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A.I.D. EVALUATION SUMMARY - PART I

1. BEFORE FILLING OUT THIS FORM, READ THE ATTACHED INSTRUCTIONS.
2. USE LETTER QUALITY TYPE, NOT "DOT MATRIX" TYPE.

IDENTIFICATION DATA

A. Reporting A.I.D. Unit:

Mission or AID/W Office USAID/Botswana
(ES# 89-2)

B. Was Evaluation Scheduled In Current FY Annual Evaluation Plan?

Yes [X] Slipped [ ] Ad Hoc [ ]

Evaluation Plan Submission Date: FY 90 Q 1st

C. Evaluation Timing

Interim [ ] Final [X] Ex Post [ ] Other [X]

D. Activity or Activities Evaluated (List the following information for project(s) or program(s) evaluated; if not applicable, list title and date of the evaluation report.)

Project No.	Project /Program Title	First PROAG or Equivalent (FY)	Most Recent PACD (Mo/Yr)	Planned LOP Cost (000)	Amount Obligated to Date (000)
633-0221	Botswana Agriculture Technology Improvement Project (ATIP)	1981	9/90	$9.2 MIL	$8.98 MIL

ACTIONS

E. Action Decisions Approved By Mission or AID/W Office Director

Action(s) Required	Name of Officer Responsible for Action	Date Action to be Completed
USAID/Botswana and GOB decided that a formal full-scale evaluation was not appropriate at this time, as only ten months are left to PACD and opted to carry out an Internal Review, concentrating on "Lessons Learned" and Recommendations for the last ten months of PACD.		
The following recommendations are selected and amalgamated as critical:		
1. USAID/Botswana should discuss with MIAC and the MOA its expectations of this project, as defined by the purpose and goal statements, and should arrive at a common understanding about technology transfer obligations of the ATIP team.	USAID/MIAC/ MOA	JAN 1990
2. Funds permitting USAID should consider a Title XII linkage mechanism for a continuing professional relationship between MIAC and the Ministry of Agriculture.	USAID/MIAC/MOA	APRIL 1990
3. Services of an OPEX or PASA FSR/E advisor would greatly benefit DAR in its initiative to institutionalize FSR/E, and it would be helpful if USAID/Botswana could also support this position with a small operational budget. FY 1990 BWAST funding may be used for a 2-year contract.	USAID/MIAC/AED	MARCH 90

(Attach extra sheet if necessary)

APPROVALS

F. Date Of Mission Or AID/W Office Review Of Evaluation: (Month) (Day) (Year)

G. Approvals of Evaluation Summary And Action Decisions:

	Project/Program Officer	Representative of Borrower/Grantee	Evaluation Officer	Mission or AID/W Office Director
Name (Typed)	P. BRAHMBHATT	DR. L. GAKALE	JOHN E. ROBERTS	JOHN P. HUMMON
Signature	Prabhu Bhatt	[signature]	John Roberts	John Hummon
Date	12/05/1989	22.12.89	12/8/89	12/18/89

ABSTRACT

H. Evaluation Abstract (Do not exceed the space provided)

COSTS

I. Evaluation Costs

1. Evaluation Team

Name	Affiliation	Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (U.S. $)	Source of Funds
DR.K.B. PAUL	REDSO/ESA	21	-	
MR. R.E. MCCOLAUGH	REDSO/ESA	7	-	
MS. E. MELAKU	MOA - GOB	10	-	

2. Mission/Office Professional Staff Person-Days (Estimate) 3

3. Borrower/Grantee Professional Staff Person-Days (Estimate) 6

2'

E. Action(s) Required (continued)	ACTION	DATE
4. The Mission should support post project Title XII linkage activities between MIAC and MOA, and should encourage both parties to consider all the implications. A jointly developed proposal between the MOA and MIAC should be supported by USAID/Botswana and AID/W.	USAID/AID/W MOA/MIAC	APR 90
5. USAID/Botswana should plan for and support a post-project impact evaluation of ATIP activities, possibly in Mid-1992; by requesting AFR/TR/AGR or ST/AGR to set-aside funding. Prior to current PACD, USAID/B should request ATIP to select certain baseline parameters that could be used for the proposed post-project impact evaluation. ATIP should attempt to segregate the effects of new technology, improve policy and marketing, and other interventions they have made to raise the production of Botswana's farmers.	USAID/ AID/W	JUNE 90
6. MIAC technicians should devote additional time and effort in training their Batswana counterparts and technicians. They should identify, on an individual basis, where the training is most needed, and do as much possible to remove deficiencies. ATIP/MIAC technicians should reassess their priorities for the remainder of their stay in Botswana, and allocate time accordingly. At least 40% of their time should be devoted to working with their counterparts in on-farm research tasks, another 30% to strengthening linkages between FSR/E, commodity research teams and in technology dissemination activities of extension. Not more than 10% of their time should be devoted to the proposed FSR/E handbook with another 20% to final documentation of ATIP achievements.	MIAC/MOA	APR 90
7. ATIP should continue its on-farm research efforts on drought-avoidance, and moisture conservation strategies. ATIP may consider conducting a few Researcher Managed and Researcher Implemented (RM/RI) trials of DAR substation, or where most investigation parameters can be controlled. This would generate further useful data even in a very bad year. Some of the more promising technologies should be written up as recommendations for publication in AGRIFACTS, or for updating the existing ones.	MIAC/MOA	JAN 90
8. ATIP should continue its efforts, and use all available means, to formalize linkages between DAR and DAFS. These complete multi-level linkages should be established and operational by PACD.	MIAC/MOA	FEB 90
9. MOA, in its recent reorganization plan, is considering relocating and upgrading the RELO position and placing it directly under the Deputy Permanent Secretary. This will definitely be a major move, and should be supported. The omission of RECU/RELO in the Reorganization Chart as published in September 1989 issue of Agrinews, the Team was told, was apparently an oversight.	MOA	JAN 90
10. ATIP should encourage and assist the DAFS Training Officer to provide quality in-service training to the ADs, especially on the proper use and maintenance of ATIP-promoted implements. Additionally, instead of writing a complete Handbook on Farming Systems for Botswana, the ATIP technicians may consider writing only a Monograph on "The Uniqueness of FSR/E Work in Botswana" with special emphasis on "lessons learned".	MIAC/MOA	MAR 90

A.I.D. EVALUATION SUMMARY - PART II

SUMMARY

J. Summary of Evaluation Findings, Conclusions and Recommendations (Try not to exceed the three (3) pages provided)
Address the following items:

- Purpose of evaluation and methodology used
- Purpose of activity(ies) evaluated
- Findings and conclusions (relate to questions)
- Principal recommendations
- Lessons learned

Mission or Office:	Date This Summary Prepared:	Title And Date Of Full Evaluation Report:
USAID BOTSWANA	Dec. 1989	Agricultural Technology Improvement Internal Review NOV. 1989

Purpose of Evaluation and Methodology

The original grant agreement was for five years, but was extended twice, the latest Project Assistance Completion Date (PACD) being September 28, 1990. The project was last evaluated in May-June 1986, and another evaluation was scheduled for June, 1989, but after considerable deliberations between the Government of Botswana (GOB) and USAID/Botswana, it was decided that such an evaluation would not be appropriate at this time. Instead, USAID/Botswana decided to have an "informal review" of the project as a special management activity outside the general accord of the project agreement or the MIAC contract.
The presentation of this review follows the Scope of Work developed by the REDSO/ESA team.

The information presented was derived from interviews with administrators and scientists working in the MOA, ATIP technical assistance personnel, USAID personnel, a few selected collaborating farmers, as well as visits to the ATIP work sites and secondary data mostly provided by ATIP. Annex B provides a list of persons interviewed. USAID/Botswana and ATIP personnel willingly provided all logistical support for this review.

Purpose of activity(s) evaluated

The original purpose of ATIP was to improve the capacity of the MOA's research and extension programs to develop and effectively extend farming systems recommendations relevant to the needs of small farmers. Within the context of institutionalizing a Farming Systems Research and Extension (FSR/E) program in Botswana, the project has three sub-purposes: (a) To improve the capacity of the GOB's MOA's Department of Agricultural Research (DAR) to develop technologies appropriate to small farmer needs. (b) To improve the capability of the extension service to transfer technologies which can be utilized by small farmers and to strengthen and institutionalize the linkage between Research and Extension Departments. (c) To insure that adequate supplies of needed seed for major agricultural crops are available for distribution to Botswana farmers. The project was amended in June 1986 at which time the sub-purpose statement "(c)" above was replaced by "To provide Botswana farmers in selected pilot areas with relevant innovations in agricultural production technology and methods through field trials, demonstration and farmer training." The logframe was again amended and approved in July 1989 in which the project purpose and sub-purposes remained unchanged, but the EOPS statements were modified. Annex C contains the revised logframe with a cover page explaining the major differences between the 1989 version and the logframe contained in the latest Project Agreement, Number Four.

Findings and Conclusions

Positive progress in the implementation of Farming Systems Research and Extension (FSR/E), as a process and methodology, has been made by the Mid-American International Agricultural Consortium (MIAC) contractor's team and their MOA Batswana colleagues. On-farm research, or FSR/E, is now accepted as a legitimate research and extension tool by the Ministry. ATIP field teams are operative in two locations, Francistown and Mahalapye. A national FSR/E office is in operation at the Sebele Field Station in conjunction with the Department of Agricultural Research (DAR), and a national Research and Extension Coordination Unit (RECU) has been established in the Department of Agricultural Field Services (DAFS). ATIP has personnel stationed in both of these key operational units. Recently ATIP

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generated information and analytical data are also being used by the Division of Planning and Statistics (DPS), of the MOA, and by the Ministry of Finance and Development Planning (MFDP).

ATIP has been very successful in the implementation of a FSR/E methodology, in terms of a process. Clearly, much of the project purpose has been met, "-- to improve the capacity of the MOA's research and extension programs to develop and effectively extend farming systems recommendations relevant to the needs of small farmers." In terms of technology outputs, production yield increases or improved small farmers' incomes the project has been hampered by an unusually long period of drought, seven of the nine years of the LOP. However, MOA/ATIP research does show that production per unit of land can be substantially increased with innovative and appropriate production technologies. During this last year of field operations several ATIP developed technology combinations will be released for dissemination to client farmers which will further support achievement of the project's goal and purposes:

Areas yet to be improved during this last year are:

(1) The full integration of the Research and Extension Liaison Officer (RELO) into the FSR/E technology development and transfer process. Lack of definition in the RELO's role, especially at the field sites with DAFS extension personnel and the FSR/E research team, has been a long-term problem with this project. This issue remains unchanged, but could be resolved with a transfer of the RECU to another department, clearer understanding of the RELO's field FSR/E obligations and with an upgrading of the position within the MOA;

(2) A decision on the place livestock is to have in the farming systems methodology espoused by ATIP. The project has not been able to treat livestock, except at the periphery, of farmers' systems. Much of the research work conducted by ATIP technicians might have been better placed with a production team from the Animal Production Research Unit (APRU), and not as a part of a holistic FSR/E approach. ATIP is not unique in this case, few FSR/E projects have been able to cope with a mixed cropping and livestock system; and

(3) The placement of project trained degree students into ATIP field teams has not been as anticipated. Further, knowing this problem ATIP has not taken full advantage of its short-term training funds to send MOA diploma or certificate holders to International Agricultural Research Centers (IARCs) to participate in commodity specific Crop Management Research Training courses. These skills training courses can be excellent options for older MOA employees or those that cannot qualify for degree training under present MOA regulations.

In other training activities ATIP has done an excellent job and those interviewed felt this element of the project was of major significance and will help assure the sustainability of FSR/E in Botswana.

All Recommendations for the Review are incorporated and attached within this report. However, only those shown for "Action" on the facesheet remain "open" to be addressed.

Lessons Learned

1. To assure sustainability of developed activities the project in question should be small enough to operate within an existing organization. For example, a project of ATIP's magnitude may, at times, overshadow its affiliated institution DAR. Also, at PACD DAR may lack adequate resources to continue supporting all activities generated by ATIP.

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2. Restructuring an organization like MOA, or institutionalizing a process like FSR within it may require policy changes at the highest levels. Was it is too much to expect from a technology development project like ATIP, staffed with research scientists, to be able to make major changes of this nature? It can, perhaps, influence the thinking of high level administrators, through dialogue, seminars, publications, etc.

3. An FSR/E project design team should take into consideration the agroclimatic conditions of the country in determining the optimum project life. A case in point: the Rwanda FSR/E project and ATIP were both designed for five years. Within this LOP, Rwanda would have ten growing seasons under bimodal sub-humid conditions, while ATIP would have only five growing seasons under unimodal semi-arid conditions. For research projects such as ATIP this does not make good sense. It should be kept in mind that under marginal production conditions, it is more difficult to generate successful technologies compared to areas where conditions are more favorable, and an eight to ten year LOP is much more realistic.

4. Existence of on-the-shelf technologies come in handy to an FSR/E team; if not available, the team may have to start with on-station research to generate technologies, then test these under farmer conditions. On-station research may be a prerequisite to successful FSR/E work where proven off-shelf technologies are not readily available.

5. The ATIP design team should have given more attention to addressing the housing situation, especially for the local staff. They should have better visualized GOB's inability during the LOP to provide housing for its employees. After seven years into the projects operation, none of the MOA staff assigned to ATIP's Francistown location has housing (the condition in other location is not much better either). This affects moral and diminishes work efficiency. Additionally, USAID/Botswana should have taken a more proactive approach to this problem.

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ATTACHMENTS

K. Attachments (List attachments submitted with this Evaluation Summary; always attach copy of full evaluation report, even if one was submitted earlier; attach studies, surveys, etc., from "on-going" evaluation, if relevant to the evaluation report.)

ATTACHMENT: OCTOBER/NOVEMBER 1989 INTERNAL REVIEW OF ATIP (633-0221)

COMMENTS

L. Comments By Mission, AID/W Office and Borrower/Grantee On Full Report

XD-ABA-250-A
64244

AGRICULTURAL TECHNOLOGY IMPROVEMENT PROJECT (ATIP) 633-0221

INTERNAL REVIEW

OCTOBER - NOVEMBER 1989

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ANNEX B: List of Persons Contacted

ANNEX C: The Logical Framework

ANNEX D: Organization Chart for the Ministry of Agriculture, Botswana

ANNEX E: A Handbook for FSR/E Work in Botswana

ANNEX F: Fiscal Data

ANNEX G State Cable on Continuing Linkages between U.S. and Developing Country Institutions

I. LIST OF ACRONYMS

AD	Agricultural Demonstrators
AID/W	Agency for International Development/Washington
ALDEP	Arable Lands Development Project
A/NR	Agriculture/Natural Resources
APRU	Animal Production Research Unit
ARAP	Arable Rainfed Accelerated Project
ATIP	Agricultural Technology Improvement Project
BAC	Botswana Agricultural College
CIMMYT	International Maize and Wheat Center
COP	Chief of Party
CRSP	Collaborative Research Support Program
CRT	Commodity Research Teams
DAFS	Department of Agricultural Field Services
DAR	Department of Agricultural Research
DPS	Department of Planning and Statistics
FMFI	Farmer Managed - Farmer Implemented
FSR/E	Farming Systems Research/Extension
FSSR	Farming Systems Southern Region
GOB	Government of Botswana
IARCS	International Agricultural Research Centers
IITA	International Institute for Tropical Agriculture
INTSORMIL	International Sorghum and Millet CRSP
ISNAR	International Service for National Agricultural Research
KSU	Kansas State University
LOP	Life of Project
MDP	Molapo Development Project
MFDP	Ministry of Finance and Development Project
MOA	Ministry of Agriculture
MIAC	Mid-America International Agricultural Consortium

PACD	Project Assistance Completion Date
PP	Project Paper
PPS	Project Paper Supplement
RECU	Research Extension Coordinating Unit
REDSO	Regional Economic Development Support Office
RELO	Research Extension Liaison Officer
RCO	Regional Contracts Officer
SACCAR	Southern African Centre for Cooperation in Agricultural Research
USAID	United States Agency for International Development

II. EXECUTIVE SUMMARY

In the interest of planning positive close-out procedures and to insure the maximum use of USAID resources during the remaining Life of Project (LOP) this status review, of the Agricultural Technology Improvement Project (ATIP), was commissioned by USAID/Botswana. The last formal ATIP evaluation was held in June of 1986. Yearly progress reviews of ATIP have, however, been performed since that time by REDSO/ESA and USAID/Botswana A/NR staff. This present exercise was conducted by Ministry of Agriculture (MOA) personnel and two REDSO agricultural officers.

Positive progress in the implementation of Farming Systems Research and Extension (FSR/E), as a process and methodology, has been made by the Mid-American International Agricultural Consortium (MIAC) contractor's team and their MOA Batswana colleagues. On-farm research, or FSR/E, is now accepted as a legitimate research and extension tool by the Ministry. ATIP field teams are operative in two locations, Francistown and Mahalapye. A national FSR/E office is in operation at the Sebele Field Station in conjunction with the Department of Agriculture Research (DAR), and a national Research and Extension Coordination Unit (RECU) has been established in the Department of Agricultural Field Services (DAFS). ATIP has personnel stationed in both of these key operational units. Recently ATIP generated information and analytical data are also being used by the Division of Planning and Statistics (DPS), of the MOA, and by the Ministry of Finance and Development Planning (MFDP).

ATIP has been very successful in the implementation of a FSR/E methodology, in terms of a process. Clearly, much of the project purpose has been met, "-- to improve the capacity of the MOA's research and extension programs to develop and effectively extend farming systems recommendations relevant to the needs of small farmers." In terms of technology outputs, production yield increases or improved small farmers' incomes the project has been hampered by an unusually long period of

drought, seven of the of the nine years of the LOP. However, MOA/ATIP research does show that production per unit of land can be substantially increased with innovative and appropriate production technologies. During this last year of field operations several ATIP developed technology combinations will be released for dissemination to client farmers which will further support achievement of the project's goal and purposes.

Areas yet to be improved during this last year are:

(1) the full integration of the Research and Extension Liaison Officer (RELO) into the FSR/E technology development and transfer process. Lack of definition in the RELO's role, especially at the field sites with LMTS extension personnel and the FSR/E research team, has been a long-term problem with this project. This issue remains unchanged, but could be resolved with a transfer of the RECU to another department, clearer understanding of the RELO's field FSR/E obligations and with an upgrading of the position within the MOA;

(2) a decision on the place livestock is to have in the farming systems methodology espoused by ATIP. The project has not been able to treat livestock, except at the periphery, of farmers' systems. Much of the research work conducted by ATIP technicians might have been better placed with a production team from the Animal Production Research Unit (APRU), and not as a part of a holistic FSR/E approach. ATIP is not unique in this case, few FSR/E projects have been able to cope with a mixed cropping and livestock system; and

(3) the placement of project trained degree students into ATIP field teams has not been as anticipated. Further, knowing this problem ATIP has not taken full advantage of its short-term training funds to send MOA diploma or certificate holders to International Agricultural Research Centers (IARCs) to participate in commodity specific Crop Management Research Training courses. These skill training courses can be excellent options for older MOA employees or those that cannot qualify for degree training under present MOA regulations.

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In other training activities ATIP has done an excellent job and those interviewed felt this element of the project was of major significance and will help assure the sustainability of FSR/E in Botswana.

III. THE ASSIGNMENT

A. Activity to be Evaluated

The Botswana Agricultural Technology Improvement Project (ATIP) was authorized on September 24, 1981 for $9.18 million and the Grant Agreement for this project was signed on September 29, 1981. A technical assistance contract was signed in July, 1982 with the Mid-America International Agricultural Consortium (MIAC), with Kansas State University (KSU) as the lead institution. The original grant agreement was for five years, but was extended twice, the latest Project Assistance Completion Date (PACD) being September [illegible], [illegible] [illegible] was last evaluated in May-June, 1986, and another evaluation was scheduled for June, 1989, but after considerable deliberations between the Government of Botswana (GOB) and USAID/Botswana, it was decided that such an evaluation would not be appropriate at this time. Instead, USAID/Botswana decided to have an "informal review" of the project as a special management activity outside the general accord of the project agreement or the MIAC contract.

B. Team Composition

USAID/Botswana requested the technical services of two REDSO A/NR officers to perform this review, which was accomplished in two phases. First, the team developed and negotiated the scope of work, contacts were made with project personnel, and secondary data gathered. A review and analysis of the project was made with assistance from the MOA. Despite a very short notice, MOA was most accommodating and spared an economist from the Division of Planning and Statistics (DPS) to work with the REDSO research and extension advisor for about ten days, both at field sites and at Sebele. During the second phase the document was finalized by REDSO A/NR staff.

C. Methodology

The presentation of this review follows the Scope of Work developed by the REDSO team, a copy of which is attached as

Annex A. The information presented was derived from interviews with administrators and scientists working in the MOA, ATIP technical assistance personnel, USAID personnel, a few selected collaborating farmers, as well as visits to the ATIP work sites and secondary data mostly provided by ATIP. Annex B provides a list of persons interviewed. USAID/Botswana and ATIP personnel willingly provided all logistical support for this review

IV. PROJECT BACKGROUND

A. Introduction and Project Setting

The Republic of Botswana, a landlocked country [illegible] km2, has about 1.3 million inhabitants. The mean altitude of this country is approximately 1,000 meters above sea level, and it has an average rainfall of about 475 mm per year, ranging from 250 mm in the southwest to 650 mm in the northeast. More than 90% of the rain falls between the months of November and April, and there is considerable variation in rainfall patterns between one year to another.

Botswana has enjoyed relatively steady economic growth in recent years primarily because of expansion in the mining sector. The per capita GDP in 1988 is estimated at $1,400. Although urbanization is proceeding more rapidly in Botswana than in many of the neighboring countries, the population still remains largely rural, with an estimated 85% of the population residing in ten rural districts. The country's recent economic growth has largely bypassed the rural majority.

Compared to arable farming, cattle herds offer much higher returns to Batswana farmers, and hence it is the preferred enterprise on traditional farms. According to an estimate made by MOA a few years ago, a farmer can earn more from selling one ox than he can from growing four hectares of sorghum, or nine hectares of maize, not considering the higher labor requirements for arable farming. There is, however, a tremendous disparity in cattle ownerships. One study has indicated that only 7% of Batswana households own more than 50%

of the nation's cattle herd; another 17% own ten or less cattle, while 28% do not have any cattle at all. Most farmers, however, own at least a few goats and sheep.

Approximately 87% of the country's 80,000 traditional farms have some arable cropland. Major food crops are sorghum and maize, with millet, cowpeas and groundnuts constituting the minor crops. Typically, a traditional farm will have about ten hectares, of which about 4-5 hectares will be cultivated in any given year. The long-term yields of grains and legumes vary between 150-250 kg/ha, and are among the world's lowest.

However, when one considers that the agricultural productivity in neighboring countries and other areas with similar agroclimatic environments is typically several times higher than what is achieved in Botswana, one cannot but feel optimistic that this country's agricultural production per unit of land could be substantially increased with innovative and appropriate production technologies. Earlier research done in Botswana does prove the validity of this hypothesis. Against this background, the goal of ATIP is to assist MOA/GOB to improve the welfare of small farmers and increase national food production through the development, extension and adaptation of relevant technologies. This goal is fully consistent with the major thrust of the GOB's Fifth National Development Plan and with USAID/Botswana's strategy as articulated in its Country Development Strategy Statement (CDSS).

B. Project Purpose

The original purpose of ATIP was to improve the capacity of the MOA's research and extension programs to develop and effectively extend farming systems recommendations relevant to the needs of small farmers. Within the context of institutionalizing a Farming Systems Research and Extension (FSR/E) program in Botswana, the project has three sub-purposes: (a) To improve the capacity of the GOB's MOA s Department of Agricultural Research (DAR) to develop

technologies appropriate to small farmer needs. (b) To improve the capability of the extension service to transfer technologies which can be utilized by small farmers and to strengthen and institutionalize the linkage between Research and Extension Departments. (c) To insure that adequate supplies of needed seed for major agricultural crops are available for distribution to Botswana farmers. The project was amended in June 1986 at which time the sub-purpose statement "(c)" above was replaced by "To provide Botswana farmers in selected pilot areas with relevant innovations in agricultural production technology and methods through field [illegible] demonstration and farmer training." The logframe was again amended and approved in July 1989 in which the project purpose and sub-purposes remained unchanged, but the EOPS statements were modified. Annex C contains the revised logframe with a cover page explaining the major differences between the 1989 version and the logframe contained in the latest Project Agreement, Number Four.

D. Previous Evaluation

The Project Paper (PP) design team scheduled two evaluations within the original PACD of August, 1988; the Midterm Evaluation in July, 1984 and an External Evaluation in July, 1987. The first evaluation took place as scheduled, and an additional program audit was completed in December, 1985 by the Regional Inspector Generals (RIG) Office of AID, Nairobi. The last major external evaluation took place in May-June, 1986. At the time of the 1986 evaluation, USAID/Botswana was considering a major amendment to the project agreement and an extension of PACD.

The conclusions drawn from the above evaluations were generally positive. The 1986 evaluation concluded that the ATIP was a well-managed project, and that it was doing a good job under a difficult environment. However, the evaluation also identified several areas that needed attention and improvements. One of the assignments of this present review was to determine whether or not the major recommendations of the 1986 evaluations were successfully implemented, see Section VI.

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A. The Logical Framework (Logframe)

The logframe prepared by the Project Design Team had been amended once in 1986, and again more recently in July, 1989. This latest version of the logframe, which is attached as Annex C, has been used to assess the project achievements presented below. Where the new logframe differs considerably from the 1986 logframe has been indicated in the text. The differences in the Project Purpose and Sub-Purposes' EOPS between the two logframes have already been presented in Section IV. B.

The July, 1989 logframe prepared and submitted by ATIP has been approved by both GOB and USAID/Botswana in PIL NO. 31. A question, however, could be raised about the logic of changing or modifying project objectives towards the end of the project. This could be one way of closing the gap between the actual accomplishments and the projected goals. On the other hand, it could be argued that a project operates in a changing environment; what appeared to be realistic goals several years ago may no longer be valid today. Therefore, minor deviations during the implementation of a long-term project should be quite appropriate.

Recommendation. USAID/Botswana should ask the RCO to review the procedures used to amend the logframe, PIL No. 31. The concern here is to determine whether or not any contractual agreement, such as level of effort, has been affected which may now require further attention.

B. Progress Towards Achieving Outputs

B.1. Institutionalization of FSR/E

Agricultural research and extension continue to be high priorities of the GOB. The concept of FSR/E is well understood at most levels within MOA which was not the case about five years ago. Various FSR/E projects have operated in

Botswana since 1977 and presently there are three other projects besides ATIP conducting systems oriented work in this country. Although ATIP's contribution towards this end is by far the largest, other projects should also receive their due credits. All of these projects together had submitted a proposal in 1985 to the PS, at his request, on how FSR/E could be included into MOA's structure. Although nothing has been heard since, evidences indicates that certain elements of FSR/E are already being adopted by MOA.

Thus, it appears that ATIP together with the other farming systems teams in the country have made progress towards institutionalization of FSR/E activities. Through continuous sensitization (workshops, conferences, etc) the understanding and support for on-farm research is growing within DAR, the DAFS and DPS. The continuation of FSR/E activities beyond ATIP's LOP seems promising. The GOB has decided to put all FSR/E activities under one institutional umbrella, the DAR. The recent move to transfer Molapo Development Project (MDP) from DAFS to DAR is a first step in this direction. Consolidation of all FSR/E work under one institutional umbrella will help to expand regional coverage and to formalize the linkages between the station-based research and FSR/E field teams.

Formalization of links between research and extension however, will need more focused work through the remaining LOP. The contribution of ATIP towards forming linkages, particularly at the field level, has been very positive. However, since formal agreements have not been developed these working linkages may be lost with the coming changes in personnel.

<u>Recommendation</u>:

The Committee which was formed during the March 1989 FSR/E workshop should be reactivated and discussion continued with the relevant authorities within MOA on the issues of formal agreements and institutionalization of FSR/E in Botswana.

[illegible] ATIP Team

At present there are six long-term MIAC personnel working for the ATIP. Particulars pertaining to these persons and their Batswana counterparts are as follows:

Name	Position	Qualification	At post since
Location: Sebele			
NORMAN, David	Ag. Econ/COP	Ph.D.	Aug 1982
MODIAKGOTLA, E.	Agron/Counterpart	M.Sc.	Aug 1982
Location: Tshimoyo			
[illegible]	[illegible]	[illegible]	[illegible]
RAMOLEMANA, G.	Agron/Counterpart	M.Sc.	Sept 1986
Location: Mahalapye			
SIEBERT, J.	Agronomist	Ph.D.	Sept 1982
MAKHWAJE, E.	Econ/Counterpart	B.Sc.	
LUZANI, J.	Agronomist/Counterpart	B.Sc.	
Location: Francistown			
HEINRICH, G.	Agronomist	Ph.D.	Aug 1983
MASIKARA, S.	Agronomist	Ag. Cert.*	Sept 1983
WORMAN, F.	Ag. Econ.	Ph. D.	July 1985
TIBONE, C.	Ag. Econ.	B.Sc.	Sept 1983
THEDFORD, F.	Animal Sci.	Ph.D.	July 1988
KELEMOGILE, K.	Animal Sci.	Ag. Dip.*	

* According to DAR, no Motswana could be considered as a Counterpart unless the person holds at least a Bachelor degree.

According to present plan, all expatriate team members will leave ATIP by September 28, 1990 (PACD), or in less than 11 months. By then the local team members are expected to be sufficiently trained to take over full responsibilities to carry on FSR/E work in Mahalapye and Francistown areas.

ATIP has helped to train 27 Batswana in the United States (see training). It was hoped that seven graduate degree trainees would be assigned to ATIP upon completion of their studies abroad, but this has not happened. This is not to be construed as a lack of commitment on the part of MOA to FSR/E, but is a matter of national priorities taking precedence over a

department or a project. Nevertheless, this created some problems for DAR/ATIP in localizing the teams and brings into question the sustainability of FSR/E in Botswana.

At Sebele : ATIP Chief of Party (COP) did not have a counterpart until recently when a Motswana agronomist was brought to Sebele from the Mahalapye FSR/E team and designated as his counterpart. This has been a positive step on the part of DAR/MOA. Working together over the next ten months, the Motswana scientist will gain valuable administrative and technical experience. His job description will of course change when the project ends; nevertheless, this on-the-job training will prepare him to better handle his new role within DAR.

In Gaborone : Unlike all the other ATIP positions, the position of the Research Extension Liaison Officer (RELO) comes under DAFS. A qualified counterpart has been provided to RELO. This is a key position for linking the efforts of research and extension, and for facilitating information exchange.

The Motswana counterpart to the RELO is a capable individual, and with little additional on-the-job training, should be able to do his job well. With the expatriate RELO leaving soon, ATIP/COP should consider devoting more time and resources to help and guide the local RELO in his job.

To make the RELO role effective, MOA should consider upgrading the position so that the person holding this office would be able to play the role of a broker between DAR and DAFS on equal footing. Also, MOA should consider fully staffing the Research and Extension Coordinating Unit (RECU) unit.

At Mahalapye : There are two Batswana agronomists, both holding B.S. degrees, assigned to this ATIP team who should be able to carry on day to day activities (as FSR/E technicians), but may have difficulties in developing innovative research agenda on their own. It will not be easy for them to communicate effectively with the on-station commodity/oriented

researchers and they may need advice and guidance from the OPEX advisor at times to function more effectively.

At Francistown : As compared to Mahalapye, the situation of returning trainees in Francistown appears even more bleak. At present no degree participants have been stationed with this team. The two local DAR agronomy and animal science technicians do not have degrees. The third local person, an agricultural economist holding a B.Sc. degree, has been seconded to the project by DPS and has no long-term commitment to ATIP.

The Botswana agronomist at Francistown has worked with the project from the very beginning as a counterpart to the MIAC Ph.D. agronomist, and until recently it was thought he who would be taking over from the departing MIAC team leader. Since he no longer qualifies as a "Counterpart", under DAR's recent directives, this person will have little incentive to take on any added responsibilities. DAR needs to make some very critical decisions soon to resolve this problem

Discussion:

As has been previously discussed, certain decisions regarding institutionalization of FSR/E within MOA have already been made, or are in the final stages of discussion. A few of these are listed below:

- All FSR/E work in Botswana would be placed under one unit within DAR
- This unit or section would be headed by a Botswana FSR/E Coordinator
- An expatriate FSR/E advisor to the national will be appointed (expected to be funded under the USAID OPEX program)

- Nationally four FSR/E field teams will be retained and/or created (more may be added later if needed). Each team will have two DAR permanent staff: an agronomist and an agricultural economist

- ATIP's two field teams (Mahalapye and Francistown) will be retained in their present location

- Each FSR/E team will be linked to a DAR substation; several yet to be developed.

The above decisions, when finalized and implemented, will be an excellent point of departure for DAR/MOA to show its commitment to FSR/E. It should be pointed out here that DAR has requested the services of the International Service for National Agricultural Research (ISNAR) to look into its overall organizational structure and various research programs. How things will shape up at the DAR will depend very much upon ISNAR's recommendations. ATIP should take advantage of this opportunity to interact and participate closely in this DAR/ISNAR initiative.

The sustainability of ATIP's two field locations does not appear to be in question. ATIP will be leaving behind several fine technicians well-trained in FSR/E work. However, their capabilities and credibility may be limited by their present level of academic training. At this point ATIP can do very little on this front. DAR, however, should set its goal to upgrade professional levels through degree training of its field technicians. To be effective, each of the FSR/E teams should have at least one M.Sc. degree holder with specialized training and field experience in FSR/E methodologies.

Conclusion: Progress has definitely been made towards localization of two farming systems teams; however, these teams will not be able to continue doing quality work without adequate technical guidance and advice from the proposed OPEX Farming Systems Advisor or the national coordinator's office.

Recommendations:

1. MIAC technicians should devote additional time and effort in training their Batswana counterparts and technicians. They should identify, on an individual basis, where the training is most needed, and do as much possible to overcome these deficiencies.

2. DAR may consider requiring the OPEX FSR/E Advisor to spend up to 50% of his/her time advising the Mahalapye and the Francistown teams, perhaps for the next two years. This will allow DAR time to identify and/or train potential candidates to staff the field teams. For logistical reasons, during an initial period, this person may be based at Francistown or Mahalapye.

3. ATIP should participate closely in the upcoming DAR initiated ISNAR study to improve the operations of DAR, and should impress upon the visiting ISNAR team the importance of institutionalization of FSR/E as a methodology and structure within DAR.

B.3. Research Agenda Development

Agricultural research in Botswana has been going on since the 1930's. However, the research agenda was not fully targeted to address the problem of small farmers. ATIP has attempted to generate information on small farmer circumstances, extension procedures and marketing of products in the project areas. Use of this information to redirect national research priorities has been increasing over time. In addition, ATIP's collaborative work with the station-based researchers has facilitated the feedback of information. The inclusion of goat research at the Animal Production Research Unit (APRU), the modification of different farm implements by the Agriculture Technology unit could be cited as examples. The other collaborative work is the national tillage trial (one of a kind in Botswana) that started in 1988/89, where on-station

and on-farm researchers and the extension agents all work as a team with their client farmers. ATIP, together with the Collaborative Research Support Programs (CRSP) of cowpeas sorghum/millet, has done much to contribute to DAR's research agenda, and should continue to participate more fully and actively.

B.4. ATIP-Generated Technologies

The dominant factor that affected ATIP's field research activities has been the drought which began at about the time ATIP became operational. During most of ATIP the rainfall was either insufficient, or was erratic in distribution. This was most unfortunate, although not very unusual for Botswana. Any future arable research project of this nature should bear this in mind, and should not expect quick generation of yield-improvement technologies under rain-fed conditions in a semi-arid environment. It is, therefore, not surprising that ATIP's accomplishments on this particular segment have been less than satisfactory. ATIP, however, feels that it has generated sufficient data and could help formulate new recommendations, or modify the existing recommendations on the following:

ATIP Tested Technologies

- Double plowing
- Row planting using
  - (i) lightweight cultivator
  - (ii) rotary injection planter
- Improved donkey harnesses

In order for these technologies to produce measurable benefits, many conditions need to be fulfilled. Therefore, it is only normal to be skeptical on the wide acceptability and adoptability of these technologies. Only recently, ATIP has completed a survey among the farmer groups who have been collaborating with it on Farmer Managed, Farmer Implemented (FM/FI) trials since 1985. The principal objective of this

survey was to determine if the farmers were spontaneously adopting technologies that they were testing. The results indicated that 25.9% of the collaborating farmers used a "new technology" during the 1988-89 season, and they used these technologies on 14% of the land planted. The most popular technology was double plowing, either alone or in combination with row planting. Some people still question the usefulness of double plowing; they believe that it is the first plowing which is most important and if this is done right, very little additional benefit is to be gained from second plowing. Moreover, the present subsidy provided by the Arable Lands Development Project (ALDEP) pays only for the first plowing (70 Pula/ha, up to a maximum of seven hectares). Thus, the farmers who have limited or no access to draft power will be less inclined to plow the second time. The above ATIP study also supports this conclusion it showed that those farmers who did not own any cattle or donkeys did not double plow their land. Double plowing, therefore, does not appear to be a technology suited for resource-poor farmers.

Over the past few years ATIP, in collaboration with other MOA agencies, has initiated, conducted and/or managed a considerable number of field trials and surveys both at Mahalapye and Francistown locations. The primary focus of ATIP has been on crop production technologies, with special emphasis on improved tillage and planting practices. Livestock production practices have been addressed in the Francistown area. Most of ATIP's research complements or adds to an existing body of research knowledge in Botswana.

ATIP is actively collaborating with the on-station commodity researchers especially with the sorghum, cowpea and groundnut investigators. Outside of DAR, ATIP works very closely with DAFS, ALDEP, the Arable Rainfed Accelerated Project (ARAP) and other organizations in testing technologies under farmers' conditions. This should be considered as a positive attribute to ATIP's operation. On the other hand, ATIP may rightly be criticized for not generating and testing enough technologies on its own.

A list of studies conducted in a typical year (1987-88 season) is enclosed (next page). The studies are numerous and varied, and thus it is difficult to summarize in a report of this nature. Some of the technologies tested produced better results over the traditional technologies (e.g. variety, tillage, and weeding) in any given season, but the results were not generally reproducible from one season to the next (if it were possible to establish a trial at all). The main difficulty was insufficient and erratic rainfalls. However, the team members are confident that within the next couple of years, with favorable rainfall, the localized FSR/E team should be able to generate additional information that could help formulate new recommendations. Some of the more promising, ATIP-tested technologies, in addition to those already mentioned, are as follows: groundnut seed treatment, sole planting cowpeas and groundnuts, not planting sorghum after January, gap filling, and supplemental minerals for donkeys. ATIP has prepared a document entitled "A Plain Language Summary of ATIP Research Findings" listing many other technologies that could be profitably adopted by Batswana farmers. These have not yet been included in Agrifacts.

The prolonged drought has affected ATIP's field research and priorities in many ways. If ATIP had been successful in clearly identifying profitable technologies in its early years of existence, this would have helped gain credibility more readily with the GOB . This would also have facilitated accomplishment of ATIP's mandate to bridge the gap between research and extension, and its effort to institutionalize FSR/E within MOA.

Because of this prolonged and severe drought, GOB created its own comprehensive drought relief program and initiated the ALDEP and ARAP programs. These entail resource transfers to farmers to keep them interested in arable farming. The farmers were more keen on responding to GOB's programs for receiving immediate benefits, than necessarily in collaborating with ATIP in its early research efforts.

TABLE . STATUS OF SURVEYS AND TRIALS, ATIP MAHALAPYE, 1987-88 SEASON*

Theme	Survey or Trial	Section	Type	Status
Cropping Systems:				
	Sorghum/Melon Mix	6.2.1	RMFI Descript/Diagnos ST	Analysis 12 farms done
Commodity Systems:				
	Sorghum Variety Trial	6.3.1	RMRI Testing TR	Analysis of 3 sites done
	Dual-Purpose Cowpea Variety Trial	6.3.2	FMFI Testing TR	Analysis of 23 sites done
	Forage-Cowpea Variety Trial	6.3.3	FMFI Testing TR	Analysis of 23 sites done
	Groundnut Hilling-Undersowing Trial	6.3.4	FMFI Testing TR	Analysis of 17 sites done
Tillage and Planting Practices:				
	Row Planting Custom-Hire Scheme	6.4.1	FMFI Design/Testing TR	Analysis of 21 sites done
Post-Establishment Practices:				
	Weed Problem Study	6.5.1	Descript/Diagnos ST	1 village completed
Soil and Water Management:				
	Site Characterization Study	6.6.1	Descript/Diagnos ST	50 farms investigated
	Rainfall Run-off Measurement Study	6.6.2	Descript/Diagnosis ST	3 plots intensively studied
	Rainfall Run-off Management Study	6.6.3	RMRI Design/Testing TR	Analysis of 4 farms done
	Development of High Potential Sites	6.6.4	RMFI Design/Testing TR	Analysis of 10 sites done
Farm Equipment:				
	Row Planter Assessment	6.7.2	Descript/Diagnos SU	Incomplete
	Rotary Injection Planter Trial	6.7.1	FMFI Design/Testing TR	Analysis of 14 sites done
Markets:				
	Resource And Product Valuation	6.8.1	Descript/Diagnos ST	Analysis complete
Farmer Assistance Programs:				
	ARAP And DR Program Analysis	6.9.1	Descript/Diagnos SU	Analysis done, exec. report

See footnote in Table 1.4.

TABLE STATUS OF SURVEYS AND TRIALS, ATIP FRANCISTOWN, 1987-88 SEASON*

Theme	Survey or Trial	Section	Type	Status
Cropping Systems:				
	Cropping Systems Studies	7.2.1	RMRI Testing TR	Implemented as planned; 6 farmers
	Evaluation of Triple Purpose - Cowpeas vs. Dolichos Lab-Lab	7.2.2	RMFI Testing TR	Not implemented; excess rain
	Agro-Forestry/Alley Cropping	7.2.3	RMFI Testing TR	Done ATIP compounds, 2 farmers
Tillage and Planting Practices:				
	Double Plowing Systems Trial	7.3.1	RMFI Testing TR	Implemented on 6 farms
Soil and Water Management:				
	Water Harvesting Trial	7.4.1	RMRI Testing TR	Implemented on 3 farms
Farm Equipment:				
	Evaluation of Improved-Donkey Harnesses and Ox Yokes	7.5.1	FMFI Testing TR	Implemented 15-20 farmers
	Evaluation of Rotary Injection Hand Row Planter	7.5.2	FMFI Testing TR	Implemented 20 plus farmers
	Testing Low Lift Hand Water Pump	7.5.3	RMFI Testing TR	Implemented 2 locations
Livestock Production Systems:				
	Goat Production	7.6.1	RMFI Testing TR	Done as planned; 20 farmers
Household Circumstances:				
	Cooperating Farmers Study	7.7.1	Descript/Diagnos SU	Done as planned; 28 farmers
Markets:				
	Small Stock/Grain Trading/Prices	7.8.1	Descript/Diagnos SU	Done as planned; 6 sources
Extension Linkages:				
	Matsitama/Mokubilo Pilot-Communal Grazing Project	7.9.1	Design Study	Baseline census of 307 households
Environmental Monitoring:				
	Rainfall/Temperature Monitoring	7.10.1	Descript/Diagnos ST	Done as planned
Methodology:				
	FMFI Options Testing with Farmer Assessment Groups	7.11.1	FMFI Testing TR	Done 4 villages; 150 farmers
	(Extension Led Farmer Group	7.11.1	FMFI Testing ST	Done 1 village; 30 farmers)

RMRI = Researcher Managed/Researcher Implemented
RMFI = Researcher Managed/Farmer Implemented
FMFI = Farmer Managed/Farmer Implemented
SU = Survey
ST = Study
TR = Trial
Descript/Diagnos = Descriptive/Diagnosis

30'

During conversation with various ATIP members, both nationals and expatriates, several salient points have surfaced which should be mentioned here: (i) there is unanimity in their conviction that extending technologies is not one of ATIP's functions; (ii) some believe that their role is to test technology under on-farm conditions (not to generate them); and (iii) a few believe that they should help formulate recommendations, not actually make them.

According to the Project Agreement, the first point as listed above is only partly correct. The ATIP RELO position clearly has this extension responsibility, but they have not worked at the FSR/E sites as called for in the project paper ATIP has not actively been involved in technology diffusion, but it should have done more to facilitate technology transfer. On the other two points, it appears that there is a lack of understanding on the part of certain ATIP team members about the project objectives.. MIAC and AID should discuss with all ATIP members their roles and responsibilities and clarify any misunderstanding.

Conclusion

Prolonged drought has adversely affected ATIP's research and other efforts in many ways. ATIP has generated, mostly in collaboration with others, a few technologies which will produce benefits under a set of specified conditions. ATIP was generally successful in strengthening linkages between the on-station and on-farm research units, and DAR as a whole.

Recommendations

1. ATIP should continue its on-farm research efforts on drought-avoidance, and moisture conservation strategies. ATIP may consider conducting a few Researcher Managed and Researcher Implemented (RM/RI) trials on DAR substation, or where most of the investigation parameters can be controlled. This would generate some useful data even in a very bad year.

2. Some of the more promising technologies should be written up as recommendations for publication in Agrifacts, or for updating the existing ones. Since there seems no formal means for approval, each recommendation should be backed by proven data and presented to the Director of DAR, with a copy to RELO.

3. USAID/Botswana should discuss with ATIP and the MOA its expectations from this project, and should arrive at a common understanding about technology development and transfer obligations of the ATIP team during the remaining LOP.

B.5. Research Extension Linkage

In Botswana, DAR and DAFS are both located under the MOA. Both the research and the extension, DAFS, departments have well qualified staff at the senior level and both are functioning efficiently as independent departments. The major constraint to the effectiveness of DAFS has been lack of a systematic flow of research generated information to be extended. Through the ATIP project, the MOA and USAID/Botswana intended to improve the situation. The project strategy was to provide a RELO for the life of the project. This person, along with his/her counterpart would serve as a key link between these two departments. The RELO, by virtue of his/her appointment in DAFS, would insure that Research is informed of extension needs, and would also help DAR on setting research priorities. Training of research and extension personnel, and farmers would be considered as one of RELO's responsibilities. This person also should function as Assistant COP.

The RELO made routine visits to Regional and District DAFS offices, and to ATIP field locations in order to facilitate information exchange. He also participated in several national meetings and committees related to extension and training.

More recently, however, the RELO has been busy primarily on two fronts; ATIP-sponsored long and short-term training activities, and updating and publication of Agrinews and Agrifacts. Through the efforts of the office of RECU, in which the RELO is actually based, several Agrifacts have been written, revised and printed over the last year. These Agrifacts are made available to the Agricultural Demonstrators (ADs) on a regular basis. ATIP has purchased several items of equipment for the printing shop which have significantly upgraded the quality and efficacy of this important unit.

DAFS has assigned several of its staff to ATIP on a long term basis. ATIP also has trained many DAFS technicians through its long and short-term training programs. In addition, ATIP researchers work very closely with the extension personnel at the field level. All these collaborative activities between ATIP and DAFS, and the roles played by RELO, have definitely strengthened DAFS. However, most of the collaboration was based on personal relationships, with little or no formal linkages. ATIP has done much to improve the situation, but has not been able to formalize linkages between DAR and DAFS.

Conclusion:

Through the RELO's office and collaborative work at the filed level ATIP has helped to strengthen DAFS by providing training to its staff members. Despite some limited success the RECU has been largely unsuccessful in establishing formal linkages at any level between DAR and DAFS.

Recommendations:

1. ATIP should use all available means to assist the RECU its efforts to formalize linkages between DAR and DAFS. These multi-level linkages should be established by PACD

2. With the expatriate RELO departing soon the work load on the Botswana RELO will definitely increase. ATIP should continue to support him in his work efforts.

3. MOA, in its recent reorganization plan, is considering upgrading the RELO position and placing it directly under the Deputy Permanent Secretary. This will definitely be a positive move, and should be supported. The omission of RECU/RELO in the Reorganization Chart as published in September 1989 issue of Agrinews, the Team was told, was an oversight. This chart has been attached as Annex D.

B.6. Use of Project Generated Data by GOB

The use of ATIP generated data by GOB has increased over the years. The projects' involvement was requested on the draft cover use studies, on the evaluation of ARAP, and on other drought relief programs. Information generated by the project was used during the midterm review of the agriculture sector planning process. In addition, ATIP generated information contributed to the Agricultural Sector Assessment Report which is in the process of adoption by MOA. The information generated by the project is routinely used in many of the agricultural sector consultancies. The participation of ATIP scientists in the various reference groups and other policy advisory meetings is increasing.

B.7. Training

ATIP continues to provide three types of training for the Batswana staff; long-term, short-term and on-the-job training. There is a general consensus that ATIP has done an excellent job in this particular area.

7.1. Long-term training

A complete list of long-term training participants has been presented in the following table on the next page. A total of 26 individuals have or are receiving training in the U.S. ATIP has directly supported 21 degree candidates, while GOB has provided funds to support six additional degree candidates. ATIP has done an adequate job of providing training to individuals from all three of MOA's divisions: DAR

TABLE . SHORT-TERM AND IN-SERVICE PARTICIPANT TRAINING SINCE INCEPTION OF PROJECT

Participant	Local Affiliation	Training Details			
		Current	Objective	Place	Dates
Outside Country:					
Professional Trips:					
Tlale, B.	Dir., DAFS	BS	Visit US Institutions		7/83-8/83
Mmopi, K.K.	DAFS	BSc	Int. FS Tour	CIMMYT	July 1988
Moji, B.	RAO, DAFS	BS	Int. FS Tour	CIMMYT	June 1988
Moremeci, G.	RAO, DAFS	BS	Int. FS Tour	CIMMYT	June 1988
Setshwaelo, L.	CAPRO,DAR	PhD	Int. FS Tour	CIMMYT	June 1988
Modiakgotla, E.	ATIP, DAR	MS	Int. FS Tour	CIMMYT	June 1988
Hill, B.	RELO, DAFS	PhD	Int. FS Tour	CIMMYT	June 1988
Merafe, Y. (Mrs)	RSU, DPS	MS	S Workshop	Philippines	June 1988
Gakale, L.	Dir., DAR	PhD	Dryland Conf.	USA	15/8-19/8
Short-Term Training:					
Sigwele, H.	ADNP, DPS	MS	FSR Workshop	U. Zimbabwe	Mar. 1983
Tlhango, M.	ATIP, DPS	DA	FSR Workshop	U. Zimbabwe	Mar. 1983
Masikara, S.	ATIP, DAR	CA	CIMMYT Workshop	Malawi	May 1984
Monyamane, P.K.	Hort.DAR	BS	Vegetable Course	USDA	1/84- 2/84
Modise, M.	DAFS	BS	Grain Storage	Kansas SU	6/84- 7/84
Lesothlo, J.	ATIP, DPS	DA	CIMMYT Workshop	Zambia	Nov. 1984
Ramolemana, G.	ATIP, DAFS	BS	FSR Workshop	U. Zimbabwe	3/85- 9/85
Masikara, S.	ATIP, DAR	CA	Agronomy Course	ICRISAT	9/85- 3/86
Luzani, J.	ATIP, DAR	DA	MSTAT Workshop	Swaziland	June 1985
Jonas, C.	ATIP, DPS	Camb.	FSR Workshop	Gambia	Apr. 1986
Otsitsiwe, G.	CPO, DAFS	DA	FSR Workshop	U. Zimbabwe	Feb. 1987
Ramaribana, K.	DAO, DAFS	DA	FSR Workshop	U. Zimbabwe	2/87 & 9/87
Jonas, C.	ATIP, DPS	Camb.	CIMMYT	Lusaka	May 1987
Mosupi, P.	CPO, DAFS	BS	Quelea Control	Colorado SU	July 1987
Mosarwe, D.	CPO, DAFS	DA	Quelea Control	Colorado SU	July 1987
Masikara, S.	ATIP, DAR	CA	CIMMYT	Harare	July 1987
Modiakgotla, E.	ATIP, DAR	MS	CIMMYT	Harare	July 1987
Mabongo, B.	ATIP, DPS	BS	ILCA	Addis Ababa	Nov. 1987
Mazebedi, M.	Hort.DAFS	DA	Irrigation Training	MAMC, Swaziland	3/88- 4/88
Mpathi, T.	SMU, DAR	DA	Seed Technology	Sweden	8/88-10/88
Masikara, S.	ATIP, DAR	CA	US Workshops and Institutions		9/88-10/88
Alidi, F.S.	DAFS	MS	MSU Seminar	USA	9/89-10/89
Tibone, C.	ATIP, DPS	BS	FSR Workshop	U. Zimbabwe	2/89 & 8/89
Ketsitilile, T.	FSSR, DAFS	DA	FSR Workshop	U. Zimbabwe	2/89 & 8/89
Pilane, D.	FSSR, DAFS	DA	FSR Workshop	U. Zimbabwe	2/89 & 8/89
Otsitsiwe, G.	CPO, DAFS	DA	FSR Workshop	U. Zimbabwe	2/89 & 8/89
Lele, E.	DAR	BS	IFDC Workshop	Togo	Apr. 1989
In Botswana:					
4 Clerical staff	ATIP, DAR		Appiewriter IIe	F'town	May 1984
5 Counterparts	ATIP		Daisy Statistics	F'town	May 1984
2 Staff	DAR		Daisy Statistics	F'town	May 1984
18 Staff	DAFS, BAMB		Grain Storage	Sebele	Sep. 1984
25 Enumerators	DPS		Enumerator Workshop	Gaborone	July 1987
25 Enumerators	Farming Systems		Enumerator Workshop	Mahalapye	July 1987
33 Specialists	DAR, DAFS		Writing Workshop	Sebele	July 1987
60 Senior staff	DAR, DAFS		Training Trainers	Sebele	July 1987
5 Ag. Info staff	DAFS		Computer Workshop	Gaborone	Jan. 1988
50 Specialists	DAR, DAFS		Writing Workshop	Gaborone	June 1988
15 Staff	AFS, Vet Serv, ATIP		Writing Seminar	F'town	July 1988
5 Ag. Info staff	DAFS		Computer Workshop	Gaborone	July 1988
3 Clerical staff	ATIP, DAR		Word Perfect	Gaborone	July 1988
1 Clerical staff	DAR		Word Perfect	Gaborone	July 1989

*. The table includes professional visits by more senior level officers in GOB.

October 19, 1989

(10 degrees), DAFS (9 degrees), and DPS (8 degrees). The students were sent to 15 different universities in the United States.

Of the 13 individuals who have thus far completed long-term training and have returned to Botswana, only three have left GOB service. In terms of trainees returning to ATIP the picture is less satisfactory. Eleven of the 13 returning individuals had worked directly with ATIP prior to their departure; however, only four of them have been reassigned to ATIP. As has been discussed elsewhere, this has created problems for DAR in the required localization process of the two ATIP field teams.

All ATIP funded candidates are required to complete their training prior to PACD, although there is no such restriction placed on the GOB funded trainees. It appears that one ATIP funded individual may require three additional months beyond PACD to complete his degree. ATIP intends to seek USAID/Botswana's counsel on this matter. ATIP is also considering funding one individual from DPS for a period of one year.

7.2. Short-term Training

Short-term training, according to ATIP, includes participation in conferences and workshops that contribute to the professional development of the participants. Under the prevailing arrangement for short-term training, ATIP provides per diem and registration fees while GOB provides air fare. Thus, the investment for short-term training is usually greater for GOB than for ATIP. According to GOB, attending conferences does not qualify as short-term training. Consequently, despite AID approval, GOB has declined travel requests to certain individuals to attend conferences. This problem has definitely reduced ATIP's contribution to short-term training.

A table listing all short-term participants funded through ATIP/GOB is included on the next page. According t

TABLE LONG-TERM PARTICIPANT TRAINING SINCE INCEPTION OF PROJECT

Participant	Local Affiliation		Training Details			
	Before Training	After Training	Before	Objective	Place	Dates
ATIP Sponsored:						
Gaosegelwe, P.	ADNP, DAR	ADNP, DAR	DA 1975	BS (Agronomy)	Kansas SU	1/83- 7/85
			BS 1985	MS (Agronomy)	Kansas SU	8/85- 3/88
Mclive, F.	DAO, DAFS	DAFS	DA 1979	BS (Agronomy)	Kansas SU	1/83- 1/86
Monyatsi, T.	ATIP, DPS	Left GOB (National Dev. Bank)	BS 1981	MS (Ag. Econ.)	Kansas SU	1/83- 1/85
Modiakgotla, E.	ATIP, DAR	ATIP, DAR	BS 1981	MS (Agronomy)	Kansas SU	8/83- 8/85
Moremedi, G.	ATIP, DAFS	RAO, DAFS	DA 1980	BS (Agronomy)	New Mexico SU	8/83- 7/86
Tjirongo, M.	ATIP, DPS	Left GOB (Central Bank)	DA 1982	BS (Ag. Econ.)	Iowa SU	8/83-12/85
			BS 1985	MS (Ag. Econ.)	New Mexico SU	1/86- 3/87
Lesotlho, J.	ATIP, DPS	RSU, DPS	DA 1983	BS (Rural Soc.)	Ohio SU	1/86- 1/89
Luzani, J.	ATIP, DAR	ATIP, DAR	DA 1983	BS (Agronomy)	Kansas SU	1/86- 6/89
Mahabile, W.	ATIP, DAR	APRU, DAR	BS 1984	MS (Animal Sc.)	Kansas SU	1/86- 3/87
Motswasele, P.	ATIP, DAR	Left GOB (Botswana Dev. Corp)	DA 1985	BS (Seed Tech)	Mississipi SU	1/86- 7/88
Seleka, T.	ATIP, DPS	DPS	DA 1983	BS (Ag. Econ.)	Oklahoma SU	1/86- 7/88
Tibone, C.	ATIP, DPS	ATIP, DAR	DA 1983	BS (Ag. Econ.)	Oklahoma SU	1/86- 7/88
Ramolemana, G.	ATIP, DAFS	ATIP, DAFS	BS	MS (Agronomy)	New Mexico SU	8/86- 7/88
Sebinyane, A.	LUO, DAFS		Cert.	BS (Cartography)	SW Missouri U	8/87- 8/90
Hiseane, P.	RSU, MOA		BS 1985	MS (Rural Soc.)	Kansas SU	8/88- 8/90
Masilo, B.	APO, DAR		BS 1984	MS (Animal Sc.)	Kansas SU	8/88- 8/90
Moji, B.	RAO, DAFS		BS 1983	MS (Ext. Educ.)	U of Missouri	1/89- 8/90
Moroke, T.	DAR		BSc 1987	MS (Soils)	S Illinois U	8/89- 8/91
Mauhe, M.	DAR		MS 1986	PhD (Agronomy)	Michigan SU	9/89- 8/93
Mogwera, B.	DAFS		Cert	Hon degree (Video)	Ohio Inst. Photog.	9/89- 8/90
GOB Sponsored:						
Jonas, C.	ATIP, DPS		Camb.	BS (Rur. Soc.)	U of Florida	8/87- 8/90
Nkane, D.	DAFS		BS	MS (An. Sci.)	Prairie View U	1/87-12/89
Tabona, L.	DAFS		DA	BS (Agronomy)	Utah SU	1/88- 1/91
Senyatso, E.	APRU, DAR		BS.	MS (An. Sci.)	Iowa SU	8/88- 8/90
Ngakane, S.	DAFS		DA	BS (Range Man)	Michigan SU	8/88- 8/91
Mosupi, P.	DAFS		BSc	MS (An. Sci.)	U of Arizona	8/88-12/90

the 1989 logframe, ATIP is supposed to sponsor 27 individuals for short-term training. However, to-date, it has provided either full or partial support to 36 individuals and the CIMMYT Farming Systems Regional project assisted ATIP in a two-country FSR/E tour.

7.3. In-Service/On-the-Job Training

In AID's view, in-service training is an important component of all training programs. Early in the project ATIP was deeply involved in conducting in-service training. Now, according to ATIP, they no longer have a responsibility to provide such training for the department. However, the 1988 logframe prepared by ATIP shows in-service training as one of the outputs. This needs clarification by ATIP.

ATIP continues to provide valuable on-the-job training Several persons received training in the use of microcomputers. However, ATIP's expatriate members should spend more time training its Batswana team members to a point where they feel comfortable to carry on project-developed activities. Collaborating ADs and farmers should receive additional training in the operation and maintenance of ATIP promoted implements.

Conclusion:

Overall, ATIP has done a commendable job in providing both long and short-term training to MOA personnel. There is, however, a need to continue providing additional training to DAR's field staff, to ADs and the collaborating farmers.

Recommendations:

1. ATIP should inform all long-term project funded trainees abroad of the implications of failing to complete their degrees within the allotted time-frame of September 1990.

2. AID may consider a no-cost extension of the project till December 28, 1990, funds permitting, so as to permit all ATIP funded trainees to return to Botswana prior to PACD.

3. ATIP should put more emphasis during the remaining LOP in providing on-the-job training to DAR field staff to enable them to carry on project generated activities when the expatriates depart.

4. ATIP should encourage and assist the DAFS Training Officer to provide quality in-service training to the ADs especially on the proper use and maintenance of implements promoted by ATIP.

B.8. Farming Systems Research and Extension Handbook

Based on a 1986 recommendation, ATIP's expatriate technicians have launched a major effort to write a "Farming Systems Handbook" for Botswana. An outline of this book has been prepared, sections have been assigned to individual authors, and some have actually begun writing up their assigned chapters. The proposed outline of this book is attached as Annex E. ATIP plans to produce a final draft by March 1990. To meet this schedule, some of the ATIP personnel (especially Norman, Worman, and Snyder) may have to spend up to 50% of their time over the next six months working on this Handbook.

Considering many other worthwhile activities that will require their attention over the remaining LOP, questions should be raised about the justification for undertaking such a large activity at this time. Certain chapters in the proposed outline, e.g. Part One, # 1.3. Relevance of FSR/E work in Botswana, and # 2. Experiences with FSR/E work in Botswana, would be very valuable for the FSR/E practitioners in Botswana and for those working elsewhere under similar semi-arid conditions, these should be written. There seems to be little justification, however, of writing on topics for which a large body of literature already exists.

Conclusion

ATIP's present venture to write a complete Handbook on Farming Systems may not justify a proper use of their limited remaining time in Botswana. Instead, it will be more appropriate and useful to write a Monograph on the "Uniqueness of FSR/E work in Botswana".

Recommendations

1. ATIP/MIAC technicians should reassess their priorities for the remainder of their stay in Botswana, and allocate time accordingly. The Team feels that at least 40% of their time should be devoted to working with their counterparts in on-farm research tasks, another 30% to strengthening linkages between FSR/E and commodity research teams and in technology dissemination activities and extension tasks associated with FSR/E. Not more than 10% of their time should be devoted to the proposed FSR/E Handbook with another 20% to final documentation of ATIP achievements.

2. Instead of writing a complete Handbook on Farming Systems for Botswana, the expatriate technicians may consider writing a Monograph on "The Uniqueness of FSR/E Work in Botswana" with special emphasis on "lessons learned"

3. If considered necessary, ATIP should order a few sets of appropriate books on FSR/E for DAR and the field teams for ready references.

C. End of Project Status Indicators

The team had a difficult time in determining which set of EOP indicators to use. Subtle, but significant changes were made in the amended logframe of 1989 from those found in the last Project Agreement, Amendment Number Four. It is against this document that status statements have been developed.

1. "The Ministry of Agriculture's DAR will be structured to participate more effectively in ongoing FSR/E and ultimately to farmer's needs." The Team feels that ATIP has contributed very effectively towards meeting this structural change. A counterpart for the COP has been named and this appears to be a permanent position that will have, as yet undefined, a national FSR/E role. DAR has decided to proceed with four FSR/E teams as a regular part of its research program. As yet a full set of structural changes has not been achieved, such as identified FSR/E resource allocations in DAR's budget, full professional staffing of FSR/E field teams, and formal linkage agreements with DAFS.

2. "On-station research at the DAR structured to use a commodity approach, emphasizing cereals and legumes." ATIP has contributed to commodity research team development, especially through the USAID Cowpea and Sorghum/Millet CRSPs. With the limited numbers of professionals holding advanced degrees in DAR it will be difficult to achieve a fully operative Commodity Research Teams (CRT) approach before the end of the project. On the positive side ATIP has trained a number of Batswana at the M.Sc. and Ph.D. levels to support DAR's movement towards commodity research teams.

3. "Systems established for DAR to respond to requests from extension teams and conduct trials based upon these requests". The project has acted in a very positive way as a catalytic agent to bring the two systems together, so that the research agenda of DAR better reflects the needs of extension's client farmers. At present these systems have not been formalized, however, the ATIP operations at a regional level do present interesting options for DAR to develop workable linkages. At this level.

4. " Improved linkages will have been developed between the MOA's research, extension and planning departments resulting in more relevant adaptive technologies." This EOP is further quantified with statements on the the RELO's position.

DAFS technology dissemination, communication with farmers, and improved production. Clearly ATIP has made progress in all these areas, perhaps not at the magnitude first envisioned during the project design, but certainly at higher levels than were encountered when the project started. Each of these EOP quantified areas are discussed in detail in former sections of this document.

VI. IMPLEMENTATION OF 1986 EVALUATION RECOMMENDATIONS

The 1986 external evaluation team had found the ATIP program to be a well-managed scientific effort, and that ATIP, on the whole, had performed well. However, the evaluation team did make 28 recommendations with a view to facilitating project implementation and improving the qualities of project outputs. One object of this present review was to determine the implementation status of the above mentioned recommendations. ATIP has facilitated the review team's work by providing a written status report on the 1986 evaluation recommendations. However, the team made its own independent assessments on some of the recommendations.

Recommendation #1, #2 and #9 dealt with improving communications with policy makers, and institutionalization of FSR/E. ATIP has made progress on both fronts; most MOA officials are now familiar with FSR/E concepts.

Recommendation #3. Discussion is now under way within MOA to place RECU under Deputy Permanent Secretary, and to upgrade the position of RELO.

Recommendation #4 deals with establishing linkages between research and extension. ATIP has made progress in establishing informal linkages at lower levels, but more needs to be done. This particular area should be a focal point of emphasis for the ATIP/MIAC members over the remainder of LOP

Recommendation #5. A Motswana counterpart to ATIP/COP has been provided.

Recommendation #6. Providing of houses in Francistown for the local ATIP staff still remains a sore point, however, the situation at Mahalapye has been largely resolved.

Recommendation #7. The working relationships of ATIP with on-station researchers is continuing to improve.

Recommendation #8. One Motswana holding an M.S. degree has been assigned as a counterpart to RELO. However, since the present expatriate RELO will depart soon, more staff need to be assigned to this office.

Recommendation #10. Out of 26 long-term trainees, eight are from extension (DAFS), which is quite satisfactory.

Recommendation #11. The number of Batswana receiving long-term training under this project is satisfactory.

Recommendation #12. On the question of inclusion of FSR/E in BAC curriculum, only limited progress has been made One may look into it to determine if ATIP could have or should have done more on this.

Recommendation #13. In-service training for extension staff. ATIP has not done much on this front. As has been discussed already, ATIP feels that providing in-service training is no longer their responsibility.

Recommendation #14. Computer training has been and is being provided by ATIP.

Recommendation #15. On the question of the COP spending more "quality" time with ATIP FSR/E field teams, the situation has definitely improved. ATIP team members feel that the time spent by COP with them is optimum.

In addition to interacting with ATIP members, the COP's involvement in the national level meetings has been substantially increased. This shows that he has definitely established credibility with the high ranking GOB officials.

Now that the RELO, who has been working as an Assistant COP, will be departing soon, COP's administrative work-load will increase. He may consider transferring some of these responsibilities to his Administrative Assistant, and to his counterpart.

Recommendation #16. COP has hired an Administrative Assistant.

Recommendation #17. ATIP has undertaken the task of writing a complete FSR/E Handbook. However, the present review team feels that, in view of time constraints, ATIP/MIAC should limit the scope of this venture, and instead write a monograph on the "Uniqueness of FSR/E Work in Botswana".

Recommendation #18. ATIP has sponsored professional staff to attend and participate in international seminars. As has been mentioned elsewhere, ATIP and GOB have disagreements if these should be considered as short-term training or not.

Recommendations #19 and #22. Dealt with ATIP's providing information to DPS. ATIP has made limited but significant contribution in this area.

Recommendation #20. The recommendation to move certain ATIP field staff to Sebele was not approved by DAR.

Recommendation #21. ATIP has made substantial contribution to upgrading the printing shop, and providing assistance for the publication of both AGRINEWS and AGRIFACTS.

Recommendation #23. ATIP will provide funding for one year of studies of this cowpea technician.

Recommendations #24 and 25. On the local currency expenditure and on submission of payment vouchers issues, these no longer not appear to be a problem.

Recommendation #26. The question of expanding FSR/E work into commercial farming areas was not addressed in the Agriculture Sector Assessment Study.

Recommendation #27. Project-funded participants are being kept informed of ATIP activities through a monthly newsletter.

Recommendation #28. KSU has made a commitment to employ three of its long-term TAs for at least six months after the end of PACD. This is indeed commendable.

Conclusion:

It appears that most of the recommendations have been acted upon in a satisfactory manner, although the time required to implement these were much longer than anticipated. Implementation of the 1986 recommendations has substantially improved the project performance.

VII. PROJECT MANAGEMENT ISSUES

With less than one year left in the LOP it is important to identify critical management actions that should be initiated now to assure a productive termination of the ATIP project, sustainability of the FSR/E program and provide for possible post-project Title XII linkage.

In general the project was found to be well managed on the part of the GOB, MIAC and USAID. Administrative procedures were well defined, files in order and fiscal data available. The team attempted to provide some guidelines that will assist in an orderly termination of ATIP next September.

Ministry of Agriculture

1. Together with ATIP personnel review the extension and research support needs that will be required through the PACD to assure that PIL# 29 obligations will be sufficient

2. Where appropriate, assign returning personnel trained by the program to ATIP field areas.

3. Assure that future DAR and DAFS budgets include sufficient resources to support and sustain the research efforts of the two ATIP FSR/E teams and for the USAID OPEX FSR/E advisor.

4. If advisable, and together with MIAC personnel, develop a three year Title XII linkage proposal for submission to USAID Botswana for possible funding.

MIAC ATIP Contractor

1. The COP should work with the Mission Comptroller to review USAID's LOP financial support projections to assure that proper funding is available throughout September.

2. Together with DAR and DAFS review LOP support needs that may require USAID assistance. In addition, the COP should work with DAR personnel to assure that future GOB budgets include sufficient funds for ATIP field teams.

3. Provide USAID with a DAR approved LOP work plans that include specific staff leave and R/R plans for next year. The work plan should also indicate the TORs for MIAC staff termination reports as well as of the project itself. It is expected that this plan would be available for USAID/Botswana review by 15 January 1990.

4. Develop together with the MOA a plan to transfer project equipment, materials and supplies to the appropriate offices of GOB. USAID regulations to be followed.

5. If advisable, and together with the MOA, develop a Title XII linkage program for submission to USAID.

6. Facilitate the transfer of unused MIAC contract funds to USAID/Botswana to cover LOP ATIP operational needs.

USAID/Botswana

1. Develop LOP fiscal projections on support needs of MIAC and associated CRSP personnel.

2. Facilitate the transfer of MIAC un-obligated funds to USAID ATIP accounts to assure that support costs of the MIAC and CRSP personnel can be met through the PACD.

3. If possible, in early 1990, transfer and earmark ATIP residual funds into other mission accounts to assure that partial costs of the OPEXer and the CRSP advisor can be met and an ATIP linkage initiated.

4. Work with ATIP staff to assure an orderly termination process with maximum research and extension efforts of their field teams during the remaining LOP.

VIII. PROJECT FINANCIAL STATUS

1.	Uncommitted for project	262,900
2.	Less Project Requirements	354,000
	Short of Requirements	<91,100>
3.	Recovery from Current MIAC Contract	175,000
	Possible Use	83,900

Home Travel (6 families)	86,000
Petty Cash Expenditures (11 months)	35,000
Misc. Support Costs (11 months)	60,000
Educational Allowance/Travel	45,000
Rents - 2 houses Francistown P605 per month for 9 months x 2 = P14,000	7,000
R&R	28,000
Personnel contracts	10,000
	271,000
15% contingency	40,000
	311,000
INTSORMIL October 1989 - September 1990	43,000

Detailed fiscal data contained in Annex F.

IX. MISCELLANEOUS ISSUES

The ATIP project has funded some costs of two commodity based USAID CRSP research efforts within DAR. The Cowpea program and the International Sorghum and Millet CRSP (INTSORMIL) project.

INTSORMIL was initiated in July 1983, and operates under a Grant from USAID's Science and Technology Bureau in collaboration with DAR researchers. The lead institution is the University of Nebraska. The objectives are:

Improve and stabilize rainfed sorghum and millet crop yields.
Evaluate on-farm rainfall runoff management systems.
Evaluate crop response to improved tillage technology across various rainfall conditions and soil types.
Evaluate the effects of manure and crop residue.
Collaborate and support relevant national research efforts to improve and stabilize rainfed sorghum and millet crop yields.

Botswana Cowpea CRSP, started in 1982 with input from the International Institute of Tropical Agriculture (IITA) and the lead institution was Michigan State. At present the only activities are collaborative research on the identification of high yielding varieties of desirable plant types, resistant to drought and tolerant of major diseases. ATIP is financing one graduate degree student at the present time.

X. POST PROJECT CONSIDERATIONS

The present PACD for ATIP is September 28, 1990. Everyone involved with the project is aware of this, and are working towards bringing an orderly closure to the project. It is also time for the Mission to reassess its future relationship with ATIP/MIAC, and its commitment to MOA. Presented below are some issues and options that should be taken into consideration in formulating a future course of

A. Financial Status:

From the report on finances presented elsewhere (Chapter VIII of this report), it appears that as of September 30, 1989, the project still has about $263,000 un-earmarked funds. All parties realize that residuals should be re-obligated to support future FSR/E actions in Botswana, either as a cash transfer to the BWAST account or earmarked for a Title XII linkage activity.

Project Authorization	$9,180,000.00
Total Obligation	8,979,555.00
MIAC Contract	6,104,929.57
Estimated Balances	225,000.00
USAID Retained Funds	$2,874,000.00
Expected Balances	$ (100,000.00)
Funds at PACD for: (OPEX, CRSP and Title XII)	$ 125,000.00

Options:

1. Extension of PACD. The PACD could be extended by another year to 24 September 1991, and perhaps with a special waiver even further to accommodate a meaningful Title XII linkage activity. Guidance on the linkage initiative suggests a period of from three to five years. If the funds are to come from the original project then a PACD extension must be made. This extension, if granted, would also allow all long-term ATIP sponsored trainees to return to Botswana by December of 1990. MIAC team member are still expected to depart in September of next year. The Mission may wish to use other funding sources for an ATIP linkage initiative since the OPEX field operational budget and the CRSP support costs with obligate expected ATIP residuals.

B. Supporting an FSR/E Position at DAR

The Team agrees with the USAID/Botswana decision and commitment to support one FSR/E Advisors' position at DAR (with OPEX or other funds) beginning April 1990. Everyone contacted feels very positively about the idea. The Director of DAR would

like to see an agronomist in this position, while others feel that this person should have a strong FSR/E background, irrespective of academic discipline. There was no general agreement as to whether AID should look into the possibility of retaining one of the ATIP/MIAC members, or recruit a new person. Valid arguments could be made on either side.

Recommendation: Services of an FSR/E advisor would greatly benefit DAR in its initiative to institutionalize FSR/E, and it would be helpful if USAID would support this position. Provision should also be made for a small field operational budget for this person.

The candidate should have a strong FSR/E background and African experience. It might be desirable to hire this person through MIAC as this will help in maintaining post project linkages between MIAC and MOA, as discussed below.

C. Continuing Linkages Between U.S. and Developing Country Institution

Since the beginning of ATIP, MIAC personnel have had daily interactions with host-country nationals and officials. It is only natural to expect strong bonds and relationships to have developed between them on both personal and institutional levels. Sustaining these relationships can contribute to the U.S. developmental policy objectives as well as meet some of the strategy suggestion as outlined in the Agricultural Sector Assessment. AID/W has given approval to a BIFAD initiative which provides political support to linkage activities (see STATE 297272, dated 9-23-87 and 2573345 dated 8-9-88). Copies of these cables are attached as Annex G.

The major provisions in this initiative are as follows: Only Title XII universities can qualify for this activity (KSU is such a university). An annual obligation of up to $50,000 can be made to a single institution (or up to $100,000 to a consortium, like MIAC) for a period of 3-5 years. Funds could provide for travel, subsistence, fees, shipping, materials,

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supplies, communications, etc., but cannot be used to pay indirect costs, salaries, administrative costs, etc. One-to-one matching by the U.S. institution is needed and a least a one-quarter-to-one match by the Host Country Agency. If the original project is to be used to fund the linkage then the PACD must be extended. In the case of ATIP a special waiver would have to be granted to extend the PACD for more than one year, since the LOP would then exceed a total of ten years.

This issue has been discussed with several MOA personnel, and with ATIP/MIAC staff, all feel very positively about the concept. If USAID/Botswana is receptive to this idea, more discussions will be needed with MOA and MIAC personnel. A jointly developed proposal between the MOA and MIAC should be considered for financial support by USAID Botswana, either with residual ATIP funds and an AID/W waiver exceeding a 10 year LOP, or using other Mission funding for this linkage activity.

Recommendation: USAID/Botswana should support post project linkage activities between MIAC and MOA, and should encourage both to consider all the implications and then perhaps jointly develop a project proposal to this effect.

D. Post-Project Evaluation

The last major evaluation of ATIP activities was conducted in May-June 1986. This present review has been undertaken to put close-out procedures into perspective for both ATIP and the Mission, and was not meant to be exhaustive. USAID/Botswana should consider commissioning a full review around mid-1992, during the post-project period.

A project such as ATIP sets into motion many activities the effects of which may not be immediately realized and measured. The impact of project generated activities could and should be monitored after some time has elapsed. This activity will generate valuable data for everyone to use especially AID. One of the prerequisites of this kind of evaluation is

Agriculture. If this is not possible AID should do a an early "de-ob/re-ob" earmark of ATIP funds to another Mission account.

4. Extension of PACD, for other than long-term trainees or as a Title XII linkage mechanism, should be viewed as a last resort. ATIP/MIAC should be urged to complete all activities by September 30, 1990 as scheduled. USAID/Botswana should monitor ATIP's progress and financial status on a monthly basis. The decision on project extension could be made at the next PIP review (March, 1990), when the mission has more exact information on the possibility of exceeding a ten year PACD for a Title XII linkage purpose and better information on the Mission's finances.

5. Services of an OPEX or PASA FSR/E advisor would greatly benefit DAR in its initiative to institutionalize FSR/E, and it would be helpful if USAID/Botswana could also support this position with a small operational budget. If possible ATIP residuals should be earmarked for this activity. As well as CRSP post-project operational costs.

6. The Mission should support post project Title XII linkage activities between MIAC and MOA, and should encourage both parties to consider all the implications. A jointly developed proposal between the MOA and MIAC should be supported by USAID/Botswana. The questions of a PACD extension and which AID assistance instrument should be for the linkage activity are key to this issue.

7. USAID/Botswana should plan for and support a post-project impact evaluation of ATIP activities, possibly in Mid-1992.

8. USAID/Botswana should request ATIP to select certain baseline parameters that could be used for the proposed post-project impact evaluation. To do this ATIP should attempt to segregate the effects of new technology, improved policy and marketing, and other interventions they have made to raise the production of their client farmers.

that good baseline data for the project must be available, and unlike many other projects of this nature, ATIP does have excellent data and documentation. This opportunity should not be missed.

Recommendation:

1. USAID/Botswana should plan for and support a post-project impact evaluation of ATIP activities, possibly in mid-1992.

2. USAID/Botswana should request ATIP to select certain baseline parameters that could be used for the proposed post-project evaluation. To do this ATIP should attempt to segregate the effects of new technology, improved policy and marketing, and other interventions they have made to raise the production of their client farmers. AFR/TR/ANR is obligated to provide these indicators by mid-1990.

XI. RECOMMENDATIONS

1. USAID/Botswana should ask the RCO to review the procedures used to amend the logframe, PIL No. 31. The concern here is to determine whether or not any contractual agreement, such as level of effort, has been affected which may require further attention.

2. USAID/Botswana should discuss with MIAC and the MOA its expectations of this project, as defined by the purpose and goal statements, and should arrive at a common understanding about technology transfer obligations of the ATIP team.

3. USAID could consider a no-cost extension of the PACD to at least September 24, 1991, and preferably through 1993. Funds permitting, this would allow ATIP trainees to complete their courses in the United States by the end of 1990 and provide a Title XII linkage mechanism for a continuing professional relationship between MIAC and the Ministry of

9. MIAC technicians should devote additional time and effort in training their Batswana counterparts and technicians. They should identify, on an individual basis, where the training is most needed, and do as much possible to remove deficiencies.

10. ATIP/MIAC technicians should reassess their priorities for the remainder of their stay in Botswana, and allocate time accordingly. At least 40% of their time should be devoted to working with their counterparts in on-farm research tasks, another 30% to strengthening linkages between FSR/E, commodity research teams and in technology dissemination activities of extension. Not more than 10% of their time should be devoted to the proposed FSR/E handbook with another 20% to final documentation of ATIP achievements.

11. ATIP should inform all long-term ATIP-funded trainees abroad of the possible implications of failing to complete their degrees within the allotted time-frame, see #3 above.

12. ATIP should continue its on-farm research efforts on drought-avoidance, and moisture conservation strategies. ATIP may consider conducting a few Researcher Managed and Researcher Implemented (RM/RI) trials on DAR substation, or where most investigation parameters can be controlled. This would generate further useful data even in a very bad year.

13. Some of the more promising technologies should be written up as recommendations for publication in AGRIFACTs, or for updating the existing ones. Each recommendation should be backed by proven data, if the MOA Review Committee is functional use its auspice for clearance, if not each should be presented to the Director of DAR, with a copy to the RELO.

14. ATIP should continue its efforts, and use all available means, to formalize linkages between DAR and DAFS. These multi-level linkages should be established by PACD.

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15. MOA, in its recent reorganization plan, is considering relocating and upgrading the RELO position and placing it directly under the Deputy Permanent Secretary. This will definitely be a major move, and should be supported. The omission of RECU/RELO in the Reorganization Chart as published in September 1989 issue of Agrinews, the Team was told, was an oversight. This chart has been attached as Annex D.

16. With the expatriate RELO departing soon, work load of the Motswana RELO will definitely increase. ATIP should continue to support him in his work efforts.

17. ATIP should encourage and assist the DAFS Training Officer to provide quality in-service training to the ADs', especially on the proper use and maintenance of ATIP-promoted implements.

18. Instead of writing a complete Handbook on Farming Systems for Botswana, the expatriate technicians may consider writing only a Monograph on "The Uniqueness of FSR/E Work in Botswana" with special emphasis on "lessons learned".

19. ATIP should participate closely in the upcoming DAR initiated ISNAR study to improve the functioning of DAR, and should impress upon the visiting team the importance of institutionalization of FSR/E within DAR.

20. DAR may consider requiring the OPEX FSR/E Advisor to spend up to 50% of his/her time advising the Mahalapye and the Francistown teams, perhaps for the next two years. This will allow DAR time to identify and/or train potential candidates to staff the field teams. For logistical reasons and ease of servicing Francistown and Sebele/Gaborone, consideration should be given for this person to be based at Francistown or Mahalapye during an initial period of two years.

XII. LESSONS LEARNED

1. To assure sustainability of developed activities the project in question should be small enough to operate within an existing organization. For example, a project of ATIP's magnitude may, at times, overshadow its affiliated institution DAR. Also, at PACD DAR may lack adequate resources to continue supporting all activities generated by ATIP.

2. Restructuring an organization like MOA, or institutionalizing a process like FSR/E within it may require policy changes at the highest levels. Was it is too much to expect from a technology development project like ATIP, staffed with research scientists, to be able to make major changes of this nature? It can, perhaps, influence the thinking of high level administrators, through dialogue, seminars, publications, etc.

3. An FSR/E project design team should take into consideration the agroclimatic conditions of the country in determining the optimum project life. A case in point: the Rwanda FSR/E project and ATIP were both designed for five years. Within this LOP, Rwanda would have ten growing seasons under bimodal sub-humid conditions, while ATIP would have only five growing seasons under unimodal semi-arid conditions. For research projects such as ATIP this does not make good sense. It should be kept in mind that under marginal production conditions, it is more difficult to generate successful technologies compared to areas where conditions are more favorable, and an eight to ten year LOP is much more realistic.

4. Existence of on-the-shelf technologies come in handy to an FSR/E team; if not available, the team may have to start with on-station research to generate technologies, then test these under farmer conditions. On-station research may be a prerequisite to successful FSR/E work where proven off-shelf technologies are not readily available.

5. The ATIP design team should have given more attention to addressing the housing situation, especially for the local staff. They should have better visualized GOB's inability during the LOP to provide housing for its employees. After seven years into the projects operation, none of the MOA staff assigned to ATIP's Francistown location has housing (the condition in other location is not much better either). This affects moral and diminishes work efficiency. Additionally, USAID/Botswana should have taken a more proactive approach to this problem.

ANNEX A

BOTSWANA AGRICULTURAL TECHNOLOGY IMPROVEMENT PROJECT
SCOPE OF WORK FOR
JOINT REVIEW OF PROJECT NO. 633-0221

Section One: Activity to be Evaluated

The current activity to be reviewed is the extension phase of the Botswana Agricultural Technology Improvement Project (ATIP). On the basis of a positive 1986 midterm evaluation a three year, $811,555.00 additional effort, extension was granted. The present project will terminate September 28, 1990.

Authorization Number: 633-0221

Title: Agricultural Technology Improvement Project (ATIP)

Cost: ($9,180,000.00)

Life of Project Dates: September 29, 1981 through September 28, 1990

Section Two: Purpose of the Evaluation

The objectives of the this joint review will be: First, to assess which project objectives are still realistic, with specific reference to the measurable outputs and their impact on the targeted groups. Determine why different outputs likely will or will not be achieved. Next, determine the extent to which the ATIP staff have taken appropriate steps to achieve specified project outputs and recommend, if necessary, additional or alternative actions which still might be taken to best complete these. Specific attention should be given to the balance between continuing on-farm trials versus dissemination of ATIP findings. Lastly, determine a desired and feasible end-of-project status in light of the current institutional and personnel constraints. Recommend if USAID should consider making any commitments to assist the Ministry of Agriculture after the PACD and stipulate actions required, during the LOP, to move ATIP towards a desired end-of-project status and post project sustainability.

Section Three: Background

A. Introduction

The Agricultural Technology Improvement Project was established in 1982 to help the Ministry of Agriculture's Research and Field Services departments develop and extend farming systems recommendations to farmers with small operations and limited resources and increase national food production. ATIP is a cooperative effort of the GOB, USAID and the MidAmerica International Agricultural Consortium (MIAC), the contractor. The project received positive evaluations during its first phase and was extended an additional three years in order to complete on-farm research and extension activities, that had been severely hampered by a seven year drought cycle, and to localize the (two) ATIP FSR/E teams.

B. Project Goals and Objectives

The goals of the project are to improve the welfare of small farmers and increase national food production through the development, extension and adaption of relevant technology. The purpose of the project is to improve the capacity of the Ministry of Agriculture's (MOA) research and extension programs to develop and effectively extend improved technology and practices. The project has three sub-purposes which contribute to the institutionalization of a Farming Systems Research and Extension (FSR/E) program in Botswana. These are:

A. To improve the capacity of the MOA's Department of Agricultural Research (DAR) to develop technologies for small farmer needs.

B. To improve the capacity of the Department of Agricultural Field Services (DAFS) to transfer appropriate technologies and strengthen the linkages between research, extension and farmers.

C. To provide Botswana farmers in the pilot areas with relevant innovations in agricultural production technology and methods through field trials, demonstrations and farmer training.

Section Four: Statement of Work

A. Study Areas

1. Assess whether direct project inputs are being made by AID, the GOB and MIAC as delineated in the project agreement and determine the quality and quantity of direct project outputs that are being achieved, compared to those of the September 1987 revised ProAg. and the December 1987 MIAC contract.

2. Determine and make an initial assessment of the impact of the identified direct project outputs; on the institutionalization of FSR/E in Botswana, on nationalizing ATIP field teams, on the research agenda development of the DAR, on extension linkages and dissemination of ATIP technologies, on the improvement of food production or incomes of targeted project clients and on the linkage and use of FSR/E generated data or recommendations by Planning and Policy Offices of the MOA and other GOB Ministries.

3. Make a preliminary assessment of ATIP End of Project Status Indicators, and determine if, or how, they can be successfully be reached by the PACD. Further, if attained will they assure sustainability of FSR/E in Botswana and are recommendation for future AID and GOB resource allocations in order? (Amendment #4 Articles I and III .7)

4. Review the effectiveness of USAID Botswana, the MOA and ATIP management arrangements with a view to recommending improvements during the remaining LOP or on lessons learned. (MIAC Contract, Section C.4.2)

5. Determine if the 1986 project evaluation recommendations have been implemented, and if not, are they still valid and should the project be held responsible for their completion.

60

Section Six: Team Composition

Three persons, jointly nominated by ATIP and USAID/B with informal approval by the MOA, will be composed of REDSO/ESA FSR specialists in the fields of agronomy and research/extension. A representatives from the MOA conversant with FSR methodology, if available, will be the third person. Resource and backstop personnel will originate from ATIP and AID Botswana.

Section Seven: Reporting Requirements

The format of the report should include an executive summary, a table of contents, the body of the report and appropriate appendices.

The reviewers will specify conclusions based upon the findings of the study and prepare a set of recommendations for improving future implementation and project actions which will assist the sustainability of FSR/E after project completion. The report will be written jointly under the coordination of the REDSO A/NR Officer who will be responsible for the submission of the findings to relevant institutions.

The draft of the review is due prior to the REDSO technician's departure from Botswana. A final version, with annexes, within 40 days of the review's completion.

Section Eight: Funding

Financial support for the evaluation will be handled by ATIP and USAID Botswana, except for the technical assistance provided by REDSO/ESA AID/W.

Key Documentation

Mid-Term Evaluation; June 1986
PIL #20, Amplified Project Description; July 4, 1986
Project Amendment #4, APD; September 26, 1986
ATIP PPS, Pages 4-7; August 27, 1987
MIAC PIO/T, Attachment D, Pages 19-22; September 17, 1987
MIAC Contract, Section C.4.2; December 17, 1987
PIL #31, Log Frame Amendment; August 4, 1989

Wang Disk: ATIP: McColaugh: 10/11/89

LIST OF PERSONS CONTACTED

USAID

John P. Hummon	Director
John E. Roberts	Assistant Director
CJ Rushin-Bell	Acting Agricultural Development Officer
Pushkar Brahmbhatt	Engineer
William S. Elliott	Project Development Officer
Janak Chopra	Acting Controller

ATIP Members

David Norman	Chief of Party
Elijah Modiakgotla	Agronomist/Counterpart
Bob Hill	RELO
Jay Siebert	Agronomist
Elijah Makhwaje	Economist/Counterpart
Jonas Luzani	Agronomist
Geoff Heinrich	Agronomist
Synai Masikara	Agronomist
Fred Worman	Agric. Economist
Chada Tibone	Agric. Economist
Tom Thedford	Animal Scientist
Keoagetswe Kelemogile	Animal Scientist
Leutlwetse Keutule	Extension Group Coordinator

DAR/Sebele

Lucas Gakale	Director
Louis Mazhani	Sorghum Breeder
Louise Setshwaelo	Director, APRU
Patrick Cecil	Farm Mechanic
Doug Carter	INTSORMIL
Alain Mayeux	Groundnut Agronomist

DPS/MOA

Gilbert Motsemme	Chief Agric. Economist
Etelem Melaku	Economist
Howard Sigwele	Economist
Yvonne Merafe	Rural Sociologist

DAES/MOA

K.K. Mmopi	Principal Ag. Officer
C.L. Ketlaareng	Director, Agric. Information
Sam Harle	Peace Corps Volunteer
Donald Mmofswa	Assistant ALDEP Coordinator
Morwesinyana Moalosi	Regional ALDEP Manager

LOGFRAME

1986 Logframe	1989 Logframe
Project Purpose EOPS	
The Ministry of Agriculture's DAR will be structured to participate	The Ministry of Agriculture's DAR will be able to participate..
Sub-Purposes EOPS	
(a) 1. On-station research at the DAR structured to use a commodity approach, emphasizing cereals and legumes.	On-station agronomic research at DAR strengthened in sorghum, millet and cowpeas.
(a) 2. Systems established for DAR to respond to requests from extension teams	Systems established for DAR to respond to requests from farming systems teams
(b) 1. The RELO position localized and functioning effectively.	The Subject Matter Specialists trained and working effectively.
(b) 3. Improved communication tion established between DAFS and farmers in pilot areas.	Omitted
Magnitude of Outputs	
C 1 (a) Minimum of 2 teams installed and functioning.	Progress has been made towards localization of FSW
C 1.2	Handbook for FSW prepared
C 2 (b) Organizational structure and systems established to integrate research and extension in order to adequately test the FSR approach.	Helped DAR, as requested, in evaluating FSW
C 2 (c) Assessment of FSR results concluded near the end of the project and plan prepared regarding the further institutionalization and expansion of FSR.	Helped DAR, as requested, in establishing systems for integrating research, extension and planning to maximize the benefits of FSW.

1986 Logframe	1989 Logframe
Implementation Target and Quantity	
C 3 (c) On-station crop research programs on sorghum, millet and cowpeas established and progress made on variety selection, cultivation practices and disease/pest resistance.	On-station agronomic research programs on sorghum, millet and cowpeas strengthened.
C 4 (a) Research data collected on project is collated and analyzed.	ATIP socio-economic and technological data systematically entered on microcomputers to facilitate future data collection and accessibility by trained Batswana.
C 4 (b) Technological and social/ economic data is written up and future needs identified.	Data collected by ATIP made available and used by other GOB personnel.
C 4 (c) A system is established for future data collection and analysis.	

TABLE 3: NEW APPROVED ATIP LOGICAL FRAMEWORK, JULY 1989

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
A-1. Programme or Sector Goal: the Broader Objective to which this Project Contributes:	**A-2. The Measure of Goal Achievement:**	**A-3.**	**A-4. Assumptions for Achieving Goal Targets:**
To assist the GOB in developing an agricultural system that provides relevant technology leading to increased productivity for Botswana farmers.	Organizational changes made within MOA to institionalize FSW.	MOA official papers.	Agricultural research and extension continue to be high priorities of GOB, and that MOA will review the effectiveness of its approaches.
	Increased returns to labor and other inputs demonstrated.	Farm surveys.	
	Increased crop production under specified rainfall conditions.	Farm surveys and meterological data.	The amount and distribution of rainfall is sufficient to enable production to occur.
B-1. Project Purpose:	**B-2. Conditions that will Indicate Purpose has been Achieved: End-of-Project Status:**	**B-3.**	**B-4. Assumptions for Achieving Purpose:**
To improve the capacity of the Ministry of Agriculture's research and extension programmes to develop and effectively extend improved technology and practices relevant to the needs of small farmers in selected pilot areas.	The Ministry of Agriculture's DAR will be able to participate effectively in on-going FSW and be responsive to farmers' needs.		
Sub-Purposes:			
(a). Improve the capacity of the Ministry of Agriculture's Research (DAR) to develop technologies for small farmer needs.	1. On-station agronomic research at DAR strengthened in sorghum, millet and cowpeas.	DAR's Annual Report and records. Reports of INTSORMIL and Bean/Cowpea CRSP.	That potential exists in the agricultural system to improve productivity.
	2. Systems established for DAR to respond to requests from farming systems teams and conduct trials based upon these requests.	Records of meetings/workshops held with DAR/DAFS staff.	That research for small farmers continues to be given high priority.
(b). To improve the capability of the extension service to transfer appropriate technologies and strengthen the linkages between research, extension and farmers.	Improved linkages will have developed between the MOA research, extension and planning, resulting in more relevant adaptive technologies.		That the extension positions in the pilot area will be staffed and have sufficient time to engage in farming systems related work.
	1.The Subject Matter Specialists trained and working effectively.	MOA staffing pattern and manpower training plans.	
	2. DAFS disseminating tested technologies in the ATIP areas.	DAFS and contractor records.	That improved technologies can be identified, tested and made available for extension.

TABLE 3: NEW APPROVED ATIP LOGICAL FRAMEWORK, JULY 1989 (CONTINUED)

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
(c). To provide Botswana farmers in selected pilot areas with relevant innovations in agricultural production technology and methods through field trials, demonstration and farmer training.	Technologies identified which improve returns to labor/capital and/or increased production and/or reduce risk of failure.	Project Records.	
C-1. Project Outcomes	C-2. Magnitude of Outputs:	C-3.	C-4. Assumptions for Achieving Outputs:
(a). Farming systems designed, developed and tested in two areas.	1. Progress has been made towards localization of farming systems work.	Project Records.	That the GOB will implement its current research strategy.
	2. Handbook for farming systems work in Botswana prepared.	Project Records.	
	3. Alternative crop and livestock technologies tested on farmers' farms at ATIP locations.	Project Records.	That potential exists in system to improve new technologies.
	4. Helped DAR in implementing a system for approving recommendations for onward transmission to DAFs.		That DAR has capacity to test technologies. That DAR is able to respond to FSW requests for on-station trials.
(b). Institutional capability and skills developed within MOA to carry out FSW in selected pilot areas.	1. Qualified staff developed in needed speciality areas, 25 persons trained at the M.S. and B.S. level, 27 in short-term farming system related courses, and 156 in in-service training courses.	MOA Records.	That sufficient numbers of qualified staff can be released for training
	2. Helped DAR, as requested, in evaluating farming systems work.	Project Records and GOB policy/planning documents.	That GOB concludes farming systems work has merit and has the resources to incorporate it.
	3. Helped DAR, as requested, in establishing systems for integrating research, extension and planning to maximise the benefits of FSW.	MOA Records.	That DAFS, DAR and DPS are willing and able to share responsibility for farming systems work.
(c). Necessary FSW support activities strengthened.	1. Seed Multiplication Unit strengthened and progress made on localization of all positions.	MOA Records.	
	2. Training plan implemented for at least 6 Subject Matter Specialists.		
	3. On-station agronomic research programmes on sorghum, millet and cowpeas strengthened.		Bean/Cowpea and INTSORMIL Projects will continue to receive the bulk of their training and TA support from centrally funded CRSP projects.

TABLE 3: NEW APPROVED ATIP LOGICAL FRAMEWORK, JULY 1989 (CONTINUED)

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
(d). Research and information	1. ATIP socio-economic and technological data systematically entered on microcomputers to facilitate future data collection and accessibility by trained Batswana.	Project Records.	
	2. Data collected by ATIP made available and used by other GOB personnel	Project Records.	That other GOB staff perceive a use for the data and can easily access it.
D-1. Project Inputs:	**D-2. Implementation Target**	**D-3.**	**D-4. Assumptions for Providing Inputs:**
(a). AID:			
Technical Assistance	56.5 person years long-term.	AID Records.	That funds are made available from bilateral and supporting centrally funded sources.
	52 person months of short-term consultancies.	AID Records.	
Local Staff Training	8 person years.	AID Records.	
	45 person months of short-term training.	AID Records.	
	52 person years of long-term training.	AID Records.	
(b). GOB:			
Counterparts	109 person years.	GOB Records.	That funds are available.
Other Staff	10 person years PCVs (local support costs).	GOB Records.	
	16 person years secretaries.	GOB Records.	
	24 person years drivers.	GOB Records.	
	176 person years technical staff.	GOB Records.	
	Casual labor (P4,000/year for eight years.	GOB Records.	
Commodities	5 vehicles and replacements.	GOB Records.	
	14 houses for MIAC staff and counterparts.	GOB Records.	
Training	15 person years.	GOB Records.	

New Organization Chart for the Ministry of Agriculture, Botswana

Correction

The MOA's organizational chart in the August issue of *Agrinews* contained editorial errors. This month's reprinting of the chart, supercedes last month's.

As part of the national reorganisation of all the Ministries in Botswana, the Ministry of Agriculture (MOA) has recently completed a review process in order to spell-out and redefine objects and functions in order to:

- make optimal use of strengths, manpower, and available resources.
- and to improve overall direction and coordination of the Ministry.

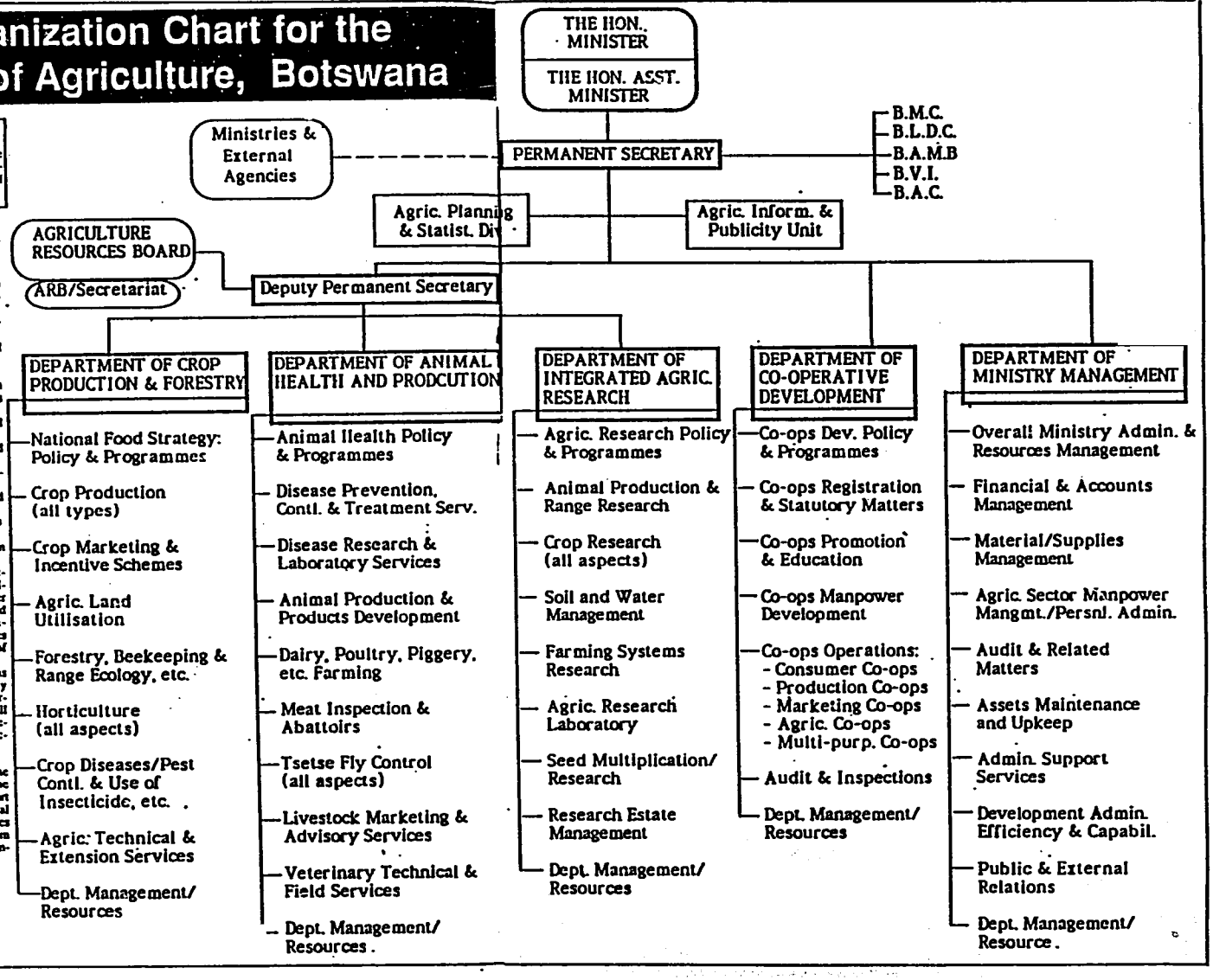
The functions of the Ministry have been regrouped into the following major areas (see chart):

- Crop production and forestry related functions
- Animal health and production related functions
- Integrated agricultural research functions
- Co-operative development related functions
- Ministry management related functions

Some changes that have occurred within the MOA are:

- Animal Production and related functions of Artificial Insemination, poultry, piggery, etc., have relocated under the Department of Animal Health and Production. As a result, the Department of Agricultural Field Services has been renamed the Department of Crop Production and Forestry.
- Agricultural Information Service has combined with the MOA Publicity Unit. It will now be treated as a corporate function in order to service all units within the Ministry, and will report directly to the Permanent Secretary.

Currently the Cabinet has approved the Appendix IV proposed structure of the Organisation and Methods Review (chart shown), and MOA is awaiting the final printing of documents, and the guidelines for implementing the reorganisation from the Directorate of Public Service Management.



ANNEX D

A HANDBOOK FOR FS WORK IN BOTSWANA

PART ONE: INTRODUCTION TO THE FS APPROACH

1. OVERVIEW — FW & DN (DB)

   1.1 The FS Philosophy and Approach
   1.2 Rationale for FS Work
   1.3 Relevance of FS Work in Botswana
   1.4 Organization and Use of the Handbook

2. EXPERIENCES WITH FS WORK IN BOTSWANA — FW & DN (DB)

   2.1 EFSAIP
   2.2 IFPP and FSSR
   2.3 ADNP
   2.4 MDP
   2.5 ATIP

3. TERMINOLOGY AND CONCEPTS — FW & DN (DB)

   3.1 Definition of a Farming System
   3.2 Distinct Types of FS Work
   3.3 Stages of Research
   3.4 Research and Recommendation Domains
   3.5 Classification of Trials
   3.5 Field Teams and Interdisciplinary Collaboration — GH
   3.7 Farmer Participation — GH, SM, AC
   3.8 Applied Research Linkages — GH
   3.9 Extension Linkages — GH, AC
   3.10 Support Systems and Policy Linkages

PART TWO: GENERAL IMPLEMENTATION GUIDELINES

4. FARM SYSTEM DESCRIPTION AND DIAGNOSIS

   4.1 Purpose and Information Sought — GH (DB)
      4.1.1 Using Existing Information
   4.2 Setting Priorities — GH (DB)
   4.3 Survey Formats — FW (DB)
   4.4 Monitoring Formats — FW (DB)
   4.5 Selecting Villages and Farmers
   4.6 Special Issues in Cropping Systems Diagnosis — GH
   4.7 Special Issues in Livestock Systems Diagnosis — TT, FW
   4.8 Special Issues in Farm Management Diagnosis — AC, FW (DB)

   4.8.1 Food Consumption Percpective
   4.9 Special Issues in Support Systems Diagnosis — FW, DN (DB)
   4.10 Modeling — FW, DN

5. DESIGN AND TESTING

   5.1 Purpose and Information Sought — GH (DB)
   5.2 Setting Priorities — GH (DB)
   5.3 Trial Formats — GH (DB)
   5.4 Selecting Villages and Farmers — FW (DB)
   5.5 Special Issues in Crop Production Trials — GH
   5.6 Special Issues in Livestock Trials — TT
   5.7 Socio-Economic Criteria

6. DISSEMINATION — (DB)

   6.1 Purpose
   6.2 Setting Priorities
   6.3 Dissemination Formats — AC
   6.4 Selecting Villages and Farmers
   6.5 Reporting Results

PART THREE: IMPLEMENTATION PROCEDURES

7. SURVEYS — FW (DB)

   7.1 Informal Surveys
      7.1.1 Creating a Rapid Rural Appraisal Survey Checklist
   7.2 Generating a Sample Frame
   7.3 Selecting Samples
   7.4 Designing Questionnaires — SB
   7.5 Determining Sample Size
   7.6 Deciding on the Unit of ANalysis
   7.7 Training Enumerators — AC, SB
   7.8 Ensuring Good Quality Data — AC
   7.? (Any others?)

8. PLOT MONITORING AND CROP PRODUCTION TRIALS

   8.1 Measuring Field Size — SB, JS, EM
   8.2 Selecting Monitoring and Trial Sites — JS, EM, GH
   8.3 Laying Out Field Plots — JS, EM, GH
   8.4 Determining Seeding Rates (Measuring) — JS, EM, GH
   8.5 Measuring Population Densities in Crop Stands — JS, EM, GH
   8.6 Taking Soil Samples and Examining Soil Profiles — JS, EM

ANNEX E

8.7 Assessing Soil Moisture — JS, EM
8.8 Measuring Yields — JS, EM, GH
8.9 Economic Data
8.9.1 Recording Labor times — FW
8.10 Organizing Logistical Support — JS, EM, AC
8.11 Interacting with Farmers — SM
8.12 Meteorologic Data
8.13 Designing Trials
8.14 Data Collection

LIVESTOCK MONITORING AND TRIALS — TT, FW, SB

9.1 Tagging
9.2 Weighing
9.3 Measuring Milk Offtake
9.4 Data Collection

DATA MANAGEMENT — FW, SB (DB)

10.1 Structuring Databases
10.2 Documenting Databases
10.3 Coding Data
10.4 Data entry and Checking
10.5 Transferring Data Between Software Packages

DATA ANALYSIS — FW (DB)

11.1 Analysis of Variance — JS
11.2 Cross Tabulation and Chi-Square Statistics
11.3 Means and t-Tests — JS
11.4 Regression — JS
11.5 Economic Analysis
11.5.1 Budgeting
11.5.2 Marginal and Returns Analysis
11.5.3 Risk Analysis — JS
11.5.4 Valuing Inputs and Commodities
11.5.5 Predicting Labor Times
11.7 Stability Analysis — JS
11.8 Social Science Analysis
11.10 Framework for Analysis
11.11 Reporting Results

DISSEMINATION — AC, BH, (DB)

12.1 Working with Farmer Groups — GH, FW, SM
12.2 Conducting Field Days — GH, SM
12.3 Collaborating on Demonstrations — GH, JS, EM

8.7 Assi
8.8 Meas
8.9 Econ
8.9.1
8.10 Orga
8.11 Inte
8.12 Mete

12.4 Participating in Agricultural Shows — JS, EM
12.5 Assessing Adoption

APPENDIX: FEATURES OF BOTSWANA AGRICULTURE AFFECTING FS WORK

13.1 Technical Environment — DW, FM (DB)
13.2 Agricultural Sector Overview — JS, EM
13.3 Agricultural Institutions
13.4 Agricultural Policies and Programmes

14. GLOSSARY

15. REFERENCES

Project 0221

1.	Uncommitted for project	262,900
2.	Less Project Requirements	354,000
	Short of Requirements	<91,100>
3.	Recovery from Current MIAC Contract	175,000
	Possible Use	83,900

Home Travel (6 families)	86,000
Petty Cash Expenditures (11 months)	35,000
Misc. Support Costs (11 months)	60,000
Educational Allowance/Travel	45,000
Rents - 2 houses Francistown P605 per month for 9 months x 2 = P14,000	7,000
R&R	28,000
Personnel contracts	10,000
	271,000
15% contingency	40,000
	311,000
INTSORMIL October 1989 - September 1990	43,000

Send Out (Home Travel)

Norman	Travel	6,000 (3)	
	Airfreight	2,500	
	Freight	6,000	
		14,500	
Heinrich	Travel	3,800	
	Airfreight	1,500	
	Freight	6,000	
		11,300	
Seibert	Travel	7,000 (5)	
	Airfreight	3,000	
	Freight	6,000	
		16,900	
Thedford	Travel	3,800 (2)	
	Airfreight	1,500	
	Freight	6,000	
		11,300	
Worman	Travel	7,000 (4)	
	Airfreight	3,500	
	Freight	6,000	
		17,500	
Carter	Travel	5,800 (4)	
	Airfreight	3,000	
	Freight	6,000	
		14,800	5,300

Persaud

Educational Allowance/Travel

1.	Worman -	away from post	10,000
		1 away + 2 at post (partial)	6,000
2.	Siebert -	3 at post	6,000
3.	Norman	1 at post - 2,500	
		Educational travel - 3,600	6,100
4.	Carter	2 at post (partial)	2,000
5.	Persaud	Educational allowance 16,400	
		1 educational travel 3,600	20,000
			44,100

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1.	Heinrich (2)	4,000
2.	Norman (4)	7,000
3.	Siebert (5	7,000
4.	Persaud (2)	4,000
5.	Norman (3)	6,000
		28,000

Contracts:

Lesego - 6 months - P10,000	P 5,000
Monyane - 11 months	5,000
	P10,000

KSU
KANSAS STATE UNIVERSITY

International Agricultural Programs

Office of the Director
Waters Hall
Manhattan, Kansas 66506
913-532-5714

October 19, 1989

Fax to David Norman
Gabarone, Botswana

Dear David,

A quick review of budget demands up to this point and projected forward show a carry-over of approximately $225,000 after Project termination on September 28, 1990. This is based on a KSU budget of $2,352,121. The $125,744 budgeted for MIAC G&A will also be somewhat underspent. The assumptions used were:

- Bob Hill termination as of December 1989
- Tom Thedford - his full two years only
- Siebert, Heinrich, and Worman through August 1990
- Norman through September 1990
- Normal salary increases beginning July 1990
- Current students supported through August 1990
- No additional equipment
- No additional consultancies except one Executive Visit for Jorns
- Campus expenses carried through September 1990

I didn't have time to go over this as carefully as I need to, so will wait until next week to fax a budget page showing the line number breakdown.

Sincerely,

William J. Jorns, Assistant Director
International Agricultural Programs

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PROJECT SUMMARY REPORT FOR PROJECT 633-0221.
Agriculture Technology Improvement
As Of March 31,1989

SUMMARY BY BUDGET ALLOWANCE:

BUDGET PLAN CODE	OBLIGATIONS 10/1/88	ACCRUED EXPENDITURES 10/1/88	OBLIGATIONS FY TO DATE	ACCRUED EXPENDITURES FY TO DATE	OBLIGATIONS 3/31/89	ACCRUED EXPENDITURES 3/31/89
GESA-81-21633-K618	761.000.00	561.750.83		2.040.88	761.000.00	563.791.71
GESA-82-21633-K613	2.298.000.00	2.265.228.50		(30.388.80)	2.298.000.00	2.234.839.70
GESA-83-21633-K613	2.049.000.00	1.842.271.15		(44.917.53)	2.049.000.00	1.797.353.62
GDAA-84-21633-AG13	3.060.000.00	2.138.734.43		(198.440.40)	3.060.000.00	1.940.294.03
GDA5-86-21633-AG13	48.629.00				48.629.00	
GDAA-86-21633-AG13	762.926.00	631.864.95		126.767.71	762.926.00	758.632.66
TOTAL	8.979.555.00	7.439.849.86		(144.938.14)	8.979.555.00	7.294.911.72

SUMMARY BY PROJECT INPUTS:

PROJECT INPUT	OBLIGATED/ EARMARKED 3/31/89	COMMITTED 3/31/89	ACCRUED EXPENDITURES 3/31/89	PIPELINE 3/31/89
M.I.A.C. Contract	6.104.929.57	6,104,929.57	4.609.415.11	1,495.514.46
Other Technical Assistance	32.277.52	32,277.52	17.519.36	14.758.16
sub-total tech.assistance	6,137,207.09	6,137,207.09	4,626,934.47	1,510,272.62
Participant Training(Non-MIAC)	512.706.79	512,706.79	471,721.68	40.985.11
Evaluation		(2.904.84)	16.708.16	(16.708.16)
Commodities	116.942.22	93,066.26	107,714.48	9.227.74
USAID Supplied Contractor Support	1.548.119.00	1.548.119.00	1.920,200.51	(372.081.51)
GOB Controlled Operations & Suppurt	210.000.00	210.000.00	151.632.42	58.367.58
total earmarked	8.524.975.10	8.498.194.30	7.294.911.72	1.230.063.38
Unearmarked	454.579.90			454.579.90
PROJECT TOTAL	8.979.555.00	8.498.194.30	7.294.911.72	1.684.643.28

STATUS THRU 9/30/89

Exp Ex Rev 9/30/89

$5,722,924.86

ACCRUAL 9/30 1,716,925.00

$ 7,439,849.86

UN-EARMARK

$262,879.00

8,979,555.00 +
7,439,849.86 -
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1,539,705.14 S
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003
1,276,826.14 S

ANNEX G

No. 1

UNCLASSIFIED

Department of State

OUTGOING TELEGRAM

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PAGE 01 OF 02 STATE 297272 2018 035202 A102432

ORIGIN AID-00

OFFICE STUR-01

INFO AAF-03 AFEA-03 AFSA-03 AFRA-03 AFFW-04 AFCW-03 SEOP-01 AA-02 SERP-01 LASA-02 LADA-03 AFTR-05 AMAD-01 PPPB-02: -01 SEOS-02 IGLC-01 GCCH-02 IGEH-02 BIFA-01 ANTR-06 PO-01 SAST-01 ES-01 AA10-01 AMXE-03 RELO-01 TELE-01 ACA-03 ANEA-02 AHEG-02 AMAA-01 AMSA-03 /072 A0

INCO LOG-00 EUR-00 AF-00 IO-19 NEA-04 ARA-00 EAP-00 /023 R

DRAFTED BY: AID/ST/RUR:CRJACKSON:RJ
APPROVED BY: AID/A/AID:JFMORRIS
AID/PPC/PB/CPA:ABAKER (SUBS) AID/AFR/TR/ARD:KPRUSSNER (SUBS)
AID/ANE/TR/ARD:MPURVIS (SUBS) AID/SER/OP:FMCNCADA (SUBS)
AID/LAC/DR/RD:DJOSLYN (SUBS) AID/M/SER/PPE:KOHARA (SUBS)
AID/BIFAD/S:RKLEIS (SUBS) AID/ST:BLANGHAID

113117 - 232159Z /38

R 232048Z SEP 87 ZEX
FM SECSTATE WASHDC
TO AID WORLDWIDE

UNCLAS STATE 297272

AIDAC, FOR AID MISSION HEADS FROM ACTING ADMINISTRATOR

E.O. 12356: N/A

SUBJECT: CONTINUING LINKAGES BETWEEN U.S. AND DEVELOPING COUNTRY INSTITUTIONS

1. ON COMPLETION OF A CONTRACT, INVOLVING A U.S. UNIVERSITY AND AN OVERSEAS INSTITUTION, THERE IS NORMALLY A LARGE RESERVOIR OF PERSONAL AND INSTITUTIONAL RELATIONSHIPS AND MUTUAL TRUST AMONG THE INSTITUTIONS THAT HAVE BEEN INVOLVED IN THE WORK. IT MAY BE TO THE ADVANTAGE OF BOTH THE DEVELOPING COUNTRY AND THE U.S. TO MAINTAIN A LINKAGE BETWEEN THE U.S. AND OVERSEAS INSTITUTIONS FOR A PERIOD OF TIME AFTER THE PRIMARY CONTRACT HAS BEEN COMPLETED. SUCH RELATIONSHIPS MAY BE STRENGTHENED AND REINFORCED BY CONTINUING INVOLVEMENT OF THE U.S. UNIVERSITY OR OTHER INSTITUTION THROUGH ACTIVITIES SPONSORED BY THE MISSION. CONTINUING ACTIVITIES BETWEEN U.S. UNIVERSITIES AND HOST INSTITUTIONS WHO SHARE THE GOAL OF DEVELOPING HIGHER EDUCATIONAL RESOURCES ARE PARTICULARLY IMPORTANT. OTHER ACTIVITIES MAY BENEFIT FROM AN EXTENDED RELATIONSHIP ALSO. SUSTAINING THESE INSTITUTIONAL RELATIONSHIPS CAN CONTRIBUTE IMPORTANTLY TO OUR DEVELOPMENTAL AND FOREIGN POLICY OBJECTIVES.

2. THIS IS OF MAJOR CONCERN TO ME AND TO DR. BILL LAVERY, CHAIRMAN OF BIFAD. WITH THIS IN MIND I HAVE TOLD DR. LAVERY OF OUR INTENTION TO IMPLEMENT THE PROGRAM DESCRIBED BELOW. THIS IS FULLY IN KEEPING WITH OUR POLICIES OF WORKING WITH U.S. INSTITUTIONS AND CREATING ENDURING RELATIONSHIPS WITH HOST COUNTRY INSTITUTIONS. THE PURPOSE OF THIS CABLE IS TO URGE MISSIONS TO MAKE USE OF CONTINUING LINKAGE ACTIVITIES AS APPROPRIATE TO THEIR COUNTRY SITUATION.

3. NEITHER THE U.S. NOR DEVELOPING COUNTRY INSTITUTIONS USUALLY CAN PROVIDE OR LEGITIMATELY USE THEIR FINANCIAL RESOURCES TO FULLY FUND CONTINUING RELATIONSHIPS, BUT THEY DO HAVE INTEREST IN AND THE CAPABILITY TO PROVIDE IN-KIND INPUTS OF MAJOR VALUE. IT IS APPROPRIATE THAT SUCH CONTINUING ASSOCIATION SHOULD BE PARTIALLY SUPPORTED BY MISSIONS WHICH INITIALLY ESTABLISHED THE PROJECT. VERY MODEST A.I.D. FUNDING MAY STIMULATE SUBSTANTIAL CONTRIBUTIONS FROM U.S. AND DEVELOPING COUNTRY INSTITUTIONS IN A

HIGHLY COST EFFECTIVE WAY. IT IS PROPOSED, THEREFORE, THAT WHERE APPROPRIATE MISSIONS ENCOURAGE AND HELP SUPPORT CONTINUING LINKAGE AGREEMENTS.

4. CONTINUING LINKAGE AGREEMENTS SHOULD BE DEVELOPED JOINTLY AMONG THE U.S. INSTITUTION, THE HOST COUNTRY, AND THE MISSION. THE DESIRE FOR CONTINUED ASSISTANCE BY THE HOST COUNTRY PARTICIPATING IN SUCH LINKAGE SHOULD BE BASED ON THE MISSION'S KNOWLEDGE OF THE U.S. INSTITUTION'S PERFORMANCE UNDER A CONTRACT, THE WISHES AND CAPABILITIES OF THE HOST COUNTRY INSTITUTIONS, THE U.S. UNIVERSITY, AND CONSISTENCY WITH MISSION POLICY RELATED TO THE COUNTRY.

5. SUGGESTED GUIDELINES FOR AGREEMENTS FOR CONTINUING LINKAGES ARE:

A. THIS PROGRAM IS FOR THE PRESENT LIMITED TO TITLE XII INSTITUTIONS. BASED ON OUR EXPERIENCE WE MAY EXTEND IT TO OTHER INSTITUTIONS AT A LATER DATE. IT IS OPEN TO ALL COUNTRIES ELIGIBLE TO RECEIVE ECONOMIC ASSISTANCE;

B. ANNUAL FUNDING OF UP TO DOLS 50,000, FOLLOWING CONTRACTS WITH A SINGLE UNIVERSITY AND UP TO DOLS 100,000 FOR MULTI-UNIVERSITY CONTRACTS, AS RELATED TO PROPOSED SCOPE OF ACTIVITIES AGREED UPON;

C. PROGRAM IS TO OPERATE COOPERATIVELY BY THE U.S. UNIVERSITY OR INSTITUTION (OR THE LEAD INSTITUTION IN THE CASE OF MULTIPLE INSTITUTIONS OR CONSORTIUM CONTRACT) AND THE HOST COUNTRY INSTITUTION

D. NO INDIRECT COSTS WILL BE PAID FROM USAID FUNDS; MINIMUM REQUIREMENT OF ONE-TO-ONE MATCHING BY U.S. INSTITUTION WITH IN-KIND INPUTS, INDIRECT COSTS, OR OTHER NON-A.I.D. RESOURCES, AND AT LEAST ONE QUARTER TO ONE MATCHING BY HOST COUNTRY INSTITUTION;

E. AGREEMENT MAY PROVIDE FOR TRAVEL, SUBSISTENCE, FEES, SHIPPING, MATERIALS, SUPPLIES, PUBLICATIONS, COMMUNICATIONS AND OTHER AGREED-UPON ITEMS. USAID FUNDS CANNOT BE USED FOR EQUIPMENT, STAFF SALARIES, ADMINISTRATIVE COSTS, SECRETARIAL WAGES, U.S. LIBRARY ACQUISITIONS, OR INDIRECT COSTS. THESE COSTS, AS DOCUMENTED, WILL BE ALLOWED AS MATCHING COMPONENTS;

F. LINKAGES WOULD BE EXPECTED TO BE FOR 3-5 YEARS BUT SUBJECT TO RENEWAL BASED ON A SATISFACTORY EVALUATION. RENEWAL LINKAGES MUST PROVIDE FOR A NEW COST-SHARING FORMULA BY WHICH THE LINKAGE WOULD BE SELF-SUSTAINING BY THE END OF ITS SECOND TERM.

6. PROVISION OF FUNDS FOR CONTINUING LINKAGES CAN BE MADE BY GRANTS, COOPERATIVE AGREEMENTS, OR CONTRACTS DEPENDING ON THE NATURE OF THE RELATIONSHIP PLANNED AND THE DEGREE OF MANAGEMENT REQUIRED TO ASSURE EFFECTIVE IMPLEMENTATION. IN THE LATTER INSTANCE, THREE CASES CAN BE CONSIDERED:

A. SPECIFY IN THE RFP FOR ALL NEW CONTRACTS WITH TITLE XII INSTITUTIONS, THE OPTION FOR LINKAGE ACTIVITIES AFTER THE MAJOR WORK OF THE CONTRACT HAS BEEN COMPLETED, CONTINGENT UPON SATISFACTORY PERFORMANCE OF THE U.S. INSTITUTION AND ON THE NEED, TO BE DETERMINED AT THE END OF THE CONTRACT.

B. AMEND EXISTING OR TERMINATING CONTRACTS TO PROVIDE FOR LINKAGE ACTIVITIES AS A CONTRACT EXTENSION OR FOLLOW-ON PHASE.

C. PROVIDE GRANT OR COOPERATIVE AGREEMENT FOR POST-CONTRACT LINKAGES WHICH ARE DEVELOPED AFTER TERMINATION OF CONTRACT.

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7. REQUEST MISSION COMMENTS ON THIS PROGRAM, THESE GUIDELINES, AND THEIR APPLICABILITY TO YOUR COUNTRY SITUATION. WHITEHEAD

ANNEX G

No. 2

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ST/PUR OUTGOING TELEGRAM

Department of State

PAGE 01 OF 02 STATE 257345 3884 087309 AID3117
ORIGIN AID-00

ORIGIN OFFICE STUR-01
INFO AFEA-03 AFSA-03 AFFW-04 AFCV-03 AFDP-06 AFCO-02 AFTR-05
AHEA-02 AHDP-03 ANSA-03 AAAF-03 ANAA-01 BIFA-01 OL-01
LADR-03 LASA-02 LACA-03 SAST-01 PPPB-02 IG-01 GC-01
GCCH-02 ANME-03 ANEG-02 ANTR-05 ES-01 AAID-01 STPO-01
AAPF-01 IGLC-01 SEOP-01 SEOS-02 SEPS-03 IGAD-02 FPA-02
SERP-01 RELO-01 AMAD-01 TELE-01 /026 A0

INFO LOG-00 EUR-00 AF-00 IO-19 NEA-04 ARA-00 EAP-00
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DRAFTED BY: AID/ST/RUR:CRJACKSON:MS
APPROVED BY: AID/A/AID:AVOOOS
AID/A/AID:JFMORRIS AID/ES:GJOE
AID/C/AID:ARLOVE AID/ST:KCBRADY
AID/ST:BLANGMAID AID/PPC/PB/CPA:ABAKER (DRAFT)
AID/AFR/TR/ARD:KPRUSSNER (DRAFT) AID/AFR/DP/PPE:GCASHION (DRAFT
AID/LAC/DR/ARD:SWINGERT (DRAFT) AID/LAC/DR:GBOWERS (DRAFT)
AID/ST/PD:GGOWER (DRAFT) AID/N/SER/PPE:JMURPHY (DRAFT)
AID/N/SER/OP:FMONCADA (DRAFT) AID/BIFAD/S:LPESSON (DRAFT)
AID/ANE/TR/ARD:GLEWIS (DRAFT) AID/ANE/DP:ASILVER (DRAFT)
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R 080513Z AUG 88 ZEX
FM SECSTATE WASHDC
TO AID WORLDWIDE

UNCLAS STATE 257345

AIDAC, FOR A.I.D. MISSION HEADS FROM ADMINISTRATOR

E.O. 12356: N/A

SUBJECT: CONTINUING LINKAGES BETWEEN U.S. AND DEVELOPING COUNTRY INSTITUTIONS

REF: STATE 297272

1. THE REFERENCED CABLE DESCRIBED A PROGRAM FOR CONTINUING LINKAGES AND REQUESTED MISSION COMMENT. I GREATLY APPRECIATE THE THOUGHTFUL COMMENTS FROM THE THIRTY-THREE MISSIONS THAT RESPONDED. ALL RESPONSES WERE FAVORABLE. BASED ON YOUR COMMENTS AND ON FURTHER REVIEW BY A.I.D./W, SEVERAL CLARIFICATIONS HAVE BEEN MADE. I ENDORSE THIS CONCEPT OF CONTINUING LINKAGES AND ENCOURAGE MISSIONS TO EMPLOY IT. THIS CABLE SUPERSEDES STATE 297272.

2. POLICY CONSIDERATIONS:

A. ON COMPLETION OF A CONTRACT INVOLVING A U.S. UNIVERSITY AND AN OVERSEAS INSTITUTION, THERE IS NORMALLY A LARGE RESERVOIR OF PERSONAL AND INSTITUTIONAL RELATIONSHIPS AND MUTUAL TRUST AMONG THE INSTITUTIONS THAT HAVE BEEN INVOLVED IN THE WORK. IT IS TO THE ADVANTAGE OF BOTH THE DEVELOPING COUNTRY AND THE U.S. TO SUSTAIN THESE

RELATIONSHIPS BETWEEN THE TWO INSTITUTIONS AFTER THE PRIMARY CONTRACT HAS BEEN COMPLETED. SUCH RELATIONSHIPS MAY BE STRENGTHENED AND REINFORCED BY CONTINUING INVOLVEMENT OF THE U.S. UNIVERSITY OR OTHER INSTITUTION THROUGH ACTIVITIES SPONSORED BY THE MISSION. CONTINUING ACTIVITIES BETWEEN U.S. UNIVERSITIES AND HOST INSTITUTIONS THAT SHARE THE GOAL OF DEVELOPING BETTER EDUCATIONAL RESOURCES ARE PARTICULARLY IMPORTANT. OTHER ACTIVITIES MAY BENEFIT FROM AN EXTENDED RELATIONSHIP ALSO. SUSTAINING THESE INSTITUTIONAL RELATIONSHIPS CAN CONTRIBUTE IMPORTANTLY TO OUR DEVELOPMENTAL AND FOREIGN POLICY OBJECTIVES.

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B. NEITHER THE U.S. NOR DEVELOPING COUNTRY INSTITUTIONS USUALLY CAN PROVIDE OR LEGITIMATELY USE THEIR FINANCIAL RESOURCES TO FULLY FUND CONTINUING RELATIONSHIPS, BUT THEY DO HAVE INTEREST IN AND THE CAPABILITY TO PROVIDE IN-KIND INPUTS OF MAJOR VALUE. ~~[illegible]~~ VERY MODEST A.I.D. FUNDING MAY STIMULATE SUBSTANTIAL CONTRIBUTIONS FROM U.S. AND DEVELOPING COUNTRY INSTITUTIONS IN A HIGHLY COST EFFECTIVE WAY. MISSIONS ARE ENCOURAGED TO HELP SUPPORT CONTINUING LINKAGE ACTIVITIES.

A.I.D.'S POLICY CONCERNING ADVANCED DEVELOPING COUNTRIES IS UNDER ACTIVE REVIEW. LINKAGE ACTIVITIES CAN BE INCORPORATED IN THESE PROGRAMS OR BE CONSIDERED INDEPENDENTLY.

3. IMPLEMENTATION:

THIS PROGRAM IS INTENDED TO PROVIDE SOME DEGREE OF RELATIONSHIP AND CONTINUITY BETWEEN THE INSTITUTION WHICH HAS PERFORMED THE CONTRACT AND THE HOST COUNTRY ENTITY WHICH HAS BEEN INSOLVED, BY ENCOURAGING A MODEST LEVEL OF TECHNICAL, INSTITUTIONAL, PROFESSIONAL OR STUDENT-DEVELOPMENT SUPPORT AND INTERACTION FOLLOWING CONTRACT COMPLETION. LINKAGES PROPOSALS AND SCOPE OF ACTIVITIES SHOULD BE DEVELOPED AND MANAGED JOINTLY BY THE HOST COUNTRY AND CONTRACT ENTITIES, WITH MISSION APPROVAL AND INVOLVEMENT AS REQUIRED. CONTINUING LINKAGE AGREEMENTS ARE EXPECTED TO HAVE CLEARLY DEFINED GOALS, OBJECTIVES, AND PROCEDURES, AND YIELD IDENTIFIABLE OUTPUTS OF HIGH QUALITY AND VALUE WHICH WILL ENHANCE THE EFFECTIVENESS OF THE CONCLUDED CONTRACT. THIS PROGRAM IS NOT FOR THE ROUTINE FOLLOW-ON OR EXTENSION OF A CONTRACT, OR TO PROVIDE FOR THE COMPLETION OF AN EXISTING CONTRACT OR

GRANT. REGULAR PROJECT AMENDMENT AUTHORITIES ARE AVAILABLE AND SHOULD BE USED FOR THESE PURPOSES.

4. THE DESIRE OF THE MISSION TO FOSTER AND PARTICIPATE IN SUCH LINKAGES CLEARLY WILL BE BASED ON MISSION KNOWLEDGE OF AN INSTITUTION'S PERFORMANCE UNDER A CONTRACT, THE WISHES AND CAPABILITIES OF THE HOST COUNTRY INSTITUTIONS, AND CONSISTENCY WITH MISSION POLICY RELATED TO THE COUNTRY. MISSIONS OR REGIONAL PROGRAMS WOULD PROVIDE FUNDING FOR ANY CONTINUING LINKAGES. FUNDS NEED NOT BE DERIVED FROM THE SAME PROJECT AS FUNDED THE PRIOR CONTRACT. MISSIONS SHOULD NOTE THAT LINKAGE PROJECTS, WHICH WILL INVOLVE NEW OR ADDITIONAL FUNDS BEYOND THOSE PROGRAMMED, REQUIRE CITATION IN ACTION PLANS, CONGRESSIONAL NOTIFICATION AND NEW OR AMENDED PROJECT AUTHORIZATION AS APPROPRIATE.

5. GUIDELINES FOR AGREEMENTS FOR CONTINUING LINKAGES ARE:

A. THIS PROGRAM EMPHASIZES TITLE XII UNIVERSITIES. HOWEVER, IT IS NOT LIMITED TO THESE INSTITUTIONS AS THE GRANT AUTHORITIES ARE AVAILABLE FOR OTHER INSTITUTIONAL RELATIONSHIPS. IN DEVELOPING A LINKAGE PROGRAM, MISSIONS SHOULD CONSIDER (1) THE SUCCESSFUL COMPLETION OF CONTRACT WORK, (2) THE PROSPECTIVE VALUE OF THE FOLLOW-ON LINKAGE, AND (3) THE INSTITUTIONAL BACKUP RESOURCES OF THE FORMER CONTRACTOR AS PRINCIPAL BASES FOR ELIGIBILITY. THE PROGRAM IS OPEN TO ALL COUNTRIES ELIGIBLE TO RECEIVE ECONOMIC ASSISTANCE;

B. AS THE FOCUS OF THIS ACTIVITY IS "LINKAGE", FUNDING REQUIREMENTS SHOULD BE MODEST. FOR A "LINKAGE" WE WOULD NOT EXPECT ANNUAL FUNDING TO EXCEED DOLS. 100,000.

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C. LINKAGE PROGRAMS SHOULD BE CONDUCTED COOPERATIVELY BY THE UNIVERSITY OR INSTITUTION AND THE HOST COUNTRY ENTITY;

D. INDIRECT COSTS SHOULD NOT BE PAID FROM USAID FUNDS. MATCHING IS AN IMPORTANT CONSIDERATION IN THIS PROGRAM. A MINIMUM ONE-TO-ONE MATCHING BY U.S. INSTITUTION WITH NON-A.I.D. RESOURCES, AND AT LEAST ONE-QUARTER-TO-ONE MATCHING BY HOST COUNTRY INSTITUTION SHOULD BE SOUGHT. INDIRECT COSTS WOULD BE AN ELIGIBLE MATCHING CONTRIBUTION BY THE INSTITUTIONS;

E. AGREEMENT COULD PROVIDE FOR TRAVEL, SUBSISTENCE, FEES, SHIPPING, MATERIALS, SUPPLIES, PUBLICATIONS, COMMUNICATIONS AND OTHER AGREED-UPON ITEMS. USAID LINKAGE FUNDS SHOULD NOT BE USED FOR EQUIPMENT, STAFF SALARIES, ADMINISTRATIVE COSTS, SECRETARIAL WAGES, LIBRARY ACQUISITIONS FOR FORMER CONTRACTOR, OR INDIRECT COSTS. THESE COSTS, AS DOCUMENTED, WILL BE ALLOWED AS MATCHING COMPONENTS;

F. LINKAGES WOULD BE EXPECTED TO BE FOR 3 YEARS BUT SUBJECT TO RENEWAL BASED ON A SATISFACTORY EVALUATION. RENEWAL LINKAGES SHOULD PROVIDE FOR A NEW COST-SHARING FORMULA BY WHICH THE LINKAGE WOULD BE SELF-SUSTAINING BY THE END OF ITS SECOND TERM.

6. FUNDING:

THE CONCEPT OF LINKAGE IS A.I.D. SUPPORT TO A CONTINUING RELATIONSHIP WHICH THE CONCERNED INSTITUTIONS HAVE DECIDED IS IN THEIR OWN INTEREST TO PROVIDE. THEREFORE, FUNDS FOR CONTINUING LINKAGES ARE MOST LIKELY TO BE PROVIDED THROUGH ASSISTANCE INSTRUMENTS SUCH AS GRANTS AND COOPERATIVE AGREEMENTS. IF, HOWEVER, THE NATURE OF THE RELATIONSHIP PLANNED AND THE DEGREE OF MANAGEMENT NEEDED TO ASSURE EFFECTIVE IMPLEMENTATION REQUIRE THE CONTRACT MODE, TWO CASES CAN BE CONSIDERED:

A. NEW CONTRACTS COULD SPECIFY IN THE ORIGINAL RFP THE OPTION FOR LINKAGE ACTIVITIES AFTER THE MAJOR WORK OF THE CONTRACT HAS BEEN COMPLETED, CONTINGENT UPON SATISFACTORY PERFORMANCE OF THE CONTRACTOR AND ON THE NEED, TO BE DETERMINED AT THE END OF THE CONTRACT; OR

B. CONTINUING CONTRACTS COULD BE AMENDED TO PROVIDE FOR LINKAGE ACTIVITIES AS A CONTRACT EXTENSION OR FOLLOW-ON PHASE.

7. PROJECT ASSISTANCE COMPLETION DATE (PACD):

IF THE PROJECT WHICH FUNDED THE ORIGINAL CONTRACT IS TO FUND THE CONTINUING LINKAGE, THEN THE CONTINUING LINKAGE RELATIONSHIP MUST BE COMPLETED BY THE PACD, OR THE PACD WILL NEED TO BE EXTENDED. IF OTHER FUNDS ARE USED FOR THE CONTINUING LINKAGE, THEN THE PACD OR THE ORIGINAL CONTRACT WOULD NOT NEED TO BE EXTENDED.

8. COMPETITION:

IT IS ANTICIPATED THAT THE NATURE OF THE CONTINUING LINKAGE PROGRAM IS SUCH THAT IT WILL BE MOST OFTEN APPROPRIATELY CARRIED OUT UNDER A GRANT OR COOPERATIVE AGREEMENT ARRANGEMENT WITH MINIMAL DIRECT MISSION INVOLVEMENT. IN THIS CASE, A COMPETITION WAIVER WOULD NEED TO BE APPROVED IN ACCORDANCE WITH PARAGRAPH 2B (FORMERLY

WHERE THE MISSION CLEARLY WANTS TO BUY AND MANAGE ADDITIONAL SERVICES FROM THE U.S. INSTITUTION, A CONTRACT IS THE APPROPRIATE VEHICLE (SEE PARAGRAPH 25E OF HANDBOOK 13 FOR A DISCUSSION ON ASSISTANCE RELATIONSHIPS VS.

ACQUISITION RELATIONSHIPS.

IN SUCH A CASE, THE TITLE XII SELECTION PROCEDURES IN AIDAR 715.613 MAY BE USED. OR, IF THEY ARE INAPPROPRIATE, A JUSTIFICATION AND APPROVAL FOR OTHER THAN FULL AND OPEN COMPETITION (SEE FAR 6.303) WILL NEED TO BE APPROVED AT THE APPROPRIATE LEVEL (SEE FAR 6.304). POSSIBLE JUSTIFICATIONS [illegible] ISSUED [illegible] HANDBOOKS [illegible] INFORMATION BULLETINS (CIB) 86-11 AND 87-6 REGARDING THE LATTER JUSTIFICATION.) WHITEHEAD