricultural Economist/Farm Management	British	MS
Agricultural Economist/Planning Officer	Motswana	MS
Agricultural Economist/Parastatals	British	BS
Rural Sociologist	USA	PhD
Rural Sociologist	RSA	BS
General Manager, BAMB+	British	
<u>Support</u>		
Research Assistant	Vacant	
Senior Agricultural Assistant	Motswana	diploma
Sociological Assistant	Motswana	certificate
Sociological Assistant	Motswana	certificate
Secretarial/clerical (5)	Batswana	certificate
Enumerators (27)	Batswana	certificate
Messengers (2)	Batswana	
Cleaners (2)	Batswana	
Drivers (8) (seconded from CTO)	Batswana	
Statisticians (3-4)	Batswana	diploma and certificate

+ Position in PSU but not an integrated part of the planning activity.
Botswana Agricultural Marketing Board (BAMB).

Source: Ministry of Agriculture, PSU.

The current PSU staff is shown in Table 3. There are eight professional positions, seven held by expatriates and one by a Motswana. The technical and support personnel (35) are all Batswana, generally holders of a certificate (high school graduates). Included are: secretarial/clerical (5), assistants (3), and enumerators (27). The PSU has as well three to four statisticians seconded from the Central Statistics Office.

FIGURE 1 MINISTRY OF AGRICULTURE--ADMINISTRATIVE STRUCTURE

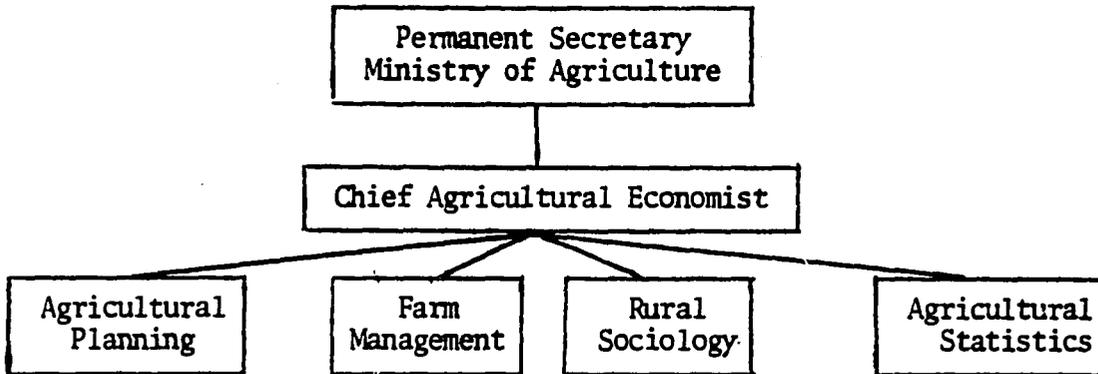


Source: Adapted from National Development Plan, 1976-1981.

Projects which are approved for implementation by the Planning and Statistics Unit are carried out by the Department of Agricultural Field Service. During the project approval process, substantial coordination takes place between these two divisions to ensure that projects to be executed will have the maximum impact on project beneficiaries. Although the projects direct beneficiaries will be those Botswana are the PSU who receive Project sponsored training to improve their capacity to develop projects, the ultimate beneficiaries will be those rural Botswana farmers who benefit from well directed and efficiently run programs in rural areas.

The PSU is organized into four units under the Chief Agricultural Economist.

STRUCTURE OF THE PLANNING AND STATISTICS UNIT



Agricultural Planning: The functions of this component, which include overall responsibility for agricultural planning activities, are now performed by the CAE and other PSU staff. Since they have operational duties to perform other than project analysis, the result is an agricultural sector plan which is a statement of goals and projects and includes little empirical analysis. There were 39 category A projects approved in the 1976-87 Plan. These projects are described in terms of costs only, little or no analysis is presented on benefits or development impacts. This planning component of PSU needs to be made functional and to be adequately staffed if MDA contributions to Botswana's National Development Plans are to be based on sound analyses. The relationship between this unit and the other three PSU units must be established so as to produce cooperative interchange in the development and analysis of agricultural plans and projects. Input related to arable land can be provided by Farm Management, socio/cultural input from Rural Sociology, and data services by Agricultural Statistics. An additional input, Livestock Economics, must be strengthened to service livestock-related planning and evaluation needs within the Agricultural Planning Unit of PSU.

Farm Management: This component of PSU is engaged in a large farm survey activity. It includes:

- The National Farm Management Survey;
- Integrated Farming Pilot Project Farm Management Survey; and
- Economics of Draft Power Survey.

This position is now staffed part-time by an expatriate. It should be staffed full time, with its activities expanded to include research and applications of farm planning, farm budgets, and the role of intermediate technology in agriculture. This unit should expand its service role to the planning activities in PSU (especially on activities concerned with arable agriculture) as well as to other MDA divisions.

Rural Sociology: This component of PSU provides support to project development and evaluation. It provides advice concerning basic socio-cultural feasibility issues. Since Botswana's development goals are aimed

at changing important traditional land/livestock use patterns, this service must be strengthened if agricultural projects are to be well designed and successfully implemented. In addition, this unit can provide essential progress monitoring services.

Agricultural Statistics: The agricultural statistics unit has responsibility for carrying out all scheduled agricultural surveys and special surveys for projects. It also provides technical advice to the MDA, Department of Research. The scheduled surveys occupy 75 percent of the unit's resources. As a result, there is a backlog of data needs. Moreover, because of a lack of computer programming skills, it has proven very difficult to utilize the government computer for data analysis. Data collected as long ago as five years has yet to be analyzed, even though the relatively small government computer is used at only 60 percent capacity.

This unit is currently staffed by personnel seconded from the Central Statistics Office (CSO) to MDA. It should provide high quality data collection, planning, and analysis skills. It should provide basic advisory services related to data collection to the MDA, in general, and to the Farm Management and Sociology Units, in particular.

Supporting Institutions: Major support to the PSU is provided by CSO, the University of Botswana and Swaziland, and the Central Computer Bureau. The CSO collects data and publishes a "Statistical Bulletin" containing economic data related to trade, government revenues and expenditures, banking, prices indices, transportation, rainfall and employment. In 1976 the CSO produced 11 statistical publications as well as the "Statistical Bulletin". The CSO provides additional support to the MDA through the three to four statisticians seconded to PSU.

The University of Botswana and Swaziland (UBS) educates most prospective planners. The University is discussed in detail under the heading "Botswana's Role in Providing Needed Staff, (Section III B 4). It is concluded that the University cannot now produce the necessary planning officers.

Supporting Facilities: The PSU is currently housed in a one story office building. It is functional and well maintained but contains no space for an expanded staff and is now crowded. The MDA has planned a new headquarters building containing 39 offices. The new building will not provide enough space for the additional PSU staff and trainees provided under this Project; consequently, this Project should fund the construction of an additional six offices onto the new building.

Library resource materials are not now available in the MDA. These materials are a necessary input for increased analytical and training efforts. The Project will fund the construction of a small library in the new MDA building, including funds to purchase up to 1,400 books and professional journals dealing with economic, development economics, agricultural economics, planning, and project evaluation.

The PSU now has access to nine vehicles. Seven of the vehicles are used for the farm management surveys; the remaining two are available for field work supporting Planning, Sociology, and Statistics. The Project will provide an additional four vehicles to support the expanded staff and field research generated by Project activities.

Personal housing in Gaborone is in very short supply. Since it will not be possible to obtain sufficient housing locally, the Project will build four houses for the added technicians.

(d) Local and regional planning

There are two major development out-reach channels used by the GOB to serve the rural population: one is the Division of Social Welfare and Community Development based in the Ministry of Local Government and Lands. The other is the MOA agricultural extension services under the Department of Agricultural Field Services.

The field staff of the Division of Social and Community Development has as its major role "helping local communities analyze their needs, plan for them, and implement those plans." ^{1/} A "prime" objective of the field staff is to "promote the establishment of Village Development Committees". It is expected that these Committees will call on the rural extension services of Education, Health, and Agriculture for planning and implementation aid. There have been problems with this program caused by:

- a shortage of trained field staff,
- coordination and cooperation with local authorities,
- difficulties in controlling finances, and
- a lack of knowledge of how to plan and implement projects.

The MOA agricultural extension services have the primary responsibility for implementing agricultural programs and policies. They have approximately 200 demonstrators, each serving about 300 farmers. As a result of a study in 1974 which showed that only 13 percent of the farmers had regular contact with extension agents, the field service has been divided into five regions and sixteen district offices to facilitate better agent/farmer contact.

(e) Conclusion and recommendations

The GOB has a well defined and functioning rural planning system with a predominately expatriate staff and has produced a large and complex National Plan. The staff, however, is still small relative to the tasks to be performed.

The PSU/MDA, as a major agent for agricultural and rural planning, is seriously understaffed and, as a result, has not been able to effectively execute its development planning responsibilities. Until Botswana planners can be trained, PSU will, in the short-run, require additional expatriate staff. Based on the analysis above, PSU should retain its current planning staff:

- Chief Agricultural Economist
- Rural Sociologist, and
- Livestock Economist

It should, (as discussed further in Section III B 5b), be augmented by:

- Senior Agricultural Economist (for the Planning Component)
- Farm Management Economist
- Agricultural Statistician, and
- Agricultural Economist/Trainer

^{1/} National Development Plan 1976-1981, p. 233.

The present ratio of expatriate to Botswana professional planners is high and inconsistent with the GOB's localization and manpower skills policy. Trained Botswana should be made available to the MDA and to the PSU so that, in the long-term, Botswana's Development Planning is locally self-sustaining. The training requirements are analyzed in the following sections.

3. Long-term Agricultural Planning Requirements

While Botswana has made excellent progress in establishing planning in its MDA, there are several remaining needs. Among the major requirements for strengthening agricultural planning in Botswana are:

- Trained Botswana planning officers, sociologists, and statisticians in an expanded MDA, PSU able to carry out more complete analyses;
- Expatriate planning officers to carry out the planning function while Botswana are being trained;
- Capacity for in-country training of a continuing flow of Botswana planners;
- Integration of sector analysis into the planning process;
- A larger data base and increased data collection and processing capacity;
- Stronger linkages between MFDP, other ministerial planning units, the Central Statistics Office, and the Ministry of Agriculture, PSU;
- Trained planning officers employed in the parastatal corporations;
- Trained and skilled supporting staff in the above mentioned offices and parastatals; and
- Access to a knowledgeable group of social scientists, both in Botswana and abroad, who can provide supplementary analyses for MDA on specific issues, problems, or projects.

4. Botswana's Role in Providing Needed Staff

(a) Commitment to improved education

The GOB's goal is to have sufficient educated Botswana by 1990 to meet its manpower requirements (except for a few specialized workers). It wants to localize during the early 1980s all posts that do not require university graduates.

To meet these goals, the National Development Plan, 1976-1981 calls for at least 39 million Pula (about \$47 million) investment in educational projects between 1976 and 1981. Recurrent expenditures on education will grow at 15 percent per annum over the same period. The Ministry of Education's share of recurrent expenditures will increase from 19 percent to 23 percent of the budget total. This is a major financial commitment to education.

Also, in an effort to move toward achievement of the professional manpower objectives by 1990, UBS will expand its first year degree enrollment of 140 in 1976/77 to 220 in 1980/81; this will make a total degree enrollment of 494 in 1976/77 and 685 in 1980/81. During the five year period, 1976-81, some 640 students should earn degrees, which will represent about 27 percent of the 1988 total demand for people with university degrees (see Table 4). Continued expansion and improvement is expected as the GOB works toward a major educational objective of developing its own university by 1983. The University of Botswana and Swaziland Development Plan, 1976/77-1985/86 supports this goal, outlining the evolution of the two national colleges into separate but cooperating institutions.

With specific regard to prospective agricultural planners, who are primarily educated by the UBS, there has been considerable improvement. The Gaborone faculty was increased when UBS was created after Lesotho pulled out of the former three-country University of Botswana, Lesotho, and Swaziland. Three economists were added, making a total of five economists on the faculty. Two sociologists were also added, doubling the number on that faculty.

TABLE 4

PERSONS REQUIRED WITH UNIVERSITY DEGREES, BY PROFESSIONS, BY 1988
(In brackets, persons with degrees as of April/May 1972)

<u>PROFESSION^{1/}</u>	<u>NUMBER</u>
Architect/Town Planning/Surveying	62 (1)
Administration/Law/Commerce	619 (55)
BA/BS + Education	565 (14)
Engineering	270 (0)
Economics/Accountancy	211 (8)
Law	26 (1)
Life/Agricultural Science	129 (4)
Medicine/Veterinary Science	152 (2)
Pharmacy	9 (0)
Physical Science	97 (0)
Statistics	22 (3)
Other	148 (13)
Total	2,310 (101)

^{1/} All degree subjects required are not specified separately. For example, there is a need for dentistry and psychiatry, which are included under Medicine.

At the same time, both the economics and sociology departments began looking at curriculum needs as they were forced to make full-fledged departments out of units which were formerly teaching only the first two years of the curriculum. The new curricula appear to be a marked improvement over the old UBLS-Lesotho campus curricula. In the past, the graduates were particularly weak in quantitative methods and theory, but improvement can now be anticipated. The new economics course program (Annex K) is a real step forward, although it still lacks sufficient opportunity to study the economics of the rural sector of Botswana. Whether the improvement will be sufficient to permit enrollment in overseas universities without further studies remains to be seen, also. And, of course, advanced students will not benefit from the new curriculum. In fact, the quality of their education may have been reduced by the disruptions caused by the break up of UBLS.

(b) Constraints on meeting manpower needs

The major constraint to meeting these expanded enrollment plans and, in turn, localization requirements may be finding sufficient qualified secondary school graduates. The university's entrance requirement for a BA is a first or second division pass in the Cambridge Overseas School Certificate Examination, with a credit in English. For students working toward a BS, a credit in mathematics is also required. The results for Botswana students in this examination in recent years show that both the absolute number and percentage qualifying have been declining (Table 5). This is with a steady increase in the numbers of candidates taking the examination.

TABLE 5 COSC RESULTS 1968-1974
(Excludes private candidates)

Year	Candidates	Division 1 and 2 Pass		Division 3 Pass		Other		Number Qualifying for UBLS Science Entry	
		No.	%	No.	%	No.	%	No.	%
1968	160	50	31.2	63	39.4	47	29.4	19	11.9
1969	206	69	33.5	83	40.3	54	26.2	42	20.4
1970	255	63	24.7	105	41.2	87	34.1	34	13.3
1971	275	77	28.0	108	39.3	90	32.7	34	12.4
1972	382	93	24.3	134	35.6	155	40.1	44	11.5
1973	495	77	15.5	163	32.9	255	51.6	37	7.5
1974	519	67	12.9	175	33.7	277	53.4	32	6.2

Source: Ministry of Education, Education Statistics 1968-1974

Even if enrollment goals are met, it will still be difficult for MDA to meet manpower requirements. MDA projects that it will need 119 degree holders by 1985 compared to a current on-board staff of 62 (Tables 6 and 7). In addition to the extra staff required for this expansion, there must be trained people to replace expatriates in the localization process. There are currently only 18 Botswana among the 62 professionals on board.

Comparing the need with university output produces Table 8, which shows that only 63 agriculture degree holders will have been produced against a need of 119. The MDA will still be 56 Batswana short of the number needed for 100 percent localization of degree positions, as shown in the following "Agricultural Degree Cadre Localization Gap Analysis".

AGRICULTURAL DEGREE CADRE LOCALIZATION GAP ANALYSIS

<u>On board staff 1977</u>			
<u>Total</u>	<u>Expatriate</u>	<u>Vacant</u>	<u>Batswana</u>
74	44	12	18
<u>Projected staff 1983</u>			
<u>Total</u>	<u>Batswana</u>	<u>Additional Batswana needed for 100% localization</u>	
119	63	56	

TABLE 6
TARGET ESTABLISHMENT--AGRICULTURAL STAFF, 1983

	<u>Degree</u>	<u>Diploma</u>	<u>Certificate</u>
<u>Ministry Headquarters</u>	3	-	-
Planning and Statistics	8	2	2
Sub-Total	11	2	2
<u>Department of Agricultural Field Services</u>	7	2	1
Territorial Information	14	43	281
Land Utilization	3	8	16
Animal Production	14	15	30
Crop Production	15	23	30
Projects	6	6	6
Projects	10	24	47
Sub-Total	69	121	411
<u>Department of Agricultural Research</u>	6	1	7
Estate Management Unit	1	2	6
Arable Research	10	9	19
Animal and Range Research	9	8	28
Sub-Total	26	20	60
<u>Botswana Agricultural College</u>	13	5	6
TOTAL	119	148	479

Source: MDA, Manpower Projections--Agricultural Staff, March 1977.
Does not include Animal Health Division.

Table 7: Staffing Position March 1977--Agricultural Staff

	DEGREE				DIPLOMA				CERTIFICATE			
	estab- lished	local	con- tract	vacant	estab- lished	local	con- tract	vacant	estab- lished	local	con- tract	vacant
Ministry of Agriculture	2	2	---	---	1	---	1	---	---	---	---	---
Planning and Statistics	8	1	7	---	---	---	---	---	1	1	---	---
Livestock Project Management Unit	---	---	---	---	2	2	---	---	8	7	---	1
SUB TOTAL	10	3	7	---	3	2	1	---	9	8	---	1
Department of Agricultural Field Services	5	1	3	1	1	---	1	---	---	---	---	---
Territorial Information	6	3	3	---	24	24	---	---	244	220	23	1
Land Utilization	1	---	1	---	4	3	1	---	16	14	---	2
Animal Production	10	1	6	3	18	11	5	2	24	19	---	5
Crop Production	12	2	8	2	24	13	7	4	29	26	---	3
Sub Total	5	1	1	3	1	1	---	---	---	---	---	---
SUB TOTAL	39	8	22	9	72	52	14	6	313	279	23	11
Department of Agricultural Research	5	---	3	2	1	---	1	---	7	7	---	---
Estate Management Unit	1	---	1	---	2	---	1	1	6	6	---	---
Arable Research	5	1	4	---	5	3	2	---	18	15	---	3
Animal and Range Research	4	1	2	1	6	3	3	---	26	26	---	---
SUB TOTAL	15	2	10	3	14	6	7	1	57	54	---	3
Botswana Agricultural College	8	3	5	---	7	2	2	3	4	4	---	---
In-service Training	2	2	---	---	---	2	---	---	---	---	---	---
TOTAL	74	18	44	12	96	64	24	10	383	345	23	15

Source: NOA, Manpower Projections--Agricultural Staff, March 1977

TABLE 8 BOTSWANA STAFF PROJECTIONS--AGRICULTURAL DEGREE CADRE, 1979-1986

Year	Batswana in Post-April	Attrition ^{1/}	Degree Output	Batswana in Post-March
1979-80	30	2	7	35
1980-81	35	2	15	48
1981-82	48	2	10	56
1982-83	56	3	10	63
1983-84	63	3	10	70
1984-85	70	4	12	78
1985-86	78	4	12	86
1986-87	86			

^{1/} Attrition is calculated at 5 percent.

Source: MDA, Manpower Projection--Agricultural Staff, March 1977.

A similar situation could be shown with economic graduates in relation to needed numbers. The Director of Economic Affairs, MDP, projects the number of economic graduates capable of becoming planners as follows:

Year	Number of Economics Graduates	Graduates Capable of Becoming Planners (ie, Division 2 or Better)
1978	15	8
1979	18	9
1980	11	6
1981	20	10
1982	23	11
1983	25	12
1984	28	15

These are needed by MDP, many ministries, and Botswana's numerous agriculturally related parastatal corporations which currently lack any capacity for planning their agricultural services. The Botswana Meat Commission, the Agricultural Marketing Board, Botswana Development Corporation, National Development Bank, Cooperative Bank, and Botswana Livestock Development Corporation have yet to employ economic planners. When this group of economic graduates with planning capability is divided among other government ministries, parastatals, and the private sector there may be only one per year actually available to MDA.

This one economist available to MOA relates directly to MOA/PSU needs since planners usually come from this cadre. MOA calls for a PSU staff of 8 now, and meeting long-term requirements will mean expansion to at least 11. Since there is currently only one Motswana, 10 additional Batswana will need to be trained. With only one economist available per year, the rest will have to come from agricultural science graduates, persons trained in other disciplines, or current MOA employees; this is actually desirable, however, since staff working on agricultural planning projects will be more effective if they are agriculturalists. In addition to these MOA, PSU requirements, there is demand for agricultural planning capability in other ministries and parastatals.

Since UBS is not now capable of producing the needed planning officers, nor will it be capable of doing so in the foreseeable future, this Project should train at least 10 agricultural planners for MOA, PSU and a minimum of 6 more planners for other rural planning organizations. In view of attribution and promotions, the total number trained should range between 16 and 20.

5. Contributions of this Project to Long-Term Planning Needs

This Project will provide an initial cadre of trained Batswana planning officers, an expanded MOA planning unit, and expatriate personnel to fill positions until the Batswana are trained. It will also provide for up to a one-year overlap on assignments after the Batswana return home, in most cases, to help the Batswana adapt and implement their newly acquired planning skills.

(a) Participant training

As the analysis in the previous section demonstrated, 16 to 20 Batswana will need to be trained as agricultural planners, with some specialization in related rural development fields such as rural sociology and statistics. The Project will provide 67 years of participant training, including 23 years of pre-academic and on-the-job training in Botswana and 44 years of academic work in the United States. The actual mix and degree levels will be determined by the GOB and Project personnel as Project implementation progresses. To the extent possible, however, trainees will be selected from both economics and agricultural BA or BS graduates, as well as from current GOB employees who have demonstrated that they are qualified to undertake advanced degree training. Only degree holders can be nominated for a Master's program, but diplomates or perhaps even Division 1 or 2 pass holders might be considered for BS work.

Because qualified candidates are in short supply, as indicated in the previous section, the design team worked jointly with MOA and MFDP to identify specific candidates for Project training (Annex M). The potential candidates were then programmed on a training schedule for the first 3 years of Project implementation. This satisfied the GOB and AID that the pool of potential trainees is large enough to satisfy the Project objectives.

This training will provide a major thrust toward meeting the immediate need for planning officers in the MOA, MFDP, and parastatals concerned with agricultural and rural development.

(h) Expatriate staff

Project technicians will function as OOB employees, filling established OOB posts until they can be replaced by trained Batswana. It is anticipated that the value of project and systems analysis will be demonstrated by Project technicians and that the Ministry will include such analyses in the planning process by establishing internal requirements for assessment of plans and projects. These staff members will also give participants in-service training as well as remedial classes in math, statistics, and other areas determined deficient to prepare the Batswana for their degree training in the US. These specialists will supervise thesis research of the MS students in Botswana, and assist the students as they begin their planning responsibilities after completing their degrees. This assistance should make a major contribution to the immediate data collection and analytical capability of MDA, PSU while at the same time developing procedures and systems which will institutionalize longer-term analytical planning methods.

Specific job descriptions: Specific responsibilities of the technical assistance specialists funded by AID are as follows:

- Chief Agricultural Economist: The Chief Agricultural Economist is the primary economic and policy advisor to the MDA Permanent Secretary (PS) as well as the director of all MDA planning activities. He needs to be a person with long African policy and research experience, with substantial administrative skills. He will manage this Project and serve as supervisor of all Project funded technicians. Specifically, the CAE will:
 - Serve as economic and policy advisor to the MDA, PS;
 - Direct and coordinate agricultural planning activities within the MDA, including the PSU, as well as maintaining liaison with appropriate offices in MFDP and other government agencies;
 - Serve as a director of the Botswana Agricultural Marketing Board;
 - As designated by the PS/MOA, serve as officer in charge of issuance of grain import/export permits;
 - Develop the PSU Recurrent Budget and prepare and monitor the MDA Development Budget; and
 - Manage this Project for MDA. In this capacity he will serve as coordinator/supervisor of the Project personnel and Project activities. He will supervise the Project-funded Administrative Assistant who will handle all logistical and operational details. He will help the Project's Agricultural Economist/Trainer plan and execute all training operations conducted under this Project.
- Senior Agricultural Economist: This officer will coordinate all planning activities in the MDA, including budget and planning resource allocations. He must have had extensive development planning experience. Reporting to the CAE, he will:
 - Serve as economic and policy advisor to the CAE;

- Serve as officer responsible for PSU planning activities including project planning, preparation, evaluation, and monitoring;^{1/}
- Plan and conduct such agricultural economic research as is deemed necessary by the CAE; and
- Supervise all of the personnel assigned to the planning component of PSU, including the Livestock Economist provided by this Project; and
- In cooperation with the Project's Agricultural Economist/Trainer, help plan and supervise on-the-job training for Batswana being trained by this Project.
- Farm Management Economist: One of the major components of both the agricultural economics training and policy analysis must be the economics of the farm. Policies must not only be analyzed for their impact on macro variables such as foreign exchange earnings and GDP, but also on the economics of the farm. In this Project it is anticipated that the Farm Management/Production Economist will participate in analyses of such issues as the effects of the Tribal Grazing Land Policy on livestock and crop enterprises, the economic feasibility of communal grazing and ranching, the micro-economic effects of input subsidies, economic feasibility of new crops, intermediate technology, risk management, demand for labor in agriculture, etc.

The Farm Management Economist will report to the CAE. His specific duties are:

- To supervise the ongoing activities of the PSU farm management unit. These activities include the National Farm Management Survey, the Integrated Farming Pilot Project Farm Management Survey, and the Economics of Draft Power Survey.
- To help plan and coordinate farm management surveys and analysis as required by the CAE and other MOA divisions.
- To aid in the QJT activities of the Project.
- To plan and conduct economic research related to Botswana's farming sector.
- Rural Sociologist: Botswana and donor agencies are increasingly concerned with the social implications of development activities. The Rural Sociologist provides technical leadership for the analysis of social implications of MOA projects. He reports to the CAE. He will:
- Supervise personnel assigned to the rural sociology unit of PSU;

While Project monitoring is the specific responsibility of the SAE, all personnel are expected to engage in regular follow up activities to assure that projects are properly and expeditiously implemented.

- Plan, conduct, and disseminate research appropriate to the planning and evaluation of rural development projects;
- Serve as advisor to the SAE to assure that projects and plans have appropriate socio/cultural context; and
- Participate in the planning and execution of training activities related to the field of sociology.
- Livestock Economist: Livestock production provides 86 percent of the value of agricultural sales. Livestock-related programs are the largest components of MOA activities. Both World Bank and AID have major livestock programs in Botswana. The incumbent in this position will be responsible for servicing these existing programs as well as designing supportive and successor projects. The incumbent will report to the SAE and will:
 - Design, evaluate, and monitor livestock-related projects of concern to the PSU;
 - Advise divisions in MOA dealing with livestock projects;
 - Provide liaison between PSU and MOA divisions dealing with livestock; and
 - Conduct economic research related to livestock production, marketing, and consumption in Botswana.
- Agricultural Statistician: He will report to the CAE and will serve in a position to be established in PSU (he will, however, be considered a part of the statistics cadre). His duties will be:
 - Supervision of the PSU statistics unit;
 - Providing a statistical input to the work done by other branches of the Ministry such as rural sociology and agricultural research;
 - Undertaking ad hoc surveys on farm management-related work, assisting the Farm Management Economist in survey design, and doing localized survey work which does not warrant national coverage.
 - Coordinating PSU's participation in national surveys conducted by CSO; and
 - Participating in the in-service training conducted by this Project.
- Agricultural Economist/Trainer: Planning and coordinating the Project's training function, in cooperation with the MOA Training Officer, will be the major function of the incumbent. He will have no major "on-line" job responsibilities within PSU, but he will participate in on-going agricultural economics and planning activities as well as performing this training function in order to have practical "case studies" for the trainees. This will also put him in a position of having useful projects for MOA trainees to work on during their OJT as well as suggestions for thesis topics which will be of most benefit to Botswana.

- Serve as officer responsible for PSU planning activities including project planning, preparation, evaluation, and monitoring;^{1/}
- Plan and conduct such agricultural economic research as is deemed necessary by the CAE; and
- Supervise all of the personnel assigned to the planning component of PSU, including the Livestock Economist provided by this Project; and
- In cooperation with the Project's Agricultural Economist/Trainer, help plan and supervise on-the-job training for Batswana being trained by this Project.
- Farm Management Economist: One of the major components of both the agricultural economics training and policy analysis must be the economics of the farm. Policies must not only be analyzed for their impact on macro variables such as foreign exchange earnings and GDP, but also on the economics of the farm. In this Project it is anticipated that the Farm Management/Production Economist will participate in analyses of such issues as the effects of the Tribal Grazing Land Policy on livestock and crop enterprises, the economic feasibility of communal grazing and ranching, the micro-economic effects of input subsidies, economic feasibility of new crops, intermediate technology, risk management, demand for labor in agriculture, etc.

The Farm Management Economist will report to the CAE. His specific duties are:

- To supervise the ongoing activities of the PSU farm management unit. These activities include the National Farm Management Survey, the Integrated Farming Pilot Project Farm Management Survey, and the Economics of Draft Power Survey.
- To help plan and coordinate farm management surveys and analysis as required by the CAE and other MDA divisions.
- To aid in the QJT activities of the Project.
- To plan and conduct economic research related to Botswana's farming sector.
- Rural Sociologist: Botswana and donor agencies are increasingly concerned with the social implications of development activities. The Rural Sociologist provides technical leadership for the analysis of social implications of MDA projects. He reports to the CAE. He will:
 - Supervise personnel assigned to the rural sociology unit of PSU;

^{1/} While Project monitoring is the specific responsibility of the SAE, all personnel are expected to engage in regular follow up activities to assure that projects are properly and expeditiously implemented.

- Plan, conduct, and disseminate research appropriate to the planning and evaluation of rural development projects;
- Serve as advisor to the SAE to assure that projects and plans have appropriate socio/cultural context; and
- Participate in the planning and execution of training activities related to the field of sociology.
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 - Design, evaluate, and monitor livestock-related projects of concern to the PSU;
 - Advise divisions in MOA dealing with livestock projects;
 - Provide liaison between PSU and MOA divisions dealing with livestock; and
 - Conduct economic research related to livestock production, marketing, and consumption in Botswana.
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 - Supervision of the PSU statistics unit;
 - Providing a statistical input to the work done by other branches of the Ministry such as rural sociology and agricultural research;
 - Undertaking ad hoc surveys on farm management-related work, assisting the Farm Management Economist in survey design, and doing localized survey work which does not warrant national coverage.
 - Coordinating PSU's participation in national surveys conducted by CSO; and
 - Participating in the in-service training conducted by this Project.
- Agricultural Economist/Trainer: Planning and coordinating the Project's training function, in cooperation with the MOA Training Officer, will be the major function of the incumbent. He will have no major "on-line" job responsibilities within PSU, but he will participate in on-going agricultural economics and planning activities as well as performing this training function in order to have practical "case studies" for the trainees. This will also put him in a position of having useful projects for MOA trainees to work on during their OJT as well as suggestions for thesis topics which will be of most benefit to Botswana.

The Agricultural Economist/Trainer will report to CAE. He will:

- Identify training requirements and, with the CAE, prepare annual and quarterly training plans;
- Plan and conduct remedial classes;
- Supervise thesis work in Botswana;
- Coordinate trainees' OJT; and
- Coordinate efforts to assist MOA students as they return home and begin their jobs. This will include: identifying skill areas needing further strengthening, organizing and conducting seminars to meet specific needs and provide opportunities for participants to exchange experiences; arranging special intensive short courses in Botswana; counseling and providing on-the-job training to individual participants as appropriate; and coordinating the overall effort by Project staff to assist trainees.

i. Technical Soundness and Reasonableness of Costs

(a) Construction

Standard Botswana Housing Corporation plans and specifications will be used for technician housing. These plans have been used previously for AID-funded technician housing in Gaborone and have proven accurate and satisfactory. The houses are adequate but not pretentious. They will be located in residential areas of Gaborone where utilities are available.

The office and library will be built as an integral part of a new MOA headquarters block which is being built by the GOB in front of the existing MOA office buildings. Adequate utilities and services exist. Prior to signing the ProAg, the GOB must satisfy AID that land will be provided for technician housing. In addition, a condition to disbursement of the AID construction funds will be AID approval of final design and specifications of the MOA Headquarters building and housing. The REDSO/EA Engineering staff will provide the analysis required for AID's final approval. The estimated costs are based on square meter construction costs for the basic MOA Headquarters building with an added factor for inflation. With the condition that final design and specifications remain to be approved by REDSO engineers, and commitment by GOB to furnish land and build technician housing (See Annex H), the construction appears to be technically sound and feasible, thus satisfying the requirements of Section 611(a)(1) of the FAA of 1961, as amended. 1/

(b) Technical assistance--alternative project approaches

Technical assistance projects can best be evaluated from a "cost-effectiveness" point of view. There were three different assistance mixes which were reviewed before this PP approach was decided upon.

1/ Gaborone 240 dated January 31 confirms 611(a) Certification.

Continuation of the SADPT approach: Prior to this Project, all rural development planning support was under SADPT through AID funded OPEX personnel and participant training. The SADPT approach made sense when only a few participants and OPEX personnel were being provided. It would probably be slightly less expensive to continue the activities under SADPT also.

A SADPT approach doesn't provide for a coherent institutional development structure, however. To be self-sustaining an activity of this size needs to be structured in an institutional setting. The development of MOA, PSU would be difficult under SADPT. Another problem is the quality and cost of SADPT participant training. Remedial in-country get the fullest benefit from their programs. By doing their MS thesis research in Botswana, participants receive more relevant training. It would be hard to supervise such thesis work and do remedial training or OJT under SADPT approach.

Therefore, the SADPT approach was not chosen because of the loss in institutional development and training relevancy. While the in-country training and institutional building aspects are costly, they are necessary.

Emphasis on in-country training: A project could be designed to strongly emphasize institutional development and local training as was proposed for this Project in the November 1976 PRP. The PRP placed major emphasis on the institutional development of MOA, PSU. To strengthen institutional development, a US university and UBS were to be involved in MOA training and policy analysis. By bringing in a host country university, the training and institutional development function would be internalized and made self-sustaining after Project completion. To improve the relevancy of participant training a heavy in-country training element was included.

The drawbacks of such an approach were the high cost, large expatriate manpower requirements and sophistication required for a large institutional development effort. AID funding would have been \$5.5 million compared to \$4.2 million under this Project. The expatriate manpower requirement (53 man-years) was more than double the 25 1/2 man-years under this Project. The in-country training and institutional development objectives were very expensive in money and manpower terms. The October 1976 PRP approach was too large and costly from the GOB's point of view.

The 'happy medium': The final structure decided upon falls between the first two alternatives. A training officer will provide remedial instruction, supervise thesis research in Botswana, and assist with OJT. This will help integrate a participant more quickly into GOB operations and ensure that his US study is relevant to Botswana. The first alternative had no in-country training, which was a major drawback corrected by this approach. The linkage to US and Botswana institutions is less than under the second proposal, but a substantial improvement over proposal one, which had no US institutional linkage. A major Project objective is MOA, PSU institutional development. While the local university (UBS) will not be part of this Project, PSU's institutional strength will still be greatly improved.

On balance, this Project achieves many of the aims of alternative 2, but at greatly reduced costs in money and manpower. It will provide more relevant training; PSU's immediate capacity to do better planning will be met; and institutional base will be laid. This approach represents a least-cost alternative for effectively meeting Project objectives.

Environmental Considerations

An initial Environmental Examination(IEE) was included in the 1976 PRP.

An AID/W cable (State 211551 of 9/22/77) stated that AID/W would prepare an IEE and that a Negative Determination was expected.

The basic Project objective is to improve the GOB's ability to do rural development planning. Rural development is centered on agricultural development which, by definition, means more efficient land utilization. Thus, the Project should have a long-term (though indirect) impact on better land use practices. Project technicians and trainees will be able to help the GOB frame policy and project designs on an environmentally sound basis. That is what crops and grazing policy should be - how to maximize agricultural production while putting the minimum stress on land. In addition to the Policy side of the Project, there will be limited construction of houses, offices, and a library. The buildings will result in very limited environmental change.

Annex G provides additional detail on environmental aspects of this Project.

B. FINANCIAL ANALYSIS

1. Recurrent Budget Analysis

Ministry of Agriculture Recurrent Budget
Pula

	Actual FY 74/75	Approved FY 75/76	Budget Est FY 76/78	Proposed Budget FY 77/78	Annual Percentage Browth FY 74/75 to 77/78
Total Ministry of Agriculture	4 611 600	6 184 730	6 661 150	7 027 420	15.1%
Ministry of Agriculture Headquarters	525 000	560 070	681 870	569 280	2.7%
Headquarters as a % of total MDA	11.4%	9.1%	10.2%	8.1%	

Source: GOB Annual Recurrent Budget Estimates

The above table gives the FY 1974/75-1977/78 Recurrent Budget levels for MDA and, within MDA, the cost of Headquarters operations. 'Headquarters' includes MDA's central administration, planning, and management costs. MDA, PSU is a part of MDA Headquarters, but data does not exist to break it out separately. The table shows that, while total MDA recurrent expenditures have increased sharply (15.1 percent a year), Headquarters has grown very slowly (2.7 percent a year). In real terms (excluding inflation) the FY 1977/78 Headquarters level would be lower than in FY 1974/75. The FY 1976/77 to FY 1977/78 Headquarters budget decline assumes the shift of some functions out of Headquarters to other departments. Roughly 70 percent of Headquarter's expenses are personnel costs (salary, allowances, and travel) and thus relatively fixed.

The basic project costs, excluding inflation, attributed to the GOB are

\$1 759 600 or roughly \$351 920 a year for the five year life of Project. This is 4.1 percent of the total 1977/78 MDA recurrent Budget or 51.1 percent of the MDA's Headquarters budget. However, in the absence of this Project, many of the costs would still be incurred by the GOB. As an example, if the trainees were not being trained they would still be working for the GOB (though at lower productivity) and still drawing a GOB salary. The same would apply to other Batswana staff, buildings, vehicles, etc.

Thus, in measuring the GOB's Recurrent Budget burden, it is best to look at only those marginal costs which the GOB must bear as a direct result of this Project. They would be the base salary of AID technical assistance personnel; maintenance of additional housing, offices, and vehicles; and additional clerical and officer operations. These marginal costs (in 1977 prices) will total roughly \$222 300 or \$44 400 (P36 700) per year. The yearly marginal Project cost to the GOB represents only 0.5 percent of the FY 1977/78 MDA budget or 6.4 percent of the Headquarters budget.

A final concern is the GOB's financial burden after Project completion. In 1977 prices the GOB will have to pay roughly \$100 000 a year in salaries to the 20 Project-trained planning officers; \$10 000 a year in maintenance; and \$4 000 a year for clerical office operations. These are all marginal, project-related costs. All of the AID-funded technicians will have departed and will be replaced by trained Batswana (some of the 20 participants). If it is assumed that, in the absence of Project, the 20 Batswana would have been employed anyway, then the marginal costs are almost nil. However, if the salaries are included along with maintenance and clerical costs, then the total would be \$114 000 (P94 210) per year. Another complication is that one fourth to one half of the trainees will not be employed by MDA; their salaries should be excluded from this analysis. Including all 20, for the sake of simplicity, the post-Project costs would be 1.3 percent of MDA or 16.5 percent of MDA Headquarters FY 1977/78 budget levels.

In conclusion, during the five year Project life, the MDA recurrent budget costs appear reasonable and within the GOB's financial capacity. From either a total or marginal perspective, the GOB can handle these costs. The post-Project costs are also reasonable. Since the GOB will continue to receive large and steadily increasing revenue from the mining sector, it should have the total resources available to continue development expansion and easily meet recurrent budget costs of on-going operations of this Project. As pointed out in the economic section of this paper (Section III C), the potential benefits generated by this Project are great. They will easily cover Project-generated expenses.

2. Financial Plan and Budget Tables

Table 9: Summary Cost Estimates and Financial Plans (\$000)

SOURCE	AID FUNDING			GOB CONTRIBUTION	
	FX	LC	TOTAL	LC	TOTAL
A. Planning staff and Consultants	2,020.0		2,020.0	855.7	2,875.7
B. Participant training	616.0		616.0	177.4	793.4
C. Commodities and Project support	400.0	279.5	679.5	281.0	960.5
D. Buildings		232.0	232.0	216.0	448.0
E. Contingency	462.25	35.0	497.25	229.5	726.75
F. Inflation	678.9	55.0	733.9	315.9	1,049.8
TOTAL	4,177.15	601.5	4,778.65	2,075.5	6,854.15

(a) Cost estimates

Detailed financial tables listing yearly expenditures by category are included in Annex F. Funding is timed to meet the sequence of events programmed in the PPT chart (Annex C). Explanatory notes on cost elements also appear in Annex F. Section III B6 provides an analysis of the technical soundness and reasonableness of costs. Section III D provides an economic analysis, including measures of benefit/costs. Annex H reviews construction cost estimates.

The yearly expenditure tables in Annex F are based on expected disbursement rates. They of course differ from obligation rates. In order to provide for orderly contract funding.

Table 10: Costing of Project Outputs/Inputs (\$'000)

SOURCE AND INPUTS	PROJECT OUTPUTS		
	NO. 1 IMMEDIATE PLANNING CAPACITY	NO. 2 LOCALIZING PLANNING CAPACITY	TOTAL
<u>AID</u>			
A. Planning staff	1,420.0	600.0	2,020.0
B. Participant training		616.0	616.0
C. Commodities and Project support	619.0	60.5	679.5
D. Buildings	175.0	57.0	232.0
E. Contingency	306.0	191.25	497.25
F. Inflation	452.0	281.9	733.9
SUB TOTAL	2,972.0	1,806.65	4,778.65
Percent	(61%)	(39%)	(100%)
<u>GOB</u>			
A. Planning staff	172.8	682.9	855.7
B. Participant training		177.4	177.4
C. Commodities and Project support	81.0	200.0	281.0
D. Buildings	90.0	126.0	216.0
E. Contingency	51.6	177.9	229.5
F. Inflation	71.1	244.8	315.9
SUB TOTAL	466.5	1,609.0	2,075.5
Percent	(22%)	(78%)	(100%)
GRANT TOTAL	3,438.5	3,415.65	6,854.15
Percent	(51%)	(49%)	(100%)

technical assistance costs are forward-funded 18 months and all other costs are forward-funded 12 months. While this is a FY 1978 project, approval and first obligations are expected late in the fiscal year. Though it is possible that some expenditures could be made in FY 1978, it is assumed that all expenditures start in FY 1979. Therefore, the contract is expected to be obligated and funded in FY 1978, with actual disbursement to start after October 1, 1978.

(b) Adequacy of meeting recurrent costs

As noted in III C1 above, recurrent costs are within the GOB's financial capacity. After AID's disbursements are scheduled to end, MDA will fully fund PSU costs.

(c) Costing of project outputs/inputs

The preceding table measures Project inputs against outputs. The split between immediate planning capacity and longer run localization is 45/55.

(d) Conclusion

Based on the analysis set forth in this and the other referenced sections, it is demonstrated that the financial plan is adequate and firm and that the Project is financially sound.

D. ECONOMIC ANALYSIS

The nature of this Project (training and institutional development) makes benefit/cost analysis difficult to apply. Great care was exercised to specify quantified measures of output and purpose achievement, but these measures are only indicators and do not measure achievement of all dimensions of each purpose or output. Moreover, most cannot be given reliable monetary values. Particularly difficult to monetize are the values of a 'planning institution' in MDA, of a National Development Plan with 'significant Batswana input', of a 'relationship' with a US institution, or of 'increased skills' made available to the GOB through training activities.

An alternative under these circumstances is to use 'cost effectiveness' analysis; for such analysis it would not be necessary to measure outputs, only inputs. However, it must be applied to alternatives which produce identical or near identical outputs if it is to help distinguish between different approaches. The outputs produced by alternatives available here are, however, not similar and, in most instances, the alternatives do not produce the required outputs.

As discussed in Section III 6, two other alternative approaches were considered: SADPT and the comprehensive plan presented in the PRP. The SADPT approach was eliminated because it does not produce the required institutional relationships or the required in-country training capability. The comprehensive plan proposed in the PRP was accepted in principle by the GOB, but rejected because it required manpower and financial inputs in excess of what the GOB was capable of absorbing. The Project as now designed represents a program which supplies resource inputs to do agricultural planning in the short run, while training Batswana to become planning officers. This Project represents, in a sense, the 'cost effective' way of providing an acceptable mix of technical assistance and training.

Alternative 'mixes' of inputs could be considered and costed in seeking an optimum (i.e., cost minimum) plan. However, the design team has determined that the mix of inputs included here represent the minimum necessary to create a viable NDA, PSU.

As noted earlier, an economic analysis of the Project is difficult because outputs cannot be completely monetized. However, a general idea of Project worth can be calculated under certain assumptions. If we assume that projects planned by the PSU (if well designed and selected) will have benefit/cost ratios at least equal to one, we can imply a minimum Project benefit as equal to a proportion of the value of projects implemented. That is, benefits accruing to this Project will be related to the value of agricultural projects which the institution it seeks to create can plan and implement. Total implementation levels cannot be attributed to Project benefits because the PSU is dependent on other agents for actual day-to-day implementation activities.

Benefits which accrue to the Project can arise in two ways:

(1) through accelerated implementation of currently planned projects, which assumes no limit on development funds and implies a certain amount of waste (that is, a lower B/C ratio), and (2) through project design (or redesign) which more efficiently utilizes current human and physical resources (i.e., a high B/C ratio and more projects for a given expenditure). Calculation of benefits under (1) requires determination of the proportion of expenditures due to the Project. Calculation of benefits under (2) requires determination of the number of projects, their costs, and the proportion of their B/C ratios attributable to the Project. Although benefits under (2) would undoubtedly be higher than under (1), the more conservative approach, the first is used here (the Special and Final Project Evaluations should deal with measures obtainable under method two).

Four analyses were done: Project costs calculated with and without contingency allowance, versus Project benefits at a minimum level and at a higher level. Project costs for this analysis are developed and explained in Annex L. Development expenditures were taken from the 1976-81 NDP. They are planned agricultural expenditures and have been adjusted to impute benefits attributable to this Project. Calculation of benefits is explained in Annex L.

Minimum benefits were calculated by assuming that the 'without Project' implementation rate would be 40 percent and that the Project would raise that rate to 50, 60, 60, and 60 percent. It was assumed that this increase would begin in 1980.

High benefits were calculated by assuming that implementation rates would increase under the Project, beginning in 1980 according to percentages of 50, 60, 70, and 80. Direct benefits from the Project were then assumed to be varying proportions of total development expenditures.

Benefit/Cost ratios, and internal rates of return (IRR) are summarized in the following table. A discount rate of 12 percent was selected a representative of the opportunity cost of capital in Botswana.

Benefit/Cost Ratios and Internal Rates of Return

<u>B/C Ratios</u>	<u>No Contingency Cost</u>	<u>With Contingency Cost</u>
Minimum benefits	1.05	.94
High benefits	1.23	1.10
<u>IRR</u>		
Minimum benefits	24%	11%
High benefits	40%	28%

Source: See Annex L, Table 1

Benefit/Cost ratios for the minimum benefit case were between .94 and 1.05, with IRR's of 11 and 24 percent. Since it is unlikely that all contingency funds would be utilized, the low IRR would probably be nearer to 15 percent.

The higher benefit assumption (which generates an 80 percent implementation rate by 1983) is included to show results under a more optimistic scheme. In this analysis the B/C's are 1.23 and 1.10, with IRR's at 40 percent and 28 percent.

Thus, it can be concluded that the Project will at a minimum produce an IRR between 15 and 24 percent (and certainly higher because implemented project B/C's should exceed one, giving actual benefits much greater than development expenditures). Benefits will exceed costs by a significant margin.

E. SOCIAL SOUNDNESS ANALYSIS

1. Direct Project Social Feasibility and Impacts

The major issue of social feasibility of this Project is whether the Botswana trainees' cultural/social backgrounds substantially constrain their ability to benefit from the proposed training. This has two major dimensions: (1) is the content of the training so far outside their cultural framework and experience that they cannot benefit from it, and (2) is the Project design compatible with their social system.

Certainly Western economic and social thoughts and methods are a cultural manifestation of those societies and tend to reflect their social and economic structures. As a result they do not provide a perfect tool for analyzing African problems and will cause some difficulty for the Botswana student. However, it is precisely these problems which the in-country training should ameliorate and thus make the training more relevant to Botswana. Moreover, all participants have attended Botswana education institutions and thus will have had substantial prior exposure to Western thought since these schools have strong expatriate influences. Therefore, it is anticipated that the Western bias of the studies will not present a major problem.

The design of the Project does create one major problem; for a significant portion of their studies, the trainees will not be isolated in an academic community but will be subject to the extensive social obligations and family pressure that any society includes. The exposure to social and family obligations will occur at two points during the training period; the initial remedial training period (1 year), and the thesis preparation period ($\frac{1}{2}$ - 1 year). For those who do not exercise substantial self discipline, this may become a serious problem. However, the initial training period provides GOB the opportunity to screen out those candidates who are unable to achieve a balance between fulfillment of social obligations and job responsibilities. Similarly, because this Project provides an individual (Agricultural Economist/Trainer) who will be cognizant of and responsive to the needs of the trainees, the conflict between job/training and societal responsibilities will be minimized.

Because this Project does not propose to directly implement programs to alter or impact the social/cultural structure of Botswana, it will have minimal direct social/cultural impact. It will have indirect effects.

2. Indirect Project Impacts

(a) Culturally relevant development projects

Rural development always involves issues of social feasibility and impact. But, perhaps in Botswana the social dimensions are more important than usual. Botswana is attempting to alter basic relationships between its people and their natural resources as well as the relationships among people. For example, the New Tribal Grazing Lands Policy is basically an agrarian reform, changing the historical distribution of land rights and use, including public provision of services associated with land use (i.e., boreholes). This will have vast social impacts and, if not properly designed, will prove to be socially infeasible.

Botswana also proposes to change the livestock system to an essentially cooperative form of communal ranches. This has important social implications and could prove to be socially infeasible.

The Project responds to these issues by creating a significant capacity to deal with them. It provides expatriate social analysts while training Botswana rural social analysts. It will also institutionalize social analysis as a major component of rural sector analysis.

(b) Localized planning capability

One of the outputs of this Project is a localized planning capability within the MOA. This will have significant cultural impacts as policies and methods which are now essentially Western in style are replaced by policies and methods more specific to Botswana's culture. To the degree that this change produces an interaction among Botswana's government, peoples, and resources which contributes to improved social welfare, its cultural impact will be positive. A potential danger here is that, as relatively inexperienced Botswana replace expatriates, the development impetus will deteriorate, causing dissatisfaction and conflict between the modern and more traditional sectors. The Project minimizes this danger by providing for 'overlap' between Project personnel and their counterparts.

(c) Effect on Women

In traditional Botswana society women have been responsible for food production and household related activities while men and boys attended to livestock-related activities (principally cattle). The time expended on the three broad activities (household, crop, livestock) as well as the related decisions, are almost exclusive province of each sex. Men spend only about 6 percent of their available time on crops (plowing, land clearing, planting) and women spend only about 4 percent of their available time on livestock.

On the other side, men spend about 41 percent of available time on livestock. Women spend 56 percent of their time in household activities and 13 percent of their time on crops. 1/ So far as attitudes are concerned, there is a fairly clear distinction between what are considered men's and women's activities:

Activities considered suitable for

<u>Men</u>	<u>Women</u>
clearing land	weeding and bird scaring
ploughing	harvesting and threshing
small stock keeping	poultry keeping
cattle care and milling	all household duties
calving help	beer brewing
castration	house building
dehorning	
dam building	
kraal building	

Since much of the GOB's Rural Development Strategy is aimed at changing the patterns of land and cattle use, and since attitudes about the appropriate roles of men and women are closely related to land and cattle use, the Project will have an indirect effect on both sexes. Projects designed in support of the arable lands policy, for example, must consider that, after planting, crop production is considered women's work and, as a result, some production goals may be feasible without changes in the traditional roles of the sexes. 2/ By providing trained and experienced personnel to aid planning and implementing projects which increase rural incomes and improve the quality of rural life, this Project will help improve the lives of rural women.

Since strategies to be pursued within this Project will take into account the fact that women do the major part of crop production activities, the contractor (implementing agent) should be encouraged

1/ Detailed data are shown in Annex D.

2/ The role of women in agriculture is not ignored by the GOB. The MDA has an officer specifically concerned with women's roles and rights and attempts are being made to employ women in the extension services.

to include women when the Project staff is recruited. The GOB should, as well, be encouraged to include women among the persons trained by this Project.

5. Conclusion

Because the Project is policy and institutionally directed, the PP design team has determined that the Project is socially feasible and will have no negative social impacts. The Project provides social analytical services and training, permitting GOB to devote greater attention to socio-cultural issues and to design socially sound projects and policies.

IV. PROJECT IMPLEMENTATION

A. SUMMARY OVERVIEW

The GOB usually treats donor-funded personnel the same as Botswana civil servants. However, since this is an institutional development effort, it is important to maintain a "project focus" with the AID planners operating together as a team. Thus, the planners are being provided through a US institutional contractor with the CAE serving as team leader. The specific lines of communications and division of responsibilities will be spelled out in the ProAg and the contract.

All aspects of project implementation (except construction) will be the Contractor's responsibility. All implementation matters dealing with construction will be handled by AID. The Contractor (subject to GOB/AID concurrence) will be responsible for technician recruitment and for all required (non-GOB) technician support services. The Contractor will purchase and arrange delivery of all Project commodities, equipment, and vehicles. The Contractor will be responsible for implementing all participant training programs (both in-country and in the U.S.). At the peak of Project activity there will be 7 technicians in-country and 20 participants in various stages of training. This will entail a substantial administrative burden, beyond the support capabilities of either the GOB or the small AOO/Gaborone office. The Project will fund an Administrative Officer who will handle Project administrative and logistics details. He will be provided with an office, car and other necessary facilities. The budget details are described in Annex F.

OSARAC will monitor the Project through the AID Operations Officer (AOO) posted in Gaborone. The AOO will be supported by OSARAC and REDSO/EA technical personnel. He will maintain communications with the CAE, note and take action to assure that the GOB is performing its agreed-to services, and keep close watch on performance indicators, recommending corrective action in the event of slippages. It is expected that OSARAC will continue its present style of operations with MOA, which includes regular working meetings with the Permanent Secretary, Deputy Permanent Secretary, and department and division and department chiefs.

Upon signature of the OSARAC-prepared ProAg, steps will be taken to initiate construction contracts and Project purchases. These will be monitored by and receive required approvals from REDSO/EA. Necessary Project Implementation Orders will be prepared by OSARAC. AID will disburse funds for local costs on a reimbursable basis following procedures to be defined in the ProAg and in Annex O. Construction funds will be handled on a fixed amount reimbursement basis. If advances are necessary, procedures for this will be spelled out in the ProAg.

Each Project technician will prepare an Annual Work Plan discussing projects, analyses, etc., completed in the last year and scheduled tasks for the next year. The CAE will summarize these plans in an overall Project Work Plan. The CAE will prepare the first plan upon Project obligation and then an annual Project Plan each September. In addition to the Annual Plan, the Agricultural Economist/Trainer will prepare quarterly reports on all phases of Project training. The GOB/MOA approved annual Project Work Plan will be submitted for AID/OSARAC review.

The CIP and the PPT charts are shown in Annex C. There are six tracks included:

- technical assistance
- localization
- training
- commodity purchase
- construction, and
- reports and evaluation

The technical assistance, training, and localization CPIs show when personnel arrive and when trainees depart and return to localize positions held by technical experts. The CPIs for these tracks follow the Project phasing shown in Figure 2, Section IV G (page 63).

The commodity purchase tracks shows CPIs for purchase of vehicles and library books. The construction track shows CPIs for construction of four houses and additional office space and library.

The report and evaluation track shows CPIs for Annual Work Plans for the Project and Project team annual progress evaluations. It includes, as well, a Special Evaluation by AID in 1980 and a final evaluation in 1983.

The PPT begins on October 1, 1978. The CPI begins in November 1977 with submission of this PP. Pre-project CPIs are as follows:

<u>Date</u>	<u>Action</u>	<u>CPI</u>
<u>1977</u>		
November 30	OSARAC	PP submitted
<u>1978</u>		
February 1	AID/W	PP approved
March 15	OSARAC/GOB	ProAg signed
May 30	GOB	Select Group I and II trainees
May 30	AID/W, GOB	GOB visits US to participate in selection of implementing contractor and personnel
June 30	GOB	GOB formally notifies AID of its selected contractor
July 15	AID/W	AID/W notifies selected contractor and contract or PASA agreement is negotiated
August 15	OSARAC/GOB	Group I trainees depart
October 1	OSARAC/ Contractor	Formal Project operations phase starts

The dates listed above are a maximum; with a little more effort by all parties they could be accelerated. The areas of potential time savings and action parties are:

- time between submission and approval of PP, AID/W;
- time between PP approval and ProAg signing, OSARAC;
- time required for selection of contractor, AID/W, GOB, & OSARAC.

Most critical CPIs are those related to technician arrival and trainee return. These CPIs are:

<u>Date</u>	<u>Action</u>	
October 1, 1978	Contractor, AID/W	Chief Agricultural Economist, Rural Sociologist, Livestock Economist, Senior Agricultural Economist, Agricultural Economist/Trainer on board
January 30, 1979	Contractor, AID/	Farm Management Economist and Agricultural Statistician on board
June 30, 1980	Contractor/OSARAC	Group I trainees return
June 30, 1981	Contractor/OSARAC	Group II trainees return
June 30, 1982	Contractor/OSARAC	Group III trainees return
June 30, 1983	Contractor/OSARAC	Group IV trainees return

B. LOCAL COST OPERATING FUNDS

Every project requires funds for small value local purchases. These are the "paper clip" type supplies that every operation needs for its day-to-day operation. It is important that simple procedures be set up for the use of these funds. Both AID and the GOB will provide such funds.

The AID funds will cover local costs which are not normally provided in GOB offices. Most will be special office supplies, materials, or equipment that are unique to this type of operation. It is expected that the average item will be under \$50 with only three over \$1,000. Those three are a non-sensitized paper copying machine at \$5,000, a stencil reproduction machine at \$1,000, and field survey costs which should average \$5,000 per year. The general types of supplies and equipment to be purchased locally with AID funds are:

- calculators
- file cabinets, file folders, and related materials
- reproduction paper, stencils, and supplies
- work tables, drawing boards, display materials, etc.
- miscellaneous office supplies and materials
- field survey support costs such as per diem, camping tents and equipment, field supplies, and special field options for vehicles
- in-country Master's thesis support funds

The CAE will prepare an annual budget for such items and submit it to the AOO/Gaborone. They must be items not normally available from the GOB. After the annual budget is approved, the CAE will periodically send in receipts for purchases, which the AOO will process for AID reimbursement.

The GOB has agreed to provide its portion of Project support funds to cover normal ORB office supplies. To avoid delays, it would be useful if the ORB funds could be programmed in a manner similar to the AID funds mentioned above. In Zaire, a similar project (Agricultural Economic Development, 660-0052) used a Project Trust Fund". In the Botswana Crop Production PP (690-11-150-056) a Project Trust Fund" was also proposed. OSARAC recommends that the type of "Trust Fund" proposed for the Crops Project be used here.

The GOB has agreed to pay the base salaries of AID technicians. Rather than paying these salaries to the technicians they would be paid into the Project Trust Fund. Since AID is fully funding technician salaries, the GOB contribution could then be used for miscellaneous Project operating costs. This fund would be administered by MDA, PSU for activities jointly agreed upon by MDA/OSARAC representatives during Project life. This GOB Project Trust Fund would not replace normal GOB Project contributions; it would only allow Project management to more directly and efficiently program the GOB's Project contribution. This Trust Fund approach would be negotiated with the GOB and implementation procedures established in the Project Agreement. If OSARAC determines that a Project Trust Fund is not required, then it could be eliminated.

C. CONTRACTING PROCESS

At the time of this writing, GOB suggests that the Project contractor be either a US university or the US Department of Agriculture. Since the final decision has yet to be made, the contracting process for each alternative is outlined below. In either case one or two GOB officials should go to the United States to interview and assist in the final selection of a contractor, and to interview and, if possible, help select contractor staff personnel.

1. US University Process

After the Project is approved, AFR/DR, assisted by the AID/W TAB Agricultural and Rural Sector Planning Committee will prepare a preliminary list of universities known to have expertise in agricultural and rural sector planning and analysis. AID/W will then announce the program to these institutions as well as the professional community in general, inviting expressions of interest and preliminary evidence of capability and commitment.

A number of universities will be selected from the respondents for further consideration. AFR/DR and TAB will verify each university's interest in the Project and the expertise it can offer. In consultation with TAB and the contracts office, AFR/DR will select three candidate institutions. Final selection will then be made in collaboration with the GOB.

Criteria for selection will include the following:

- Departmental and professional interest, commitment, and capability in agricultural and rural sector planning and analysis.
- University commitment to programs in international development and interest in collaborative modes of operation.

The Project Design Team also suggests that the following criteria be included:

- Experience in a developing country and, if possible, in Africa.
- Demonstrated knowledge of the economics and technology of grain production and storage, livestock production, and marketing in semi-arid regions.
- Flexibility in degree requirements to permit development of a curriculum appropriate to Botswana's needs; possible off-campus final examination on the thesis utilizing non-faculty personnel in Botswana; and academic credit for participation in special short courses such as those outlined in Section IV D of this Project Paper.
- Faculty promotion and award systems which equitably reward those working abroad utilizing criteria based on their job descriptions.

2. USDA Process

If the GOB decides to use the US Department of Agriculture as the contractor, the GOB will inform the AOO/Botswana. Since no selection process is involved as with universities, and since the US Ambassador indicates he will agree to increase the MODE ceiling for such PASA personnel, OSARAC will ask AID/W to negotiate a Participating Agency Service Agreement (PASA) with USDA. This will outline PASA responsibilities, the service support available to PASA staff from AID in Botswana, and related issues. USDA will then recruit and nominate the required personnel for the GOB's approval.

D. TRAINING PLANS AND PHILOSOPHIES

Detailed training program requests will be developed by the Agricultural Economist/Trainer in consultation with the GOB and forwarded to the contractor in the US for implementation. The following timetable is recommended:

- As soon as participants are identified they will enroll for the TOEFL test and transcripts and other academic documents will be collected.
- Two-three months after the remedial program begins a detailed training program will be prepared and forwarded to the Contractor in the US along with transcripts.
- Six weeks before the participant is to depart for the US the contractor will arrange the program and send the program to Botswana. A call-forward date will also be given.
- When a call-forward date is received travel arrangements, visas and other administrative matters will be taken care of.

Every effort will be made to have Project training consistent with the training provisions set out in the approved MFD Scheme of Service for Economist/Planning Officers (Personnel Directive Number 18 of 1971). It calls for two types of activities: "on-the-desk training under day-to-day supervision of a Senior Economist"; and "post-graduate training aimed at matching the increasingly specialized requirements of the Division". These

are both integral parts of the Project training plan for MS candidates for MDA, PSU staff. For other MS trainees, this day-to-day assistance from a senior staff member will be primarily provided by the participant's home agency, with support by the Project staff. For BS candidates, the training will be an intermediate step in the Scheme, but will nevertheless provide the trainees with extensive knowledge of planning techniques.

1. Selection Requirements

Trainees will be selected by the Directorate of Personnel, in collaboration with their respective agencies and MFDP. Since the Project's main interest is the MDA, the first concern is training the staff needed to produce an efficient planning capacity in MDA. Potential trainees have been identified in Section III B 4 and in Annex M.

Candidates for MS degrees must logically have BS or BA degrees already. BS candidates can hold either a BS candidates can hold either a BS, diploma, or Division 1 or 2 Cambridge pass. It is suggested, however, that candidates either be at the BS or diploma level. If a Division 2 level candidate is recommended for the program, it is helpful if he has had job experience which would add to his qualifications. Getting university acceptance of Division 2 students is sometimes a problem.

Most US universities require a TOEFL test to verify trainees' English language levels, even if participants are coming from English-speaking countries. We suggest that nominees be given TOEFL tests early to avoid university delays, unless the AID-funded contractor is a university and they indicate they can place students without the TOEFL. A TOEFL of 500 is usually required.

2. Pre-academic Program

Since analyses in previous sections have shown that Batswana's skills in math and related areas are weak, the Project will give most participants up to a year of remedial training in math, statistics, basic economics, and other areas as appropriate, before they depart for their US academic programs. The actual content will be determined by the Agricultural Economist/Trainer as he works closely with the trainees and learns their weaknesses and strength. Implementation of the program will be in cooperation with the MDA Training Officer, but students from all ministries and parastatals will attend. Arrangements will have to be made to have trainees released from duties in their own agencies whenever remedial classes are held.

All Project staff will assist with class conduct. On occasion, specialists will be recruited from other sources as well, especially when Project staff are involved with urgent line responsibilities and cannot spare the time to adequately cover certain crucial topics.

This pre-academic program will not guarantee success. Any training effort will have some drop-outs. There will always be unforeseen academic, health, personal, or emotional problems for some participants. But this remedial effort will provide an opportunity to weed out those participants who are academically unable to do an advanced degree program. It will make those who are qualified even more qualified. Training attrition is costly and, if it is too large, will result in too few trained staff to achieve the Project's objective of producing a localized capacity for planning and analysis. Effort expended in the remedial program is well justified.

While in remedial classes, MOA trainees will also be given special on-the-job (OJT) assignments to further their understanding of agricultural planning. This on-the-job enrichment will help the trainees, especially those with limited work experience in the field, to identify their own deficiencies in relation to the task to be done. They will go to their US academic program knowing what they need to get from the classes to perform effectively back home.

During this remedial, on-the-job enrichment program participants going for thesis MS programs should work on projects which could become the basis for their thesis research. In this way participants will be getting a head start on the thesis effort. This should provide valuable insights as they develop their research plans while in the United States, and also help ensure that all degree requirements will be met within the allotted time.

Care will have to be taken also to ensure that the Agricultural Economist/Trainer as well as the trainees are not excessively drawn into the day-to-day planning operations. While this OJT experience is to involve work on actual planning projects, there must be adequate time allowed for learning to take place. Because of the great demands for planning within MOA, it would be easy to forget that the participants are to be in a training mode rather than a regular staff situation. This pre-academic remedial, on-the-job enrichment phase is an important component of the Project.

Obviously, the role of the Agricultural Economist/Trainer and MOA Training Officer in identifying skills deficiencies and setting up experiences to help trainees realize their needs will be extremely important. The Agricultural Economist/Trainer in particular, as the subject matter specialist, will need to work closely with the participants, being very sensitive to their understanding of the work being done.

3. Suggested Curricula

The primary objective of the participant training will be completion of degree requirements. Consequently, there are two constraints on curricula planning:

- the admission, grade, and course requirements of the university offering the degree, and
- the requirement that degrees must be the same as those given by the institution to US and other foreign students.

As much as possible within these constraints, each trainee will have a program tailored to his individual needs. It will consider his background and experience, his preferences and abilities, GOB planning requirements, and the need to develop the total capacity for rural sector planning in Botswana.

The Agricultural Economist/Trainer will offer suggestions for each person's program as he works with the trainee and learns his interests and capabilities. He will also attempt to relate this information to the anticipated job the trainee will have when he returns home. These suggestions will be relayed to the US training institution to serve as a guide when the participant's academic program is developed. Areas of study would generally be determined by the nature of the trainee's agricultural planning activities. The greatest specialization for MS participants, of course, will come through the student's formal research and thesis preparation.

Among potential courses are:

General Agricultural Economics	Agri-business
Livestock Economics	Economics of Range Management
Rural Development/Sociology	Production Economics/Farm Management
Agricultural Price Analysis	Price Analysis
Agricultural Statistics	Agricultural Policy
Agricultural Planning and Administration	Research Methods
Agricultural Marketing	Resource Economics
Agricultural Finance	

In addition to these agricultural economics courses, we assume that both BS and MS students will have (or will acquire) training in:

- Micro-Economics (Price and Resource Distribution Theory)
- Macro-Economics (Income and Employment Theory)
- Monetary Theory
- Economic Development (macro orientation)
- Regional Economics
- International Economics (Trade Theory)
- Comparative Economic Systems
- Management/Public Administration

For MDA students, the in-service training provided by the Agricultural Economist/Trainer and other Project staff when they return to the job will likewise be extremely significant as far as specialization. The MDA Training Officer can also arrange in-service activities leading to greater specialization as appropriate.

In order to give trainees varied experiences, no more than a third of the trainees should go to any one university. When they return home, they can compare the alternative approaches to economic theory and practice. This will lead to a synergistic effect which will provide more alternatives for GOB's planning activities and development policies. The Agricultural Economist/Trainer and MDA Training Officer can facilitate this exchange of ideas and learning experiences by organizing seminars with returned trainees. All trainees would participate in these, regardless of their home ministry or parastatal.

This discussion is not to imply that the participants should be scattered throughout many institutions, either. In fact, training should be concentrated in only three or four universities to provide incentive for the staff to take a deeper interest in Botswana and its requirements. The universities should be encouraged to do research on the country and to make plans for adapting the subject matter to Botswana's needs. In this way the university staff should have considerable knowledge of and interest in Botswana, making them a ready source of informal as well as formal back-stopping and technical assistance. When a Department is interested in a country like this, and when there are several Botswana on campus, American students will likewise develop a greater interest in the country. In some cases American graduate students may even want to conduct their research in Botswana, providing a benefit to both countries.

4. Academic Combined with Practical

The US training program for all participants will go beyond just coursework to provide on-the-job type experience, opportunities to observe alternative applications of principles, and related non-academic training.

In most cases, this will be the end of the participant's formal education. Consequently, rather than meeting only the basic degree requirements, it is to the trainee's and the GOB's interest to have the participant take extra courses and participate in practical activities which will better prepare him (or her) for the job.

As an example, the Farm Management trainee might spend a week or two with a cooperative or private farm management consultancy firm. This would let him observe how these firms collect data from farmers who use their services, how they compile the information into a farm record keeping system and how they analyze the data to provide economic feedback to the farmers so they can better manage their enterprises.

He might have regular sessions with the Extension Service Farm Management Specialist, even accompanying him on field visits, to learn the role played by this specialist and how he performs his duties. Likewise, he should have regular contact with the US Bureau of Land Management field services staff as well as US Department of Agriculture counterparts in the Statistical Reporting Service and the Economic Research Service. This will provide additional opportunity for the trainee to study alternative methods for collecting data in "real life situations" as well as for doing cost/benefit and other analyses to make effective use of the data.

For general background information, it would also be useful for all trainees to see stockyards; slaughter facilities; range improvement programs, including controlled grazing efforts; and other agriculture related facilities and programs. This background information would provide development alternatives which could be useful in the planning process in Botswana.

While in the US all trainees should attend professional meetings and seminars related to their discipline to exchange views with colleagues. They should gain an understanding of how their work relates to work in other disciplines, and how they might work together for mutual benefit. They should join a professional society to further keep abreast of developments in their fields.

5. Special Courses

There are several special short courses which relate directly to participant needs. It is highly recommended that some of these be included in participant programs. These cover everything from public administration to project planning and evaluation. They are offered by AID, USDA, the Civil Service Commission, and other US Government agencies; by universities; by foundations and multilateral agencies; and by private groups. USDA, for example, has courses designed and conducted exclusively for agriculturalists from developing nations; many of these would be appropriate. To illustrate, "Agricultural Capital Projects Analysis" would provide insights into techniques for analyzing development projects and preparing proposals for financing. A similar course is offered by the World Bank.

Another USDA course which might be useful would be the "Agricultural Policy Seminar". It discusses identification of alternative policies and examination of policy interrelationships. "Strategies for Developing the Agricultural Sector" covers techniques for applying development theories to country capabilities, resources, and traditions. Courses in public administration and management would also be useful since trainees will be moving into senior GOB management positions as their careers advance.

The Project Agricultural Economist/Trainer will be expected to be familiar with the types of courses mentioned above, and to ensure that such courses are included as part of the training programs, as appropriate.

6. Courses in Botswana

All of these courses (and others) could also be taught in Botswana. Project staff and COB may want to consider these as part of the in-service component of this Project. The Project provides funding for special in-country courses or short-courses in other African countries.

The most effective model for these in-country courses is to have one or two host-country specialists participate in the US course. As participant and instructor manuals are then developed for the overseas course, these staff serve as resource people to help adapt the materials to local needs and to develop case studies based on local organizations and situations. As a last step in the model, the newly-trained host country staff help conduct the course in their country.

Having the trainees involved this way helps localize the course as well as giving the trainees practical experience in planning and conducting in-service training activities. After this experience, the trainees may be able to repeat the course themselves to train additional staff, thereby multiplying the value of the original program.

7. Thesis and OJT Assistance

Plans call for thesis research to be done in Botswana when candidates take MS thesis programs. Project staff in Botswana will supervise the trainee during this time, guiding him as he follows through on a research plan prepared as part of the US academic program. This close supervision by the Project staff will help ensure that the research methodology is appropriate to the task, and that valid data are obtained. The US staff will work closely with the participant as he analyzes the data, helping him fully understand the processes involved and the associated interrelationships. After the trainee has a preliminary draft of the thesis he will usually return to the United States to polish the writing and defend the content. In a few cases, arrangements may be made for the trainee to simply mail his thesis back to the university, or for him to defend the thesis in Botswana before Project staff and others.

After the thesis is completed and accepted by the university, the new degree holder must begin applying his training. For non-MOA participants, this means returning to their home agencies and working under senior staff there. For MOA participants, it means further assistance from the Project staff. As trainees localize positions or fill new slots, the Project specialists will stand ready to assist. It is anticipated that the first few months of this transition period will, in reality, become an on-the-job training program. The Botswana will resume full command of the position but the Project staff will be available to counsel the former trainee and help him fully understand and relate to the agricultural planning process as it works to support Botswana's development efforts.

From time to time throughout the Project the Agricultural Economist/Trainer and MOA Training Officer will organize seminars and short courses to help the Botswana further understand the role of agricultural planning, and specific techniques and philosophies for implementing the activity. This would be for MOA and non-MOA trainees alike. A variety of resources will be

used for these--the trainees themselves; Project staff; Botswana and US university staff; and specialists from ODB, USDA, and other sources, as appropriate.

E. EXPATRIATE STAFF

Six Project technicians will be filling staff positions in MDA, PSU and will be replaced by Botswana as soon as they are available. The seventh man will serve in a temporary Agricultural Economist/Trainer position which will be phased out at the end of the project.

Three of the proposed Project staff positions in MDA, PSU are currently filled under SADPT funding. This will require that these positions be transferred from SADPT to this Project (CAE, Rural Sociologist, and Livestock Economist). The Agricultural Economist/Trainer will have to begin work as soon as the Project commences if the training objective is to be met. Most participants will need to begin their training early in the project in order to complete remedial classes, academic programs, thesis research, and on-the-job activities during the life of the Project. Without such "front-end loading", the trainees starting their work toward the end of the Project would not have time to even complete their studies in the United States (See page 64 for further discussion on implementation of the training effort).

In addition there will be three other positions, a Farm Management Specialist, a Senior Agricultural Economist, and an Agricultural Statistician. These positions should be filled in accordance with the timing called for in the PPT Network (Annex C and Figure 2).

All expatriate staff will assist the trainer with training seminars, thesis research supervision, and back-home assistance to trainees on adaptation and implementation of theory. This will be especially important in cases where the trainee is scheduled to replace the expatriate in the localization process. Plans call for the expatriate to remain as long as possible after the post is localized to assist in the transition. Part of the expatriate responsibility during this time will be backstopping the newly-appointed Botswana with additional on-the-job training as he uses his recently acquired agricultural planning skills in actual job situations. A ProAg Covenant will require the GOB to provide dual incumbency or additional positions to allow such overlap.

F. USE OF CONSULTANTS

Most of the expertise needed for project implementation will come from the expatriate staff provided by the Project. However, from time to time, outside specialists may be needed to backstop these staff on specific issues which may arise, or to provide intensive training activities which the line staff would not have time to provide. The Project makes provision for these services by funding consultants.

It is impossible at this time to outline exactly who these specialists will be or what service they will provide. This will be determined as the Project progresses and as needs arise. One item that may be useful is an intensive course on agricultural capital projects analysis conducted in Botswana. This would seem most appropriate after the majority of the trainees have completed their degrees and returned to Botswana. This way a large group would be trained for essentially the same cost. The participants would also have sufficient agricultural planning expertise from their course-work (and, in many cases, on-the-job experience back home) to know how to

make most effective use of the opportunity to gain additional information in this important area. Such a course is available from USDA for overseas presentation; World Bank or university staff could likewise develop and conduct a useful course on this subject.

G. PHASING OF PROJECT ACTIVITIES

Phasing of the activities mentioned above is shown in Figure 2. This flow chart was constructed after consultation with the MOA regarding the most appropriate arrival and departure times for the Project technicians in relation to training and localization plans.

The three PSU positions currently staffed by Americans will continue uninterrupted. The Senior Agricultural Economist will be one of the first Project technicians to arrive since he is to head the agricultural planning group in PSU. The Agricultural Economist/Trainer will begin his work as soon as the Project gets underway, too, since remedial classes for trainees must start immediately if all scheduled participants are to complete their studies within the life of the Project. The two remaining Project staff members have been phased in later according to GOB needs and anticipated localization plans.

The trainees are divided into four groups. Group I is composed of a rural sociologist and an agricultural statistician. Because of the specialized nature of their work, these participants can proceed directly to the United States for academic training without any remedial work in Botswana. If it appears that the statistician needs some remedial math and statistics to be successful in his course-work, this can best be accomplished through an intensive US remedial program such as that offered by the Economics Institute in Colorado.

Training Group II consists of six participants who will begin remedial and OJT enrichment activities in Botswana shortly after the Project commences. Then 10-11 months later they will begin their 1½-3 years of academic work in the United States. At least three of the trainees in this group should be destined for MOA positions at the end of the training so they can have maximum OJT time with the Project technicians before these expatriates finish their assignments and leave Botswana. This overlap of the Botswana with the Project technician who had been filling his position would contribute to a smooth transition in the localization process as the Botswana learns his job responsibilities. These trainees might be candidates for the CAE, Senior Agricultural Economist, Farm Management, or Livestock Economist positions.

Group III, five participants, would start a remedial, OJT enrichment program in Botswana at the beginning of the second year of the Project. This heavy concentration of training at the beginning of the project ("front end loading") is necessary for the participants to be able to complete their academic work and localize a position before the Project ends.

Group IV, the last group, will have seven trainees. Since this group will finish their academic work toward the end of the Project, there will be little time for assistance with thesis research and writing or on-the-job support. Consequently, it is suggested that this group be composed of people who would be candidates for BS or non-thesis Master's degrees. The non-thesis Master's usually involves additional coursework and writing of a research paper rather than the extensive research and writing associated with the thesis option. This offers the advantages of formal training in

FIGURE 2.

Phasing of Expatriate Positions, Localization Plans, and Training Activities.

Project Starts Oct. '78	1979				1980				1981				1982				1983			
	1 Jan.	1 Apr.	1 July	1 Oct.	1 Jan.	1 Apr.	1 July	1 Oct.	1 Jan.	1 Apr.	1 July	1 Oct.	1 Jan.	1 Apr.	1 July	1 Oct.	1 Jan.	1 Apr.	1 July	1 Oct.
EXPATRIATES/LOCALIZATION																				
CAE: Expatriate Mtswana																				
SAE: expatriate Mtswana																				
Farm Management Spec.: Expatriate Mtswana																				
Agric. Statistician: Expatriate Mtswana																				
Rural Sociologist: Expatriate Mtswana																				
Livestock Economist: Expatriate Mtswana																				
Trainer/Agric. Economist: Expatriate																				
TRAINING																				
Group I - 2 trainees	US Academic, Non-thesis Masters / OJT /																			
Group II - 6 trainees	Pre-Academic / US Academic /Thesis-OJT/ in Botswana																			
M.Sc.	Pre-Academic / US Academic / OJT /																			
B.Sc.	Pre-Academic / US Academic / Thesis - OJT / In Botswana																			
Group III - 5 trainees	Pre-Academic / US Academic / OJT /																			
M.Sc.	Pre-Academic / US Academic / OJT /																			
B.Sc.	Pre-Academic / US Academic / OJT /																			
Group IV - 7 trainees	Pre-Academic / US Academic / OJT /																			
M.Sc.	Pre-Academic / US Academic / OJT /																			
B.Sc.	Pre-Academic / US Academic / OJT /																			

more subject areas, as well as time for more informal, on-the-job type experiences. On the other hand, it does not provide the in-depth exposure to research design and analysis. It is also considered a terminal degree by many schools and consequently, may not qualify a person to continue for a PhD.

Since there is little opportunity for the last group to overlap with Project staff, it is furthermore suggested that most trainees in this group be destined for non-MOA positions. Trainees for these positions would be receiving minimal on-the-job support by Project staff anyway since the plan calls for non-MOA students to return directly to their home agencies to begin work under full supervision of these agencies. Project staff support to non-MOA trainees is principally through in-service seminars.

In some cases it may not be necessary to wait for Project trainees to return home before localizing positions. There are currently, or soon will be, three Batswana working toward advanced degrees in agricultural economics in the United States. Some of these may receive thesis or on-the-job assistance from the Project soon after the Project begins.

The livestock planner position is a case in point. Even though this Motswana is not being trained by the Project, he will localize one of the Project's expatriate positions. As a result, he will receive additional on-the-job training from the US expatriate as their positions overlap to provide a smooth transition in the localization process.

H. EVALUATION PLAN

Evaluation is an on-going and important component of the project. In addition to the internal evaluation of project activities which will be a responsibility of project, MOA, MFD and OSARAC staff, annual evaluations and two major external evaluations are scheduled.

The internal project evaluations will seek to ensure that what is being done is directed towards achievement of project Outputs and Purpose. These annual evaluations will examine both project progress towards achievement of outputs and the performance of the involved parties in meeting project commitments and requirements. Corrective action to solve any identified problems will be a regular outcome of these evaluations.

The project design provides a high degree of flexibility for the content of analysis, training, and research; this was intentional. At this time it would be presumptuous to set-up an exact list of research topics, QJT assignments for trainees, course work for trainees, and topics of policy papers for the staff to prepare. However, the general subject matter and areas of emphasis of training, research, and policy analysis has been defined in this paper. Every September the CAE and Agricultural Economist/Trainer will prepare an Annual Work Plan and an Annual Training Plan. After review and approval by the GOB and AID, the two work plans will form the basis for the next year's operations, starting in October. Having an annual review attended by outsiders forces the project staff to carefully evaluate past project performance, plan remedial action to correct shortcoming, and then lay-out a Work Plan for the next year. Formalized outside annual evaluations by the GOB and AID will help keep the staff from becoming too insular and too caught up in day-to-day project management.

A major Special Evaluation is planned at the end of the second year (October 1980). This evaluation will examine the whole project concept to see if the Goals and Purposes are being met. An expected outcome will be a decision on whether another project should be designed to start in 1983. The end-of-project evaluation in 1983 will include an intensive assessment of the effectiveness of in-country training.

The GOB has requested that the Special Evaluation be a joint AID/GOB effort. The GOB will provide a member for the evaluation team and wishes to have a draft report available for review by the PS, MDA. The final report will be reviewed and approved by both the GOB and OSARAC before submission to AID/W.

I. CONDITIONS, CONVENTIONS AND NEGOTIATING STATUS

There are no major problems remaining for negotiation. There are no GOB legislative actions required, only GOB administrative actions.

- For the new AID-funded technical experts to work in MDA/PSU, new positions must be established. MDA and MFDP will request the GOB Directorate of Personnel to create such new positions on the GOB Establishment List. This is a normal GOB Executive Branch administrative procedure and the GOB informs us that no problems are expected.
- To assure that after participants complete their training they will work in planning positions, the Project Agreement will include such an agreement. The GOB normally bonds trainees and requires them to work in GOB-assigned positions after their training is complete.
- GOB employees who are on Project-sponsored training may have to leave operational jobs. This will require a fill-in replacement while the training is taking place. Overlap with the expatriate who is being localized will also be required. The Project Agreement will include a GOB undertaking to provide either additional training positions, dual incumbency or other mutually satisfactory steps.
- At the time of PP preparation only preliminary construction plans and specifications were available. Before any AID money will be released for construction, AID engineers will have to approve the final plans and specifications. The Project Agreement will include a CP requiring such approval.
- If OSARAC decides to include a Project "Trust Fund" as described in Section IV B of this PP, it will be negotiated and included in the Project Agreement.
- Since the Project is funding a portion of the new MDA Headquarters building, the ProAg will include the GOB's agreement to place all Project-funded technicians in that building.

ANNEX A.

STATUTORY CHECKLIST

6C(1) - COUNTRY CHECKLIST

Listed below are, first, statutory criteria applicable generally to FAA funds, and then criteria applicable to individual fund sources: Development Assistance and Security Supporting Assistance funds.

A. GENERAL CRITERIA FOR COUNTRY

1. FAA Sec. 116. Can it be demonstrated that contemplated assistance will directly benefit the needy? If not, has the Department of State determined that this government has engaged in consistent pattern of gross violations of internationally recognized human rights?
 - a) The project is designed to help the rural poor by improving G.O.B. planning efforts in the rural sector.
 - b) No such determination.

2. FAA Sec. 481. Has it been determined that the government of recipient country has failed to take adequate steps to prevent narcotics drugs and other controlled substances (as defined by the Comprehensive Drug Abuse Prevention and Control Act of 1970) produced or processed, in whole or in part, in such country, or transported through such country, from being sold illegally within the jurisdiction of such country to U.S. Government personnel or their dependents, or from entering the U.S. unlawfully?

No such determination has been made.

3. FAA Sec. 620(a). Does recipient country furnish assistance to Cuba or fail to take appropriate steps to prevent ships or aircraft under its flag from carrying cargoes to or from Cuba?

No.

4. FAA Sec. 620(b). If assistance is to a government, has the Secretary of State determined that it is not controlled by the international Communist movement? Yes.
5. FAA Sec. 620(c). If assistance is to a government, is the government liable as debtor or unconditional guarantor on any debt to a U.S. citizen for goods or services furnished or ordered where (a) such citizen has exhausted available legal remedies and (b) debt is not denied or contested by such government? No.
6. FAA Sec. 620(e) (1). If assistance is to a government, has it (including government agencies or subdivisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities? No.
7. FAA Sec. 620(f); App. Sec. 108. Is recipient country a Communist country? Will assistance be provided to the Democratic Republic of Vietnam (North Vietnam), South Vietnam, Cambodia or Laos? No.

8. FAA Sec. 620(i). Is recipient country in any way involved in (a) subversion of, or military aggression against, the United States or any country receiving U.S. assistance or (b) the planning of such subversion or aggression? No.
9. FAA Sec. 620(j). Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction, by mob action, of U.S. property? Security and protection measures appear to be adequate and reasonable.
10. FAA Sec. 620(l). If the country has failed to institute the investment guarantee program for the specific risks of expropriation, inconvertibility or confiscation, has the AID Administrator within the past year considered denying assistance to such government for this reason? No such denial has been considered.
11. FAA Sec. 620(o); Fishermen's Protective Act, Sec. 5. If country has seized, or imposed any penalty or sanction against, any U.S. fishing activities in international waters,
- a. has any deduction required by Fishermen's Protective Act been made? No such actions.
- b. has complete denial of assistance been considered by AID Administrator?

12. FAA Sec. 620(q); App. Sec. 504.
 a) Is the Government of the recipient country in default on interest or principal of any AID loan to the country? No.
 b) Is country in default exceeding one year on interest or principal on U.S. loan under program for which App. Act appropriates funds, unless debt was earlier disputed, or appropriate steps taken to cure default? No.
13. FAA Sec. 620(s). What percentage of country budget is for military expenditures? How much of foreign exchange resources spent on military equipment? How much spent for the purchase of sophisticated weapons systems? (Consideration of these points is to be coordinated with the Bureau for Program and Policy Coordination, Regional Coordinators and Military Assistance Staff (PPC/RC).) Until 1977 Botswana had no army, only a police force. In 1977 a small army was just being organized. For 1977, police and internal security expenditures represented 3.8% of G.O.B. budget expenditures or about 1% of G.D.P. Less than 1% of foreign exchange resources are spent on military equipment. No money has been spent on sophisticated weapons systems.
14. FAA Sec. 620(t). Has the country severed diplomatic relations with the United States? If so, have they been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption? No, not applicable.
15. FAA Sec. 620(u). What is the payment status of the country's U.N. obligations? If the country is in arrears, were such arrearages taken into account by the AID Administrator in determining the current AID Operational Year Budget? There is no indication of any arrears.

16. FAA Sec. 620(A). Has the country granted sanctuary from prosecution to any individual or group which has committed an act of international terrorism? We have no knowledge of any such action.
17. FAA Sec. 666. Does the country object, on basis of race, religion, national origin or sex, to the presence of any officer or employee of the U.S. there to carry out economic development program under FAA? No.
18. FAA Sec. 669. Has the country delivered or received nuclear reprocessing or enrichment equipment, materials or technology, without specified arrangements on safeguards, etc.? We have no knowledge of any such delivery or receipt.
19. FAA Sec. 901. Has the country denied its citizens the right or opportunity to emigrate? We are not aware of any case.

B. FUNDING CRITERIA FOR COUNTRY.

2. Security Supporting Assistance Country Criteria.

- a. FAA Sec. 502B. Has the country engaged in a consistent pattern of gross violations of internationally recognized human rights? Is program in accordance with policy of this Section? No. Yes.
- b. FAA Sec. 531. Is the Assistance to be furnished to a friendly country, organization, or body eligible to receive assistance? Yes.

c. FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made?

No Grant Commodities will be sold and thus no sale proceeds will be generated.

6C(2) - PROJECT CHECKLIST.

Listed below are, first, statutory criteria applicable generally to projects with FAA funds, and then project criteria applicable to individual fund sources: Development Assistance (with a sub-category for criteria applicable only to loans): and Security Supporting Assistance funds:

A. GENERAL CRITERIA FOR PROJECT.

1. App. Unnumbered; FAA Sec. 653(b).

(a) Describe how Committees on Appropriations of Senate and House have been or will be notified concerning the project;

(a) This project was included in the FY 1978 Congressional Presentation on page 184.

(b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than \$1 million over that figure plus 10%)?

(b) Yes.

2. FAA Sec. 611(a)(1). Prior to obligation in excess of \$100,000, will there be (a) engineering, financial and other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?

(a) Yes.

(b) Yes.

3. FAA Sec. 611(a)(2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance? The G.O.B. Executive Branch will have to establish positions for the new AID Technical Experts on its Personnel Establishment List and include project funding in the G.O.B. budget. These are normal administrative actions which the G.O.B. takes care of for all donor projects. No specific legislative action is required.
4. FAA Sec. 611(b); App. Sec. 101. If for water or water-related land resource construction, has project met the standards and criteria as per Memorandum of the President dated Sept. 5, 1973 (replaces Memorandum of May 15, 1962; see Fed. Register, Vol 38, No. 174, Part III, Sept. 10, 1973)? This is not a water or water-related land resource construction project.
5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed \$1 million, has Mission Director certified the country's capability effectively to maintain and utilize the project? This is a technical assistance project, not a capital assistance project. Therefore no certification is required.
6. FAA Sec. 209, 619. Is project susceptible of execution as part of regional or multilateral project? If so why is project not so executed? Information and conclusion whether assistance will encourage regional development programs. If assistance is for newly independent country, is it furnished through multilateral organizations or No.

7. FAA Sec. 601(a); (and Sec. 201(f) for development loans).
 Information and conclusions whether project will encourage efforts of the country to:
- (a) increase the flow of international trade;
 - (b) foster private initiative and competition;
 - (c) encourage development and use of cooperatives, credit unions, and savings and loan associations;
 - (d) discourage monopolistic practices;
 - (e) improve technical efficiency of industry, agriculture and commerce;
 - and (f) strengthen free labor unions.
- The project is designed to develop G.O.B. capacity in rural development planning. Accelerated and more rational rural development should allow for an increased private sector role.
8. FAA Sec. 601(b).
 Information and conclusion on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).
- The project will fund U.S. source technical assistance, U.S. university training and some U.S. commodities.
9. FAA Sec. 612(b); Sec. 636(h).
 Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized to meet the cost of contractual and other services.
- G.O.B. will contribute approximately 34% of project costs.
10. FAA Sec. 612(d). Does the U.S. own excess foreign currency and, if so, what arrangements have been made for its release?
- Not an excess foreign currency country.

3. PROJECT CRITERIA SOLELY FOR SECURITY SUPPORTING ASSISTANCE.

FAA Sec. 531. How will this assistance support/promote economic or political stability?

The project will support an expanded program of rural development policy analysis and planning. This should lead to improvements in the productivity and welfare of small-scale farmers and herders which in turn should lead to a more stable and prosperous nation.

The Standard Item Checklist has been reviewed for this paper.

Annex B
Logical Framework

<u>Goal</u>	<u>Means of Goal Attainment</u>	<u>Means of Verification</u>	<u>Assumptions</u>
To improve the welfare of Botswana's semi-rural farmers and herders.	<ul style="list-style-type: none"> 1) Increased rural household income. 2) Increased marketing of agricultural crops and livestock. 3) Improved agricultural food consumption levels (quantity and quality). 	<ul style="list-style-type: none"> 1) Rural Income surveys. 2) IMR marketing records and sample surveys of crop marketing. 3) Rural Household surveys. 	<ul style="list-style-type: none"> 1) Weather (drought) is not severe enough that to the point. 2) Government is continuing a commitment to agricultural rural development. 3) Botswana continues to have at least the present access to most export markets. 4) Sample surveys are done on a regular and consistent basis.

Project Purpose

Verifiable Indications,
End of Project Status

Means of Verification

Assumptions

To develop a localized GOB economic and analytical capacity to rationally plan and program responses to the issues of rural sector development.

- 1) A 1982-87 Development Plan whose rural development goals have been rationalized and integrated primarily by trained Botswana through economic and social analysis of alternatives, solutions, strategies, and resource allocations in order to identify those providing the maximum economic and social benefits
- 2) A better structured and managed MOA, Planning and Statistics Unit which is at least 50% staffed by trained Botswana planners.
- 3) A larger number and at least 50% greater value of agricultural/rural development projects planned and approved.

- 1) Existence of a Plan reflecting increased analysis, prepared by Botswana personnel with a minimum of expatriate assistance.
- 2) Project or other sponsored evaluations of MOA, PSU planning and organizational capabilities.
- 3) GOB Establishment List indicating Botswana and expatriates on MOA, PSU staff.
- 4) Annual Development Budget and Plan.

- 1) GOB has continuing commitment to planning.
- 2) GOB will make resources available for planning.
- 3) GOB continues a rational plan for localization.

Outputs

Verifiable Indicators

Means of Verification

Assumptions

1) To increase the immediate capacity of the GOB to plan and evaluate projects and assess and modify rural development policies and strategies.

1) MOA, PSU utilizing improved sector analysis in formulating future agricultural and rural sector policies and program strategies.

1) An Agricultural Sector Strategy Report or similar document.

1) Immediate planning capacity:

GOB will continue to utilize analytical tools as the basis of rural development planning.

2) To increase the number of middle and upper level Batswana with relevant skills in rural development, research, analysis, planning, implementation, and evaluation.

2) Preparation of the 1982-1987 Development Plan and supporting projects which reflect more rigorous and considered evaluation of previously established projects and the further elucidation and analysis of alternative development strategies.

2) Existence of the Plan.

3) GOB personnel records on the assignment of returned participants.

2) Batswana planners:

---U.S. advanced training leads to relevant capacity for sector analysis and planning

3) At least 16 Project-trained Batswana working in middle and upper level GOB planning positions.

4) Existence of the library.

5) AID Special Evaluation.

---GOB will utilize trained Batswana personnel for rural sector analysis and planning.

4) A MOA reference library containing major references on agricultural planning and development.

Inputs

Verifiable Indicators
Implementation Targets

Means of Verification

Assumption#

AID

AID

AID

AID, GOB and Project contractor will provide adequate resources and personnel in a timely and effective manner to implement the Project as designed.

1) Technical assistance personnel to provide policy analysis, rural development planning, project review, and training. Assigned to the MOA, PSU.

1) Personnel

1) Time and attendance records.

a) Chief Agricultural Economist (CAE)

CAM 4 years

b) Livestock Economist (LE)

LE 2 years

c) Rural Sociologist (SOC)

SOC 2 years

d) Senior Agricultural Economist (SAE)

SAE 5 years

e) Agricultural Economist/
Training Officer. (TRN)

TRN 5 years

STAT 2 years

FME 4 years

24 years

f) Agricultural Statistician (STAT)

Short-term Consultant

16 months

g) Farm Management Economist (FME)

h) Short-term Consultants

<u>Inputs</u>	<u>Verifiable Indicators Implementation Targets</u>	<u>Means of Verification</u>
<p>1) <u>Commodities and Project Support</u></p> <p>a) Administrative support operations</p> <p>b) Four field research vehicles & 1 compact sedan</p> <p>c) Library books (1,400)</p> <p>d) Office equipment and miscellaneous supplies</p> <p>e) Sample survey field support funds</p>	<p>2) <u>Commodities and Project Support</u></p> <p>Vehicles, books, equipment, and supplies are in-country and utilized.</p> <p>3) <u>Construction</u></p> <p>Housing, offices, and library are constructed.</p> <p>4) <u>Participant Training</u></p> <p>A minimum of 16 trainees who have each received:</p> <p>Remedial and OJT 10-12 months</p> <p>U.S. University 18-36 months training</p> <p>Advanced OJT and/or 6-12 months thesis work</p> <hr/> <p>Total 34-60 months</p>	<p>2) <u>Commodities and Project Support</u></p> <p>Project equipment and inventory records.</p> <p>3) <u>Construction</u></p> <p>On-site inspections.</p> <p>4) <u>Participant Training</u></p> <p>Project training records and Annual Training Plans.</p>
<p>3) <u>Construction</u></p> <p>a) Five houses</p> <p>b) Six offices</p> <p>c) One library room</p>		
<p>1) <u>Participant Training</u></p> <p>(Including special short courses)</p>		

<u>Inputs</u>	<u>Verifiable Indicators Implementation Targets</u>	<u>Means of Verification</u>
<u>Government of Botswana (GOB)</u>	<u>Government of Botswana (GOB)</u>	<u>Government of Botswana (GOB)</u>
1) <u>Personnel</u>	1) <u>Personnel</u>	1) <u>Personnel</u>
<p>a) <u>MOA, PSU Botswana professional, technical, and clerical staff.</u></p> <p>Agricultural Economist Rural Sociologist Research Assistant Senior Agricultural Assistant Sociological Assistants (two) Statisticians and Enumerators (27) Counterparts and Replacements for AID Planners Existing clerical and typing staff (5) New clerical and typing staff (2) Messengers, cleaners, drivers (12)</p> <p>b) <u>MOA, PSU statistical personnel seconded to CSO</u></p> <p>Statisticians (4)</p> <p>c) <u>GOB senior management time</u></p> <p>d) <u>Trainees</u></p>	<p><u>MOA, PSU Professional, technical and clerical staff</u></p> <p>All staff listed provided for full five years of Project life.</p> <p><u>MOA, PSU statistical personnel seconded to CSO</u></p> <p>At least four statisticians for five years of Project life.</p> <p><u>GOB senior management time</u></p> <p>MOA provides two men and MFDP one man for at least 5% of their working time to support the Project.</p> <p><u>Trainees</u></p> <p>Full salary of 16-20 trainees for 3½ to 4½ years each.</p>	<p>Personnel records, Establishment List, and Budgets.</p>

Inputs

Verifiable Indicators
Implementations Targets

Means of Verification

) Commodities and Project Support

- a) Two vehicles for agricultural surveys, rural soc., and planning field work.
- b) Seven vehicles for farm management surveys.
- c) Vehicle repair, fuel and maintenance support for GOB and AID funded vehicles.
- d) Equipment, supplies, printing, computer time, miscellaneous.

2) Commodities and Project Support

- Vehicles and equipment in use within MOA, PSU.
- 3) Construction
Buildings constructed and in use.

2) Commodities and Project Support

- Inventory and purchase records; on-site inspection.
- 3) Construction
On-site inspection.

) Construction

- a) Professional offices (10)
- b) Clerical offices (4)
- c) Houses (3)
- d) Land for AID funded houses (4)

ANNEX C

Pre-Project Activities

<u>DATE</u>	<u>ACTION</u>	<u>CPI</u>
<u>1977</u>		
November 1	OSARAC	PP submitted
<u>1978</u>		
February 1	AID/W	PP approved
March 15	OSARAC/GOB	ProAg signed
May 30	GOB	Select Group I trainees
May 30	AID/W, GOB	GOB visits U.S. to participate in selection of implementing contractor and personnel
June 30	GOB	GOB formally notifies AID of its selected contractor
July 15	AID/W	AID notifies selected contractor and contract or PASA agreement is negotiated
August 15	OSARAC/GOB	Group II trainees selected
October 1	OSARAC	Formal project operation phase starts

Technical Assistance Track

<u>No.</u>	<u>Date</u>	<u>Action</u>	<u>CFI</u>
<u>1978</u>			
1.	Oct. 1	Contractor	Chief Agricultural Economist, Rural Sociologist, and Livestock Economist picked up from SADPT. Senior Agricultural Economist and Agricultural Economist/Trainer arrive.
<u>1979</u>			
2.	Jan. 30	Contractor	Farm Management Economist arrives.
3.	Jan. 30	GOB	Livestock Economist localized.
4.	Sept. 30	Contractor	Agricultural Statistician arrives (project staff complete)
<u>1980</u>			
5.	June 30	GOB	Agricultural Statistician and Rural Sociologist localized.
6.	Oct. 30	Contractor	Livestock Economist and Rural Sociologist depart.
<u>1981</u>			
7.	Oct. 30	GOB	Chief Agricultural Economist localized.
8.	Oct. 30	Contractor	Agricultural Statistician departs.
<u>1982</u>			
9.	Jan. 30	GOB	Farm Management Economist localized.
10.	June 30	GOB	Senior Agricultural Economist localized.
11.	Oct. 30	Contractor	Chief Agricultural Economist departs.
12.	Dec. 30	Contractor	Farm Management Economist departs.
<u>1983</u>			
13.	Sept. 30	Contractor	Senior Agricultural Economist and Agricultural Economist/Trainer depart.

(Project Termination)

Training Track

<u>No.</u>	<u>Date</u>	<u>Action</u>	<u>CPI</u>
<u>1978</u>			
14.	Oct. 1	BAPP	Project picks up Group I trainees.
15.	Oct. 30	"	Group II OJT and Remedial training starts.
<u>1979</u>			
16.	April 30	"	Submit detailed training plans for Group II.
17.	July 30	"	Select Group III trainees.
18.	Aug. 30	"	Group III begins OJT.
19.	Aug. 30	Contractor	Group II departs for U.S.
<u>1980</u>			
20.	April 30	BAPP	Submit detailed training plans for Group III.
21.	May 30	"	Group IV selected.
22.	June 30	"	Group I returns, begins OJT (assumed to be non-thesis).
23.	June 30	BAPP	Group IV begins OJT.
24.	Aug. 30	Contractor	Group III departs for U.S.
25.	Dec. 30	BAPP	Submit detailed U.S. training plans for Group IV.
<u>1981</u>			
26.	March 30	Contractor	BS component of Group IV departs for U.S.
27.	June 30	BAPP	Group II MS students return, begin thesis work and OJT.
28.	June 30	Contractor	Group IV MS component departs for U.S.
29.	Dec. 30	BAPP	Group II thesis completed.
<u>1982</u>			
30.	June 30	BAPP	Group II BS students return, begin OJT.
31.	June 30	BAPP	Group III MS students return, begin thesis work.

Training Track

<u>No.</u>	<u>Date</u>	<u>Action</u>	<u>CPI</u>
	<u>1983</u>		
32.	March 30	BAPP	Group III thesis work complete.
33.	June 30	BAPP	Group III BS students return, begin OJT.
34.	June 30	BAPP	Group IV MS students return, begin OJT. (assumed non- thesis).
35.	Sept. 30	AID	Group IV BS students return.

End of Project.

Note:

BAPP = in country project personnel have action

Report and Evaluation Track

<u>No.</u>	<u>Date</u>	<u>Action</u>	<u>CPI</u>
<u>1978</u>			
42.	Oct. 30	BAPP	CAE submits 1978/79 work plan.
43.	Nov. 30	"	Trainer submits remedial and OJT training plan.
<u>1979</u>			
44.	Sept. 30	"	Project personnel submit annual evaluation report and 1979/80 work plan.
<u>1980</u>			
45.	Sept. 30	"	Project personnel submit annual evaluation report and 1980/81 work plan.
46.	Oct. 1	OSARAC	Begin in-depth special evaluation.
47.	Oct. 30	OSARAC	Submit special evaluation report.
<u>1981</u>			
48.	Sept. 30	BAPP	Project personnel submit annual evaluation report and 1981/82 work plan.
<u>1982</u>			
49.	Sept. 30	BAPP	Project personnel submit annual evaluation report and 1982/83 work plan.
<u>1983</u>			
50.	July 1	OSARAC	Final Project Evaluation begins.
51.	July 30	OSARAC	Final Evaluation complete.
52.	Sept. 30	BAPP	Project personnel submit final evaluation report.

Construction Track

<u>No</u>	<u>Date</u>	<u>Action</u>	<u>CPI</u>
	<u>1978</u>		
	May 30	GOB	GOB prepares draft IFB for construction of five houses.
	June 15	AID/REDSO	AID approves IFB.
	June 30	GOB	GOB issues IFB for construction tenders.
	July 30	GOB	GOB reviews tenders and submits its award choice to AID.
	August 15	AID/REDSO	AID notifies GOB of approval of tender awards.
	September 30	GOB	Construction of houses begins.
	<u>1979</u>		
36	Jan- Feb	GOB	Start construction of MOA Headquarters Office Building.
37	March 30	GOB/AID/ REDSO	Housing construction completed and approved by AID.
38	July- August	GOB/AID/ REDSO	MOA Headquarters Office completed.

Commodity Track

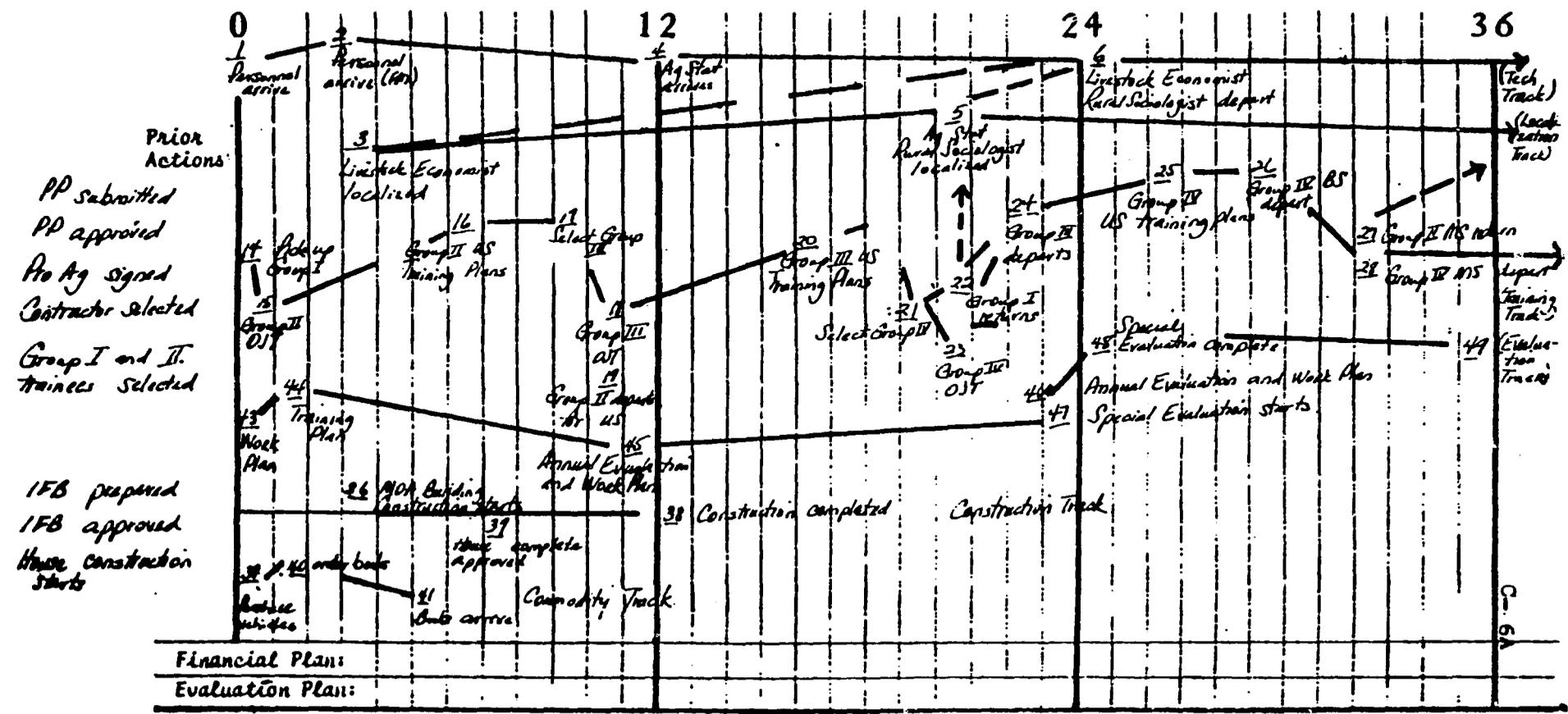
	<u>1978</u>		
39	Oct 1	AID/BAPP	Purchase of vehicles
40	Nov 1	BAPP	Books ordered
	<u>1979</u>		
41	March 30	BAPP	Books arrive.

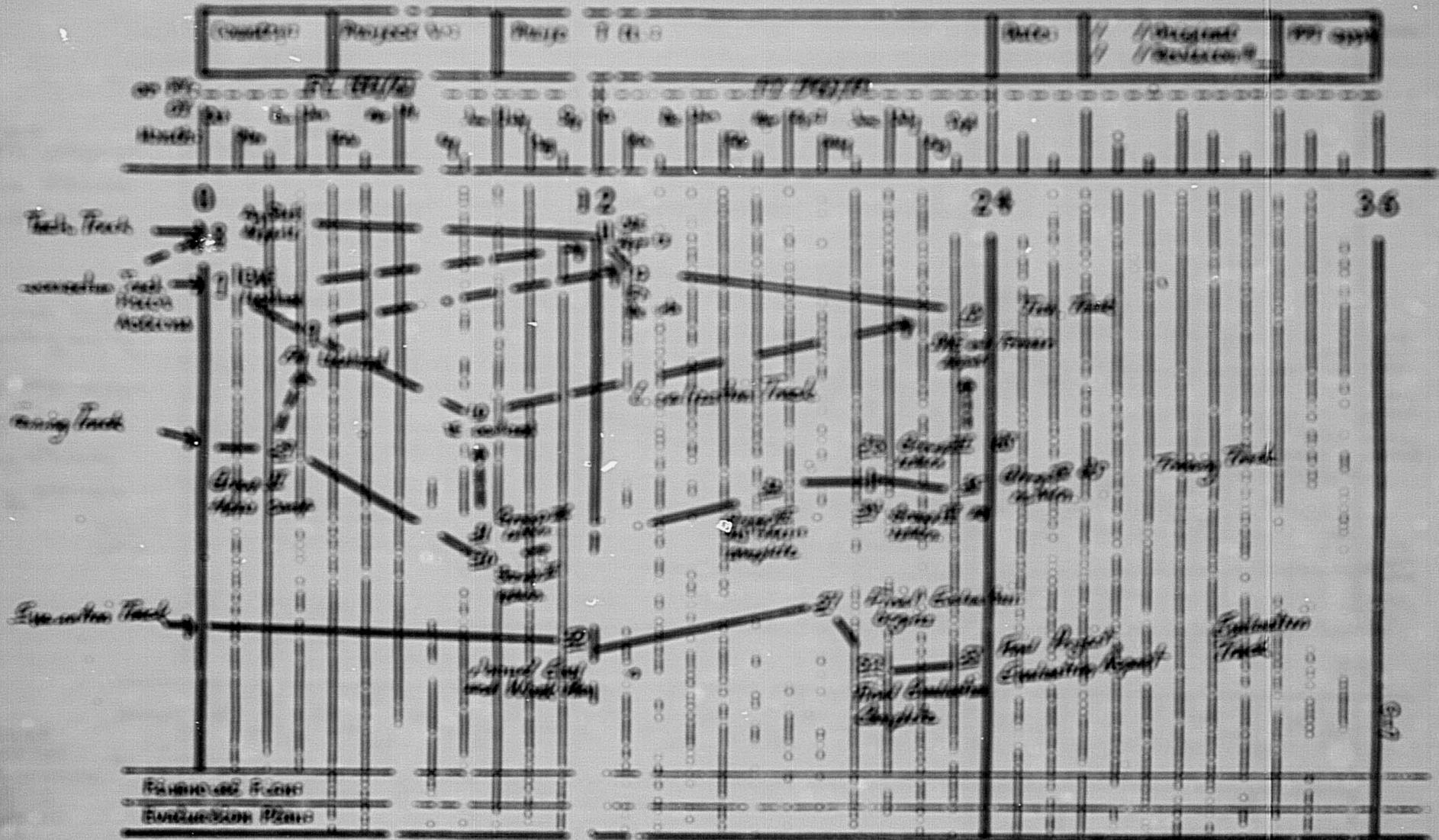
**ANNEX C:
PROJECT
PERFORMANCE
TRACKING
NETWORK**

Country: <i>Botswana</i>	Project No: <i>690-0067</i>	Project Title: <i>Botswana Agricultural Planning</i>	Date: / / Original / / Revision #	PPT app#
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or FY: _____

CY	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept
Month:																								





PROJECT PERFORMANCE NETWORK

SOCIO-CULTURAL DATA

<u>TIME SPENT BY MEN AND WOMEN ON DIFFERENT ACTIVITIES</u>		x	x
		MEN	WOMEN
Crops	Destumping	95,1	4,9
	Land clearing	78,1	21,9
	Ploughing	73,5	26,5
	Planting	64,7	35,3
	Weeding	12,9	87,1
	Bird Scaring	17,7	82,3
	Harvesting	15,6	84,4
	Threshing	10,9	89,1
	Storage and selling	13,5	86,5
	Transporting	36,3	63,7
Total crops		26,4	73,6
Livestock	Mending	89,1	10,8
	Veterinary operations	89,3	10,7
	Moving cattle, buying/ selling	83,4	16,6
	Total livestock	89,2	10,8
Household	Domestic	29,6	70,4
	Beer brewing and selling	3,0	96,9
	Hunting and gathering	42,4	57,6
	House building	50,0	50,0
Total Household		30,1	60,9
	Other work	45,2	54,8
	Other	47,2	52,8

Source: Dond, C.A., Women's Involvement in Agriculture in Botswana, (1974).

RELATIVE AMOUNT OF TIME SPENT FROM TOTAL TIME AVAILABLE BY
MEN AND WOMEN ON DIFFERENT ACTIVITIES.

	% MEN	% WOMEN
Crops	5,6	13,7
Livestock	41,0	4,4
Household	27,4	56,0
Other	26,0	25,9
Total	100,0	100,0

Source:

ATTITUDES TO MEN'S AND WOMEN'S WORK

% (No.)	Work considered suitable for:-		
	MEN	WOMEN	BOTH Men and Women
Clearing land	87,3 (178)	4,9 (10)	7,8 (16)
Ploughing	81,6 (160)	(0)	18,4 (46)
Planting	69,6 (142)	10,3 (21)	20,6 (42)
Weeding & Bird Scaring	(0)	77,5 (158)	22,6 (46)
Harvesting and Threshing	(0)	63,3 (129)	36,3 (74)
Vegetable growing	20,1 (40)	59,8 (122)	20,1 (41)
Poultry Keeping	2,9 (6)	82,8 (169)	14,2 (29)
Small stock	93,8 (181)	4,2 (8)	2,1 (4)
Cattle care and milking	100,0 (204)	(0)	(0)
Calving help	95,1 (194)	(0)	4,9 (10)
Castration	100,0 (204)	(0)	(0)
Dehorning	95,6 (195)	(0)	4,4 (9)
Preparing food	(0)	97,6 (199)	2,5 (5)
Washing Clothes	(0)	94,7 (179)	5,3 (10)
Stamping Corn	(0)	97,6 (199)	2,5 (5)
Fetching water	1,6 (3)	95,2 (179)	3,2 (6)
Collecting wood	44,6 (91)	24,0 (49)	31,9 (65)
Gathering wild fruits	2,6 (5)	83,0 (161)	33,0 (64)
Beer brewing	(0)	100,0 (199)	(0)
Shopping	3,9 (8)	59,3 (121)	36,8 (75)
House building	12,3 (25)	75,5 (154)	13,3 (27)
Thatching roofs	18,0 (35)	62,6 (122)	19,5 (38)
Dam building	92,7 (189)	(0)	6,9 (14)
Kraal building	98,0 (194)	(0)	2,0 (4)
Selling crops	16,2 (33)	60,8 (124)	22,0 (45)
Knitting and sewing	(0)	73,0 (149)	27,0 (55)

Source: Bond, C.A., Women's Involvement in Agriculture in Botswana, (1974).

DECISION MAKING ON FIVE FARM MATTERS.

% (No.)	Time of Ploughing	Tractor Ploughing	Type of Seed Planted	Cattle Sales	Fencing
Total Respondents	204	204	204	204	204
No. of Responses	100,0 (196)	100,0 (53)	100,0 (196)	100,0 (84)	100,0 (19)
Women	31,1 (61)	28,3 (15)	57,1 (112)	14,3 (12)	10,5 (2)
Men	41,3 (81)	66,0 (35)	18,9 (37)	71,4 (60)	89,5 (17)
Young Women	(0)	(0)	(0)	13,1 (11)	(0)
Young Men	7,7 (15)	(0)	(0)	(0)	(0)
Husband and Wife	12,8 (25)	5,7 (3)	20,4 (40)	(0)	(0)
Other	6,1 (12)	(0)	2,6 (5)	1,2 (1)	(0)

Source: Bond, C.A., Women's Involvement in Agriculture in Botswana, (1974).

ANNEX E

U.S. PARTICIPANT TRAINING PROGRAM COSTS

ESTIMATED COST OF U.S. TRAINING.B.Sc. Candidates (assuming 2 years, 9 months in the U.S.)Training Fees:

Tuition, 7 Semesters @ \$800:	\$ 5,600
Summer short courses at second location:	1,400
Special non-academic programming, 40 days:	<u>840</u>
Subtotal:	\$ 7,840

Participant Maintenance Allowances:

15 days @ \$35 for "settling in":	525
108 days @ \$31 for special course, field trips:	3,348
29 months @ \$330 :	<u>9,570</u>
Subtotal:	13,443

Miscellaneous:

Typing of term papers:	245
Books:	660
Shipment of books:	60
AID Communication Seminar:	375
U.S. Travel:	600
Professional Society membership:	<u>75</u>
Subtotal	2,015

Contractor/AID Overhead:

\$300 per month: 9,900

International Transportation: 2,000

Total: \$ 35,198

Per Year Cost: \$ 12,800

M. Sc. Candidates (assuming 1 year, 9 months in the U.S.)Training Fees:

Tuition, 4 Semesters @ \$800 :	\$ 3,200
Special non-academic programming, 22 days :	570
Summer short courses at second location :	<u>1,400</u>
Subtotal:	\$ 5,170

Participant Maintenance Allowances:

15 days @ \$35 for "settling in":	525
17½ months @ \$330 :	5,775
90 days @ \$31 for special courses, field trips:	<u>2,790</u>
Subtotal:	9,090

Miscellaneous:

Thesis allowance:	200
Typing of term papers:	125
AID Communication Seminar:	375
Books:	420
Shipment of Books:	60
U.S. Travel:	400
Professional Society membership:	<u>75</u>
Subtotal:	1,655

Contractor/AID Overhead:

\$300 per month:	6,300
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International Transportation:

2 round trips:	<u>4,000</u>
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Total:	\$ 26,215
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Per Year Cost:	\$ 14,980
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GENERAL OBSERVATIONS:

There are a number of variables associated with these estimates, of course. Some M.Sc. programs may stretch to a full two years in the U.S.; some B.Sc. programs to three years. In other cases, participants may finish in only 1-1½ years for M.Sc., or two years for B.Sc. This will vary according to each candidate's capabilities, his major subject, the university requirements for graduation, whether the goal is thesis or non-thesis in the case of masters degrees and other related issues.

The tuition is different at each university. Consequently, the estimate may be higher or lower, depending on the university providing the academic program.

The participant maintenance will likewise vary according to where the participant attends school, how many overnight field trips he makes and the established maintenance rate for the short course the attends. Where the trainee goes for university course work, short courses and field trips will logically affect U.S. travel costs also.

The estimate for M.Sc. candidates allows the trainee to return to Botswana for his thesis research and then go back to the United States to depend his thesis. If other arrangements are made for thesis acceptance, or if the trainee is a non-thesis option, this will eliminate the second round trip air fare.

In summary, then, these figures are only illustrative estimates. A few budget categories have fixed rates, but much of the total cost will depend on the content of each individual trainee's program. On average the training cost is \$14 000 per year, per participant.

Explanatory Notes to Annex F
Cost Estimates for AID Funding

1. Estimates: Prepared September 1977 by OSARAC/REDSO staff at Gaborone.
2. Conversion Rate: 1 Pula = \$1.21 \$1 = 0.826 Pula
3. Technical Assistance: Technicians are costed at \$80,000 per staff year. This is based upon the cost analysis of the PRP adjusted for inflation and recent OSARAC experience:

Base Salary	\$28,000
Fringe Benefits (20%)	5,600
Post Allowance (10%)	2,800
Other Allowances (110%)	30,800
Contractor Overhead (45%)	12,600

Total Technicians Cost: \$79,800 or (\$80,000)

"Other allowances" includes the standard overseas allowances and benefits: transfer to post and return to the U.S. for technician and his family; U.S. storage, HHE shipment, car shipment or "settling in allowance"; R&R travel; education allowance; utilities; household application; etc.

Short-term Consultants are costed at \$6,000 per consultant month, for approximately 16 consultant months at a total cost of \$100,000. This has been the OSARAC cost on other recent projects.

4. Participants: The PP sections on participant training describe the length of training and costs for B.S. and M.S. programs. The average per year cost is \$14,000. This is higher than usually used but the Design Team Training Expert reports that, based on USDA participant training experience, AID and contractor sponsored participants usually cannot be trained for the \$11,000 used in PPs. Rather than short-fund the participants, enough funding is being included based on actual 1977 costs. See Annex E for participant training cost estimates by type of training program.
5. Vehicles (4): One 3/4 ton (at \$10,500) and three 1-ton (at \$11,500 each) pickup trucks. Standard models, six cylinder, no power options, 4-speed manual shift, and 15% spare parts. The prices are based on 1977 costs for U.S. pickups, C.I.F. Gaborone. If local trucks (manufactured in South Africa, without spares) are purchased then approximately \$7,000 could be saved on the total purchase. Annex N requests a waiver for such local purchase. If the waiver is approved, the \$7,000 savings will be used for the purchase of spare parts.
6. Administrative Support Budget:

(a) First Year Capital Expenditures

Office equipment and furniture	\$ 2,000
Automobile (compact sedan) local purchase	6,000
	<hr/>
Total	\$ 8,000

(b) Yearly Operating Costs

Administrative Officer's salary/benefits	\$80,000
Other administrative costs	8,000
Vehicle operating costs (fuel, repairs)	3,000
10,000 miles p.a. x 30 cents per mile	
Office rental and utilities	3,000
Office supplies and miscellaneous	<u>1,000</u>
 Total	 \$95,000

All of the capital costs will be spent in the first year. The annual operating costs will be required for half of FY 1979, all of FY's 1980, 1981, 1982 and half of 1983.

7. Library books: On a CIF basis 1,400 books would cost \$28,000 (\$20 per book) delivered to Gaborone. These costs are based on the Lesotho LASA project.
8. Other costs: Includes per diem for sample surveys, photocopier, mimeograph machine, calculators, office furniture, file cabinets, and file materials and other supplies and equipment. These costs represent \$20,000 in the first year and \$10,000 in each of the following years.
9. Construction: Details on costing are available in "Description of Project Construction", Annex H of this Project Paper. The houses will probably be three bedroom BHC, Type II with \$3,000 included for furniture and appliances. The costs of the library and offices were figured on square meter construction estimates for the new MDA Headquarters building.
- 10.* Contingency: Total project costs may change due to increases in amounts and quantities during project implementation. An allowance of 15% has been provided on all project costs for such contingencies.
- 11.* Inflation: In recent years in-country inflation has been running at 8-10 percent. U.S. inflation rates have been slightly higher. It is assumed that inflation rates will drop. Inflation is estimated at an average of 8 percent per year for all project costs. All prices are as of October 1977. Since project expenditures are expected to start in October, 1978, 8 percent is applied to FY 1979 costs. The inflation rate is then cumulated (not compounded) and figured at 16 percent for FY 1980, 24 percent for FY 1981, 32 percent for FY 1982, and 40 percent for FY 1983. If inflation had been compounded rather than cumulated it would have averaged 7 percent per year.

*Contingency and inflation factors do not apply to project construction.

ANNEX F, TABLE 1
AID Expenditures by U.S. Fiscal Years
(U.S. Fiscal Year Oct. 1 - Sept. 30)
In Thousands of Dollars

	FY 1978	FY 1979	FY 1980	FY 1981	FY 1982	TOTAL
<u>AID Technical Experts</u>						
CAE (4 years)	80.0	80.0	80.0	80.0	0.0	320.0
SAE (5 years)	80.0	80.0	80.0	80.0	80.0	400.0
FME (4 years)	60.0	80.0	80.0	80.0	20.0	320.0
STAT (2 years)	0.0	80.0	80.0	0.0	0.0	160.0
SOC (2 years)	80.0	80.0	0.0	0.0	0.0	160.0
LE (2 years)	80.0	80.0	0.0	0.0	0.0	160.0
TRAIN (5 years)	80.0	80.0	80.0	80.0	80.0	400.0
Short-term Consultants (1½ years)	30.0	20.0	20.0	20.0	10.0	100.0
Sub-total AID Technical Experts (25½ yrs)	490.0	580.0	420.0	340.0	190.0	2,020.0
<u>Participants - U.S. University Training</u>						
Group I (2 trainees, 3½ PY)	28.0	21.0	0.0	0.0	0.0	49.0
Group II (6 trainees, 13½ PY)	21.0	84.0	42.0	42.0	0.0	189.0
Group III (5 trainees, 11½ PY)	0.0	17.5	70.0	35.0	35.0	157.5
Group IV (7 trainees, 15 ¾ PY)	0.0	0.0	24.5	98.0	98.0	220.5
Sub-total Participants (44 PY)	49.0	122.5	136.5	175.0	133.0	616.0

	FY YEAR 1978	FY YEAR 1979	FY YEAR 1980	FY YEAR 1981	FY YEAR 1982	TOTAL
<u>Commodities and Project Support</u>						
Vehicles:						
1, 3/4-ton, 4 wheel drive	10.5	0	0	0	0	10.5
3,1-ton, 4 wheel drive	34.5	0	0	0	0	34.5
1, compact automobile sedan	6.0	0	0	0	0	6.0
Administrative support operations	90.6	90.6	90.6	90.6	90.6	453.0
Library books (1,400)	28.0	0	0	0	0	28.0
Special training courses	10.75	20.0	20.0	20.0	9.25	80.0
Other Costs:						
Field surveys, office equipment and supplies, miscellaneous commodities	20.0	10.0	10.0	10.0	10.0	60.0
Contractor selection visit by COB officials	7.5	0	0	0	0	7.5
Sub-total Commodities and Project Support:	207.85	120.6	120.6	120.6	120.6	690.25
<u>Construction</u>						
Houses (5 at \$35,000)	175.0	0	0	0	0	175.0
Offices (6) and library (1)	57.0	0	0	0	0	57.0
Sub-total Construction:	232.0	0	0	0	0	232.0
TOTAL PROJECT COSTS:	978.94	823.1	677.1	635.6	443.6	3558.34
Contingency at 15%	110.25	123.5	101.6	95.3	66.5	497.15
Inflation, 8% per year cumulative	55.9	131.7	162.5	203.4	177.4	730.9
GRAND TOTAL - AID FUNDING:	1,145	1,078.3	941.2	934.3	679.85	4778.65

ANNEX F, TABLE 2
 Government of Botswana Project Expenditures
 (By U.S. Fiscal Years Oct. 1 - Sept. 30)
 (In \$000's Equivalent)

	FY 1979	FY 1980	FY 1981	FY 1982	FY 1983	TOTAL FY 1979-83
Botswana Personnel						
MOA, PSU						
Agricultural Economist	3.5	3.5	3.5	3.5	3.5	17.5
Rural Sociologist	3.5	3.5	3.5	3.5	3.5	17.5
Research Assistant	2.5	2.5	2.5	2.5	2.5	12.5
Senior Agricultural Assistant	2.5	2.5	2.5	2.5	2.5	12.5
Sociological Assistants (2)	5.0	5.0	5.0	5.0	5.0	25.0
Statisticians and Enumerators (27)	56.7	56.7	56.7	56.7	56.7	283.5
Existing clerical/typists (5)	9.5	9.5	9.5	9.5	9.5	47.5
New clerical/typists (2)	2.0	3.8	3.8	3.8	3.8	17.2
Messengers, cleaners, drivers (12)	12.0	12.0	12.0	12.0	12.0	60.0
CSO - Statisticians (4)	14.0	14.0	14.0	14.0	14.0	70.0
DOB Senior Management time						
MOA, MWDP: 5% of 3 Snr. Executives	1.2	1.2	1.2	1.2	1.2	6.0
Trainees Salary	21.3	33.9	42.6	31.0	19.0	147.8
Base Salary, AID Technicians	34.5	42.0	30.0	24.0	13.5	144.0
(Sub-total Personnel Salary)	(168.2)	(190.1)	(186.8)	(169.2)	(146.7)	(861.0)
DOB Personnel overhead @ 20%	33.6	38.0	37.4	33.8	29.3	172.1
Sub-Total Personnel Costs:	201.8	228.1	224.2	203.0	176.0	1,033.1

	FY 1979	FY 1980	FY 1981	FY 1982	FY 1983	TOTAL FY 1979-83
Commodities and Project Support						
Agriculture Survey Vehicles (7)	56.0					56.0
Farm Management, Soc., Planning Vehicles (2)	16.0					16.0
Vehicle repair, P.O.L. Equipment, supplies, printing, computer time, miscellaneous	27.0	33.0	33.0	33.0	33.0	159.0
	10.0	10.0	10.0	10.0	10.0	50.0
Sub-total Commodities and Project Support:	109.0	43.0	43.0	43.0	43.0	281.0
Buildings						
Professional offices (10)	90.0					90.0
Clerical offices (4)	36.0					36.0
Technicians houses (3)	72.0					72.0
Land for AID funded houses (4)	18.0					18.0
Sub-total Buildings:	216.0	0	0	0	0	216.0
Total Project Costs:	526.8	271.1	267.2	246.0	219.0	1,530.1
Contingency @ 15%	79.0	40.7	40.1	36.9	32.8	229.5
Inflation @ 8% per annum	42.1	43.4	64.1	78.7	87.6	315.9
TOTAL GOB CONTRIBUTION:	647.9	355.2	371.4	361.6	339.4	2,075.5

ANNEX C

ENVIRONMENTAL ASPECTSA. Initial Environmental Examination

Project Country: Botswana
 Project Title: Botswana Agricultural Planning
 Funding: FY(s) 77-82 \$4,787,650
 IEE Prepared by: AFR/DR/SA, Douglas T. Kline

Environmental Action Recommended: It is recommended that the the Project be given a Negative Determination. It is anticipated that a strengthened planning capability will result in improved land use.

Concurrence: AFR/DR/SDP: BBoyd 1/12 3/1/82
 AFR/SA: THE Quimby 1/12 4
 GC/AFR: JPatterson 1/12

Assistant Administrator Decision:

Approved: 1/12

Disapproved: _____

Date: 1-2-82B. Identification and Evaluation of Environmental Impacts1. Land Usea) Policy Analysis Portion of Project

Project supported rural development planning will have an indirect and positive impact on land use. Agricultural development means more effective use of the land base. Improved planning should result in better land use. The U.S. technical experts will be able to make use of U.S. and world-wide experience in maximizing agricultural investment with minimum land stress. Improved plowing, fertilizer application, new seed varieties, irrigation, grazing control and erosion control are all issues which MOA, PSU will deal with. Since the planning will be done for projects that have not yet been developed it is impossible to assess individual project impact. However, the environmental impact should be positive.

b) Construction Portion of Project

The construction of the offices, library and houses will require limited land clearing and removal of ground cover. The small number of additional personnel (4 new advisors, the advisors' families, and up to 20 trainees) using these buildings will result in some additional demands on the Gaborone City water supply and MOA septic tank. The buildings will slightly increase rain-water drainage problems and could cause erosion problems if proper landscaping is not followed. Adequate landscaping is included in the design and construction of the buildings.

2. Water Quality

a) Policy Analysis Portion of the Project

U.S. technical experts are aware of the importance of water quality control and will be able to raise the GOB's awareness of the potential problems.

b) Construction Portion of the Project

Erosion control, after ground cover is removed, could present a minor problem. Proper grading and landscaping is included and should minimize any problems. Sewage disposal will meet City Council standards and should present no problems. There are no other effects on water quality.

3. Atmospheric

a) Policy Analysis Portion of the Project

Air additives, air pollution and noise pollution are not a factor at Botswana's stage of development. No environmental effect is expected.

b) Construction Portion of the Project

During construction of the buildings there will be the usual noise and dust. It should be minimal since so little is being built. After construction there will be a slight increase in traffic, air pollution and air conditioner noise as a result of the additional people using the offices, library and houses. The environment impact should be very little.

4. National Resources

a) Policy Analysis Portion of the Project

Small-scale Batswana farmers depend on rain or boreholes for their farming. There is unlikely to be any diversion or altered use of rivers or water bodies. Project planners may have to consider wells and boreholes for livestock watering but such use is very minor. There will be no "Irreversible or inefficient commitments of Natural Resources" since planning by definition means the reverse.

b) Construction Portion of the Project

There will be no diversion or altered use of water. There will be no irreversible, inefficient commitments since the buildings are in conformity with the Gaborone Master Plan.

5. Cultural

Neither the policy or construction portion of the project will have any effect on physical symbols, cultural traditions or primitive cultures.

6. Socioeconomic

a) Policy Portion of the Project

The project planners will be implementing the GOB policy of improving rural welfare and incomes. Modernization by its nature means change. The project will support agricultural changes that are already underway, representing the goals and objectives of the GOB and Botswana people. The rural sociologist and statistician will provide the GOB with information and policy alternatives on such issues.

b) Construction Portion of the Project

No changes are expected from the new buildings.

7. Health

No health changes are expected from any project activities.

8. General

No negative international, controversial or aesthetic effects are expected from this project.

C. Impact Identification and Evaluation Form

<u>Impact Areas and Sub Areas</u>	Impact Identification and Evaluation ^{1/}
LAND USE	
1. Changing the character of the land through:	
a) Increasing the population	<u> L </u>
b) Extracting natural resources	<u> N </u>
c) Land clearing	<u> L </u>
d) Changing soil character	<u> L </u>
2. Altering natural defenses	<u> L </u>
3. Foreclosing important uses	<u> N </u>
4. Jeopardizing man or his work	<u> N </u>
WATER QUALITY	
1. Physical state of water	<u> L </u>
2. Chemical and biological states	<u> L </u>
3. Ecological balance	<u> N </u>
ATMOSPHERIC	
1. Air additives	<u> N </u>
2. Air pollution	<u> L </u>
3. Noise pollution	<u> L </u>
NATURAL RESOURCES	
1. Diversion, altered use of water	<u> N </u>
2. Irreversible, inefficient commitments	<u> N </u>

CULTURAL

- | | |
|------------------------------------|----------|
| 1. Altering physical symbols | <u>N</u> |
| 2. Dilution of cultural traditions | <u>N</u> |

SOCIOECONOMIC

- | | |
|--|----------|
| 1. Changes in economic/employment patterns | <u>N</u> |
| 2. Changes in population | <u>N</u> |
| 3. Changes in cultural patterns | <u>N</u> |

HEALTH

- | | |
|-----------------------------------|----------|
| 1. Changing a natural environment | <u>N</u> |
| 2. Eliminating an ecosystem | <u>N</u> |

GENERAL

- | | |
|---------------------------|----------|
| 1. International impacts | <u>N</u> |
| 2. Controversial impacts | <u>N</u> |
| 3. Larger program impacts | <u>N</u> |

1/The following symbols are used: N--No environmental impact
 L--Little environmental impact
 M--Moderate environmental impact
 H--High environmental impact
 U--Unknown environmental impact.

D. Conclusion

The environmental benefits appear to greatly out-weigh any negative environmental changes. The construction portion of the project will have minimal effects. As a rural policy and institutional development project the potential environmental benefits appear great. The AID funded rural development planners and trainees will be able to help the GOB devise policies and plans which will maximize agricultural (i.e. land use) development.

ANNEX H

DESCRIPTION OF PROJECT CONSTRUCTION

Funds have been included in this project for the construction of six offices, library space and five AID technician houses. All of the construction will be within the incorporated city limits of Gaborone and will be consistent with the city's Master Plan. City regulations and building codes will be observed for all construction. Water and electricity are available at all sites and either municipal sewers or septic tanks will provide for waste disposal.

Offices and Library

The Ministry of Agriculture has retained consulting engineers and architects to design and prepare tender documents for the construction of a two story headquarters office building. This building will house most, but not all, of MOA Headquarters staff. The building as designed will be neither pretentious nor frugal and will conform in design and style to other GOB buildings. The construction will utilize concrete columns, steel roof-trusses and asbestos roofing. Interior walls will be either brick or hollow block. Central air conditioning is planned, as in other ministry buildings. The building is designed to utilize standard, uniform modules to reduce forming and construction costs; fortunately for AID, this design permits expansion by the addition of modular units. The use of locally available materials will be maximized.

The proposed building is about 300 meters North of the present city sewer line, as are all of the MOA buildings. A septic tank will be installed on the East side of the building, which will facilitate connection to the municipal system when the projected extension is installed. Ground percolation is suitable for the installation of seepage fields and no bodies of water are nearby, so contamination of water supplies is not a problem. The site is level and will require only scrub brush removal. The building has been sited to avoid the removal of a large tree, one of the few in the area. Fencing, landscaping, internal roads, parking and other site works will be included in tender documents.

The Ministry of Agriculture has available from domestic funds and other sources sufficient capital to construct a building with approximately 1,106 square meters of floor space. A study by local A & E firms and consultation with local quantity surveyors indicate that a building, as planned, would cost 185 Pula per square meter of floor space. In addition, electrical contractors and air conditioning engineers estimate that central air conditioning would cost approximately 43 pula per square meter, bringing the total

cost of the building, including air conditioning, to 228 pula per square meter. Further investigation reveals that this figure is consistent with present construction prices in the area.

The Ministry of Agriculture and the Design Engineers have agreed to add an additional two modules (approximately 140 gross square meters) to the building for offices for the AID technicians and the required library. The space thus provided would be divided into eight units, six for offices and two for a library. Project funding of \$45,000 should be programmed for this facility. This amount will include provision for possible escalation of labor costs (a statutory requirement that all legal labor costs will be reimbursable to the contractor) and inflation. An inflation factor and contingency cost have been figured into the original square meter cost; however, due to the time lag in the initiation of actual construction, the above figure appears to be reasonable and acceptable. It is therefore recommended that AID commit the sum of \$45,000 as a fixed amount reimbursement upon the completion and acceptance of approximately 140 gross square meters floor space, divided into six offices and one library in the new MDA Headquarters office building.

At this time detailed A&E drawings and specifications are not available for the offices/library. AID analysis (and experience on other projects) indicates that A&E design work to date, and sketch plans, are sufficient to ensure that the building can be built to quality standards at the stated costs. However, the Project Agreement will contain a C.P. requiring AID Engineers to approve final building specifications and the tender documents before any AID construction funding can be provided. The buildings will be built under the AID-FAR funding system.

Technicians Houses

Suitable housing for U.S. technicians have been and will continue to be difficult, if not impossible to find in Gaborone. This, and the general housing situation in a new town with a rapidly expanding population, has placed a heavy burden on the Botswana Housing Corporation (B.H.C.). BHC is a parastatal entity presently responsible for all housing, except privately owned, in Gaborone. There is no "government housing" except that which is called "institutional housing" such as housing at police compounds, at the agricultural college, etc., where houses are still administered and assigned at the discretion of the controlling ministry. Since the U.S. Technicians assigned to this project will be posted in Gaborone, their housing will be controlled by the BHC.

BHC is presently concentrating on low and middle level housing and over 200 such units are under construction. These units will utilize nearly all of the available "serviced" land. Hence, housing for the four U.S. Technicians proposed in this project is contingent upon the BHC and/or Department of Surveys and Lands locating, and assigning, lots suitable for the construction of either BHC Type II (M) or BHC Shakawe type houses and BHC's agreement to construct these houses on the sites.

Complete plans and specifications for the above two types of houses are on hand and many have been constructed. Completed houses have been inspected and appear to be adequate for a small to average size family. The units have three bedrooms, (one of which is rather small), living room/dining room, kitchen and one complete bath. BHC has well established and proven contracting procedures that include adequate supervision and inspection. Current cost estimates based on the price of similar contracts presently in

effect and projections by BHC architects indicate that these houses can be constructed for \$30,000 per unit. The final cost will be determined at the time of ProAg signing based upon prices then in effect. Therefore, with the exception of the availability of suitable sites and a firm commitment by BHC that they will arrange for the construction, Section 611(A) would be satisfied.

Prior to the signing of a Project Agreement, there must be a firm commitment, in writing, from the responsible agency of the Government of Botswana that adequate land is available and that BHC will invite Tenders for the construction of these houses. Also required is the inspection and approval of the selected sites by AID engineers.

Contingent upon satisfaction of the above requirements, it is recommended that AID commit approximately \$175,000 (5x \$35,000) as a fixed amount reimbursement to the Government of Botswana to be authorized for payment upon the completion and acceptance by AID of four Type II or Shakawe Type houses in Gaborone.

ANNEX I

GOB APPLICATION FOR ASSISTANCE

Ref: FDP. 50/5/8

20th April, 1977

USAID OFFICER
c/o American Embassy
P.O. Box 90
GABORONE

Dear Bob,

BOTSWANA AGRICULTURAL PLANNING PROJECT

I refer to the Project Review Paper dated 22 November, 1976 and subsequent discussions with your predecessors and with Bill Johnson.

Our reply is delayed because we have been engaged in a process of re-thinking our own training policy for Planning Officers. The PRP has helped focus our attention upon the means and ends and has been very useful. What has come out of the process is a feeling that the project proposed by Anschel and Lieberman is far too large for both our needs in terms of manpower and our resources in terms of our absorptive capacity. There is a resultant quandary: whilst some aspects of the project are positive and could be used advantageously they would provide the basis for too small a project for a US University to participate. A project large enough to justify the input of a University would be too large for our needs. The project would need to be scaled down to fit in with our planning officer requirements.

Our training would ideally follow this pattern: a B. A. graduate would come initially into government service as a Planning Officer. After about a year of on-the-job experience he would depart to the US for a Masters course and to lay the theoretical groundwork for a thesis. He would then return to Botswana to resume P.O. duties and to collect data for his thesis which would be written up in the US. At the end of his second stay in the US he would be awarded his Masters and return to Botswana to become a fully qualified Planning Officer.

This route avoids the heavy in-service training input based in Botswana and transfers all of the course work from the PRP formula to US based teaching whilst retaining a Botswana-centred research element. To achieve this we would need the services of a broadbased person with agricultural experience and used to dealing with young economists in a learning

environment. He would be a Senior Planning Officer responsible solely for in-service training with no portfolio duties and would ideally be based in Ministry of Finance and Development Planning.

We wish to retain the services of the present SADAP personnel, viz CAE, Rural Sociologist and Livestock Planning Officer in MOA and wish to add a Senior Statistician to this cadre. Their logistic support should also be included.

The training of our Planning Officers at a US University to Masters degree level we would also wish to retain. A realistic estimate of numbers is that three or four persons each year over four years would be available for training in rural related subjects. The Anshel argument that agricultural economic training is sufficiently broad-based to prepare our officers for work in many sectors is not accepted; we need specialization in various fields, e.g. education, commerce, labour and health. Thus our requirement for rural related training is less than the PRP estimate.

We also feel that the Agricultural Sector Analysis would best be separated from the training function. There are several ways of producing such an analysis that we are looking at, but to saddle a training programme with its production is not a preferred alternative. This reduces the need for expatriate personnel, in-post here, further.

Overall our conclusion is that the present concept of the project is too large, expatriate input too high and costs out of proportion to the output. We would like to see a revision bringing in the points mentioned above and including the liaison relationship with a US university but reducing considerably the training input at the Botswana end.

I look forward to discussing this further with you.

Sincerely yours,

Martin H. Taylor
For/Permanent Secretary

cc: Permanent Secretary, Ministry of
Agriculture, (Attn. CAE)

ANNEX J

PRP APPROVAL CABLE

Copy of telegram of 6/30/77

FMSECSTATE WASHDC.
TO RUFHGA/AMEMBASSY GABORONE PRIORITY 1505
RUFHNE/AMEMBASSY MBABANE PRIORITY 4251
INFO RUVQC/AMEMBASSY NAIROBI PRIORITY 9678
BT
UNCLAS STATE 153162

AIDAC: NAIROBI PASS REDSO INFC

E. O. 11652:N/A

TAGS:

SUBJECT: BOTSWANA AG PLANNING PRP (690-0067)

REF: TAYLOR TO FRIEDLINE LETTER DATED 20 APR 1977

1. PROJECT COMMITTEE MET 9 JUN 1977 TO CONSIDER NECESSARY ACTION REQUIRED ON PRP. PC RECOMMENDS PP BE DESIGNED ALONG LINES SUGGESTED BY GOV AS REFLECTED IN REF (A). AID/W PREPARED TO FIELD TEAM O/A 1 AUGUST 1977 FOR APPROXIMATELY 6 WEEKS. TEAM TO INCLUDE DESIGN OFFICER - SUGGEST LIBERSON/REDSO WHO PARTICIPATED IN EARLIER DESIGN EFFORT - AG PLANNER AND TRAINING SPECIALIST. REQUEST OSARAC PROVIDE AG OFFICER TO ASSIST IN LIAISON BETWEEN TEAM AND GOB OFFICIALS. REQUEST OSARAC COMMENTS. DRAFT SOW HANDCARRIED BY STERNBERGER.

2. SUBJECT TO GOB CONCURRENCE, RECOMMEND PP CONSIDER A) TRAINING DONE UNDER DIRECT CONTRACT WITH U.S. UNIVERSITY; TRAINEES TO RETURN TO BOTSWANA FOR THESIS RESEARCH. B) U.S. TECHNICIANS TO SUPPORT AG PLANNING UNIT AS REFLECTED IN REF (A). C) TRAINING COMPONENT WILL STRESS BOTH PROJECT DESIGN/EVALUATION AND SKILLS IN AG SECTOR PLANNING. D) NATURE OF POSSIBLE ARRANGEMENT WITH U.S. INSTITUTION.

3. FOR REDSO: ADVISE AID/W AND OSARAC AVAILABILITY LIEBERSON OR OTHER DESIGN OFFICER. VANCE

MC

UNCLASSIFIED

CURRENT UBS ECONOMICS DEPARTMENT CURRICULUM

MEMORANDUM FROM: HEAD OF ECONOMICS
TO: DEAN, FESS
CC: ALL STAFF MEMBERS IN FESS
ACADEMIC PLANNERS

18th August 1975

COMMON FIRST YEAR, DEGREE STRUCTURE, COURSE PROPOSALS, ETC.

In reply to your memo of 29th July 1975 on the above subject, the Department of Economics has agreed the following:

1. Common First Year

The Department wishes to make no specific suggestions at this time. It is assumed by the Department that

- (a) The CFY will be introduced in 1976/77.
- (b) It can contain no specific prerequisites for a particular department's second or later year courses.
- (c) It will contain a component on quantitative skills, but that this will not be sufficient to meet the needs for mathematical knowledge of students majoring in economics.
- (d) A requirement of a credit in COSC mathematics for entry into FESS is unlikely to be enforced for the next few years.

2. Degree Structure

The Department assumes that the intention is to permit the introduction of single major programs for some students. Course proposals are made on the assumption that, as agreed in 1974, after the CFY in their second year, students will take three subjects,

in their third year students will take one or two subjects (majors)

in their fourth year students will take one or two subjects

(i.e. the 3-2-2 or 3-2-1 or 3-1-1 structure), and that students will normally take courses aggregating 36 units per year.

The Department assumes old courses and regulations will fall away, and the new ones be introduced year by year, so that if the CPY starts in 1976/77, the fourth year of the new program will first be offered in 1979/80 (i.e. the first students to graduate under the new structure will do so in 1980).

3. Courses

Tentatively, the Department proposes to offer the following courses:

<u>Year</u>	<u>Title</u>	<u>Course Value in Units</u>
Year II	Econ 201 Principles of Economics I: Micro-economics	4
	Econ 201 Principles of Economics II: Micro-economics	4
	Econ 201 Mathematics for Economists	4
Years III and IV	Econ 301 Advanced Micro-economic Analysis	3
	Econ 302 Advanced Micro-economic Analysis	3
	Econ 303 History of Economic Development	4
	Econ 304 Theory, Problems, and Policies of Economic Development	4
	Econ 305 Statistics for Economists	6
	Econ 306 Public Finance	6
	Econ 307 Money and Banking	6
	Econ 308 Economics of Labour	4
	Econ 309 Rural Development and Economics of Agriculture	4
	Econ 310 Project in Applied Economics	4
	Econ 311 Introduction to Econometrics	4
	Econ 312 Social Economics	3
	Econ 313 Comparative Economic Systems	3
	Econ 314 Economics of Integration	3
	Econ 315 Developing Planning	3
	Econ 316 Appraisal of Economic Projects	3
	Econ 317 International Economics	3
Econ 318 Economic Dynamics	3	
Econ 319 Economics of Transport	3	
Econ 320 Managerial Economics	3	
Econ 321 History of Economic Thought	3	

Not all Year III and IV courses would be offered in any one year, and some could only be offered if suitable staff were available. The Department considers that the courses listed above are suitable, and not excessive, to provide an adequate single-major program. (Course numbers are for the purpose of identification in this memo only).

4. Compulsory Courses

Majors would be required to take:

In Year II	201, 202, 203
In Year III	301, and 302

5. Prerequisites

Exact details of prerequisites will depend on the detailed syllabuses, which have not yet been prepared. It is proposed that courses fall into four categories, tentatively as follows:

(a) Courses for which the only prerequisite is the CPY:

201, 202, 203
and possibly 301, 312, 313

(b) Courses for which the prerequisite would be Year II 200, 202, and 203

301, 302
and probably 304, 305, 309, 321

(c) Courses for which the prerequisite would be 301 and 302 (in addition to 201, 202, 203):

probably 306, 307, 308, 310, 314, 315,
316, 317, 318, 319, 320

(d) Courses with specific individual prerequisites in addition to those in (c):

305 for 311

There would be no prerequisites other than CPY outside the Department.

6. Recommended Courses

It would be expected that all majors would be advised individually on their program. They would be encouraged to take 305 and 310.

7. Requirement for Majors

Students reading two major subjects (double majors) would be required to take courses 201, 202, 203, 301 and 302 and additional courses in the Economic Department in Years III and IV aggregating at least 24 units.

The only additional requirement for a single-subject major would be that the Department approve the student's entire detailed program of study in Years III and IV.

A student reading the major subjects in his third year and one major subject in his fourth year ("Single Major and Supplementary") would be regarded as majoring in the single subject, Economics.

8. Options

All non-compulsory courses are options. Students would be free to take any other FESS courses which, in the opinion of the Department, were appropriate to their program of study.

9. Staff Implications.

The present approved establishment of academic teaching for the Economics Department at Roma is four (4). The Department considers that the introduction of a single-major program in economics is justified and desirable. An adequate program, such as that proposed, could not, however, be mounted without an absolute minimum of all four years, (presumably Roma in 1979/80). If enrolments greatly exceed expectations, or service courses for other departments (e.g. less rigorous second-year courses) are required, staff requirements would be greater than the minimum of six.

ECONOMIC ANALYSIS AND CALCULATIONS OF PROJECT BENEFITS.

The benefit calculations are based (purely) on assumptions about the improvement in Development Budget implementation rates (the project benefits) which can be attributed to BAPP activities. Benefits for a minimum level and for a higher level were each calculated, under the assumption that there would be no benefit in the first year (1979) and increasing benefits thereafter. The benefits were calculated by assuming: (1) an overall implementation rate, and (2) the proportion of that rate which could be attributed to the project.

Minimum Benefit Calculation

The minimum was calculated under the assumption that implementation rates would be 40 percent without the Project, and that the Project would augment the rates according to the following:

Implementation rate - minimum

	<u>Due to Project</u>	<u>Without Project</u>	<u>Total</u>
1979	0%	40%	40%
1980	10%	40%	50%
1981	20%	40%	60%
1982	20%	40%	60%
1983	20%	40%	60%

High Benefit Calculation

The high benefit was calculated under the assumption that implementation rates would slowly increase over time. It was assumed that as the Project improved MOA project quality, Project implementation rates would increase. The proportion attributable to the Project as well as to the projects themselves would increase as follows:

Implementation rate - high

	<u>Due to Project</u>	<u>Other</u>	<u>Total</u>
1979	0%	40%	40%
1980	10%	40%	50%
1981	20%	40%	60%
1982	25%	45%	70%
1983	30%	50%	80%

NOTE: Implementation rate increases in the early years will be due to improved management and monitoring. Improvements in later years will be due to improved management and better designed projects.

Use of Implementation as Measure of Benefit

Expected development expenditures have been used as a measure of benefits. This should be viewed as a very rough measure, not as an expected actual benefit. The overall assumption here is that individual project Benefit/Cost ratios are at least one so that expenditures equal minimum derivable benefits.

Calculation of Project Costs

Project costs have been calculated on the base data provided in the Financial Analysis. For the purpose of this analysis, the costs due only to this Project have been included; AID and GOB expenditures which would occur without the Project are not considered (as in the Financial Analysis). The new technician costs were calculated according to the planned phase-in and phase-out schedule. Details are explained in notes attached to the cost table included in this Annex.

TABLE 1

Summary Table - Cost, Benefits, Benefit/Cost Ratio and Internal Rate of Return, (000's dollars) (\$1 = P.826)

	<u>Project Costs</u>		<u>Project Benefits</u>	
	No Contingency	with 15% Contingency	Minimum	High
1979	566	602	-	-
1980	491	599	509	509
1981	505	575	752	752
1982	457	520	752	940
1983	349	398	752	1,128
Salvage Value			142	142
TOTAL	2,368	2,654	2,907	3,471
Present value 12% discount	1,745	1,949	1,828	2,140
<u>Benefit/Cost</u>				
Minimum Benefit	1.05	.94		
High Benefit	1.23	1.10		
<u>IRR (%)</u>				
Minimum Benefit	24%	11.1%		
High Benefit	40%	28 %		

Calculation of Project Benefits, 1979-1983, (000 Pula)

ITEM	YEAR				
	1979	1980	1981	1982	1983
(1) Planned Expenditure	6,273	6,162	4,543	4,550	4,550
<u>Minimum benefits</u>					
(2) Total Implementation	2,511.6	3,081.0	2,729.4	2,730.0	2,730.0
(3) Project increment	-	616.2	910.0	910.0	910.0
(4) Implementation rate (%)	40%	50%	60%	60%	60%
<u>Higher benefits</u>					
(5) Total Implementation	2,511.6	3,081.0	2,729.4	3,184.3	3,640.0
(6) Project increment	-	616.2	910.0	1,137.5	1,365.0
(7) Implementation rate (%)	40%	50%	60%	70%	80%

Notes:

- (1) Taken from NDP 1976/81 for 1979 to 1981. Expenditure in 1982 and 1983 assumed equal to 1981 level.
- (2) (Line 4) x (line 1), see discussion previous page for details.
- (3) See discussion for details.
- (4) Assumed, see discussion for details.
- (5) (Line 1) x (line 7), see discussion for details.
- (6) See discussion for details.
- (7) Assumed values.

TABLE 3
Calculation of Project Costs, 1979-1983, (000's Dollars) ^{1/}

	FY 1979	FY 1980	FY 1981	FY 1982	FY 1983	Salvage Value
<u>Personnel</u>						
(1) Botswana - 2 typists	2.0	3.8	3.8	3.8	3.8	
(2) Botswana - AID Tech. Base Salary	16.5	24.0	24.0	18.0	13.5	
(3) Botswana - Personnel Overhead (20%)	3.3	4.8	4.8	3.6	2.7	
(4) AID - Tech. Salaries	220.0	320.0	320.0	240.0	180.0	
<u>Commodity and Project Support</u>						
(5) Botswana - Vehicle M & O (4)	1.2	1.2	1.2	1.2	1.2	
(6) Botswana - Equipment, Supplies, other	5.0	5.0	5.0	5.0	5.0	
(7) AID - Vehicle Purchase (5)	51.0					
(8) AID - Library Books	28.0					
(9) AID - Other Costs	20.0	10.0	10.0	10.0	10.0	
<u>Offices and Houses</u>						
(10) Land for AID Funded Houses	18.0					18.0
(11) AID Construct 5 Houses	50.0					90.0
(12) AID Construct Offices and Library	45.0					33.9
<u>Training</u>						
(13) AID	49.0	122.5	136.5	175.0	133.0	
(14) Total (W/O Contingency)	629.0	491.3	505.3	456.6	349.2	141.9
(15) Total (W/ 15% Contingency)	723.4	559.2	575.3	520.4	397.7	

^{1/} See table notes following page for explanation of cost calculations.

Notes for Cost Calculations: Calculations based on costs developed in Financial Analysis section excluding inflation factor.

- (1) Typists for added AID technicians
- (2) OOR contribution for AID technicians (\$6,000 per technician). See (4)
- (3) Overhead at 20%
- (4) AID and GOB contributions calculated according to planned phasing (AID technicians at 80,000 per year)

Year	Years	GOB (6)	AID (80)
1979	2.75	16.5	220.0
1980	4.00	24.0	320.0
1981--	4.00	24.0	320.0
1982	3.00	18.0	240.0
1983	2.25	13.5	180.0

- (5) Yearly vehicle M & O. (4 vehicles) x (10,000 miles) x (.30/mi.)
- (6) Supplies at $\frac{1}{2}$ estimated total all personnel
- (7) Vehicle purchase (no salvage value)
- (8) Books (1,400)
- (9) Other costs
- (10) Land, no depreciation
- (11) Five houses at \$30,000/house. 5.5% compound depreciation rate.
- (12) Offices built. 5.5% compound depreciation rate.
- (13) Training
- (14) Sum (1 - 13)
- (15) 1.15 x (Total AID Funded Items)

ANNEX M

POTENTIAL CANDIDATES FOR PROJECT TRAINING PROGRAM.

Fiscal Year	Number	Type of trainee, present job and degree, type of U.S. degree training.
1978	2	Agriculturalist, BSc graduates. Presently scheduled to join MOA Department of Agricultural Field Services. Training to MSc in agricultural economics.
	1	Economist, BA graduate. Planning (agriculture) Cadre. Training to MSc in agricultural economics.
	2	District Agricultural Officers, MOA Diploma Cadre. Training to BSc in Agricultural economics.
	1	Rural Sociological Assistant, MOA Diploma Cadre. Training to BA in rural sociology.
	1	Agricultural Statistical Assistant, Diploma Cadre from CSO. Training to BA in agricultural statistics.
	1	Candidate provided by another ministry or parastatal for agricultural economics degree.
	8	Sub-total FY 1978.
1979	1	Agriculturalist, BSc graduate. MOA Agricultural Field Services. Training to MSc in agricultural economics.
	1	Economist, BA graduate. Planning (agriculture) Cadre. Training to MSc in agricultural economics.
	1	District Agricultural Officer. MOA Diploma Cadre. Training to BSc in agricultural economics.
	1	Rural Sociologist, BA graduate. MOA Planning and Statistics Unit. Training to MA in rural sociology.
	1	Candidate provided by another ministry or parastatal for agricultural economics degree.
	5	Sub-total FY 1979.

Fiscal Year	Number	Type of trainee, present job and degree, type of U.S. degree training.
1980	2	Agriculturalist, BSc Graduate. MOA Professional Cadre. Training to MSc in agricultural economics.
	1	Economist, BA graduate. Planning (Agriculture) Cadre. Training to MSc in agricultural economics.
	2	District Agricultural Officers. MOA Diploma Cadre. Training to BSc in agricultural economics.
	1	Rural Sociologist, BA graduate. MOA Planning and Statistics Unit. Training to MA in rural sociology.
	1	Candidate provided by another ministry or parastatal for agricultural economics degree.
	<u>7</u>	Sub-total FY 1980
	20	Total for FY's 1978, 1979 and 1980.

DETAILED JUSTIFICATION FOR WAIVERS AND APPROVALSI. Waivers and Approvals Required

- A. A procurement source and origin waiver from AID Geographic Code 000 (U.S. only) to Code 935 for procurement of construction materials and of project vehicles (3, 1-ton; 1, 3/4-ton pickup truck and spare parts); and a waiver of the provisions of Section 636 (i) of the Foreign Assistance Act to permit procurement of project vehicles from non-U.S. source and origin.
- B. Approval to deviate from policy expressed in AID Handbook 11, Chapter 2, which limits employment of third country nationals for AID-financed construction to 20% of the non-local work force.
- C. Waiver of policy set forth in AID Handbook 11 to permit procurement of construction services and equipment maintenance and repair services from Free World firms in equal preference to U.S. and local firms, and/or joint ventures of such firms.

II. Justification for Source and Origin Waiver for Construction Materials and Project VehiclesA. Summary Waiver Information

Cooperating Country:	Botswana
Authorizing Document:	PP
Project:	Botswana Agricultural Planning
Nature of Funding:	Grant
Description:	Construction materials for housing and offices, \$164,000 three 1-ton and one 3/4-ton pickup trucks - \$51,000
Approximate total value:	\$215,000
Probable Source:	South Africa or United Kingdom

B. Discussion and Justification

Construction Materials

Construction materials will be used in building the six offices, library and five houses for the AID-financed technicians (see PP, Annex F and Annex H for description of these facilities). the cost of construction materials is estimated at \$164,000 i.e. 75% of the total cost of construction. Although it is not expected that all materials will be procured from South Africa, a waiver is requested for the full estimated cost. This is necessary because the fixed amount reimbursement method will be used, making the distinction between procurement sources difficult, if not impossible.

It would not be practical to purchase U.S. items in the small quantities needed when private dealers in Botswana are equipped only to service and repair equipment made in South Africa and the U.K. Moreover, considering shipping costs and small quantities involved, U.S. delivered prices would substantially exceed prices for comparable items procured in South Africa. the long lead time required to procure from the U.S. could also delay project implementation if construction of housing for AID-financed technicians was delayed. The severe shortage of housing in Botswana makes it imperative that construction begin at the earliest possible date.

Vehicles

This project requests approval to purchase vehicles of local source but of Code 935 origin. The vehicles are four pickup trucks, 4-speed manual, 3/4 and 1-ton, 6 cylinder engine with 8-foot bed, and 1, 4-cylinder compact sedan. Vehicles will be used by AID-financed technicians and consultants and by the Government of Botswana counterparts assigned to these technicians. A waiver is requested for the procurement of South African vehicles based on (1) the lack of repair capability (both in parts availability and in mechanical skills) and (2) safety hazards for the AID-financed technical staff resulting from driving left-hand drive vehicles.

OSARAC has encountered several problems with U.S. manufactured vehicles procured under other on-going projects in Botswana. The Central Transport Office of the Government of Botswana, which has vehicle maintenance responsibility, has serious problems in securing repair parts for U.S. manufactured vehicles.

The office also has no mechanics who understand or have experience in any component area of the U.S. vehicles, i.e. engine, running gear, transmission, axles, transfer case or body. The result is that these vehicles have remained "deadlined" for extensive periods of time and, when released, repairs often promptly prove inadequate.

As a further problem, and while noting that to date no accidents have occurred in Botswana, it is clear that improper driving position (i.e. left hand drive) of the U.S. vehicles in all Southern Africa locations is a genuine hazard. OSARAC has discussed this problem with representatives of U.S. manufacturers which state that production costs would be substantially increased for such a small lot order.

In addition to a procurement source waiver under AID Handbook 15, this action request requires a waiver under Section 636 (i) of the Foreign Assistance Act. Section 636 (i) limits AID financing to U.S. manufactured vehicles, but permits a waiver of this limitation "where special circumstances exist". According to the appropriate Conference Report, "special circumstances" are deemed to exist in "emergency or special situations such as a need for right hand drive or other types of vehicles not produced in the United States".

Based on the foregoing, we believe that "special circumstances" within the meaning of the legislative history do exist in this case and that a waiver to the U.S. vehicle requirement of Section 636 (i) is justified.

III. Justification for Deviation from Policy in AID Handbook Regarding Employment of Third Country Nationals (TCN's)

Contractors constructing the five houses, six offices and library may require technical and supervisory services of TCN's to handle electrical, plumbing, and other design and installation since procurement of services may deal with free world firms. As the total cost of construction will be only \$232,000, U.S. firms and personnel will not likely be interested in this work. Therefore, deviation from the employment policy in AID Handbook 11 to permit hiring of TCN's is considered necessary.

IV. Justification for Waiver of Policy Set Forth in AID Handbook 11 to Permit Procurement of Services from Free World Firms.

The need for this waiver is based on the following:

- A. Since the total cost of construction will be only \$232,000, U.S. construction firms are not expected to be interested in this work.
- B. A sufficient number of qualified local firms operating in Botswana are available to perform the required construction and permit competitive procurement. Possibly a number of firms may be qualified as "local firms" under Section 2 (d) (2) of HB 11 (Chapter 2), on the grounds that they are integral parts of the local economy. However, since some of the firms operating locally may not be incorporated in or may not have their primary place of business in Botswana, this waiver is considered necessary to assure adequate competition and availability of services. Customary competitive GOB contracting procedures will be used.
- C. In addition, it is anticipated that some maintenance and repair services will have to be provided by local firms, many of which may also be owned by South African or other Free World interests.
- D. No U.S. firms providing the required services are known to exist in Botswana.

ANNEX 0

Draft Project Description for Project Agreement

This project supports the Government of Botswana's (GOB) efforts to improve its rural development planning capabilities. Improved planning will allow the GOB to direct a larger flow of resources, in a more effective manner, to the rural sector. Since agriculture is the heart of rural development, the project places major emphasis on improving agricultural planning. Non-agriculture aspects of rural development planning will receive a smaller share of project resources.

The project will support the institutional planning capacity of the Ministry of Agriculture, Planning and Statistics Unit (MDA, PSU). The planning process includes (1) goal identification, (2) strategy analysis to determine the optimum process for achieving goals, (3) project and policy selection, (4) policy and project implementation, and (5) evaluation. Underlying this process is sector analysis: determination of socio-economic interrelationships which will result in successful linkages between planning and actual goals, strategies, policies and projects. By improving such capacity within MDA, PSU an institutional basis will be created for national rural sector development.

A major GOB objective supported by this project is accelerated localization. In particular, rural sector planning needs to be done by Botswana if it is to be relevant to the socio-cultural needs of the nation. The project will produce middle and upper level Botswana planners which will lead to more effective and self-sustaining rural sector planning. The training will include in-country remedial academic tutoring, supervised on-the-job training, and advanced U.S. university study in agricultural economics and related fields.

While this training is taking place, MDA, PSU will require expatriate planning experts to handle on-going rural development planning needs. The project will staff key positions in MDA, PSU. In addition to participant training and planning experts, the project will include financing for offices, a library, library books, vehicles, housing, and incidental project support costs.