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AGRICULTURAL PLANNING PROJECT

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Project Evaluation

Evaluation team

Richard Suttor, Agricultural Economist, DS/AGR/EPP
E. Boyd Wennergren, Agricultural Economist, Utah State University
Joan Atherton, Social Science Analyst, PPC/PDPR/RD

AGRICULTURAL PLANNING PROJECT (067)

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List of Definitions and Acronyms

AID	See USAID
ALDEP	Arable Lands Development Program
Botswana	The country
Batswana	More than one person of Botswana citizenship
CAE	Chief Agricultural Economist, Ministry of Agriculture
CSO	Central Statistics Office, Ministry of Finance and Development Planning
DAO	District Agricultural Officer
DDC	District Development Committee
DOD	District Officer (Development), Ministry of Local Government and Lands
DPS	Division of Planning and Statistics, Ministry of Agriculture
GOB	Government of Botswana
IBRD	International Bank for Reconstruction and Development
MFDP	Ministry of Finance and Development Planning
MMRWA	Ministry of Mineral Resources and Water Affairs
MOA	Ministry of Agriculture
Motswana	One person of Botswana citizenship
MWC	Ministry of Works and Communications
NDP	National Development Plan, GOB 5-year plan
OJT	On-the-job-training
PASA	Participating Agency Service Agreement
PM	Project Memoranda
PO	Planning Officer
PP	Project Paper
PPO	Principal Planning Officer
RAO	Regional Agricultural Officer
RSU	Rural Sociology Unit, MOA/DPS
SAE	Senior Agricultural Economist, MOA/DPS
TGLP	Tribal Grazing Lands Program
U.S.	United States
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
VDC	Village Development Committee

AGRICULTURAL PLANNING PROJECT (067)

Summary

The Agricultural Planning Project was designed to provide technical assistance and staff training to the Division of Planning and Statistics (DPS) in the GOB Ministry of Agriculture. It is, in effect, an institution-building project, designed to develop a trained, localized planning and analysis capability within the Ministry, and thus to attain more effective GOB rural development programs. The project addresses one of the major constraints to improved rural development planning in Botswana: a chronic shortage of trained manpower.

A Participating Agency Services agreement with the U.S. Department of Agriculture to implement the Project, signed in October 1978, included the following:

(1) The assignment of expatriate professionals to the DPS to fill seven planning positions while Batswana were trained abroad.

(2) The training of 16-20 Batswana in Agricultural Economics and related rural development fields. Training would be at both Masters and Bachelors degree levels and would include Batswana from both the DPS and other GOB agencies. Most trainees would have a year of on-the-job training and take remedial courses offered by the PASA team prior to departure. Thesis preparation, where applicable, would be done in-country.

(3) The localization of all positions in the DPS by agreement end.

(4) In addition, the project was to provide five houses; six offices; four vehicles for field work; library acquisitions and space; special short courses; and miscellaneous other costs.

The evaluation team finds that the project is generally on track and is expected to achieve the goal identified in the Project Paper (PP). The PASA team arrived in a timely manner and is judged to be highly competent and adequately fulfilling the requirements of the PASA agreement. Training is proceeding on schedule, with 21 participants (18 actually funded) chosen, including the counterparts for the PASA team members in the DPS. Localization of the positions has begun, and can be expected to continue at perhaps a slightly slower pace than envisioned in the Project Paper due to an extension in the average length of time needed to complete course work in the U.S. from 12 months to the present 18. Requisite construction has been accomplished and commodities purchased, per the PP.

It is evident that at this midpoint in the project, an expanded DPS has been institutionalized within the MOA. The quality of the data collection and the publication time for both the agricultural statistics and farm management areas have vastly improved. Rural Sociology has a solid record of productivity of research and contribution to policy issues, which the team expects to be maintained

under the newly-arrived PASA team member. The Senior Agricultural Economist position in the Planning Unit has been localized. All of these are obvious project gains. Thus, most of the evaluation team's recommendations are intended to enhance anticipated project benefits, rather than to alter the course of the project.

Although detailed figures were unavailable, it is estimated that there may be as much as \$1.0 million in project funds available for reprogramming. The team recommends that, after a more exact accounting by USAID and the GOB, the remaining funds be used to the extent possible for additional training. Presently, funds are programmed for only 18 of the 21 candidates already identified under the Project training component. In addition, the MOA has recently drafted a manpower training plan for the entire Ministry, so that additional needs for training have already been thought out. Incrementing the training component would be consistent with this Project's purpose and goal and with AID's overall country strategy in Botswana.

Generally, the team's recommendations fall into four major categories: 1) directing greater attention to long-range economic analysis; 2) strengthening the internal structure of the Planning Unit within DPS; 3) increasing interaction with district-level MOA staff and development planners; and 4) improving the DPS relationship with the Ministry of Finance and Development Planning (MFDP). An additional issue was the means to ensure that Project benefits be maintained during the localization process. Major recommendations are briefly discussed below, with more detailed findings and recommendations attached in the team's report.

The evaluation team found that while significant improvements have been made in the data base since the inception of the Project, very little has yet been undertaken in terms of economic analysis. The team has recommended the development of a conceptual framework to meet long-term analytical needs which might be built on an agricultural sector assessment. A suggested conceptual framework appears in Annex B. This general framework, which can be broken into several parts or stages depending on time and manpower constraints, can serve multiple purposes. In addition to providing overall direction for the agricultural sector and the basis for the 1982-87 National Development Plan, it can be used to project staffing needs and workloads for the remainder of the life of the Project, and for some time beyond. It can also be used as a source of thesis topics for the returning trainees, and thus give them the experience necessary to continue this type of analytical work after the Project has ended. The team feels strongly that if the analytical work is not begun while the PASA team is still in place there is little hope of its being carried out after Project completion. In order to free up the necessary time to engage in this work, the team has suggested that DPS examine the mix of activities in which it engages with an eye to reordering its

priorities somewhat.

There are some internal disruptions in the Planning Unit, owing to a number of factors. These include the absence of some personnel for training, thus creating staff shortages, the localization of the Senior Agricultural Economist (SAE) position, a lack of clear division of duties among the Agricultural Economists in the Unit, some confusion as to career opportunities within and without the DPS, and a more generalized lack of communication within the Division. The team has recommended several interrelated actions. We have suggested a clarification of responsibilities within the unit and, if possible, a closer alignment with the operational departments of the MOA, and that all assignments of work to members of the Planning Unit be cleared through the SAE. We have also recommended that some form of career counseling be offered, especially as increasing numbers return from training. Finally, the team suggests that more regular staff meetings be held and that a more detailed annual work plan be formulated for the Division, which will clarify individual responsibilities.

Communication with district-level officials takes several forms, as project proposals may originate at either district or central levels. In either case, the team found that the general district view is of a highly centralized MOA with a tendency toward top-down planning. There is apparently very little feedback on district project proposals as they move through the system. Also, the meaning and potential uses of the agricultural statistics and farm management data are not well understood at the district level.

The team has suggested that quarterly status reports on project proposals in agriculture be circulated by DPS to Regional Agricultural Officers and relevant district-level staff, and that DPS staff on field visits make a point of convening meetings of relevant district and regional staff to exchange views. Finally depending on available time, the Statistics and Farm Management Units are encouraged to engage in outreach activities, such as design of curriculum to "train trainers" in use of the data and presentations at district-level meetings to better explain the services available and the use of information collected.

The Ministry of Finance and Development Planning (MFDP) is, as the name implies, the central GOB agency for budget and development planning. All requests for development funds must be submitted in projectized form to the MFDP for approval, and the MFDP is responsible for the final version of the National Development Plan. Thus, the Division of Planning and Statistics in the MOA has a structurally prescribed and very important relationship to the MFDP, and in particular with the Planning Officer and Principal Planning Officer responsible for MOA planning in MFDP. Details of the current relationship are presented in the

attached report, but generally the team feels that the situation is characterized by a lack of adequate communication between the two entities, and that this may represent an impediment to complete Project success. We have recommended that the relationship be explored and facilitated at the Permanent Secretary level to resolve outstanding issues. The team also suggests that some of the other recommendations, such as the development of the conceptual framework for analysis in consultation with MFDP staff and the annual work plan will contribute to a smoother flow of work. The team has one further recommendation that does not fit into any of the categories listed above. The team suggests that in order to maintain the advances made in organization and expertise, a detailed phase-out plan for the PASA staff should be developed and continually updated as the trainees return. This will allow for sufficient overlap between expatriate and local as planned in the PP.

Once again, it must be stated that this Project is basically on track and that the likelihood of Project success is very high. The team is of the opinion, in fact, that this project should serve as a model for future AID projects involving technical assistance and training components. The placement of expatriate staff in line positions allows local staff the requisite time for training, and the phased localization plan ensures adequate continuity. In all, we feel that this is an excellent approach to filling trained human capital needs in developing countries.

Evaluation Methodology

This is the first major outside evaluation of a project begun in 1978. The evaluation was carried out using a collaborative approach. Interviews were conducted with professional and technical staff of the DPS, including PASA team members. Meetings were held with the Permanent Secretary, MOA; representatives of the MOA line departments and parastatals related to agriculture; MFDP staff; the Planning Officer of a comparable ministry and a number of district officials. To the extent possible, project financial records were examined, and a summary of the financial status of the project appears on page 11 of Addendum 1. The Ministry of Agriculture building, partially funded by this project, was visited. Appropriate documentation relating to the project and to the work of the DPS was reviewed.

Issues were raised and discussed with relevant personnel as the evaluation proceeded. A draft Findings and Recommendations Paper (Addendum 2) was presented for discussion and review. Meetings were held on the paper and comments were considered in preparation of the final evaluation report. Major Action Decisions were reviewed by the USAID Director and the Permanent Secretary, MOA prior to finalization of the report.

External Factors

Not pertinent at this time.

InputsAID

1. Qualified project personnel have been provided in a reasonably timely manner, with the exception of the Rural Sociologist and Agricultural Economist/Student Trainer positions. In these cases, delays were encountered, but were not grave enough to impede project progress.

2. Commodities and project support including the following have been provided:

- a. Five vehicles
- b. Library volumes/journals, with additional ones on order ^{1/}
- c. Adequate administrative support

GOB

1. Professional, technical, clerical and support staff have been provided at or in excess of the level specified in the PP.

2. Statistical personnel in the required numbers have been seconded from CSO to MOA/DPS.

3. At least 5% of the working time of two senior management staff persons at MOA and one at MFDP has been provided to support the project.

4. Twenty-one trainees have been chosen for the project from salaried GOB staff.

5. Vehicles (9) and logistical support as specified in the PP have been provided.

Construction

As specified in the PP, the following have been constructed jointly by AID and GOB:

- a. Seven houses
- b. Four clerical offices)
- c. Ten professional offices) in new MOA headquarters
- d. One library room)

^{1/} An exact count of these materials was unavailable, as the librarian was attending a short course in the U.S. during the period of the evaluation.

Land for four AID-funded houses was provided by the GOB.

The MOA headquarters building has not yet been accepted from the contractor by the Chief Architect on behalf of the GOB, but construction has been completed.

Outputs

Institutionalization

The provision of technical assistance has allowed the DPS to expand the number of positions and the range of activities it has undertaken.

Data Collection and Retrieval

The annual livestock and crop survey has been improved both in terms of quality and timeliness of data publication. The farm management survey has been expanded and improved. Enumerators have been trained in survey techniques under both efforts.

Analysis

To date, very little analytical work or long-range planning for the agricultural sector in Botswana has been accomplished. It is expected that this, and the formulation of the 1982-87 NDP will be carried out during the remaining years of the project.

Training

The first trainee has completed coursework and returned to begin thesis research. Others are presently enrolled at U.S. universities. Eight remedial courses were offered during 1979-80. Curricula and course handouts for the remedial work have been prepared. All 21 students identified for formal study did receive or are receiving on-the-job training (OJT) from expatriate counterparts (NB: At this writing funds are available for only 18 of the 21 in OJT).

Library

The reference library has been started, with an impressive number of publications (approximately 2,000) already on the shelves.^{1/} Approximately one-and-one-half person months of technical assistance were provided by USAID to organize the library, and the MOA Librarian is presently attending a one-month training course in the U.S.

^{1/} Not all of these were provided by Project funds.

Purpose

The project is moving toward its purpose of developing a localized GOB economic and analytical capacity to rationally plan and program responses to issues of rural sector development. The DPS has been expanded and restructured, and the staff who will localize the professional positions has been identified and started on formal training. As yet, the analytical exercises for 1982-87 National Development Plan are not underway, but it is anticipated that this work will be carried out jointly by the PASA team and the returned Botswana planners as further verification of the establishment of a localized planning capacity in the MOA.

It is impossible to judge whether a greater volume of projects are being planned by the unit, as the "planning" is a multiphase process, beginning with the thumbnail sketches in the NDP. Further, the team finds little merit in using any increase in the value of projects as a means of verification for the achievement of project purpose as this is to a great extent governed by exogenous factors (e.g., availability of donor funds, MFDP concurrence, emergencies such as drought or foot-and-mouth disease outbreaks). We would thus recommend that the third verifiable indication listed under project purpose be reconsidered. A system of recordkeeping will have to be established within the MOA/DPS for "scorekeeping" to distinguish projects that are additional branches of existing programs (e.g., cordon fencing, AEL0), emergency measures and those that are entirely new endeavors. Should the Mission choose to retain this indicator, a preliminary list of 1979 and 1980 projects prepared by the DPS appears in Annex A.

Another verifiable indication of sustainable localized planning capacity in DPS might be added. This is the development and utilization of an effective, continual training program, so that as losses occur due to attrition of the staff trained under this project the benefits of the project are not lost. Such a plan has been developed though not operationalized yet. The corresponding assumptions for such an indicator would be the continued commitment of the GOB to training and localization and the availability of sufficient resources to maintain such a training program.

Goal

While the goal of this project, improvement in the welfare of Botswana's small-scale farmers and herders is consistent with the Country Development Strategy Statement and GOB rural development strategy, it will be only indirectly reached by improving the capacity of the localized staff of the DPS to plan programs in the rural sector. The effort to localize and

to upgrade the analytical capacity of the DPS will, of course, impinge on the design of rural development projects that directly benefit the rural poor. As to measures of goal achievement, many interacting factors will cause changes in the status of the rural poor during the life of the Project, and it is impossible to attribute any change specifically to this effort.

The team would suggest instead that emphasis be placed on the design of programs targeted to the smallholder, such as the recent ALDEP program, which is directed to improving arable agriculture, the poorer aspect of Botswana's agricultural sector. Another measure of goal achievement might be the development of a localized capacity to analyze the causes of rural poverty, as evidenced through analytical works and issues papers drafted by DPS staff as well as ability to analyze and solve problems of implementation as they arise. These measures are less direct than those in the present logical framework, but they are probably more realistic, given the nature of the project.

Beneficiaries

Direct beneficiaries of the Project are the 16-21 individuals being trained, who will at the end of the Project fill middle level planning or economic/social analysis positions in government. The MOA also benefits from a better staffed, better equipped DPS and can presumably program for rural development in a manner that is both quantitatively and qualitatively improved over the pre-Project status. Indirectly, smallholders should benefit through increased income, employment and productivity from better-designed rural development initiatives. The linkage will be made through better targeting of the MOA's development activities to small farmers, which, in turn, will result from improved analysis of the causes of rural poverty.

Unplanned Effects

Most of the unplanned effects are internal to the Project. The early localization of one position in the Planning Unit has made available extra man-months on the PASA team which can be reprogrammed to compensate for another unplanned effect: the prolongation of most students' training. Average length of training period will likely increase from twelve to eighteen months, thus requiring additional technical assistance time to allow for a smooth transition.

One unplanned effect external to the actual project design has been the creation of the ALDEP unit with the DPS. Without the expansion of staff provided for under the Project, it is unlikely that the manpower would have been available to create a special unit to deal specifically with arable lands development. As sixty percent of the rural population are not cattle owners, and depend upon crops for their subsistence, ALDEP should have a significant effect on the alleviation of rural poverty. The

Project has been instrumental in freeing up the necessary time and staff to design and test such a large-scale development program.

Lessons Learned

The evaluation team finds much merit in the design of the Project and recommends that the format be duplicated wherever possible. Provision of technical assistance and training, allowing for sufficient overlap of PASA team members and return trainees, and OJT have been combined under this project with notable success.

Trained manpower remains in short supply in Botswana, and it is suggested that USAID consider replication of this project in other departments of the MOA, or in other ministries and parastatals that are concerned with rural development. If the Project is replicated, training for replacement DPS personnel should be incorporated, just as training for personnel from other agencies has been included in this Project.

EVALUATION REPORT

BOTSWANA AGRICULTURAL PLANNING PROJECT (067)

INTRODUCTION

This report presents a review and evaluation with recommendations for the Botswana Agricultural Planning Project sponsored by USAID and carried out under agreement with the U.S. Department of Agriculture (USDA). The report was prepared for USAID/Botswana during November, 1980. The evaluation is in accordance with the Project Paper requirement for an independent special evaluation after the second year of the project which would "assess progress and suggest possible revisions to the project design if necessary."

Data and information for this evaluation were gathered during a two-week visit to Botswana by the evaluation team during the period November 2-17, 1980. The methodology used to collect information included review of project and related documents both in Washington and Gaborone and extensive interviews with USAID personnel, the USDA team, various GOB officers in MOA and elsewhere, Botswana staff within the Division of Planning and Statistics (DPS) and a sampling of district officials (see attached list for names of persons interviewed). The evaluation was carried out by a three person team composed of Dr. Richard Suttor, AID/DS/AGR, Joan Atherton, AID/PPC/PDPR and Dr. Boyd Wennergren, Utah State University.

The report is organized into four major sections. Following this introductory statement, a brief overview of the contract antecedents, objectives, and current organization of the DPS in the Ministry of Agriculture is presented. The third section summarizes the progress to date which focuses on four sub sections of activity: (1) The Planning Office and Program (2) Training (3) Data Collection and Analysis and (4) Project Organization and Institutionalization. The final section contains the evaluation team's recommendations.

PROJECT ANTECEDENTS, OBJECTIVES, AND ORGANIZATION OF DIVISION OF PLANNING AND STATISTICS

The need for skilled manpower in Botswana has been well documented by pre-project investigations. The Botswana Development Assistance Plan, each of Botswana's four National Development Plans and the Project Identification Document, for example, all clearly identified this constraint to effective agricultural planning in the country. In addition, it was estimated at the time the Project

Paper was written that 80 percent of the senior-level government positions were held by expatriates. The GOB has determined that many of these positions will be localized. The GOB's 1977 "localization report" called for localization of most professional positions by 1982.

The Agricultural Planning Project is a direct response to assisting the Ministry of Agriculture in its localization effort, consistent with AID's objectives in rural development. The Project is designed "to develop a localized GOB economic and analytical capacity to rationally plan and program responses to the issues of rural sector development." Two major outputs are programmed:

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

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

A 5-year Participating Agency Services Agreement (PASA) was awarded to the U.S. Department of Agriculture effective October 1, 1978, and carried the following elements:

(1) The assignment of seven expatriate professionals to the DPS to fill planning responsibilities while Batswana were trained abroad.

(2) The training of 16-20 Batswana in Agricultural Economics and related rural development fields. Training would be at both Masters and Bachelors degree levels and would include Batswana from both the DPS and other GOB agencies. Most trainees would have a year of on-the-job training and take remedial courses offered by the PASA team prior to departure. Thesis preparation, where applicable, would be done in-country under supervision of the expatriate staff.

(3) The localization of all positions in the DPS by agreement end.

(4) In addition, the project was to provide five houses; six offices; four vehicles for field work; library acquisitions and space; special short courses; and miscellaneous other costs.

a) Current Setting and Organization of DPS

The Planning and Statistics Unit in the Ministry of Agriculture is composed of six major units: (1) Planning, (2) Statistics, (3) Farm Management, (4) Livestock Production Management, (5) Rural Sociology and (6) Arable Lands Development Program (ALDEP).

which has been added to plan this special program in both its pilot and full implementation phases. Some units are then subdivided in order to carry out specific responsibilities (see page 22 for organization chart).

The DPS is administered by a Chief Agricultural Economist (CAE) who reports directly to the Permanent Secretary. The Chief Agricultural Economist position and the leadership of five of the six units in DPS are currently held by expatriate staff. The CAE has overall control of planning activities in the Ministry. All Ministry requests for Domestic Development Funds of the GOB or donor assistance pass through the DPS. Ministry planning efforts by Departments or Regional Units are assisted and processed through the DPS. The "authorized" staff of the DPS includes nine professional positions, 24 technical and support positions, plus secretarial and other support staff and 45 field enumerators. The Batswana in technical support positions are generally holders of certificates (U.S. high school degree equivalents).

PROGRESS TO DATE OF AGRICULTURAL PLANNING PROJECT

The overall project is on track and schedule consistent with the expected outputs as expressed in the Project Paper. The DPS shows evidence of progress in achieving an improved capability to plan for rural development in Botswana. The anticipated expatriate staff is in place and has assumed the work functions set forth in their respective job descriptions. The training of Batswana technicians is also progressing satisfactorily and training schedules have been established, which if completed, will insure compliance with scheduled outputs for the project. Localization of positions is proceeding satisfactorily and in at least one case the timing has been accelerated from that previously projected. Construction or purchase of most physical support items has been completed.

The evaluation team finds no major deviations from reasonable expectations of the project which would suggest that the planned outputs will not be attained at project end. However, our evaluation has revealed several areas of concern which should be attended in order to insure the highest quality of project outputs.

PLANNING OFFICE AND PROGRAM

a) Project Leadership

A critical input in the success or failure of any developmental assistance project is the in-country leadership provided under an agreement. The team feels that the Botswana Agricultural Planning Project is receiving excellent leadership from the PASA Party

Chief. He is experienced and knowledgeable in planning project needs. He has a history of experience in Botswana during which time he helped conceptualize and prepare the current Project. It was fortunate that he was available to lead the Project, since in so doing he has provided important continuity with prior efforts to enhance planning capability in the MOA. We detected no discontent among either the Botswana or the expatriate staff regarding project leadership.

b) Expatriate Staff

Overall, we judge USDA performance in providing an expatriate staff to be satisfactory. The expatriates are technically competent and qualified in their respective academic disciplines to provide the expertise called for in the project paper. Of the eight expatriates who will have served by project end, five have PhD degrees and the others have Masters degrees with extensive years of experience. The foreign experience level of the expatriate staff is high. Of the seven expatriate staff who have been assigned to date, all have had prior long-term assignments abroad, five of them in Africa (see Table 1). This level of foreign experience is higher than normally found among technical assistance teams. There have been some delays in filling positions as noted in the Mission Evaluation for 1978-1979. To date approximately 18 person-months of programmed expatriate time in-country have not been filled. However, this is not judged to be excessive for a technical assistance contract of this type. In addition, approximately 18 additional person-months have been saved since one position was localized sooner than projected.

Prior recruiting problems have been addressed. Concern has been expressed over recent recruiting methods used by the USDA in filling the Senior Rural Sociologist position. It is reported that only limited inquiries were made in the recruitment process so that potential candidates who might have been available for the position were not adequately identified.

The expatriate team will shortly be at full strength with no anticipated shortfalls for the remaining period of the contract if two nominees who have been identified can be cleared expeditiously. The Senior Rural Sociologist nominee is being delayed pending a U.S. Government security clearance. The nominee to replace the current Farm Management Economist has been tentatively accepted by the MOA but may face a similar security clearance problem.

At least one variation in the original staffing pattern may be in order. The Motswana originally identified for the Livestock Economist position has been promoted to the Senior Agricultural Economist position. A Motswana to fill the vacated Livestock Economist slot will not return from U.S. training until June,

Table 1. Professional Qualifications of Expatriate Staff,

POSITION	NAME	ACADEMIC DEGREE	PRIOR FOREIGN EXPERIENCE YEARS	NATION
Chief Agricultural Economist	Victor Amann	PhD	4	Ethiopia
			3	Botswana
			7	Uganda
			2	Nigeria
Rural Sociologist	Roy Behnke	PhD	2	Libya
Senior Agricultural Economist	Amos Jones	PhD	2	Saudi Arabia
Livestock Economist	John Larsen	M.S.	4	Kenya
Agricultural Statistician	William Kelley	M.S.	2	Saudi Arabia
Farm Management ^{1/} Economist	Raymond Fox	M.S.	4	Cambodia
			2	Nepal
			2	Liberia
Agricultural Economist/ Training	John Litechauer	PhD	2	Ethiopia

^{1/} The approved nominee for this position, who will replace the incumbent, has a PhD and short-term foreign experience.

1981. After that he will require about six months for thesis preparation and an additional six months overlap with his expatriate counterpart preparatory to localizing the position. The current tour of the expatriate Livestock Economist ends in June 1981, which would provide insufficient time to overlap with his Motswana replacement. An additional two year extension of this tour (as presently contemplated by the PASA staff) seems in order to accomplish the transition for this position.

c) Concept and Structure of the Project

The evaluation team finds considerable merit in the concept and organizational detail of the project. The process by which expatriates are placed temporarily in line positions in the Ministry while locals are being trained abroad is an excellent approach to meeting trained human capital needs in developing nations. The opportunity for Batswana to return in order to complete theses (where appropriate) is a step forward in the training programs of USAID. In the case of Botswana, this type program has faced special problems in that the academic preparation of Batswana is not always adequate to justify direct entry into Bachelors or Masters training programs in the United States. By providing a training officer who not only administers the selection and placement of students but who also provides some preparatory instruction, the potential success of the program has been enhanced.

The evaluation team finds no reason to suggest alterations to the approach of this project. In fact, we feel the model is a viable one which should be considered for more widespread adoption by USAID, not only in meeting other training needs in Botswana, but in other parts of the world. This view is shared by several of those interviewed during this evaluation, both expatriate and Batswana. The Principal of the Botswana Agricultural College was especially supportive of the concept.

d) Localization of Project Positions

The process of localizing the positions of the Project is proceeding well within the updated schedule (see Table 2). One position, the Senior Agricultural Economist (SAE), has already been localized, about 18 months ahead of the PP schedule. The action has added considerably to the final success of the project since the Motswana involved in the position is expected to become the Chief Agricultural Economist, and this early localization has afforded him invaluable experience as the Planning Unit head. The localization of all other positions depends only on the successful completion of training programs abroad by the various candidates, all of whom have been selected. This will probably further alter the schedule originally formulated for the PP, but the evaluation team believes that flexibility in departure dates for the expatriate staff is important to project success.

Table 2. Scheduled Localization of Expatriate Positions.

POSITION	EXPECTED DATE DEPARTURE	EXPECTED DATE LOCALIZATION
Chief Agricultural Economist	July, 1982	January, 1982
Senior Rural Sociologist	October, 1982	June, 1981
Senior Agricultural Economist	Departed	June, 1980
Livestock Economist ^{1/}	July, 1982 or July, 1983	January, 1982
Statistician	July, 1981	June, 1981
Agricultural Economist (Farm Management)	March, 1983	January, 1983

1/ Will require a one or two year extension of the current tour of the Livestock Economist.

The evaluation team believes the localization of all DPS positions is feasible but feels certain cautions are in order. We are concerned about the need to insure the maintenance of the significant gains made by this project. This will require development of a phase-out strategy which should be finalized at least 18 months before the planned project end. Among the options which might be evaluated are:

(1) Early transfer of position responsibilities to the local technician with the expatriate being given a research or other specific assignment to replace his prior activity. The expatriate remains available for consultation only. It would be important that he be physically removed from the Moptswana assigned to take over his duties.

(2) Provision for short-term consultancy by each expatriate allowing him to return two or three times during the year following termination of his position.

Special concern should be given to insuring an orderly transition for the CAE. An abrupt transfer of responsibility without adequate on-the-job training in this position could cause special losses not only in that position but the entire project due to the leadership role he plays. We share the confidence expressed concerning the likely Moptswana replacement, but the best people need assistance and this transition will be the most critical. We also suggest that USAID give consideration to program or position extensions if found necessary in order to insure the completeness of the localization process. In the final analysis, Project sponsors should not be surprised if some lag occurs in post-Project planning effectiveness when complete localization is accomplished. Training and experience are not completely interchangeable. The important thing is that the capacity be inherent so that gradual reestablishment of the level of planning services can occur.

e) Relevance and Impact of Division of Planning and Statistics Programs

The DPS has had a very perceptible impact on the planning efforts of the Ministry of Agriculture. The office occupies a focal position in the planning process since all requests for Domestic Development Funds pass through this office. All department heads, project managers and other MOA entities contacted by the evaluation team clearly acknowledged the DPS as the planning center of the Ministry. With few exceptions, they expressed satisfaction with the assistance provided by the office, citing periodic delays in processing Project Memoranda as their major complaint. Since formulation of the project, the office has added the function of monitoring all expenditures of development funds and setting up the bi-annual technical and financial review of all projects. The addition of this monitoring function to that of project preparations has oriented the activities

of the office disproportionately to project management at the expense of broader philosophical and long run planning considerations. The Party Chief, who is a competent Agricultural Economist and one expected to provide long range planning inputs to the section, is committed more to management and project monitoring activities. This orientation is defended by the PASA team leadership as necessary if project development and planning are to benefit from accurate expenditure and technical program data. The DPS is maintained to be the most logical place in the MCA to center this activity.

It is the judgment of the evaluation team that the composition of functions associated with the planning office should be reviewed to determine if a more appropriate mix is desirable. The team finds merit in the emphasis on projects as the basis for the planning effort in a market-oriented agricultural sector. However, it is not persuaded that this operational approach is a response to a philosophical position on agricultural planning as opposed to a pragmatic response to the daily pressures brought on the Ministry of Agriculture. The appearance is one of project planning and not sector planning. The evaluation team was unable to ascertain that the projects developed within the planning office are elements of a coherent and conscious master plan for the agricultural sector.

The team observes a critical absence of attention to long-run, conceptual/analytical-type policy issues and analyses which are relevant to the future of agriculture in Botswana. Part of this deficiency in approach may be due to the absence of a well-documented assessment of the agricultural sector in Botswana. The need for such an assessment was not defined in the Project Paper but is clearly required if an accurate statement of constraints to agricultural development is to precede program formulation. Additionally, the lack of a rationally articulated national policy can severely compromise national development programs in all sectors of the Botswana economy.

The evaluation team believes the agricultural sector in Botswana needs a long-run policy perspective to guide its future. Among other things, some prospective donors like to know where their investments and grants fit in the overall development scheme. In other cases, Botswana can protect itself from "off the wall" donor schemes which do not fit their long-run programs. Such a perspective can be most appropriately supplied by and is an important but presently absent function of the DPS. This function is essential if a national policy basis and process are to be established. But to formulate this perspective, a degree of isolation from the multitude of frequent "brushfires" will be necessary. Given the pressures of daily workloads this will require a dedicated and conscious effort to succeed. An early decision to move DPS efforts in this direction will also impact favorably on the training of

Batswana to carry out this type of analysis after localization has occurred. The team feels that such competence exists among the expatriate staff due to their training and prior experience, but the Batswana staff still faces the need to acquire such experience, and the period of overlap prescribed by the project provides an excellent opportunity to utilize all resources.

One final concern reaches beyond this project but at the same time is also an integral part of the planning process in Botswana. We refer to the need for a sound agricultural research base to provide accurate technical coefficients as inputs to the planning process. Botswana has at least one excellent research facility. The infrastructure at the Sebele Station is impressive. But the team was unable to ascertain the adequacy of the information output for either livestock or crops. We received conflicting statements from those interviewed as to the quality and extent of the research base. Consequently, we can only raise our concerns and recommend that USAID evaluate this area as a basis for the evolving planning unit, and to support appropriate research and extension related projects.

f) Technical Reports

The DPS has been involved in the preparation of several types of written documents. The most visible are those which report general statistics and farm management data for the agricultural sector. These are discussed in another part of this report.

A second group relates to Project Memoranda (PM's) required as part of the GOB planning process. Planning Unit personnel prepare all such memoranda for MOA projects with the assistance of departmental staff who contribute the technical information required. The team did not review these memoranda for technical quality since this seemed impractical due to time restrictions, and the conclusion that judgments of adequacy by the evaluation team may have had little meaning. Of more relevance is the degree to which the PMs fulfill the needs of the MOA to obtain expeditious funding of their projects within the GOB structure and the efficiency with which the projects are implemented. Some uncertainties emerged from our discussions and are discussed later with respect to the interrelationships between the Ministry of Agriculture and the Ministry of Finance and Development Planning.

The only document read by the team was the agriculture chapter of the National Development Plan (1979-85) which was prepared by the DPS (with assistance and critical review by the MFDP). The evaluation team is of the opinion that the Plan does not show an adequate analytical basis for sectorwide programming. Projects are proposed in an apparent vacuum without the benefit of supportive diagnoses of the sector that should point to an organized, long range program of development. The document deals mostly with the symptoms of agricultural deficiencies in Botswana through its project proposals, but does not offer an analysis of the causal

factors responsible for low agricultural productivity which must be understood if effective programming is to be achieved.

The DPS Rural Sociology Unit (RSU) has had a very active role in planning development, especially with relation to the TGLP and ALDEP exercises. It is heavily involved in monitoring these activities, and has produced a large body of work (38 published titles, 11 independent research publications and 15 unpublished reports). The RSU has had right of approval over all proposals for independent anthropological or sociological work done in Botswana, and has used this "extension", along with consultancies, to expand its information base, requiring a written report of research undertaken before the researcher leaves the country.

g) Project Finances

The evaluation team was unable to accurately analyze the financial status of the Project. A September 30, 1980 Project Financial Activity Report by USAID/Botswana indicates that \$1,224,000 have been expended from the \$4,779,000 authorized for the Project. The disbursement records available to the Mission are unlikely to be current due to the lag between actual expenditures and billing by USDA/Washington, and the transmittal of that information to the Mission. Also, constructions and commodity purchases have been completed which are not yet reflected in the billings to the Project. There is a general consensus, however, among both USAID and the USDA team leadership that expenditures have not been as high as expected and that a savings can be expected by contract end. A very rough estimate by the evaluation team indicates that the savings could approximate as much as \$1.0 million.

We strongly recommend that the Mission obtain an accurate estimate of the projected savings as early as possible in order to reprogram them into the Project effectively. Furthermore, the team recommends that whatever funds exist be used to expand the training component of the project, with special emphasis to needs in other areas of the Ministry of Agriculture. The Project training officer is now completing a study of the total training needs for the entire MOA, which comes at an opportune time to guide the selection of additional trainees in consort with MOA officials. It may also be desirable to consider training a selected few Botswana in other, related ministries or parastatals.

h) Project Logistical and Administrative Support

Virtually no problems were raised with respect to project support items. All planned constructions are either completed or nearing final completion without detrimental impacts on the Project. Vehicles have been secured and are in place. Library acquisitions are progressing. A large number of volumes are already in the library and those on order arrive weekly.

Cooperation with USAID offices in-country is effective. No

major concerns were expressed. Likewise, home office support by USDA is termed satisfactory. A logistical support office established by USAID to handle contract personnel housing and related problems is judged very efficient by expatriate personnel and has eliminated most concerns about such problems.

TRAINING

According to the Project Paper, the Agricultural Planning Project will train 16-20 Batswana in agricultural economics and related rural development fields, taking into account the academic skills/weakness of the trainees in ability to enter the U.S. University system. About half of the trainees will be trained at the Bachelors level and a like percentage at the Masters level. On-the-job training and pre-departure courses will be offered to candidates. Where applicable, theses will be prepared in-country from data related to agricultural problems in Botswana.

The evaluation team finds that the training program is very much on schedule. To date 18 candidates have been identified for training and 11 are currently in formal programs in the United States. One student has completed training and has returned to Botswana to begin thesis research. Three additional students have been identified for training and will be sent if adequate funds materialize from savings in this project or can be garnered from other sources (see Table 3 for a complete list of trainees). Of those identified, about 45% are female. Twelve of the candidates are from the DPS while others come from other MOA departments, parastatal agencies or other ministries.

The evaluation team finds no deficiencies in the training program with respect to the subject matter areas for which Batswana are being trained. Heavy emphasis is given to Agricultural Economics and Rural Sociology. The universities to which trainees are being sent all have high quality programs and it is worthwhile noting that there is a good distribution of universities being attended. This is important to provide differing approaches to academic study.

a) Placement of Students

Placement of students in U.S. universities has moved forward with some difficulties. The weakness of their academic preparation has made direct placement difficult. In many cases students have been accepted on a "provisional" basis. The ingenuity and resourcefulness of the training office^{1/} in making direct university contacts and arranging admissions has been instrumental in program success to date. This has caused some consternation with the USDA International Training Office but the PASA training officer defends his actions on the basis of the short time-frame associated with

^{1/} The training officer is formally designated "Student Trainer" in the DPS organization chart.

Table 3. Relevant Characteristics for Long-Term Candidates Identified for Training Under the Agricultural Planning Project.

Candidate	Training Level	Major/Minor	Recommended Training Location	Call-Forward Date	Projected Return Date	Parastatal/Government Agency	Position Filled Upon Return	Location of Position
1 ^{+a)}	BS	Agric. Econ.	NMSU	-	5/80	DPS/MOA	-	DPS/MOA
2 ⁺	MS	Land Resources	Wisc.	-	12/80	MLGL	Researcher	MLGL
3 ⁺	MS	Land Resources	Wisc.	-	10/80	MLGL	Researcher	MLGL
4 ⁺	MS	Rural Sociology	Wisc.	-	12/80	DPS/MOA	Sr. Rur. Soc.	DPS/MOA
5 ⁺	MS	Agric. Econ.	Mich. St. U.	-	3/81	DPS/MOA	Agr. Econ.	DPS/MOA
6 ⁺	BS	Agr. & Appl. Soc. Res.	W. Va. U.	-	12/80	DPS/MOA	Asst. Rur. Soc.	DPS/MOA
7 ⁺	BS	Agr. Econ./Stat.	No. Car. St. U.	-	6/80	DPS/MOA	Statistician	DPS/MOA
8 ⁺	MS	Business Mgmt.	W. Mich. St. U.	-	8/80	BDC	Business Mgr.	BDC
9	BS	Agric. Econ.	Okla. St. U.	1/80	6/82	DPS/MOA	Asst. Agr. Econ.	DPS/MOA
10 ^{b)}	MS	Agr. Econ./Dev. Econ.	Mich. St. U.	6/80	6/82	MOF	Planner	RD/MOF
11 ^{b)}	MS	Agr. Econ./Fm. Mgmt.	U. of Mo.	6/80	6/82	DPS/MOA	Agr. Econ.	DPS/MOA
12 ^{b)}	MS	Rur. Soc./Agr. Econ.	Mich. St. U.	6/80	6/82	DPS/MOA	Rur. Soc.	DPS/MOA
13 ^{a)}	MS	Agr. Econ./Econometrics	Mont. St. U.	8/80	8/81	DPS/MOA	Agr. Econ.	DPS/MOA
14	BS	Agr. Business	No. Dak. St. U.	1/81	6/83	NDB	Trainer	NDB
15	BS	Agr. Business	Mont. St. U.	1/81	6/83	NDB	Regional Mgr.	NDB
16	BS	Agr. Econ./An. Prod.	Texas Tech	1/81	6/83	DPS/MOA	Asst. Agr. Econ.	DR/MOA
17 ^{b)}	MS	Rur. Soc./Agr. Econ.	U. of Ariz.	6/81	6/83	MOF	Planner	RD/MOF
18	BS	Agr. Econ./Water Res.	Oreg. St. U.	9/81	12/83	DPS/MOA	Asst. Agr. Econ.	DPS/MOA
19	BS	Agr. Econ.	UC/Davis	9/82	12/84	DPS/MOA	Asst. Agr. Econ.	DPS/MOA
20 ^{c)}	BS	Agr. Stat.	-	9/81	12/84	CSO	Asst. Stat.	CSO
21 ^{c)}	BS	Rur. Soc./Agr. Ext.	-	9/81	12/83	Ag. Info/ MOA	Media Eval.	FS/MOA
22 ^{c)}	BS	Computer Science	-	9/81	6/85	DPS/MOA	Computer Oper.	CSO

⁺In training at time of Student Trainer arrival.

a) Same Student

b) To receive minimum of 10 wks pre-training at Economics Institute, Univ. of Colo, prior to entering graduate program.

c) To be sent for training only if funding available.

placement of students. The average time lag for placement has been only three months and many students were placed at the first choice of both student and training officer despite low grades received in prior training. Thus far, only one student's grades have been made available and all were above average to excellent. The training officer does not regularly receive notice of student performance, but no trainee has been removed as yet for poor performance.

Part of the problem between the USDA Training Office in Washington and the PASA team member arose because the training officer was not briefed by the USDA on accepted procedures prior to his departure for Botswana. The procedural issues have now been clarified and the Student Trainer believes he has worked out a reasonable compromise with the USDA system. However, issues of university placement may remain. The evaluation team is of the opinion that the recommendation of the training officer with respect to the university to be attended should be followed to the fullest extent possible.

b) Remedial Training In-Country

The remedial training program conducted for candidates prior to departure appears to be aggressive and well within the expectations of the PP. For example, during 1980, eight remedial courses have been given to either upgrade the skills of potential trainees or improve the on-the-job capability of MOA personnel. Basic and intermediate micro and macro-economics courses were offered along with introductory mathematics and statistics. Formal course notes were prepared by the trainer for all students as reference materials. Most students are also sent to the University of Colorado Economics Institute to add further preliminary training. An ambitious in-country remedial training program is planned for 1981.

The evaluation team believes this approach is appropriate and that the training program has accurately recognized the need to provide pre-departure and remedial assistance. This phase of the training program is well conceived and directed.

c) In-Country Thesis Preparation

To date, the thesis preparation portion of the training component has not been tested sufficiently for an evaluation. Five thesis topics have been defined for students returning in 1981. This phase of the project is viewed by the evaluation team as extremely important. We believe adequate and competent supervision of these students' work has been identified in the PASA Agreement. Caution should be exercised to insure that theses are completed and that returning students are not diverted from this task by pressures to return prematurely to their regular work.

d) Short Courses

There has not been extensive programming as yet for formal short courses offered by USDA and other US Government agencies. These are being planned for more extensive use in the later years of the Project to focus on special needs of the Botswana technicians following their formal degree training. To date, one Botswana has completed a three month, USDA Planning Course presented in Tanzania. The DPS Librarian is currently attending a one month library course in Washington. Two other Botswana are scheduled for short courses this year, one in Farm Management and the other in Applied Statistics.

The training program represents an appropriate response by USAID to the need for developing trained human capital in Botswana. The evaluation team recommends that the Mission consider the use of this approach in future training efforts in Botswana. We believe a similar approach may be appropriate in diverse areas of agriculture, such as research and extension. If subsequent training programs are developed, consideration should be given to training a few "replacement" personnel for the DPS in order to offset the potential losses due to attrition, resignation, and expansion over time. These needs are being defined in a MOA-wide projection of training requirements being prepared by the PASA training officer.

DATA COLLECTION AND ANALYSIS

The Division of Planning and Statistics operates two major continuing data collection systems: the Livestock and Crop Survey, and the Farm Management Survey. Both systems have been improved significantly during the first two years of the Agricultural Planning Project, and the data being collected provide a good base for quantitative analysis of Botswana's agriculture. Much of the credit for this improvement is due to the mathematical statistician and the farm management economist on the USDA team.

a) Livestock and Crop Survey

Annual livestock and crop surveys were initiated in 1967, however, they were plagued by problems of incomplete coverage, lack of quality control and delays in the publication of statistical estimates. Since the arrival in February 1979 of the mathematical statistician funded by the Project there have been dramatic improvements in the survey and the published statistics.

To appreciate the current status and recent improvements in the system, the 1980 survey is described in some detail. The survey was conducted in four stages.

In the first stage, starting in January, all households in the sample "blocks" are enumerated. The sample consists of 252 blocks randomly selected from a national total of about 2,700 blocks. Within each block, enumerators visit each household to collect

some basic data on the occupants of each dwelling and determine whether anyone in that dwelling engages in any livestock or crop production activities. Based on this information, a list of households that qualify as "farms" is constructed and a random sample of farms is selected for each block. An average of about seven farms are selected per block, resulting in a sample of about 1,800 farms. (These are all "traditional" farms; a separate list of freehold farms is used for that sample.)

The second stage starts with a training school to prepare the enumerators for the administration of the second questionnaire. Enumerators visit the sample households during the April-May period. Each crop field is measured, the crops planted in each field recorded, and additional data collected on topics such as education and age of household members, visits by agricultural demonstrators, labor use and farming practices.

The third and final questionnaire is administered in June and July after the enumerators have been prepared by participating in a second training session. Holdings of cattle, sheep and goats, and the number of each species born, died, sold, traded, lost, given away, slaughtered and used for home consumption during the past 12 months are recorded. Data on the area harvested crop and production are also collected.

The fourth stage involves collection of data on crops planted, crops harvested, and livestock on the freehold farms. A combination of mail questionnaires and personal interviews are used to collect these data during the July-August period.

Data are entered into computer files directly from the questionnaires, edited and summarized automatically. Due to this efficient handling of data, the 1980 report on livestock and crop statistics is expected to be delivered to the printer by late November. The published report for the previous years' statistics bears a date of December 1979.

A notable achievement of the past two years is the greatly improved timeliness of published statistics. Previous reports were published at least one, and often several, years after the data were collected. Beginning with the 1978 report, regional estimates were presented, measures of sampling errors were presented for national estimates, and some details for both livestock and crops were included.

Sample size was expanded in 1979 and again in 1980; all regions of the country, including both traditional and freehold farms in all areas, were covered for the first time in 1980. While the increased sample size has resulted in reduced sampling errors, non-sampling errors have also been reduced through better training and supervision of enumerators. The DPS also appears to have recruited and trained a highly qualified staff of enumerators, almost doubling their numbers since project start-up.

The evaluation team's findings have been reinforced by the comments of several government officials outside of the Division of Planning and

Statistics. Even those who were critical of other functions of the Division were complimentary to the livestock and crop statistics operation and the mathematical statistician on the USDA team. The Project has supported an outstanding job and provided excellent technical assistance in this area. Furthermore, there is a good chance that the current high level of performance will be maintained or exceeded in the next few years.

b) Farm Management Survey

Systematic collection of farm management data began as early as 1965, however, the current Farm Management Survey started in 1970. Three data collection stations were established in 1970 and a fourth added several years later; twelve farms at each station were visited twice per week to record farm operations on a daily basis. Farmers were not randomly selected and were not representative of either the surrounding area or the nation.

In 1977 the sample was radically changed. The number of data collection stations was increased to six, and fifteen farms were randomly selected for each station. The number of stations has been subsequently expanded to nine, resulting in the present total of 135 farms in the sample. Although the farms at each station are randomly selected, the data are not used to establish national estimates because the stations themselves were not randomly selected. All stations were located in the eastern part of the country until two stations were established in Ngamiland District this year.

Although we did not directly observe data collection in the field, our impression is that the quality of the data is high. Enumerators visit each farm twice per week and record all types of purchases and sales, as well as the non-market inputs and uses of products since the previous visit. These data are then systematically compiled and aggregated for reporting purposes.

The record book prepared for each farm provides a wealth of data. Area and types of crops planted, inputs used, and production of each plot of land are recorded, along with dates of each farm operation. The disposition of the farm's produce among home consumption, sales and storage for each crop are also recorded. Records for livestock include beginning and ending inventories and all types of changes in herd numbers during the year for all species. Other information includes inventory, purchase and sales of tools; construction of buildings and improvements; and labor inputs by month for each farm worker.

At the end of the farming year, August 31, a summarized set of data are entered on a coding form for each farm and entered into computer files. Tabular printouts are expected to be available in November.

At least three reports presenting a variety of cross-tabulations have been published in the last four years. The data are used in project and program analyses, but our impression is that there are

opportunities for much greater use by national and regional planners and by some of the parastatals. For example, costs of production could be estimated periodically as a guide to BAMB in fixing floor prices for grains. Also, a few seminars have been held in recent months to explain the Farm Management Survey, and they have generated a great deal of interest on the part of field personnel.

Beyond the use of the regularly collected data, the farm records system can be used to more directly assist farmers. Agricultural demonstrators could be trained to help farmers keep their own records, which can be a very useful tool in decision-making. Also, records are usually required by lending agencies, and the proposed rapid expansion of credit extended to small farmers by the National Development Bank will probably create a much greater demand for farm record keeping services. If the Division of Planning and Statistics were to take a more active role in promoting record keeping by farmers, more staff would be required. For example, one or two short-courses per year could be held for Agricultural Demonstrators. The present staff can be fully occupied in operating the Farm Management Survey, producing statistical and analytical reports based on the data, and assisting national and regional planners.

c) Quantitative Analysis

The Division of Planning and Statistics is now in an enviable position to do some high quality and badly needed quantitative analysis. The computerized data records from the two continuing surveys can be readily used for a number of relevant analyses. In addition, the staff that conducts the annual Livestock and Crop Survey is available to do special surveys during the September-December period. Besides the computerized records, the farm record books from the Farm Management Survey can be accessed to extract more detailed data. Other types of data relevant to agricultural economic analysis, such as retail prices, are regularly collected by the Central Statistics Office, but the team did not have time to assess their extent or quality.

Not only is there a good supply of data, there is also a strong demand for analysis using these data. A common criticism of Ministry of Agriculture planning operations was lack of a consistent conceptual framework or strategy and general lack of rigorous analysis in project and program documents. This confirmed our initial review of the agriculture chapter of the National Development Plan for 1979-85. We believe this perceived shortcoming in the Ministry's planning should be viewed as an opportunity for embarking upon a long term, comprehensive, quantitative analysis of Botswana's agriculture.

As a first step in the long term analytical effort, we recommend that the Division of Planning and Statistics prepare a draft document specifying an overall conceptual framework of Botswana's agriculture and a plan for the conduct of quantitative analyses. The conceptual framework should be such that various analytical components and their

interrelationships can be specified and a concrete plan can be prepared for implementation of the components and their linking to form more complete models. (A sketch of a suggested framework is presented in Annex B.)

The draft document should include a staffing plan for carrying out the various analytical efforts. Some of the tasks would be assigned to returning students for their thesis research, other tasks would be undertaken by Batswana who have completed their academic training and the expatriate staff, while in some cases it may be desirable to hire consultants to develop some of the components. Outside assistance would be programmed to conduct analyses needed to complete components specified in the analytical plan, but which cannot be carried out by the existing staff because of time or other constraints.

Once the draft document is written, it should be reviewed by other ministries and regional and district planners. The review might be accomplished by a few seminars in Gaborone and at least one of the regional headquarters. These seminars would serve two purposes. First, they would give other planners an opportunity to express their reactions and provide ideas for improving the draft plan. Second, the non-agricultural planners could learn some tricks of the trade that could be useful in their own work. Thus, the Ministry of Agriculture could fulfill the leadership role expected of it due to its relatively large and highly trained staff.

After review and revision to incorporate comments, the document should be published and widely circulated. However, it should not be considered a static plan cast in concrete. Rather, it should be periodically revised and reviewed, perhaps annually, to take account of progress in the analytical program and changing priorities and circumstances. One of the spin-offs of these analytical plans would be a basis for requesting technical assistance and training from the various donors. Specifically, it would help program the remaining funds in the Agricultural Planning Project and a possible extension of assistance under the existing or successor project.

ORGANIZATION AND INSTITUTIONALIZATION

a) Division of Planning and Statistics (DPS)

At the inception of the Project, DPS was divided into four subunits and had eight professional positions, seven of which were staffed by expatriates. The AID Project Paper cited a need for a "better managed better structured MOA/PSU" and an augmentation of the planning capacity by expatriates while Batswana were in training. In response to this, the number of professional positions in DPS has been expanded to fourteen via secondments and assignments of supernumerary positions, as shown in the table below.

Professional Positions

1978	1980
Chief Agricultural Economist	Chief Agricultural Economist
Agricultural Economist/Livestock	Agricultural Economist/Livestock
Agricultural Economist/Farm Management	Agricultural Economist/Farm Management
Agricultural Economist/Planning Officer	Agricultural Economist/Cooperatives
General Manager, BAMB	Senior Agricultural Economist
Rural Sociologists (2)	Senior Rural Sociologists (2) ^{1/}
	Rural Sociologist
	Statistician
	Agricultural Economist/Student Trainer ^{2/}
	Senior Agricultural Economist ^{3/}

In addition, there are two professional statisticians seconded from the Central Statistics Office, MFDP.

On the support staff, there has been a net increase of 38 positions, as shown in the following table.

Support Positions

1978	1980
Research Assistant	Research Assistant
Senior Agricultural Assistant	Assistant Agricultural Economists (4)
Sociological Assistants (2)	Sociological Assistants (2)
Secretarial/Clerical (5)	Secretarial/Clerical (6)
Enumerators (27)	Enumerators (45)
Messengers (2)	Messengers (2)
Cleaners (2) ^{4/}	Cleaners (2) ^{4/}
Drivers (8) ^{4/}	Drivers (9) ^{4/}
Statisticians (3-4) ^{5/}	Statisticians (8) ^{5/}
	Assistant Sociological Officer (2)
	Chief Technical Assistant
	Technical Officer
	Principal Administrative Assistant ^{6/}
	Senior Administrative Assistant ^{6/}
	Administrative Officer ^{6/}
	Administrative Assistants (3) ^{6/}
	Supplies Officer ^{7/}

- ^{1/} One Senior Rural Sociologist monitors TGLP activities. This may be a temporary upgrading of a Rural Sociologist position.
- ^{2/} Supernumerary position created for life of Agricultural Planning Project.
- ^{3/} Supernumerary positions in ALDEP Planning Project.
- ^{4/} Seconded from Central Transport Organization.
- ^{5/} Seconded from CSO, MFDP.
- ^{6/} Part of Livestock Project Management Unit.
- ^{7/} To be transferred to Director of Supplies in 1981.

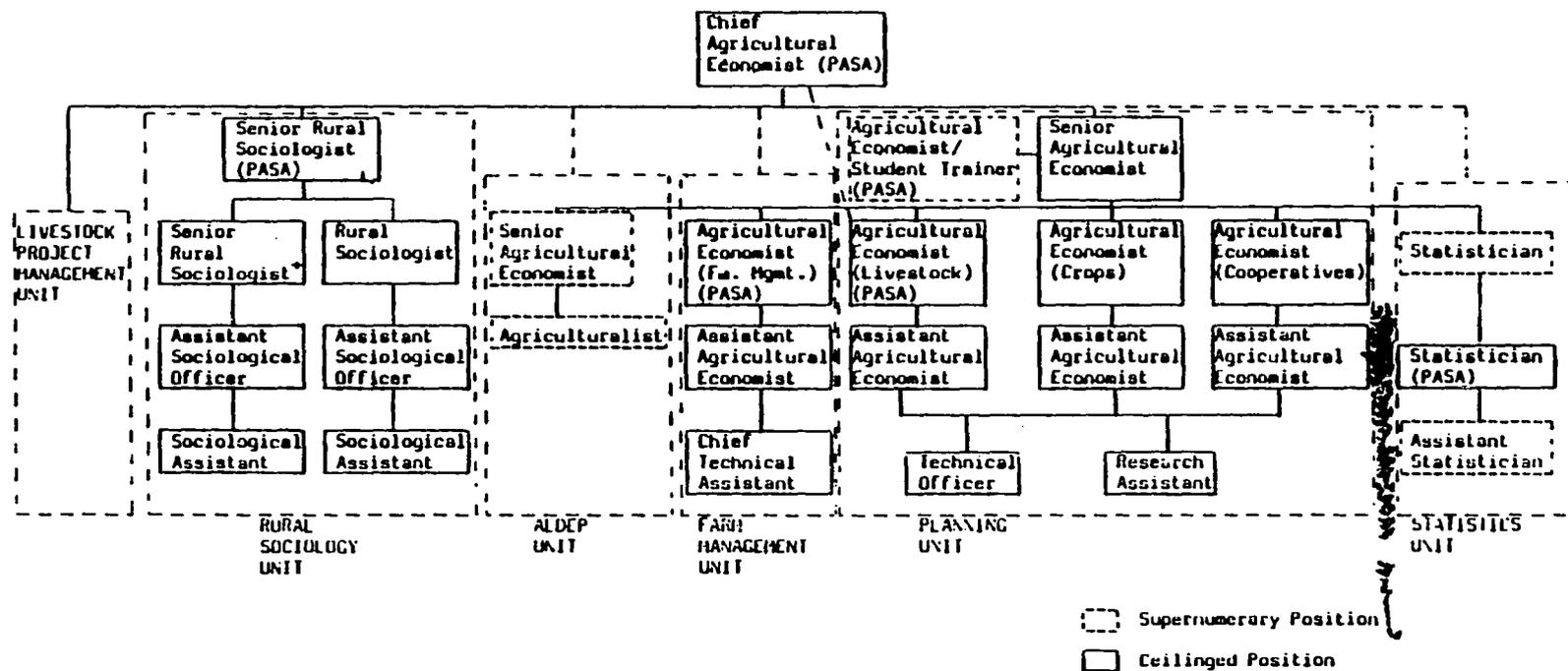
The establishment of 16 additional positions (excluding secondments and supernumeraries) in DPS is an indication that an expanded planning capacity has been institutionalized within the MOA. The expansion has also allowed for definition of career paths for members of the staff, and together with the long-term training plan that has recently been developed, should contribute to the retention of trained Batswana staff.

The formal organizational chart for DPS is shown in Figure 1. Descriptions of the responsibilities for each unit are attached in Annex C. The chart is an accurate reflection of the actual situation with the exception of the Planning Unit. Presently in the Planning Unit there are the SAE, three Agricultural Economists, one Technical Officer and one Research Assistant. The Agricultural Economists (Planning Officers), however, do not have as clearly defined areas of specialization as indicated. The Livestock Economist, a USDA PASA employee, is primarily concerned with the livestock sector. The sectoral associations of the two other Agricultural Economist Planning Officers are less clear. For the past year, the Planning Officer designated to deal with crops, a Motswana, has been working on a special project in Ngamiland. He feels that his specialization in crops has been somewhat usurped by the ALDEP team and does not, in fact, know whether he will continue to specialize in crops on completion of his special assignment. The other Planning Officer, also localized, was originally assigned to cooperatives but now deals with whatever miscellaneous projects fall outside the purview of the Livestock Economist. There are no annual work plans for these staff members to clarify their respective duties.

In terms of authority, both Batswana Planning Officers receive their assignments through the SAE. They perceive themselves as cut off from the PASA staff in general. The Livestock Economist, on the other hand, feels that he is directly responsible to the CAE, from whom he receives his assignments. The perceptions of the SAE with regard to the latter arrangements are unclear. Both matters of assignment and authority should be resolved.

To clarify the responsibilities of the Planning Officers, and to facilitate communication and familiarity with operational departments, it is recommended that the Agricultural Economist Planning Officers be assigned to correspond with line departments within the MOA, i.e. Animal Health, Field Services, Agricultural Research and Cooperatives. This is not inconsistent with the present formalized division of labor (i.e., livestock crops and cooperatives), but it would bring the unit more parallel to the operating structure of the MOA and resolve any lingering confusion that the present system of sectoral responsibilities may cause. Assignments could be rotated periodically to provide each Planning Officer with experience in every department. Such assignments also facilitate the writing of annual work plans for each DPS member. It is also recommended that the lines of authority, particularly with respect to the Livestock Economist, SAE and CAE be clarified. All work for the Planning Unit should be cleared through the SAE.

Figure 1: DIVISION OF PLANNING AND STATISTICS -- Personnel Flow Chart for Senior Positions, Including Supernumerary Positions and Positions Funded by Other Government Agencies, 1980/81¹



*PR 2 Senior Rural Sociologist attached to Unit for TGLP monitoring.

1. Solid lines connecting the position blocks represent the formal lines of authority established within the division. Dashed lines represent the informal lines of authority which have developed between subunits and the CAE. This figure does not include 13 statistics positions seconded to MOA from the Central Statistics Office, HNDP.

Source: Adapted from MOA, DPS Five-Year Training Plan

Another personnel issue that surfaced in the Planning Unit deals with the career path delineated for the Planning Officers. It is strongly felt by some that as only one Agricultural Economist can accede to the CAE position, career opportunities for other Planning Officers are effectively diminished. The Agricultural Economist Planning Officers are not considered by the Director of Personnel to be members of the planning cadre under the Director of Economic Affairs, MFDP, as are the more generalist Economist Planning Officers in every other Ministry. Thus, a special cadre of seven individuals has been created within the MOA with, some feel, little opportunity for advancement in either MOA or the GOB more generally. This, of course, may be seen by MOA as an advantage, as their Planning Officers are not vulnerable to transfer by the Director of Economic Affairs. Nevertheless, the question of career path should be taken up at least within the MOA, and career counseling should be offered to all members of the DPS staff.

Some of the dissatisfaction on the part of the Batswana staff as to career path results from a simple lack of communication with the expatriate staff. The designation of counterparts for positions now held by USDA team members has been construed as the means by which locals are to be advanced, so that without an expatriate counterpart, a Motswana has no chance for advancement. The Batswana Planning Officers were not familiar with the manpower planning exercise presently being carried out by the Student Trainer. This betokens the general impression of a lack of informal exchange among Batswana and expatriate staff members, except insofar as they are required to share office space. As informal communication can be encouraged, but not mandated, formal channels should be created to ameliorate this problem. First, staff meetings and written reports of unit activities circulated through the entire division on a monthly basis are suggested as means to improve communication. These staff meetings might take the form of seminars or "brown bag lunches" during which one unit per meeting is called on to present its current activities and findings. Second, a detailed annual work plan for the DPS should be formulated, both to define individual duties more clearly and to establish priorities among competing demands for staff time. This plan is called for in the PASA agreement, and follows on the recommendation with regard to establishment of a conceptual framework for agricultural development. The lack of communication may naturally abate as trained Batswana return to replace their expatriate counterparts, but the measures outlined here are deemed appropriate in the interim.

Another issue of concern with respect to integration within the DPS deals with the role of the Rural Sociology subunit (RSU). It appears that the six-month hiatus of leadership in the RSU has left it increasingly marginalized in the planning process. The evaluation team was informed that in the past, the RSU has made major inputs into policy and implementation issues through consultations and background papers, but a role in the actual planning process was not articulated. Further, it appears that several members of the USDA team are unclear as to what rural sociology is and what its utility might be, especially in terms of planning. Now that the position of Senior Rural Sociologist

has been filled, it is recommended that the incumbent hold one or a series of discussions, preferably with the DPS staff as a whole, to clarify the concepts of rural sociology and its potential role in planning as well as in other areas. Further, we suggest that it become the responsibility of the SAE to assure that all Planning Officers consult with the RSU before final write-up of a PM, so that the sociological input will be made in a timely manner and will not be simply a fine-tuning procedure.

The appropriateness of locating three special monitoring functions, the Livestock Project Management Unit, the TGLP monitor and the proposed ALDEP monitoring team, in the RSU was explored by the evaluation team. While the monitoring function might be located within the operational departments, two arguments militate against this. First, responsibility for implementation is often split among several departments, and in the case of TGLP, between ministries. Location within DPS thus aggregates the monitoring function, bringing together information from various sources. The second objection to relocating the monitoring units was the anticipation that tracking project progress centrally was necessary to determine the timing and appropriateness of additional projects. Thus, for example, the DPS would wish to avoid proposing a new project to a donor if any other MOA project had a large unexpended balance of funds from that same donor. Or the DPS might question the capacity to implement a new proposal from an already overburdened MOA department. These arguments are persuasive, with one caveat: that the number of such monitoring units does not continue to expand, due to donor requirements or other expediencies. There is a certain fragmenting effect to the separation of specific programs, as noted above in the ALDEP/Planning Officer (Crops) overlap of responsibilities, that should be discouraged whenever possible. Further, we feel that it may be possible for some of the more detailed work to be devolved onto either the Finance Office or the line departments.

b) Ministry of Agriculture

Figure 2 represents the present organization of the MOA. The DPS is responsible for policy, analysis and project preparation for all departments within the MOA. Department representatives with whom we spoke were universally favorable in discussions of their interactions with the DPS. Most have contact with the CAE, who may then assign appropriate staff personnel to a particular task. Several department heads expressed interest in the possibility of locating a planning officer within their departments, or at least having a counterpart planning officer designated within the DPS. In all cases it was agreed that three planning officers should remain under the authority of the CAE.

All the operational departments represent users and potential users of data and analyses now being generated by both the Statistics and the Farm Management subunits. It was not entirely evident that the operating departments were able to effectively utilize the information

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now available to them; thus we suggest that DPS, particularly the Farm Management and Statistics Units, consider more outreach activities. In addition to those mentioned in the Data and Analysis section of this report, the team suggests attendance at regional meetings to explain both the data and its uses and the services (such as special surveys, advice on farm budget preparation) available. Alternatively, the units may wish to assist in the design of training courses prepared by the operating departments to disseminate this information. There is a particular need for such outreach at the district and regional levels, where DAO's and RAO's may be exposed to the services and information available to them, and may meet the persons actually involved in these activities.

There is one other area in which relations within the MOA could be strengthened. This is between the DPS and the Finance Office. The Finance Officer is responsible for tracking all expenditures from the development funds allocated to MOA. In addition, he is responsible for requesting any carryover funds from this budget from one fiscal year to the next. He receives handwritten monthly reports of expenditures from project managers and monthly computer printouts of expenditures from MFDP. However, the Finance Officer has little regular communication with DPS in these matters and does not attend the semiannual project reviews. He feels that it would be useful to be included in the latter. The evaluation team suggests that a closer relationship between the DPS and MOA Finance be fostered, and that the possibility of devolving some of the purely financial aspects of project monitoring onto the Finance Office be explored. At a minimum, the Finance Officer should be asked to participate in the biannual project review, so that he might better reconcile his information with that of DPS and the project managers.

Regarding the institutionalization of the DPS within the MOA, DPS is relied upon by all departments as an intermediary with the MFDP and as the appropriate channel through which all project proposals should flow. There is excellent communication in the development of PM's, for economic analyses of implementation problems or ex ante evaluations and other matters in which the departments request assistance from the DPS, or are, in turn, required to provide information to the DPS. Those parastatals dealing with agriculture also recognized the DPS as the repository of expertise on economic matters and as the main conduit by which projects are proposed. The ALDEP team was frequently cited as exemplary for the consultative approach it has undertaken to planning the arable lands program.

c) Other GOB Ministries

The MOA's interests converge with a number of ministries, for example, in rural roads with the Ministry of Works and Communication, on water for agriculture with the Ministry of Mineral Resources and Water Affairs, on tsetse eradication with the Ministry of Commerce and Industry and on TGLP with the Ministry of Local Government and Lands

(MLGL). Most of these converging interests are dealt with in inter-ministerial committees for which DPS may prepare MOA position or issues papers. In the case of TGLP, however, a special monitor has been designated within the DPS Rural Sociology Unit.

The DPS has another special relationship with the MLGL. District Officers (Development) (DOD's) are district representatives of MLGL, but are responsible for formulating development plans for their respective districts, and for writing up project ideas which become the basis for PM's written by the DPS and shepherded by the latter through the remainder of the planning process. The DOD's either rely on their corresponding Regional Agricultural Officers (RAO's) or occasionally District Agricultural Officers (DAO's) for information on project progress, or feel obliged to follow up themselves whenever they are in Gaborone. It was also reported to the evaluation team that the semi-annual project review carried out in DPS is often not carried out with the most up-to-date information from the district level, as the reviews frequently rely on headquarters project managers.

The sense imparted in discussion with a number of DAO's is that the MOA headquarters is rather remote and centralized and not effectively communicating on issues of development, with which DPS is particularly concerned. Lack of consistent representation at DOD annual meetings, and failure to make contact with DOD's on field excursions were two other indicators of the centralized nature of MOA planning activities. Excepted from these general statements were MOA Agricultural Field Services staff at district and regional levels, the Rural Sociology Unit and the ALDEP planning team. The evaluation team recommends the following to improve district-level communications:

1. Quarterly circulation of brief reports on the status of any project proposals submitted by DOD's on which funding decisions have not yet been made. Such reports should also include descriptions of centrally planned projects (e.g., new cordon fences - location and approximate date of construction). These reports should be sent to RAO's, DAO's, DOD's, DDC's and VDC's, where appropriate. Two of these reports should incorporate results of the semiannual project reviews held by DPS, with requests for comment.
2. Attendance at the annual DOD conference by the SAE or his designated representative.
3. Inclusion of the DOD's in outreach activities to be undertaken by the Statistics and Farm Management Units, as mentioned above.
4. Inclusion of RAO's, DAO's and DOD's in meetings or informational exchanges whenever field trips are undertaken by DPS staff members.

d) Ministry of Finance and Development Planning (MFDP)

The DPS has a particularly close and complex relationship with MFDP, as all MOA expenditures from the development budget must be

proposed in projectized form (PM's) and approved by MFDP planning and finance staffs. In addition, the chapter on agriculture in the NDP is submitted to the MFDP Planning Officer for approval and inclusion in the final plan.

The relationship between DPS and the MFDP Planning Officer is characterized by a certain amount of friction, which is said to have increased over the past year. This is apparently due to a convergence of circumstances: the Principal Planning Officer (PPO) for MOA and Ministry of Mineral Resources and Water Affairs (MMRWA) was vacant for approximately eighteen months prior to the arrival in September, 1980 of the present incumbent. This resulted in an inordinately large workload for the MFDP Planning Officer (PO) for agriculture, with inadequate supervision. The present PO has been in the position for approximately one year and is relatively inexperienced. As with any relationship of this type, there are likely to be personality differences as well as structural problems. Parenthetically, the MFDP is staffed almost entirely by expatriates, with little prospect of rapid localization. The MOA is clearly on the forefront of localization, due in large part to the Project.

Criticisms of the MFDP by MOA staff (both within and outside of the DPS) include:

- lack of experience and judgment by the MFDP PO
- presumption of better technical knowledge than the MOA line staff on the part of the MFDP PO
- delay in funding projects due to demands for redrafting of many PM's
- constantly changing requirements for documentation in PM's, in annual project reviews, in the five-year planning exercise, etc., impeding rapid completion of assignments
- lack of clarity of directives often causing duplication of effort.

Alternatively, criticisms leveled by MFDP staff at the MOA/DPS include:

- lack of analytical rigor and adequate justification, including consideration of alternatives, in PM's
- use of outdated or inadequate technical information
- lack of supervision of junior planners by the SAE or CAE in writing PM's
- lack of formulation of long-range agricultural policy
- isolation from the planning cadre in government, both structurally and in terms of such things as regular representation at weekly planners' meetings

- ability and willingness of the Animal Health Department to circumvent the normal planning procedure
- low productivity, given that MOA/DPS is the largest planning unit in the GOB.

The evaluation team feels that these issues have not been adequately discussed between the two ministries. While the conflict does have some historical basis, and is not likely to be entirely resolved due to the structural limitations of the present development planning process in Botswana, some easing of the present situation can be accomplished. We suggest the following:

1. Agreement at the P.S. level in MOA and MFDP should be reached to improve communication between the respective planning units, and to resolve issues relating to technical competency, procedures for dealing with the Animal Health Department and clarification of directives issued by MFDP. USAID should be kept informed of progress on this issue.
2. Annual work plans and frameworks for long term analyses to be undertaken by MOA/DPS should be circulated to and discussed with concerned MFDP staff.
3. Supervision and review of the work of PO's in MOA/DPS should be intensified to assure a consistent product.
4. MOA/DPS staff should be represented at weekly meetings of the planning cadre. This will contribute to keeping abreast of any procedural changes instituted by the MFDP.

The team is only able to recommend actions to the MOA, but this does not indicate any attempt to assign culpability. The team does feel that the present difficulties impinge upon Project progress and would encourage whatever means necessary to clarify the issues and misunderstandings. The evaluation team expects that with the filling of the position of Principal Planning Officer for MOA and MMRWA, some of the issues with respect to relations with the PO for MOA will be resolved. As to the criticism of low productivity, MFDP should be requested to clarify this, and should work with MOA planners to reach an agreement on reasonable workload and expectations.

It is important to note that some of the conflicts between MFDP and MOA have arisen due to structural aspects of the GOB planning process. At present, GOB development planning is premised on the notion that funds for development programs exceed GOB capacity to implement them. Thus, planning has proceeded on a five-year basis, with more projects proposed than were implemented over the period of time and only very gross prioritization among projects. Likewise, a budget has been prepared for the entire five-year period, and each

year an update of the remaining funds available is produced. However, there has not been any attempt at an annual budgeting exercise whereby ministries are given indicative allocation levels on which to base annual plans of work and prioritization of project proposals. Such an indicative level was seen as a hindrance to work to the maximum capacity to implement. That is, ministries were seen to be more constrained by problems of implementation than by funding shortfalls. In the past this has, in fact, been the case, but increasingly donor funds are less available, or available in smaller quantities, and the GOB capacity to implement development programs has vastly improved.

The relationship between the structure of the GOB planning process and the MFDP/MOA problem flows from the lack of any requirement to set annual project priorities as a mechanism for keeping operating departments and MFDP informed. MFDP is unaware of MOA priorities, and has no advance knowledge of the projects to be presented in any given year. Repeated questioning of MOA staff indicated that it appears to be acceptable practice to propose any project listed in the NDP at any time in the five year planning cycle. It appears that ability to implement or expediency rather than available funds may prompt submission of a particular proposal. Thus, for example, an outbreak of foot and mouth disease will prompt a proposal for additional cordon fences, while a larger-scale project may be submitted because the consultancy report has been completed, without reference to any larger scale plan or consideration of the "fit" with overall development of the agriculture sector (beyond the NDP, that is). Some of this problem may be resolved by the preparation of an adequate annual work plan by MOA/DPS and its discussion with appropriate MFDP staff and some of the analytical work suggested herein, but some of the problem will linger until such time as the GOB at large feels the need for more stringent planning measures.

SUMMARY

Overall, the evaluation team finds that the Project at midterm has every prospect of achieving its stated goal and purpose. It is for the most part on schedule in both its technical assistance and training aspects. The team is highly impressed with the Project format, and recommends that it be used as a model for human capital development in Botswana and elsewhere in the developing world.

Several issues of concern did arise during the course of the evaluation. Briefly, these are the need to ensure that gains made by the project are not lost due to untimely departure of the PASA team; the need for more attention to long-term analytical work; the need to resolve some internal issues within the DPS, particularly the Planning Unit; the need for improved communication with district-level officials and with the Ministry of Finance and Development Planning office. Specific recommendations to deal with these issues have been presented in the report. The team wishes to emphasize that it sees these recommendations as means to cement the achievements of the Project to date and as a plan of action for the remaining years of the Project.

Agricultural Planning Project (067)
Summary of Evaluation Findings and Recommendations
FOR DISCUSSION ONLY

Methodology

The Agricultural Planning Project evaluation team held discussions with approximately 30 individuals in the Ministry of Agriculture, other GOB agencies and the USAID Mission, and reviewed the Project Paper, the 1979 evaluation of the Project, and several documents produced by the Division of Planning and Statistics. The team focused on the performance of DPS and changes in the level of performance since inception of the project two years ago.

Findings and Recommendations

1. Overall, the project is essentially on track and schedule consistent with the outputs specified in the Project Paper.

2. The USDA has provided excellent project leadership and an expatriate staff which is technically capable and experienced in working abroad.

3. The evaluation team finds considerable merit in the concept of the project and its appropriateness as a model for meeting human capital needs in Botswana.

4. The DPS is devoting disproportionate amounts of time to project monitoring and reacting to daily pressures at the expense of longer run sector planning needs or issues.

Recommendation: That the composition of functions associated with DPS be reviewed to determine if a more appropriate mix is desirable.

Recommendation: That an annual work plan be formulated by DPS, as specified in the PASA agreement, taking into account the recommended review of the composition of functions.

Recommendation: That MOA explore the possibility of devolving some of the financial aspects of project monitoring onto the Finance Office.

Recommendation: That DPS prepare a draft document specifying an overall conceptual approach to the development of Botswana's agriculture and a plan for the conduct of quantitative analyses, including a staffing plan for carrying out the various analytical efforts. The draft document should be reviewed by other ministries and local planners.

Recommendation: That DPS consider a sector assessment as a means to initiate the long term analytical effort recommended above. If it chooses to do so, DPS could prepare a terms of reference and hire a consultant to write the sector assessment.

Recommendation: That DPS develop a long term staffing plan that specifically takes into account the competing demands upon the time of the Division's staff and prioritizes its functions.

5. In general, other Ministry of Agriculture and related parastatal officials are satisfied with the services provided by DPS, and recognize it as the center of agricultural planning activities. The major concern is periodic delays in preparing project memoranda.

6. The training program is on schedule and is managed very well. The localization process is also on schedule thus far, but could be altered because students are taking longer than expected to complete their course work.

Recommendation: That DPS prepare a phasing-out strategy to insure to the fullest extent possible that the gains of the project are institutionalized to the benefit of the GOB.

7. Dramatic improvement has been made in the timeliness and quality of the livestock and crop statistical reporting activities.

8. The Farm Management Survey has been expanded in scope. There is considerable opportunity to promote greater use of this rich data base and to extend farm record keeping services to many more farmers.

Recommendation: During the next two years of the project, members of the Farm Management and Statistics units should attend meetings of district officials to review their work in some detail, and to explain how the data might be used at the district level.

Recommendation: If it is consistent with the priorities of DPS, that consideration be given to DPS undertaking a program to "train trainers" in the use of farm records.

9. The rural sociology unit has a record of high productivity and significant contribution to agricultural policy formulation, but it has not played a large role in project planning. It is difficult to assess the outlook for the remainder of the Project as the new senior rural sociologist will not formally assume his duties until December 1, 1980.

10. There are still problems of integration and career development among the Botswana Planning Officers. While these are to a

certain extent linked to competition for leadership of DPS, they are also linked to lack of clarity in lines of authority between the SAE and the three Planning Officers, and to a lack of clear division of duties among them.

Recommendation: That regular seminars of all DPS staff be held. Each unit should be asked, in rotation, to provide a synopsis of its recent activities so as to improve intra-division communication. In addition, the matter of career opportunities both within and outside the MOA should be discussed (see number 11 below regarding the planning cadre).

Recommendation: That the assignments of the Planning Officers be aligned more closely with the operating departments, i.e., Animal Health, Agricultural Field Services, Agricultural Research, and Cooperatives.

Recommendation: That all assignments to Planning Officers be cleared through the SAE.

11. In the view of officials interviewed in the Ministry of Finance and Development Planning, project and program documents prepared by DPS lack rigor, are often in error in regard to specific facts, and seem to indicate a lack of an overall strategy or conceptual framework. Several reasons have been suggested for this perceived problem. The evaluation team was unable to make an independent judgement on the quality of project memoranda, but concurs with the criticism of the agriculture chapter of the Plan lacking a clear conceptual framework and rigorous analysis.

Recommendation: That communications between MOA and MFDP on policy and procedures be improved, if necessary by agreement at the Permanent Secretary level. USAID should be kept informed on progress in this area.

Recommendation: That the GOB review its policy of separation of the Agricultural Economist cadre from the rest of the Planning Officer cadre, which is under the Director of Economic Affairs in MFDP.

Recommendation: See number 4 above.

12. District planners feel they should receive much more assistance from DPS, and that DPS should consult more frequently with district planners in preparing agricultural projects.

Recommendation: Quarterly reports on the status of agricultural project proposals, whether submitted by the districts or centrally planned, that have not yet been approved for funding should be circulated to district officials (see also numbers 4 and 8 above).

13. It appears that contract expenditures will not meet initially programmed expectations and that a savings of as much as \$1.0 million

may be realized by project end.

Recommendation: That the Mission obtain an accurate estimate of possible project savings at the earliest possible date.

Recommendation: That whatever savings are found be re-programmed to expand the training component of the project with emphasis on the needs of the total Ministry of Agriculture.

14. Administrative and logistical support of the project has been established without major problems being reported. All vehicles are in place and major construction virtually completed.

PROJECT MEMORANDA PREPARED BY
DIVISION OF PLANNING AND STATISTICS, MOA

1979

1. Rural afforestation	500,000
2. ALDEP	9,000,000
3. Drought relief	
a. Cattle movement	650,000
b. Agriculture and water discretionary fund	550,000
c. Cattle purchase	600,000
d. Bush clearing for buffalo fence	19,500
e. Firebreaks on government ranches	5,000
f. Malapo development	160,000
g. Botulism vaccine	324,000
h. Water development in lands areas	25,000
i. Fisheries development	35,000
j. Emergency seed supply	890,000
k. Access roads in lands areas	15,000
l. Destumping	229,000
m. Diesel fuel subsidy	189,000
Total	13,513,500

1980

1. Foundation seed production and control	640,000
2. Commercial seed production	1,300,000
3. Buffalo fence	2,500,000
4. Cordon fence	2,500,000
5. Vaccine production	8,500,000
6. Tsetse fly eradication	6,200,000
7. Veterinary Diagnostic Laboratory	2,000,000
8. Maun cannery	4,100,000
9. Foot and mouth disease control	300,000
10. Slaughterhouse (Meat Inspectors') training	2,500,000

11.	Botswana Cooperative Bank Capital Development Fund	500,000
12.	Botswana Cooperative Bank Membership and Education Publicity	200,000
13.	Reorganization of Extension	731,000
14.	Bonemeal	100,000
15.	Rural Training Centers	<u>2,000,000</u>
	Total	34,071,000

A SUGGESTED CONCEPTUAL FRAMEWORK

Without trying to prejudge the conceptual framework and analytical plan, the following ideas are presented for the Division of Planning and Statistics to use or discard as they see fit. The suggested framework is thought to be useful in the analysis of employment, constraints to increased crop production, and land and water use, which appear to be among the most important concerns of the Government of Botswana.

On the most general level, Botswana's agriculture can be thought of as a set of interrelated markets. These markets are of two types. First, there is the interaction of demand and supply for agricultural products; one would expect a moderate degree of substitutability on the demand side and a high degree of competition for limited resources on the supply side. Second, there are markets for the various agricultural inputs. The demands for agricultural inputs including land, water, labor and manufactured goods are derived demands reflecting the level of demand for agricultural products. The supply of some inputs, such as land and water, may be relatively fixed, while others are more subject to change; labor available to agriculture will probably grow at a fairly constant rate and other inputs may expand quickly to meet increases in demand.

The analytical components consistent with this conceptual framework can be divided into three classes: (1) agricultural product demand analysis; (2) analysis of agricultural product supply and input demand; and (3) analysis of the supply of agricultural inputs. Work on these three classes can proceed simultaneously, and as various components are completed they can be linked together to form more comprehensive models. Eventually, it may be possible to put all the pieces together into one model of Botswana agriculture. In the meantime, each component in itself will provide quantitative findings and insights useful to the on-going planning needs of the Ministry of Agriculture.

A useful first step in the analysis of agricultural product demand would be the construction of food balance sheets, which specify the sources and disposition among various uses for each product; in this process, weak or missing data can be identified and remedial action taken. A second step would be estimation of demand functions; because of likely data limitations it may be desirable to estimate income elasticities from cross-sectional data and price elasticities from time series, and then combine them into a consistent matrix. Given the food balance sheets and elasticities, projections of population and per capita income growth, along with assumptions on possible relative price changes, can be used to project consumption.

To analyze agricultural product supply and input demand, it will be necessary to classify the various types of farms in Botswana, and then describe the input-output relationships and resource constraints for each type. The Farm Management Survey provides a rich source of

data for this task. Once the descriptions are complete, it will be relatively easy to construct linear programming models of representative farms, which can be used directly to analyze the impact of product price changes and the introduction of new techniques on production, input use and input prices. Finally, the representative farm models can be linked to form regional and national models; when combined with product demand functions and assumptions about input supplies, they can be run as self-contained models which could be used to answer a wide range of questions about regional and national comparative advantage and impacts of technological change and shifts in product demand.

Supply functions for labor and manufactured inputs to agriculture probably can be estimated quite readily, however, analysis of land and water supplies pose formidable problems. Knowledge of soils, hydrology and other physical sciences need to be combined with that of the social sciences to effectively conduct land and water analyses. A sensible research strategy is to start with admittedly crude formulations of land and water supply functions, and gradually work toward more sophisticated formulations while using the best available estimates in conjunction with the other components of more comprehensive models of Botswana's agriculture.

DESCRIPTIONS OF UNIT RESPONSIBILITIES
WITHIN THE DIVISION OF PLANNING AND STATISTICS

The responsibilities and personnel makeup of each subunit are outlined below:

- (1) Statistics Unit: This subunit is headed by a statistician position carried on CSO rolls. It is supported by an established statistician position carried on MOA rolls and an assistant statistician carried on CSO rolls (along with, of course, appropriate field enumerators and staff). At present, its primary responsibility is to provide basic statistics on the different agricultural sectors of Botswana on an annual basis. However, it also has the secondary responsibility of providing statistical input, when requested, for other MOA planning and research efforts.
- (2) Planning Unit: This subunit is headed by a Senior Agricultural Economist, who is in turn supported by three agricultural and three assistant agricultural economists, respectively. A technical officer and a research assistant also provide support. Its primary responsibility is to provide economic input into the planning of development projects aimed at the agricultural sectors of the country. However, the staff are also available to conduct actual economic research when requested.
- (3) Farm Management Unit: This subunit consists of an agricultural economist, an assistant agricultural economist and a chief technical officer. Its primary responsibility is to develop the capability of the Division to provide farm management assistance, in a socio-economic sense, at the local farm level. However, once again, the staff are available to conduct other economic research when requested. Informally, it reports directly to the CAE.
- (4) ALDEP Unit: This subunit consists of two supernumerary positions - a senior agricultural economist and an agriculturalist. Its primary responsibilities include the development and monitoring of pilot projects under the overall umbrella of ALDEP. At present it informally reports directly to the CAE.
- (5) Rural Sociology Unit: This subunit is headed by a senior rural sociologist who is in turn supported by a rural sociologist, two assistant sociological officers and two sociological assistants. Its primary responsibility is to assess the sociological impacts of various agricultural development projects. However, it also has a senior sociologist attached to it who is responsible for monitoring TGLP. In addition, it has taken on the responsibility in the past of coordinating various anthropological and sociological studies being conducted by independent researchers throughout Botswana.
- (6) Livestock Project Management Unit: This subunit consists of six established positions headed by a principal administrative officer (for a total of seven personnel). Its responsibility is to monitor the implementation of the Second Livestock Development Project.

Agricultural Planning (067)

List of People Contacted During Evaluation

D. Finlay	Permanent Secretary, MOA
V. Amann	Chief Agricultural Economist, MOA/DPS
W. Kelly	Statistician, MOA/DPS
R. Fox	Farm Management Economist, MOA/DPS
J. Larsen	Livestock Economist, MOA/DPS
J. Litschauer	Agricultural Economist/Student Trainer, MOA/DPS
R. Benke	Senior Rural Sociologist (Designate), MOA/DPS
R. Purcell	ALDEP Team Leader, MOA/DPS
Mr. Ramahobo	Livestock Project Coordinator, MOA/DPS
M. Mokone	Senior Agricultural Economist, MOA/DPS
J. Pilane	Agricultural Economist, MOA/DPS
N. Morapedi	Agricultural Economist, MOA/DPS
A. Mogari	Assistant Agricultural Economist, MOA/DPS
S. Matswe	Research Assistant, MOA/DPS
Y. Merafe	Rural Sociologist (Trainee), MOA/DPS
R. Hitchcock	Senior Rural Sociologist (TGLP Monitor), MOA/DPS
D. Jones	Rural Development Consultant, MOA
P. Nelson	Director, Department of Field Services, MOA
E. Bradley	Deputy Director for Veterinary Services, Department of Animal Health, MOA
N. Buck	Livestock Research Officer, MOA
D. Golifer	Crops Research Officer, MOA
W. Bell	Finance Officer, MOA
E. Maloiso	Principal, Botswana Agricultural College
S. Alidi	Chief Land Utilization Officer, MOA
T. Machacha	Chief Animal Production Officer, MOA
P. Mulligan	General Manager, Botswana Agricultural Marketing Board
A. Rutherford	Accountant, Botswana Livestock Development Corporation
R. Wallace	Manager, Agricultural Credit Division, National Development Bank
M. Afeta	Principal Planning Officer, MFDP
R. Turner	Planning Officer (for MOA), MFDP
A. Masalila	Coordinator, Rural Development Unit, MFDP
W. Jeffers	Communal Area Coordinator, Rural Development Unit, MFDP
G. West	Economist, Macro Unit, MFDP
J. Lawler	District Officer (Development), Ghanzi District
A. Scott	District Officer (Development), Central District (Serowe)
L. Brouns	District Officer (Development), Central District (Tutume)
R. Morgan	District Officer (Development), Ngamiland District
L. Fortmann	Rural Sociologist, Water Point Survey, MOA
E. Roe	Economist, Water Point Survey, MOA
Mr. Moremeni	District Agricultural Officer, Kgatleng District
Mr. Sebogodi	Agricultural Demonstrator, Kgatleng District
H. Pierce	District Officer (Lands), Kgatleng District

TELEPHONE: 488X 51177

TELEGRAMS: MINAGRIC

REFERENCE: A9/42



REPUBLIC OF BOTSWANA

DIVISION OF PLANNING AND STATISTICS

MINISTRY OF AGRICULTURE

PRIVATE BAG 003

GABORONE

BOTSWANA

15th December, 1980

Mr. Louis A. Cohen,
Director,
USAID (Botswana),
P.O. Box 90,
GABORONE.

Dear Mr. Cohen,

We are writing in response to your letter of 2nd December, 1980 with reference to project evaluation report on the Agricultural Planning Project No.633-0067. In general, the report shows a fairly positive review of the accomplishments of this project and its implementation toward meeting the goal and objectives as laid out in the project paper: The review of the effectiveness of project staff is a fair assessment of their role in project implementation and in institution building within the Ministry of Agriculture.

However there are a few errors in fact which we would like to point out in the first instance.

Page 5, table 1

Amann	5 yrs Ethiopia
	5 yrs Botswana
	9 yrs Uganda
	0 yrs Nigeria
FX	3 yrs Vietnam
	0 yrs Cambodia.

Page 21, para.3 the statement that the PASA livestock economist feels responsible to the CAE is wrong. He is assigned his work by the Senior Agricultural Economist who is head of the planning Unit.

Page 26. ^{second?} sound last sentence, the tsetse eradication is a Division of the Department of Animal Health and has nothing to do with Ministry of Commerce and Industry.

Page 29. the low productivity suggested in the second statement at top of page seems to be negated by the appendix A. of this paper plus the fact that Ministry of Finance and Development Planning was awarded P3.9m for 10 projects either new or amendment to existing projects in the December, 1981 DDF tranch over and above the P15.9m annual allocation to Ministry of Agriculture.

cont'd 2/....

On the Recommendations we have the following comments.

No.4. We disagree with the team's criticism of the amount of time devoted to monitoring and reaction to daily pressure. Monitoring is one of the functions of Division of Planning & Statistics to ensure that projects are implemented and funds are spent. This is our mandate from our Permanent Secretary and a basis for criticism by Ministry of Finance & Development Planning if funds are not spent as requested. If the project paper is reviewed fully you will find that one of their measures of progress is development fund expenditure and physical development, which can only be achieved by Division of Planning & Statistics monitoring. Daily pressures cannot be ignored and anyone who has worked in Government or any public institution should know this. We feel the team is judging G.O.B operations by Washington standards where manpower is relatively much more abundant.

Recommendations on bottom of page one and top of page 2 in Addendum 2 are underway as follows:

- (1) Litschauer & Kelly are beginning analysis of the National Data on Agriculture. First effort will be to define the present structure of agriculture in Botswana. Later analyses may include:
 - (1) A comparison of agriculture by region;
 - (2) An analysis of factors impacting on arable production in Botswana;
 - (3) A comparison of the agricultural sectors headed by males and females in Botswana.
- (2) A terms of reference is being developed for an Assessment of the Agricultural Sector in Botswana. It will be presented to the MOA Agric. Policy Committee Meeting on 17-12-80. Present plans call for this Assessment Effort to be broken into two phases:
 - (a) An analysis of "what is" including:
 - (i) a description of the present agricultural production structure and agricultural processing/marketing segments of the sector; and
 - (ii) a review of literature and present agricultural development efforts in the country.

This phase would be completed by the Division of Agricultural Planning and Statistics. A Botswana Planning Officer will head this effort and he will be supported by the Rural Sociology Unit. This effort should be completed by July, 1980 at the latest.

- (b) An analysis, in broad terms of the interaction between:
- (i) different segments of the agricultural sector (i.e. livestock numbers, crops, etc.); the agricultural sector and its present processing/marketing infrastructure; and
 - (ii) alternative processing/marketing approaches which might be used to develop this latter segment of the economy (i.e., high technology centralized processing numbers, local small scale industries; etc.). This effort would be completed by a small team brought in for from 2-3 months beginning in September, 1980. They would be expected to provide recommendations on the following areas which would be used for future development planning efforts:
 - (i) Integrated efforts to increase agricultural production in all segments of agriculture in the country dovetailed into the present efforts;
 - (ii) The feasibility of using price subsidies and other related means to increase agricultural productivity again dovetailed into present efforts in this area; and
 - (iii) Integrated efforts to develop the agricultural (and related) processing infrastructure in the country.

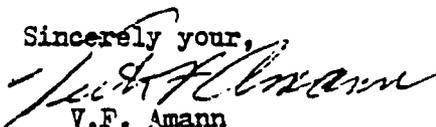
This recommendation should include a timetable of priorities. The recommendation on the longterm staffing plan has been done and will be published in the 5-year training plan for Ministry of Agriculture. This is presently in draft form and will be reviewed and published by Division of Planning & Statistics in early 1981.

Item 10: stems ^{priority?} from the two local officers who had equal time and rank with the SAE but did not get promoted. This was a result of choosing the most capable for the one available promotion position. Lines of authority are clearly set up and are functioning.

Item 11: dealing with communications between MOA and M.F.D.P has been blown out of proportion. This is an internal matter and really has little to do with project implementation and was really not the business of the evaluation team. An initial meeting has been held between CAE, Permanent Secretary, Ministry of Agriculture and the Planning Officer III, Ministry of Finance Development Planning with some positive results. A larger meeting is planned between SAE, CAE, Ministry of Agriculture and the planning, budget and macro units in Ministry of Finance and Development Planning in the near future to set up improved working relations.

Lastly, I would like to state that the windup meeting between Ministry of Agriculture and USAID staff and the evaluation team seems to have made some changes and eventual improvements in the report. The Ministry of Agriculture and the project staff will take into account the suggestions and recommendations of the team in the concluding years of the project's implementation.

Sincerely yours,



V.F. Amann

For/PERMANENT SECRETARY