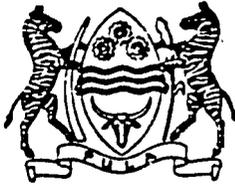


633027 15FM

TELEPHONE:

TELEGRAMS: FINANCE

REFERENCE: FDP 4/2/18 III



REPUBLIC OF BOTSWANA

MINISTRY OF FINANCE AND DEVELOPMENT PLANNING

PRIVATE BAG 008

GABORONE

PD AAP-771
XD-PAP-771-A

11th. September, 1984.

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ISN=36641
36643

The Director,
USAID/Botswana,
P.O. Box 90,
Gaborone.

Dear Sir/Madam,

THE RURAL SECTOR GRANT PHASE I EVALUATION REPORT

We refer to your letter dated 13th July 1984 transmitting the above mentioned report. We wish to convey our comments on the report as follows:

1. The Government considers the recommendations confirmed in the report acceptable. However the Government reserves the right to act on each recommendation according to existing priorities, manpower availability and according to a schedule agreeable to the Ministries involved.
2. The attached comments should be included in their entirety in the final document for circulation of the report to all concerned including the USAID review in Washington of which you have informed us.

We request that special attention be paid to these comments.

It should be noted that the evaluation team was here for a very short time and Ministries had even lesser time to prepare comments on the draft report. We feel that the evaluation does not fully represent a complete picture of implementation realities. This is particularly relevant to agricultural and rural industrial components of the programme.

We take this opportunity to express our appreciation to the evaluation team. Despite the usual differences in interpretation we feel that the team did as professional a review as was possible within the time allotted.

Yours faithfully,


E. B. Mathe
FOR PERMANENT SECRETARY.

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227

SAVINGRAM


N. Macala
for/Permanent Secretary

FROM: Permanent Secretary
Ministry of Agriculture

TELEPHONE NO. 51171

TO: Coordinator Rural Development
(Attention: Mr. Kenn Ellison)

REFERENCE NO: 49/61

13th August, 1984.

COMMENTS ON THE RECOMMENDATION IN THE
R S G EXTERNAL EVALUATION PHASE I ACTIVITIES
AND
PRELIMINARY ASSESSMENT PHASE II SUB-PROJECTS
JULY 1984

MINISTRY OF FINANCE &
DEVELOPMENT PLANNING
1984-1985-1986
PRIVATE BAG 1
GASORONE
REPUBLIC OF BURUNDI

1. AE 10 - AGRICULTURAL SMALL PROJECTS (PAGES II-4 TO II-5)

1. The Ministry of Agriculture fully supports Recommendations 1, 2 and 4. However 3 and 5 require slight modification on the following grounds:
 - a. Recommendation 3: While we agree with the idea that MoA should place additional emphasis on the Project Memorandum, we are confident that our specialist supportive staff is technically capable to adequately meet the needs of the small farmer without outside assistance.
 - b. Recommendation 5: Based on the financial requirements of the Arable Water development projects for both human consumption and animal draftpower purposes, the AE10 project upper limit would be P15,000. Groups with project financial requirements greater than this figure (i.e P15,000) would be advised to adjust their requirements to the limit or to approach the National Development Bank. The Ministry would strongly advise groups to adjust their requests to P15,000 especially for the Horticultural projects as a means of ensuring that groups gain technical, organizational and financial management experience in running such enterprises on small scale basis before embarking on big projects.

AE 11 - HORTICULTURAL ESTATES (PAGES II-15 TO II-16)

1. Rather than freezing the expansion of Horticultural Estates in terms of numbers, MoA would advise farmers who plan to embark on Horticultural activities to start small and then expand into bigger scales of operation as their enterprise profitability, technical and organizational experience are improved.



AE 15 - RURAL AFFORESTRATION

1. With regard to strengthening the technical capacity of the Forestry Unit by sending officers for degree training, MoA would suggest that two officers presently trained at diploma level should be sent for first degree training in Forestry as a starting point. Thereafter, one of these officers would be sent for further training at Master's level.

////////

NM/LNM...

3

RURAL SECTOR GRANT PHASE I EVALUATION
COMMENTS ON
HORTICULTURE ESTATES

The following comments are restricted to Manyana and Mmankgodi estates, General Discussions (D), Conclusions and Recommendations.

1. Personnel:

The Dutch volunteer referred to on page II-12 has trained as a horticulturist, not landscape architect, in Holland for three years. He has worked in production horticulture in Israel (1 Year), Zambia (2 years) and Tanzania (2 years). It is inaccurate and misleading to state that he has poor training and little experience.

2. Water Supply:

The estates had very little rainfall during the rain season of '83/84. In October they had one day rain (25mm), in November a hailstorm destroyed the entire crop and until February there was no rain at all. During the hot months the river held so little water that we had to stop irrigation of 6 plots of Spinach and Carrots. So the report's suggestion of good and proper timing takes no account of prevailing weather and river conditions. It is not understood what the report means by "there is an adequate water supply if managed properly."

3. Bookkeeping:

The Kolobeng Estate is registered as a Producer's Cooperative at CODEC. It's books and records are yearly checked by their auditors and an audit report is send yearly to the Ministry. At present the Society is still making a loss, due to high depreciations of buildings and equipment. The year 1983 shows a loss of P 2000, =, but an increase in cash flow from two thousand to four thousand Pula. Only Mmankgodi estate is registered as an A.M.A., but this has so far not been any help.

4. Transport:

Transport is not shared by both estates. Manyana estate owns the truck and rents it out to Mmankgodi.

5. Farmmanager:

The volunteer does not act as estate-manager. There is a management committee which decides on day to day matters and for big decisions we have a members meeting. The Volunteer and A/D are advising the committee and members, but never act as managers. Farmmanagers were appointed at both Manvana and Mmankgodi estates, but to various reasons did not meet expectations and they were dismissed (1982).

6. Extension work (See II-15 E on the negative side 2) Since the beginning of this year the A/D and volunteer are helping a group of 20 women with a vegetable garden. Although the whole garden is only a hectare in size, they have a small income. As it took too long to get an AE 10 approval we requested help from the Dutch Embassy. The garden is visited weekly and at present we are putting up a fence.

7. Recommendations (F I-c)

The Report mentions on page II-12 that at Manyana we are planning to acquire an adjacent piece of land. The main reason for this extension is to move away from the very sandy soil at the old garden, which requires a lot of water. The new land which we will get is of a much better soil type and so we will be much economical on wateruse. This is in no way an expansion of the estate as membership number will not change.

We were surprised to learn that US-Aid did not approve funds for the garden extension.

5

SAVINGRAM

FROM: Acting Permanent Secretary, Ministry of
Commerce and Industry

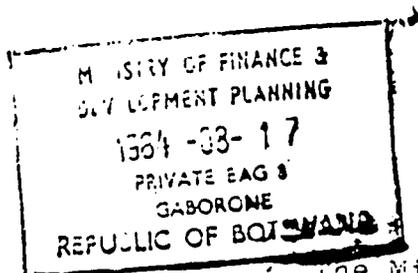
(E. T. Matsenge)

TELEPHONE NO. 53881

TO: Permanent Secretary, Ministry of Finance
and Development Planning

17th August, 1984

REFERENCE NO: CI. 20/1



Attention: Mrs Mathe
Co-ordinator of Rural Development

RURAL INDUSTRIAL OFFICER CADRE - CI.08

The Ministry accepts most of the recommendations as helpful and constructive, and will incorporate them into Phase II. However, there are four major points that, possibly, were not examined as fully as the others, tending to unbalance the overall evaluation.

- (i) The real difficulties of working in the rural areas are significantly greater than originally anticipated. The manpower, structural, and institutional restraints resulted in excessive demands on RIO's time. The evaluation could have benefited from a small sample survey of our successful entrepreneurs.
- (ii) The evaluation showed a real appreciation of the role and impact of FAP in rural areas but, in our opinion, a less than real appreciation of the impact of FAP on the RIO cadre. The introduction of FAP caused an actual change in priorities ("in mid-stream" as it were), and temporarily led to RIO's responding to two masters - Ministry of Finance and Development Planning and the Senior Rural Industrial Officer. In short, an identity crisis. The RIO's responded to the immediate need - and successfully launched FAP, at the cost of neglecting one of the original priorities (district data base etc.)
- (iii) The change of inadequate communication, confused priorities, etc, stems from the introduction of FAP and the impact on the cadre. In retrospect the change might have been avoided with one Memorandum from Government officially informing USAID of the new situations and requesting a revision of the original priorities. However, this would have required Government to have prescience of the facts before they happened.
- (iv) The Ministry wholeheartedly supports the recommendation that expansion of the cadre should be contingent upon Directorate of Personnel recruitment of four Botswana counterparts for the new posts to understudy expatriate volunteers.

Wildlife Management Development Project GA.02

The preliminary evaluation expressed criticism of four major aspects of the implementation of GA.02. They were :

- (i) The lack of a Wildlife Utilization Policy.
- (ii) The "very limited" implementation ability of Department of Wildlife and National Parks.
- (iii) The full secondment of the Wildlife Resource Economist to Department of Wildlife and National Parks and
- (iv) The "poor utilization" of the Wildlife Resource Economist by the Department of Wildlife and National Parks.

In the context of the evaluation the secondment of the Wildlife Resource Economist to Department of Wildlife and National Parks (iii) and the "poor utilization of the WRE by the latter (iv) tend to be linked in a "cause and effect" relationship. In fact the causal relationship has more to do with the remaining two aspects. In short, the ineffectiveness of implementation was the result of a matrix of all four aspects.

For instance, DWNP had, and still has, limited implementation ability; at this time only one of fifteen(15) wildlife biologist positions is occupied. Since the WRE cannot operate without support, there is every reason to suppose that this was an effective constraint on his productivity.

Again, the lack of a guiding policy certainly inhibited the initiative of DWNP and, given the lack of technical capability proved a formidable obstacle to change and innovation. Perhaps the failure to recognize this situation and respond with urgency is itself a criticism. However, the project did produce a draft Wildlife Utilization Policy which is expected to go to Cabinet later this year.

The decision to fully second the WRE to DWNP (termed a "mistake" by the evaluation) was in fact an operating decision to deal directly with the problem of inadequate technical support and apparent lack of initiative at DWNP. It was thought that the WRE would thus be better able to motivate as well as stimulate - the initiations of utilization projects. At the time there were few alternatives.

RURAL SECTOR GRANT

EXTERNAL EVALUATION OF PHASE I ACTIVITIES

AND

PRELIMINARY ASSESSMENT OF PHASE II SUB-PROJECTS

July 1984

Gaborone, Botswana

4

CLASSIFICATION

PROJECT EVALUATION SUMMARY (PES) - PART I

Report Symbol U-447

1. PROJECT TITLE Rural Sector Grant			2. PROJECT NUMBER 633-0077	3. MISSION/AID/W OFFICE USAID/Botswana
5. KEY PROJECT IMPLEMENTATION DATES			4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY) 84-8	
A. First PRO-AG or Equivalent FY 80	B. Final Obligation Expected FY 85	C. Final Input Delivery FY 88	<input type="checkbox"/> REGULAR EVALUATION <input checked="" type="checkbox"/> SPECIAL EVALUATION	
6. ESTIMATED PROJECT FUNDING			7. PERIOD COVERED BY EVALUATION	
A. Total \$ 17,302 million			From (month/yr.) June 1980	
B. U.S. \$ 9349 million			To (month/yr.) October 1983	
			Date of Evaluation Review 21 June 1984	

8. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., airgram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
1. Guidelines for CFDA land use planning should be prepared by the RDU and the Lands Division of MLGL, with assistance from the Land Development Committee. Guidelines should be indicative and not directive in character. They should incorporate a careful accounting of planning experiences in Ngamiland, Southern and elsewhere.	GOB	All dates to be determined by Reference Group
2. MLGL should designate an officer in the Lands Division who would work primarily on LG 31 communal development matters. This officer would also be responsible for liaison with DO(L)s and districts on land use planning matters generally.	GOB	
3. The RDU and MLGL should jointly undertake a review of the status of CFDA planning activities nationwide, and recommend changes or adjustments in CFDA strategy based upon their findings. Particular areas of attention should be the manpower and staffing situation in districts as they affect CFDA's, participation of Central Government Departments in CFDA programs, the relationship of CFDA planning to on-going district planning processes, and CFDA planning and management at the local level, and specifically the role of the CFDA coordinator.	GOB	
4. The role of the CFDA's in Government's rural development strategy should be clearly stated in NDP VI, presently under preparation.	GOB	

<p>9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS</p> <p><input type="checkbox"/> Project Paper <input type="checkbox"/> Implementation Plan e.g., CPI Network <input type="checkbox"/> Other (Specify) _____</p> <p><input type="checkbox"/> Financial Plan <input type="checkbox"/> PIO/T _____</p> <p><input type="checkbox"/> Logical Framework <input type="checkbox"/> PIO/C <input type="checkbox"/> Other (Specify) _____</p> <p><input type="checkbox"/> Project Agreement <input type="checkbox"/> PIO/P _____</p>	<p>10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT</p> <p>A. <input checked="" type="checkbox"/> Continue Project Without Change</p> <p>B. <input type="checkbox"/> Change Project Design and/or <input type="checkbox"/> Change Implementation Plan</p> <p>C. <input type="checkbox"/> Discontinue Project</p>
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<p>11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)</p> <p>Roger Poulin - Development Alternatives Inc. Steven Lawry - Development Alternatives Inc. Randolph Lintz - Consultant James Seyler - REDSO/ESA Bernard Pollack - AID/W</p>	<p>12. Mission/AID/W Office Director Approval</p> <p>Signature _____</p> <p>Typed Name _____</p> <p>Date _____</p>
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9

The utility of land and water point inventories and other data on natural resource management as tools for improving land allocation and management will be limited until such time as Land Board technical and administrative capacity is significantly upgraded. The following actions are recommended.

5. The Higgins Report recommendations for staffing of the LBTU should be adopted and implemented as a matter of priority. GOB
6. A determination should be made of the number of Land Board staff eligible for admission to Land Board training programs at Botswana institutions. Based on the results of assessment, steps should be taken to either provide remedial training for under-qualified applicants and/or develop training for staff that would be taught by the LBTU. GOB

ARABLE PRODUCTION

7. The AE 10 Small Projects portion of sub-purpose 11 should be continued with an increase in funding in line with increases in demand and absorptive capacity. The portfolio of projects should be expanded to include: GOB, USAID
 - a. small woodlots,
 - b. school tree nurseries and woodlots,
 - c. garden projects with fruit and forest tree production,
 - d. garden projects with the production of cowpeas.
8. The MOA should place additional emphasis in the project memorandum on a clear description of the source and amount of technical advice to be provided to each project, and should assure that there is adequate technical, program and economic successes and problems. GOB
9. An end-of-year review of all AE 10 projects should be carried out in which relevant Research and Division of Field Services staff would evaluate the technical, program and economic successes and problems. GOB, USAID
10. Encourage the design of AE 10 projects to fit what is needed then adjust funding to the request rather than adjusting the design to available funding. A maximum funding amount per project should be retained to assure that AE 10 remains a small projects fund. GOB

*Reallocation of Phase I budget

11. The horticulture estates project (AE 11) has served as a valuable experiment but it is too early to evaluate results. It is therefore recommended that:
 - a. The project continue for at least three more years, or, if necessary, until the drought has ended and a reliable source of supplemental water is available. GOB, USAID
 - b. The RSG Phase II finance only those estates for which funds have already been allocated. GOB, USAID
 - c. Funding be provided only for operational purposes. There should be no funding for expansion of the capacity of existing estates. GOB, USAID
 - d. The RSG continue to support the research horticulturist and agricultural economist at the research station in Sebele. GOB, USAID
12. Expedite the studies of water management at the Mogobane, Mankgodi and Manyana estates (AE 11). GOB, USAID
13. It is recommended that MOA initiate a dialogue with USAID/Botswana with regard to placing a Forestry Research Extension Advisor in the Forestry Section and subsequent identification of at least one individual for long-term, preferably MSc level, training in Forestry. Pending the eventual creation of this position, it is further recommended that MOA use the newly created Forestry Association of Botswana (FAB) to support, to the fullest extent possible, on-going and proposed AE 15 activities. GOB, USAID
14. Considerable research needs to be undertaken which is critical to the development of Botswana's forestry sector. (See Annex II, page II-45, for a detailed discussion of research requirements.) It is recommended that the MOA explore with USAID/Botswana the possibility of using remaining RSG Phase I contractual funds to engage a research forester for a period of four to six weeks whose terms of reference would include:
 - a. assessment/evaluation of all existing or proposed basic or applied forestry research in Botswana; GOB, USAID

*Reallocation of Phase I budget

11

- b. identification of the most appropriate institution (for institutional linkages required to conduct forestry research in Botswana. Ministry of Agriculture, National Institute for Research and the Forestry Association of Botswana would appear to be likely candidates.)
 - c. development of a Project Memorandum for AE 15 funding should carry-over funds from RSG Phase I to be made available.
15. There is approximately P90 000 remaining in un-allocated RSG Phase I AE 15 funds. The evaluation team recommends that those funds be spent on the following projects. GOB, USAID
- a. Funding of P80 000 for the Matsheng LUP woodlot on the condition that MLUP prepare a detailed implementation plan for the MLUP natural bush management component.
 - b. Funding of P2 500 for netting and tools for the Kang nursery.
 - c. P8 805 for an extension of the Kang woodlot subject to the Brigades and MAO reaching a formal agreement on future management of the woodlot.

NON-FARM EMPLOYMENT

16. While the Director of Personnel should continue its attempt to recruit Batswana with university degrees in business and economics, it should seriously consider the recruitment of promising individuals with diploma level education for counterpart positions. GOB
17. Expansion of the RIO cadre should be contingent upon DOP recruitment of four Batswana counterparts for these new posts to understudy expatriate volunteers. GOB, USAID
18. Develop a standardized methodology to be used in the collection of country-wide data regarding resource availability, market potential and investment needs which will allow for comparability required for aggregate analysis; and assign top priority to the collection and analysis of this data. GOB

*Reallocation of Phase I budget

19. That a review of the RIO program's priorities be conducted by the Director of Industrial Affairs in conjunction with the SRIO and that these priorities be personally communicated to the RIO cadre. GOB
20. Develop various methodologies for field testing which will allow the SRIO to evaluate the performance of individual RIOS. GOB
21. Develop a methodology to analyze the cost-effectiveness of RIO involvement in projects of varying size (in terms of cost) and type. GOB
22. Develop a systematic RIO post visitation schedule in order to: GOB
- a. allow the SRIO to assess the area's needs and thereby allow for a more realistic basis by which to develop operational policy;
 - b. provide the RIOS with guidance and allow for input and feedback from the cadre; and
 - c. allow the SRIO to begin to test various evaluation techniques on rural industrial projects and individual RIO performance.
23. Clarify the Small Project Fund's guidelines with particular attention to defining the parameters of 'demonstration'. GOB, USAID

PROJECT MANAGEMENT

24. Two actions with respect to RSG management are needed at this time. GOB, USAID
- a. AID, RDU and the implementing ministries need to reach an agreement on what constitutes a sound management system for the RSG, and how it should be used to assure an acceptable level of project performance. This information system should be tied as closely as possible to the implementation schedules prepared by AID and the GOB for the Phase II project paper. The information should be reviewed periodically, probably in the context of the quarterly Reference Group meetings; and necessary actions should be agreed upon on the basis of these reviews.

- b. Agreement needs to be reached between AID and the RDU on the specific responsibilities of the latter with respect to the management of the RSG. Although the RDU has clear responsibility for the overall management of the project, there is considerable disagreement between AID and the GOB as represented by the RDU on the extent to which the Unit, and more specifically the Communal Area Development Coordinator, can or should get involved in resolving implementation problems being experienced in the line ministries.

GOB, USAID

Evaluation of the Rural Sector
Grant - Phase I

Executive Summary

Question 1: What constraints does this project attempt to overcome and who does it constrain?

This project addresses constraints to employment generation in the rural areas. The specific constraints addressed are the low return to labor from agriculture, the lack of skills needed for small industries in rural areas and problems of poor resource management which threatens the long-term productive capacity of agriculture and livestock. Most of the activities under this project sought to strengthen institutions and improve the information base related to these problems.

Question 2: What technology does the project provide to relieve these constraints?

With respect to resource management, the project promotes integrated land use planning as the basis for development programs and the allocation of communally owned lands on the basis of technically sound assessment of the appropriate use of those lands. Increased productivity in arable lands uses a technology based on improved seeds, improved agricultural practices, including animal traction, and a better integration of livestock and crop production. The new technology related to non-farm employment is improved technical and management skills for small rural industries and improved methods of commercial wildlife utilization. The emphasis is on intermediate technology and labor intensive methods of production.

Question 3: What technology does the project attempt to replace?

With respect to rural industries and wildlife utilization, there is very little commercial activity in either area. Rural industries are traditional and meet only traditional village needs. Virtually all of the demand for modern goods is met from urban producers and imports. Wildlife utilization in Botswana is traditional and almost entirely for subsistence, i.e. not for income generation. Agricultural production uses a technology that includes animal traction but uses no modern inputs and is not oriented towards maximum production or yields. Again virtually all of the production is for subsistence. Finally, all land use in Botswana is based on traditional tribal customs. These customs do include a recognition of the need to differentiate between crop lands and grazing lands, and there is also a recognition of the need to carefully manage water point development.

Question 4: Why do project planners believe that intended beneficiaries will adopt the proposed technologies?

Although the need for new technologies to increase rural employment is obvious, available new technologies, including those proposed by this project, are in fact economically marginal from the standpoint of the target population. This is because the

returns to labor from the new technologies are generally less than the main traditional alternatives, mine labor and livestock production. Through more applied research and better extension, however, the new technologies can increase productivity and incomes.

Question 5: What characteristics do intended beneficiaries exhibit that have relevance to their adopting the new technology?

With respect to resource management, the rural population at the village level is keenly aware of deteriorating conditions and are receptive to ideas for conserving land and water and utilizing both more productively. With respect to agriculture, the main constraint is that the majority of the population is not convinced that arable production offers a viable alternative source of income earning employment. In those cases where the rural households are interested in increasing their income from agriculture, the new technology is consistent with existing knowledge and tradition, i.e., the proposed technology is based on an animal traction package and the target population has a tradition of using animal traction, at least for land preparation.

Question 6: What adoption rate has this project or previous projects achieved to transferring the new technology?

As noted above, the new technology for agriculture is economically marginal and has not yet been widely adopted. With respect to resource management, rural industries and wildlife utilization, these are all new initiatives. This project focused on institution building in these areas and the time frame is too short to have had a measurable impact in terms of adoption rates.

Question 7: Will the project set in motion forces that will induce further exploration of the constraints and improvements in the technological packages proposed to overcome them?

With respect to agriculture and rural industries, the project has focused on extension. The development of new technologies in these two areas is outside the scope of this project. However, part of the extension approach supported by this project is to obtain feedback from the intended beneficiaries concerning the acceptability or non-acceptability of the proposed technologies. With respect to resource management, this project has strengthened the institutions directly responsible for land use planning and allocation, and has significantly expanded the information base needed to do sound resource management.

Question 8: Do private input suppliers have an incentive to examine the constraints addressed by the project and come up with solutions?

The market for goods and services associated with the proposed technologies is too small to interest private suppliers.

Question 9: What delivery system does the project employ to transfer the new technology to intended beneficiaries?

The new technologies are transferred to the beneficiaries by extension agents. The extension methodology promoted by the project is one that maximizes beneficiary participation. Virtually all contacts are made through village leaders, and the target population is encouraged to organize itself for purposes of maximizing the benefits stemming from the technology and assuming their sustainability.

Question 10: What training techniques does the project use to develop the delivery system?

There was very little training of agricultural extension agents since this need was being addressed by other projects. The rural industry and resource management components, however, had important training elements. Most of the training was conducted by educational institutions in Botswana.

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ISBN-36642

EVALUATION OF PHASE I OF THE
RURAL SECTOR GRANT

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PREFACE

The purposes of the evaluation are to:

1. determine whether the Rural Sector Grant (RSG) Phase I achieved its objectives; and whether there are any major shortcomings in design and implementation of the project; and
2. where appropriate, make recommendations on ways of improving the design and implementation of Phase II.

The evaluation was carried out during a four week period (May 28 - June 23, 1984) by a five person team consisting of:

Roger J Poulin, development economist and team leader
Steven W Lawry, land use planner
Randolph S Luntz, development economist/rural industry advisor
James Seyler, forester
Bernard Pollack, horticulturalist

The evaluation team reviewed previous evaluations and progress reports prepared by the Rural Development Unit (RDU) and the implementing ministries (MLGL, MOA, MCI), held extensive discussions with Government officials in Gaborone, and in the districts, and visited RSG-funded activities in all of the districts, except Chobe. The methodology used in the evaluation is described on page 1 of the Project Evaluation Summary (PES). This report was prepared in draft and reviewed by both AID and the Government of Botswana before being finalized in its present form.

The evaluation team wishes to thank the many Government officials in Gaborone and in the districts and villages who provided useful information and valuable insights on a wide range of matters relating to RSG-financed activities. Also, the team wishes to express its appreciation for the excellent guidance and support provided by the AID Mission during the course of the evaluation.

LIST OF RECOMMENDATIONS

The evaluation team has made a number of detailed technical recommendations relating to the implementation of the individual sub-projects that are not included in the following list. They can be found in the annexes to this report.

1. Guidelines for CFDA land use planning should be prepared by the RDU and the Lands Division of MLGL, with assistance from the Land Development Committee. Guidelines should be indicative and not directive in character. They should incorporate a careful accounting of planning experiences in Ngamiland, Matsheng, Southern and elsewhere.
2. MLGL should designate an officer in the Lands Division who would work primarily on LG 31 communal development matters. This officer would also be responsible for liaison with DO(L)s and districts on land use planning matters generally.
3. The RDU and MLGL should jointly undertake a review of the status of CFDA planning activities nationwide, and recommend changes or adjustments in CFDA strategy based upon their findings. Particular areas of attention should be the man-power and staffing situation in districts as they affect CFDAs, participation of Central Government Departments in CFDA programs, the relationship of CFDA planning to on-going district planning processes, and CFDA planning and management at the local level, and specifically the role of the CFDA coordinator.
4. The role of the CFDAs in Government's rural development strategy should be clearly stated in NDP VI, presently under preparation.

The utility of land and water point inventories and other data on natural resource management as tools for improving land allocation and management will be limited until such time as Land Board technical and administrative capacity is significantly upgraded. The following actions are recommended.

5. The Higgins Report recommendations for staffing of the LBTU should be adopted and implemented as a matter of priority.
6. A determination should be made of the number of Land Board staff eligible for admission to Land Board training programs at Botswana institutions. Based on the results of assessment, steps should be taken to either provide remedial training for under-qualified applicants and/or develop training for staff that would be taught by the LBTU.

ARABLE PRODUCTION

7. The AE 10 Small Projects portion of sub-purpose II should be continued with an increase in funding in line with increases in demand and absorptive capacity. The portfolio of projects should be expanded to include:
 - a. small woodlots,
 - b. school tree nurseries and woodlots,
 - c. garden projects with fruit and forest tree production,
 - d. garden projects with the production of cowpeas.
8. The MOA should place additional emphasis in the project memorandum on a clear description of the source and amount of technical advice to be provided to each project, and should assure that there is adequate technical support for the design and implementation of AE 10 projects.
9. An end-of-year review of all AE 10 projects should be carried out in which relevant Research and Division of Field Services staff would evaluate the technical, program and economic successes and problems.
10. Encourage the design of AE 10 projects to fit what is needed then adjust funding to the request rather than adjusting the design to available funding. A maximum funding amount per project should be retained to assure that AE 10 remains a small projects fund.
11. The horticulture estates projects (AE 11) has served as a valuable experiment but it is too early to evaluate results. It is therefore recommended that:
 - a. The project continue for at least three more years, or, if necessary, until the drought has ended and a reliable source of supplemental water is available.
 - b. The RSG Phase II finance only those estates for which funds have already been allocated.
 - c. Funding be provided only for operational purposes. There should be no funding for expansion of the capacity of existing estates.
 - d. The RSG continue to support the research horticulturist and agricultural economist at the research station in Sebele.
12. Expedite the studies of water management at the Mogobane, Mankodi and Manyana estates (AE 11).

13. It is recommended that MOA initiate a dialogue with USAID/ Botswana with regard to placing a Forestry Research Extension Advisor in the Forestry Section and subsequent identification of at least one individual for long-term, preferably MSc level, training in Forestry. Pending the eventual creation of this position, it is further recommended that MOA use the newly created Forestry Association of Botswana (FAB) to support, to the fullest extent possible, on-going and proposed AE 15 activities.
14. Considerable research needs to be undertaken which is critical to the development of Botswana's forestry sector. (See Annex II, page II-45, for a detailed discussion of research requirements.) It is recommended that the MOA explore with USAID/ Botswana the possibility of using remaining RSG Phase I contractual funds to engage a research forester for a period of four to six weeks whose terms of reference would include:
 - a. assessment/evaluation of all existing or proposed basic or applied forestry research in Botswana;
 - b. identification of the most appropriate institution (or institutional linkages required to conduct forestry research in Botswana. (Ministry of Agriculture, National Institute for Research and the Forestry Association of Botswana would appear to be likely candidates.)
 - c. development of a Project Memorandum for AE 15 funding should carry-over funds from RSG Phase I to be made available.
15. There is approximately P90 000 remaining in unallocated RSG Phase I AE 15 funds. The evaluation team recommends that those funds be spent on the following projects.
 - a. Funding of P80 000 for the Matsheng LUP woodlot on the condition that MLUP prepare a detailed implementation plan for the MLUP natural bush management component.
 - b. Funding of P2 500 for netting and tools for the Kang nursery.
 - c. P8 805 for an extension of the Kang woodlot subject to the Brigades and MAO reaching a formal agreement on future management of the woodlot.

NON-FARM EMPLOYMENT

16. While the Director of Personnel should continue its attempt to recruit Botswana with university degrees in business and economics, it should seriously consider the recruitment of promising individuals with diploma level education for counter-part positions.

17. Expansion of the RIO cadre should be contingent upon DOP recruitment of four Batswana counterparts for these new posts to understudy expatriate volunteers.
18. Develop a standardized methodology to be used in the collection of country-wide data regarding resource availability, market potential and investment needs which will allow for compatibility required for aggregate analysis; and assign top priority to the collection and analysis of this data.
19. That a review of the RIO program's priorities be conducted by the Director of Industrial Affairs in conjunction with the SRIO and that these priorities be personally communicated to the RIO cadre.
20. Develop various methodologies for field testing which will allow the SRIO to evaluate the performance of individual RIOs.
21. Develop a methodology to analyze the cost-effectiveness of RIO involvement in projects of varying size (in terms of cost) and type.
22. Develop a systematic RIO post visitation schedule in order to:
 - a. allow the SRIO to assess the area's needs and thereby allow for a more realistic basis by which to develop operational policy;
 - b. provide the RIOs with guidance and allow for input and feedback from the cadre; and
 - c. allow the SRIO to begin to test various evaluation techniques on rural industrial projects and individual RIO performance.
23. Clarify the Small Project Fund's guidelines with particular attention to defining the parameters of 'demonstration'.

PROJECT MANAGEMENT

24. Two actions with respect to RSG management are needed at this time.
 - a. AID, RDU and the implementing ministries need to reach an agreement on what constitutes a sound management system for the RSG, and how it should be used to assure an acceptable level of project performance. This information system should be tied as closely as possible to the implementation schedules prepared by AID and the GOB for the Phase II project paper. The information should be reviewed periodically, probably in the context of the quarterly Reference Group meetings; and necessary actions should be agreed upon on the basis of these reviews.

- b. Agreement needs to be reached between AID and the RDU on the specific responsibilities of the latter with respect to the management of the RSG. Although the RDU has clear responsibility for the overall management of the project, there is considerable disagreement between AID and the GOB as represented by the RDU on the extent to which the Unit, and more specifically the Communal Area Development Coordinator, can or should get involved in resolving implementation problems being experienced in the line ministries.



RURAL SECTOR GRANT - PHASE I

PROJECT EVALUATION SUMMARY

I. SUMMARY

The purpose of this project was to help the GOB to develop programs to increase rural employment. There were three sub-purposes:

1. improve land use planning and resource management in communal areas,
2. increase arable agricultural production, and
3. increase non-farm employment in rural areas.

The land use planning activities generated considerable base-line data and analysis concerning communal area development and resource management but very little of this information was used to prepare land use plans. The main reasons were the lack of a clear policy in the Ministry of Local Government and Lands and the lack of interest and implementation capacity in the districts. Progress was made in developing training programs for individuals responsible for allocating land but very few training programs were conducted because of institutional problems with MLGL and the lack of trainers. This component achieved considerably less than had been anticipated in the project paper, but there were definite indications that progress is beginning to occur with respect to both land use planning and the strengthening of land allocation institutions. Accomplishments during Phase I are providing much of the groundwork for this progress.

Although all of the activities financed under the arable production component have met most of their output targets, there have been some shortfalls in terms of impact. The Agricultural Small Projects Fund was successful in encouraging small production-oriented projects by farmer groups, and the task now is to continue to increase the quality and number of projects. The pilot projects to test proposed interventions under ALDEP were successfully completed but did not have as much impact as they could have had because the full scale program got underway before the findings had been fully evaluated. The least successful projects under this component were forestry and horticulture which were to have tested ways of diversifying agricultural production and employment. Both projects were hampered by the drought. In addition, it appears that the design of the horticulture estates is economically unviable, but because of the drought, the horticulture estates need more time to be fully tested. With respect to forestry, the three nurseries are functioning well, but the cost of the seedlings is much too high. The village woodlots component was not successful because of the lack of technical support from the Ministry of Agriculture. Further progress in forestry is dependent on a stronger Forestry Division in the MOA.

There were two activities financed under the non-farm employment component. One, the development of wildlife utilization schemes, was unsuccessful because of the lack of a wildlife utilization policy and the inadequate implementation capacity of the Wildlife Department in the Ministry of Commerce and Industry. The second, development of rural industries, was highly successful. The cadre of Rural Industrial Officers (RIOs) is present in all districts. These RIOs have carried out training programs, market studies, pilot projects, and have generally assisted small enterprises in the rural areas as needed. At present they are playing a key role in implementing the rural component of the Financial Assistance Policy (FAP) program to finance small businesses. The most urgent problem being faced by the RIO program is the difficulty in localizing the positions with university graduates. Also, the lack of data on the production and market potentials for rural industries is preventing the formulation of sound policies and programs.

The main focus of Phase I of the RSG was on institution building and the initiation of new programs related to rural employment generation. The project was experimental in some respects and did not achieve all of its objectives. However, at relatively low cost, it financed a number of initiatives that are important first steps in employment generation and sustained rural development in Botswana. AID is now financing a second phase which continues the most successful activities of Phase I and is expected to have a significant and measurable impact on rural employment before the end of the project.

II. EVALUATION METHODOLOGY

The objectives of this special external evaluation are:

1. to determine whether the Rural Sector Grant, Phase I, achieved its objectives, and whether there were any major shortcomings in design and implementation of the project; and
2. where appropriate, make recommendations on ways of improving the design and implementation of Phase II.

The evaluation was carried out by a five person team consisting of:

1. a rural development generalist,
2. a land use planner,
3. a horticulturalist,
4. a forester, and
5. an economist with expertise in rural industries.

In evaluating the achievement of project outputs, the team focussed on the relationship between inputs and outputs,

implementation issues, and the adequacy of day-to-day project management. In assessing the extent to which the project purpose was achieved, shortfalls were analyzed from the standpoint of non-achievement of outputs, appropriateness of design, validity of assumptions, and changes in factors that were beyond the control of the project. Most of the project targets were stated in terms of institution building or the initiation of new programs in rural areas. The information used in this evaluation was obtained from documentation provided by the implementing ministries, discussions with field personnel and direct observation of how RSG-financed institutions and programs were functioning at the district and village level.

The RSG is made up of a large number of activities being implemented throughout the country by three separate ministries and is flexibly designed to allow the addition and deletion of sub-projects and periodic revisions in output targets. The special management requirements of this type of project design were analyzed as part of this evaluation.

The RSG in its final form consisted of ten projects grouped according to three project sub-purposes. Each project was evaluated separately. The detailed analyses, findings and recommendations are presented in three annexes to this report, one for each sub-purpose.

III. EXTERNAL FACTORS

The only significant external factor to have affected this project is the drought in Southern Africa which is now in its third year. This has directly affected the horticulture and forestry components. There were also a number of assumptions regarding external factors that have affected the achievement of certain project targets. These are discussed in the sections on outputs and purpose.

IV. THE ACHIEVEMENT OF OUTPUT TARGETS - IMPLEMENTATION ISSUES

A. Introduction

The purpose of the RSG was to assist the GOB in the development of strategies and programs to increase employment and incomes in the rural areas. The strategy for achieving the project purpose was threefold:

1. improve land use planning in the communal areas,
2. increase small farmer agricultural production, and
3. increase off-farm employment opportunities.

In the project design, each of these objectives is considered a project sub-purpose. The activities that were identified for RSG funding under each element of the strategy are listed below.

1. Land Use Planning

- a. The preparation and implementation of district-level land use plans.
- b. The strengthening of institutions responsible for the allocation of lands in the communal areas.
- c. A study of how water points are used and managed in the communal areas.
- d. Studies to assist the districts in preparing plans for the Communal First Development Areas (CFDA).

2. Arable Production

- a. Pilot projects to test the feasibility of interventions to increase the productivity of small farmers.
- b. Assistance to farmer groups for undertaking small scale production-oriented projects.
- c. The establishment of cooperatively-owned horticulture estates.
- d. The establishment of woodlots for commercial production and conservation, and government nurseries to provide seedlings for woodlots and other forestry projects.

3. Off-farm Employment

- a. Promotion of small rural industries.
- b. Identification of environmentally sound wildlife utilization schemes to generate employment and incomes in rural areas.

Each of these activities was designed by the GOB as a distinct project with a purpose, output and inputs. Thus, the RSG can be considered as ten separate projects, each contributing to one of the sub-purposes of the overall project. This section of the evaluation will assess the extent to which these projects achieved their output targets and the reasons for shortfalls. The next section will examine the extent to which the achievement of output targets has led to the accomplishment of each sub-purpose and the overall project purpose.

B. Project Inputs

This project included long-term and short-term technical assistance, equipment and vehicles, construction, training and a sizeable 'miscellaneous' component consisting largely of the local costs of numerous very small scale local initiatives. The main shortfall in the delivery of inputs was with respect to training. The impact of the lack of trainers on the achievement of output targets will be discussed in the appropriate sections below. There were a few delays in the provision of technical

assistance, but these had very little impact on the achievement of outputs. In general, the delivery of inputs was not a major problem in the implementation of the project.

C. Project Outputs

1. Land Use Planning

The output targets for this category of projects are as follows:

- a. District-level baseline data on land use and water points.
- b. An unspecified number of approved district-level land use plans.
- c. An unspecified number of approved land use plans for CFDAs.
- d. Research on the role of local institutions in the CFDAs.
- e. Research on access to lands in the communal areas.
- f. Research on the use and management of water points in the communal areas.
- g. Infrastructure for a communal area service center in Central District.
- h. Offices for eight Sub-Land Boards.
- i. Training for the members and staff of Land Boards and Sub-Land Boards.

The two infrastructure activities (the service center in Central District and the Sub-Land Board offices) and the three research activities have completely met their output targets, and most of the baseline data gathering was completed as planned. In the case of the research activities, the high level of performance was due to the ability of the Land Tenure Center of the University of Wisconsin (LTC) to recruit well qualified and experienced researchers, and to the competent management of the Applied Research Unit of the Ministry of Local Government and Lands (ARU) which had primary responsibility for implementing these projects. It should be noted that two of the nine researchers did not have all of the necessary qualifications and required considerable support from the Chief of Party. In fact, the high quality of the research is due largely to the professionalism, motivation and leadership provided by the Chief of Party. The GOB's expeditious contracting procedures, and the availability of qualified construction firms in Botswana accounted for the satisfactory completion of the infrastructure projects.

The least successful activities in terms of output achievement were the training of land board members and staff, and the preparation of land use plans. A very good curriculum for land board training was developed, but very little training was actually

conducted because no suitable trainers could be found and there were organizational problems in the Lands Division of MLGL and in the Land Board Training Unit. The organizational problems seem to have been resolved, and it appears that a national training program for land board staff is about to get underway. However, the special training programs needed for land board members, most of whom are illiterate, continue to be constrained by lack of trainers.

The reasons why the output targets for the land use plans were not achieved are:

1. they did not have a high priority within MLGL;
2. there were serious manpower constraints in the central ministry as well as in the districts, and
3. there was no central point of responsibility in MLGL for an activity that was complex and not easily implemented (in contrast to the research activities which were coordinated by the ARU and, as discussed below, the rural industry activities which were coordinated by the Senior Rural Development Officer).

The almost complete absence of land use plans at the end of Phase I is very disappointing because it means that much of the baseline data gathering and research that was financed under this project has not been effectively utilized and has had very little impact on resource management or communal area development planning.

It should be noted, however, that an important start in land use planning occurred during Phase I of the RSG. The CFDA in Western Ngamiland is based on a well prepared land use plan and an integrated development program is currently being implemented. The CFDA in Southern District, although it does not have a strong land use planning component, has achieved much in the area of institutional development and the implementation of small projects at the village level. Although two functioning CFDA's falls far short of the output target for this component of the RSG, they will have a much more important impact on the future of CFDA's in Botswana than a larger number of mediocre or unsuccessful CFDA's would have had. The prospects for the future use of Phase I outputs for land use planning and resource management are discussed in the section on project purpose and impact.

2. Arable Production

The output targets for this category of projects are as follows:

- a. Five types of Arable Lands Development Program (ALDEP) interventions tested prior to the start of the full-fledged program.
- b. A steadily increasing number of successful production-oriented farmer group activities.
- c. Three cooperatively owned horticulture estates.

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- d. Three government-owned and operated tree nurseries.
- e. An unspecified number of woodlots operated by brigades and village groups.

When viewed strictly in terms of quantitative indicators, virtually all of the output targets under arable agriculture were achieved. Although the annual expenditure targets for the Agricultural Small Projects (AE 10) were never met (basically because the targets were unrealistic), it was the most successful activity under this component. Group production projects are always difficult to organize, but the project was able to achieve steady increases and had some notable successes due to imaginative approaches and sound extension methodology. ALDEP pilot projects addressing issues of small farmer credit, donkey draft power, water storage, and low cost approaches to extension in remote areas were all successfully completed. Although the results of these projects were not evaluated as systematically as called for in the project design, important lessons were learned and are being applied to the full scale program.

The horticulture and forestry projects achieved their quantitative targets but have not been fully successful. The three government nurseries are producing an acceptable quantity and quality of seedlings but at an excessively high cost. Most of the woodlots that have been financed under the RSG are not likely to be viable mainly because of inadequate technical back-stopping by MOA. There is an obvious need for a forestry program in Botswana, and there seems to be considerable interest at the village level. However, in the future, woodlots should not be undertaken unless a forestry extension agent is available and there is a high level of commitment as measured by the willingness of villagers to contribute their own resources.

The horticulture project experienced implementation delays due to AID environmental regulations, technical problems, and personnel constraints. Timely actions were taken to re-design the estates to address problems of management and economic viability, and at present all of the estates have horticulture advisors and extension agents. Two of the three estates are functioning as well as can be expected given the drought conditions of the past three years. The third seems to be suffering from weak management and lack of motivation on the part of members. A basic long-term problem is that none of the estates can become viable until the members are able to assume responsibility for management and marketing. The horticulture advisors are now performing these functions, and there is no indication that this situation will change in the foreseeable future. The issue of the sustainability of the horticulture estates is discussed further in the section on project purpose.

3. Off-farm Employment

The output targets for this category of projects are as follows:

- a. A cadre of rural industrial officers (RIO) in all of the districts.
- b. Surveys of existing and potential industries in each district.
- c. Support to small industries through the Small Projects Fund administered by the RIOs.
- d. At least one environmentally sound and economically viable wildlife utilization scheme.

The only output target to have been fully achieved is the assistance to small rural producers through the Small Projects Fund. This assistance consisted mostly of training but also included market studies, pilot projects and demonstrations. District-wide surveys of the potential for employment generation in rural districts were completed in only four districts. This is a serious short-coming, since these surveys are an essential first step in designing effective rural industry development programs. In terms of impact, the establishment of an RIO cadre is probably the most successful of the RSG-funded projects. Prior to the start of this project there was virtually no extension program for small industries in rural areas. Highly motivated expatriate volunteers were assigned to most districts, and active programs to assist small industries are now underway. The significance of this first step in rural industrial development is discussed further in the section on project purpose. In one important respect, however, the Phase I target for the RIO cadre has not been achieved. There has been almost no localization of the RIO positions despite two years of serious effort by the Ministry of Commerce and Industry. Not only is there a shortage of university graduates available for these positions, but even when some can be found, they are usually unwilling to work in rural areas. Another serious implementation problem has been the long delay in training for Assistant RIOs. This training is now scheduled to begin in July, at least two years behind schedule.

Finally, the effort to get a wildlife utilization scheme underway during Phase I of the RSG was not successful. The reasons were:

- a. the lack of a wildlife utilization policy in Botswana,
- b. poor utilization by the Wildlife Department of the wildlife resource economist financed under the RSG, and
- c. the complex economic and environmental issues associated with such schemes.

The technical assistance provided by the RSG to the Department of Wildlife contributed very little in terms of improved policies or projects, mainly because of differences of orientation between

the wildlife resource economist provided by the project and his superiors, and institutional bottlenecks within MCI. From the standpoint of output targets as well as overall impact this was the least successful component of the RSG.

D. Evaluation of Project Management

The large number of separate projects, the emphasis on locally initiated activities and the flexible design of the overall project created special management requirements for the RSG. The main responsibility for day-to-day management rested with the implementing ministries (MLGL, MOA and MCI) and district staff. At the overall project level, the Rural Development Unit (RDU) of the Ministry of Finance and Development Planning (MFDP) was responsible for monitoring implementation and programming RSG funds. Final decisions on the use of funds were made by the RSG Reference Group. The RSG funded a position in the RDU specifically to oversee the implementation of the project. In addition, annual evaluations were included in the grant to review the performance of the previous year and evaluate proposals for the upcoming year.

It is clear that the RDU played a critical role in the implementation of the RSG. Although the line ministries were solely responsible for the implementation of their individual projects under the RSG, implementation bottlenecks were frequently left unattended usually due to the press of other business. This is not to say that the line ministries mismanaged their projects, but rather that, as is the case in most developing countries, they suffered from more or less serious staff shortages. The RDU, through quarterly meetings and ad hoc interventions, provided an impetus for the line ministries to focus and act on implementation problems in a timely manner. It should be noted, however, that the number of activities financed under the RSG was much more than the RDU could effectively monitor. As a result, some activities financed by the RSG were not implemented as effectively as they could have been. In the opinion of the evaluation team, this was unavoidable given the design of the project. In the final analysis, the implementation of projects like the RSG depends almost entirely on the line ministries. All that a coordinating body like the RDU, or an AID project manager can do is to set up a system to monitor performance, intervene on selected critical implementation problems and concentrate on programming available funds to where they will be most effectively utilized. The RDU was effective in carrying out all of these tasks.

Aside from overall coordination, monitoring and quarterly reporting, a key role of the RDU and the Reference Group was in the programming and re-programming of RSG funds. Funds were allocated based on the submission of approved project memoranda from the ministries. Re-allocations were made when unforeseen implementation problems or new funding needs arose. The weakest link in this process was the preparation of project memoranda by the line ministries. Frequently these documents were prepared only in conjunction with the annual visits of the evaluation team. Again, this problem arose mainly because the individuals

in the line ministries qualified to prepare project memoranda were fully occupied on matters requiring more immediate attention. The task of the RDU and Reference Group in this exercise was to transfer funds to where they could be most effectively spent, keeping in mind the overall objectives and priorities of the RSG. In general these programming decisions were based on a sound analysis of feasibility issues and were always consistent with the objectives and strategy of the RSG.

The AID Mission faced the same problems as the RDU in managing this project. The project manager was responsible for monitoring the performance of ten projects under the RSG, some of which were umbrella projects for numerous sub-projects. An adequate system of reporting from the line ministries through the RDU on the implementation and financial status of each project is in place but is not functioning well due to generally poor information management systems in the line ministries. Consequently, AID is not receiving all of the information necessary to take well informed and timely implementation actions. Furthermore, as noted with respect to the RDU, AID's ability to resolve implementation problems is limited because, with so many activities, the main responsibility for implementation necessarily remains with the line ministries.

These problems have led to a substantial re-design of the RSG in Phase II. Only three of the Phase I projects have been continued and a fourth component (US training of district administration staff) has been added. Also, the project no longer provides for the addition or deletion of activities or revisions in output targets. These changes could greatly facilitate the management of the overall project by AID and the RDU. Primary implementation responsibility will continue to reside with the line ministries but AID and the RDU will be better able to address implementation problems effectively than they were in Phase I.

What continues to be needed, however, is a management information system that keeps the RDU and AID informed of progress and problems with respect to the implementation of project activities and the achievement of project objectives. This information should be based on an improved system of project monitoring and management in the implementing ministries. If and when such a system can be established, not only will AID and the RDU become better informed about project developments, but the performance of the implementing ministries should improve so that fewer AID and RDU interventions will be needed.

E. Summary of Findings Regarding the Achievement of Output Targets

1. Project inputs were of a satisfactory quality, and were generally delivered in a timely manner. Where there were delays they did not significantly affect the achievement of the project outputs.
2. Most of the output targets with respect to land use planning experienced serious shortfalls mainly because of personnel

constraints in the districts and in MLGL. Also, communal land use planning did not have a high priority in the Land Division of MLGL. The main achievements were: research on issues related to local institutions, resource management and access to land; a land use plan being implemented in Ngamiland; buildings for sub-land boards; and a number of water point and land use inventories.

3. Most of the output targets with respect to arable production were achieved, but the lack of qualified staff led to inappropriately designed nurseries and village woodlots and horticulture estates that are of questionable economic viability. The ALDEP pilot project which is now ended and the Agricultural Small Projects Fund which is on-going, have met their output targets. The latter is well designed and in most cases well implemented, but could be considerably larger if more extension agents were available to work with farm groups.
4. In the off-farm employment component, the wildlife utilization project did not achieve any of its targets due mainly to institutional problems in the Department of Wildlife, difference in orientation between the Wildlife Resource Economist and his superiors. The decision to discontinue this activity during Phase II of the RSG was obviously the correct one. The rural industry program, on the other hand, has been successful in most respects. The main accomplishment is that there is an active rural industry extension program where there was almost nothing before. The major shortfalls are
 - a. surveys of industrial development potential in six districts have not been completed, and
 - b. only one of the RIO posts has been localized.
5. Four implementation problems have caused most of the shortfalls in achieving output targets. The most prevalent has been the shortage of trained personnel. This affects all programs at the ministerial level as well as in the districts and villages. The second problem is the lack of organization and weak management systems in the implementing ministries. Third, many activities financed under the RSG have not received adequate attention because of competing priorities within the implementing ministries. Finally, the implementation of some activities has lagged because of unnecessarily cumbersome administrative procedures. These problems have led to a number of output targets not being met. In addition, the activities financed under Phase I were implemented over five years instead of three as originally planned.
6. The large number of activities, the emphasis on local initiatives and the flexible design of the RSG have created special management problems. The line ministries have limited implementation capacity and the RDU and AID cannot become involved in the day-to-day implementation of all the project activities. These problems are inevitable in this type of project and

on balance it is difficult to see how overall project management could have been significantly improved without devoting an inordinate amount of resources for this purpose. Most of the serious implementation issues were identified and addressed in a timely although not always successful manner.

V. PROJECT PURPOSE AND LONG-TERM GOAL - PROJECT IMPACT

This project has an overall purpose of assisting the GOB to develop and implement programs to increase employment opportunities in rural areas, and three sub-purposes related to land use planning, agricultural production and off-farm employment. This section will begin by discussing each sub-purpose and then relate the sub-purposes to the overall purpose of the project.

A. Land Use Planning

The end-of-project targets for this component of the project were that:

1. integrated land use plans would be in the implementation stage in communal areas, and
2. communal lands would be allocated and managed based on sound resource management principles.

It was assumed that the combination of meager natural resources and increasing population and grazing pressures called for development strategies based on sound land use planning. Although the need for careful land use planning in the communal areas cannot be disputed, neither of the end-of-project targets have been achieved. Aside from the implementation problems discussed in the section on output targets, there are three main reasons for the non-achievement of this sub-purpose. First, effective land use planning addresses sensitive political issues that governments may be unwilling to deal with except in crisis situations. Second, neither the key implementing ministry, MLGL, nor the districts assigned a high priority to the preparation of land use plans for the communal areas. Third, the task of upgrading the technical capacity of land allocation institutions turned out to be much more difficult than originally anticipated. Basically, invalid assumptions were made regarding these matters during the design of the RSG. The end result is that there is very little evidence of improved land use planning or management stemming from activities financed by the RSG.

Nevertheless, some progress has occurred, partly as a result of RSG-financed activities. First, there are successful CFDA's being implemented in Ngamiland and Southern Districts, and there is definite interest in initiating similar programs in at least three other districts. Second, MLGL is in the final stages of implementing TGLP and can now turn its attention to the communal areas. Third, the planning and implementation capacity in the districts is increasing and will continue to increase as a result of district staff training being financed under Phase II of the

RSG. It can be expected that as communal areas start receiving more attention from development planners, issues of resource management and land use planning will assume a higher priority at both the national and district levels.

B. Arable Production

The purpose of this component was to assist the GOB in increasing small farmer arable production and incomes. The end-of-project targets related to this purpose were:

1. A fully elaborated arable lands development program will be underway with interventions adapted to specific ecological zones and to the needs of different socio-economic groups.
2. Results of pilot and experimental projects will demonstrate the technical and economic viability of various options for diversifying agricultural production in Botswana.
3. An increasing number of small projects initiated by farmer groups will be approved and implemented with MOA support.

The first of these was only partially achieved. Although the lessons learned in the RSG-financed pilot projects appear to have been applied to the full scale ALDEP, the scale and nature of these projects were not sufficient to have a major impact on the effectiveness or priorities of the program. Regarding the third target, the Small Project Fund (AE 10) has financed a steadily increasing number of farmer group projects but it should be noted that these activities are very small scale and do not have a significant impact on arable production at the national level.

Finally, the horticulture and forestry projects were not able to satisfactorily test new ways of diversifying agricultural production. The horticulture estates did not achieve their objects because:

- a. of the three year drought, and
- b. they appear to have been inappropriately designed, ie, they are too expensive, too dependent on outside management, and have too little resource commitment from the members.

The forestry project did not achieve its objectives, also because of the drought, and secondly, because of the shortage of technical capacity in MOA. A more basic design issue is that neither sector has much potential for agricultural diversification or employment generation. Thus, even if they had been successfully tested they would not have achieved their purpose as stated in the project paper. It should be noted, however, that both horticulture and forestry are important elements of rural development in Botswana and should continue to receive government support. Also, as small projects they can fit within AE 10 which has been quite successful in encouraging sustainable production-oriented initiatives by small farmers.

The conclusion to be drawn from the above is that, although the activities financed under the arable production component of Phase I were each worth doing in their own right, they are not likely to have a discernable impact on arable production at the national level. Given the small amount of funding that went into this component a narrowly focussed purpose would have been more meaningful. In fact, the main concern of the RSG was not arable production in the broad sense, but increased local capacity to initiate production-oriented activities. From this standpoint, the contribution of AE 10 was clearly significant. By encouraging local initiatives by small farmers this project is adding an important element to agricultural development in Botswana that is not receiving priority attention in ALDEP.

C. Off-farm Employment

The purpose of this component was to assist the Government in increasing the off-farm employment in rural areas. This purpose has been achieved. Prior to the RSG, rural industries received virtually no assistance from Government. Since the RIO cadre has been established significant initiatives have been undertaken in all of the districts. Furthermore, the RIOs have a key role in implementing the FAP program in rural areas.

The quantitative indicators that the purpose of this component has been achieved are:

1. The establishment of a support system for rural industries backstopped by MCI and administered by a cadre of rural industrial officers.
2. The availability of a comprehensive data base on resource availability, market potential and investment needs for rural industries which will serve as the basis for an expanded MCI program during the mid-1980s.
3. At least two wildlife utilization schemes in the implementation stage.

First, it was assumed that Botswana university graduates would be available to fill RIO positions by the end of Phase I or shortly thereafter. Thus far only one position has been localized. It appears at this time that

1. the rural industry program does not have a high priority in the assignment of university graduates by the GOB Directorate of Personnel, and
2. very few university graduates want to work in rural industrialization programs.

It is obvious that this problem must be resolved if the RIO-based rural industry program is to be sustainable. MCI needs to make a realistic assessment of the likely availability of university graduates, and if it appears that the situation is not likely to improve, consideration should be given to lowering the educational requirements for the RIO positions.

The second issue concerns the needs for data on the potential for employment generation in the rural industrial sector. The surveys that were to have been carried out during Phase I would have provided much of the necessary information. In the absence of such information it is almost impossible to design an effective rural industry development program. At present there is no basis for setting priorities or determining the appropriate amount of resources to devote to this effort. Also, it is not possible to set meaningful targets against which to measure progress. The Phase I program would have been significantly more effective if the RIOs had had a clearer idea of rural industrialization potential, priorities and goals.

Finally, none of the objectives in the area of wildlife utilization have been achieved. This was due to

1. the lack of an approved wildlife utilization policy in the GOB, and
2. the very limited implementation capacity of the Wildlife Department in MCI.

These problems were recognized at the time of the project design but it was assumed that the high level of interest in wildlife utilization in Botswana combined with the provision of a wildlife resource economist to the Wildlife Department were sufficient to assure that environmentally sound and economically viable utilization schemes could be designed, approved and implemented. It is now evident that the policy, technical and economic issues related to wildlife utilization are too important and complicated to be resolved in the absence of a clear Government policy and a strong and well-managed Wildlife Department. It appears that a national policy is about to be approved, but there is no indication that implementation capacity in the Wildlife Department will increase significantly in the foreseeable future.

D. Overall Project Purpose

The links between the sub-purposes and the overall project purpose of increasing rural employment are somewhat indirect. Land use planning is important to rural employment only over the very long run, and as noted above, RSG-financed activities in arable agriculture are not large enough to have a measurable impact on production or employment. The impact of the RSG on off-farm employment is measurable and significant, but it appears that the potential for job creation in this sector will be limited in the foreseeable future. Thus, it will not be possible to establish clear linkages between growth in rural employment at the national level and Phase I of the RSG.

The RSG was essentially a flexible source of funds to address relatively small discrete needs related to communal area development, with a particular emphasis on district and village initiatives to increase rural employment or activities that address constraints to such activities. Where the RSG has made a definite

contribution is in the areas of equitable growth through its emphasis on small producers, sustainable rural development by promoting locally initiated development projects, and development in the communal areas through its support for improved resource management and planning for CFDAs. Together these accomplishments constitute an important contribution to sustainable rural development and therefore to rural employment generation in Botswana.

E. Sector Goal to Which the RSG Contributes

The goal to which this project contributes is sustained rural development and equitable economic growth. The two targets specified in the project paper are:

1. a 30 percent increase in employment in the rural sector, and
2. increases in the amount of mining revenues allocated to development programs in the communal areas.

Although these two targets were unrealistic given the small size and short duration of the RSG, the project was ideally designed to contribute to the stated goal. The emphasis on small producers and on the communal areas was directly related to equitable income distribution, and the emphasis on locally initiated development activities is the most appropriate way to bring about self-sustaining rural development. The combined effect of RSG-financed activities was to increase the understanding of communal area development problems and demonstrate ways of increasing the production in those areas.

VI. BENEFICIARIES

The target population for the RSG was those elements of the rural population who practice arable farming but have a low level of productivity and are not self-sufficient in food production. This target group totals about 300 000. As noted above, the RSG financed mostly institution building and small scale quasi-experimental activities, and therefore did not have a measurable impact on the entire target population. The direct beneficiaries (the numbers are rough approximations) of RSG activities are the following:

1. about 15 000 farmers from AE 10 Small Projects,
2. about 1 000 individuals employed in rural industries have benefitted from FAP and an additional 6 700 have benefitted from the small projects fund,
3. less than 100 farmers productively employed in the AE 11 horticulture estates,
4. 1 000 farmers involved in ALDEP pilot projects.

There is no way of knowing how many jobs have been created as a result of Phase I activities, but it is almost certainly less than 5 000. In addition, perhaps 10 000 small producers are more productive as a result of Phase I interventions. The main impact on the target population, of course, will occur after the end of Phase I as a result of the ALDEP pilot projects, CFDA's, better resource management in the communal areas, increased employment in rural industries and the increased capacity of small farmers to undertake production initiatives as a result of the AE 10 project. It is important that an attempt be made to measure the impact of the RSG on employment during Phase II.

VII. PROSPECTS FOR PHASE II

The main objective of Phase II of the RSG is to have a direct and measurable impact on rural employment. The most important activity both in terms of resources and impact during the life of the project is the development of rural industries. The key issues that need to be addressed to maximize impact and the sustainability of benefits are:

1. The localization of RIOs. This was a serious problem during Phase I and it is not likely to go away. There are currently plans to increase the number of RIO stations, and thus the number of the RIO cadre. This is inadvisable until it is clear that the expatriates will be replaced by Batswana. For the RIO cadre to be sustainable the RIO positions must be able to attract individuals who can both do the work and are prepared to make it a career. MCI should carry out a careful evaluation of the requirements of the RIO position and develop a strategy for attracting appropriately qualified people.
2. The GOB needs to carry out a comprehensive analysis of the rural industry sector to determine its potential and develop a rural industrialization policy. Otherwise, the rural industry program, including FAP, will not have as large an impact as it could have and many of the interventions are likely to not be cost-effective.
3. The focus of the RIO program needs to shift from information gathering and experimentation to activities that are directly job creating. Thus, it is likely that during Phase II, FAP will be more important and the small projects fund less important than during Phase I. This should be reflected in the description of RIO responsibilities.

The other two employment creating activities are the AE 10 Small Agricultural Projects Fund and the horticulture estates. The main constraints with respect to the small projects fund appear to be the lack of technical staff to work with farmer groups and the lack of demand for projects that meet the small projects fund criteria, i.e. that the projects have a very high chance of being self-sustaining and that the farmer groups contribute a substantial portion of the total cost. This evaluation has recommended that AE 10 be evaluated once per year to identify constraints to expansion and ways of overcoming these constraints. There are two

major problems with respect to the horticulture estates. First is the fact that the employment generating potential is very limited (probably less than 1 000 jobs). Second, they have not yet been fully tested, but there is considerable evidence that they will not be sustainable as presently designed. The evaluation has recommended that a greater emphasis be put on increasing horticulture production through the AE 10 project.

Phase II should be more easy to manage than Phase I. The existing monitoring and reporting system should be continued but should be based on an improved management information system at the implementing ministry level. Since Phase II is designed to have a direct impact on rural employment, the monitoring system must generate data not only on changes in employment stemming from project activities but also on the cost effectiveness of those activities. This will be fairly simple for the horticulture estates. For AE 10, the project memoranda for the small projects should include a section on employment impact and include provision for the monitoring of the impact. The rural industry component of Phase II is likely to have the largest impact on employment through the FAP, and to a lesser extent, the small projects fund. Here again, special arrangements will be needed to measure the increase in employment and the cost per job created. These are very basic and obvious management needs, but the difficulty and cost of obtaining this information should not be underestimated.

VIII. UNPLANNED EFFECTS

There were no unplanned effects attributable to this project.

IX. LESSONS LEARNED

Many of the activities financed under the RSG were similar to those of other integrated rural development projects and for these activities the problems and achievements were not unusual. In three areas, however, this project provided valuable lessons.

1. The flexible design of the RSG greatly facilitated the timely financing of numerous local initiatives in rural areas as well as changes in the design of experimental activities like the horticulture estates. On the other hand, the project was extremely difficult to manage both for AID and the GOB. When projects of this kind are financed by AID a serious attempt should be made to minimize the documentation requirements and simplify approval procedures as much as possible. The focus of management should be on the achievement of both objectives and on increasing the implementation capacity of the institutions carrying out the project.
2. The achievements of the RSG fell far short of expectations with respect to land use planning and resource management. The main reason is that land use and resource management issues

are complex and politically sensitive at both the national and local levels. Projects with land use planning components should recognize that progress is largely dependent on the political will to address difficult issues.

3. The RSG strategy was based on a participatory approach to rural development. The experience led to important insights on the roles of local institutions and on extension methodology in increasing the capacity of the rural population to undertake local initiatives. Another important lesson is that this approach is heavily based on institutional development and changing attitudes. This is necessarily a gradual and long-term process requiring special management approaches and evaluation criteria.

X. SUMMARY OF MAJOR RECOMMENDATIONS

Detailed recommendations concerning each project financed by the RSG are contained in the annexes and are listed at the beginning of this report. This section lists those recommendations that are most critical to the achievement of RSG objectives.

1. Land use planning continues to be needed for sound communal area development. The RDU should work with MLGL to develop a clear policy and strategy for communal area development, including the role of CFDAs. Funds should be made available to districts to implement this policy (eg, through LG 31) but only in those cases where it is clear that the district is interested in and has the capacity to prepare and implement integrated land use and communal area development plans.
2. Special efforts should be taken by MOA to increase the use of AE 10 funds. The type of activities financed by this project have a high likelihood of being sustained with a minimum of government support. AE 10 is an appropriate low-cost alternative to the horticulture estates and the AE 15 village woodlots.
3. The MOA should give priority attention to improving the capacity of the Forestry Division to implement woodlot projects. This will require an increase in the technical capabilities of the division, probably by providing a forestry advisor and an increase in the number of extension agents. A priority task for a strengthened Forestry Division should be research for species that are appropriate to Botswana's needs and growing conditions.
4. The horticulture estates need to be very carefully evaluated for self-sustainability over the next three years. The top priority goals of the horticulture advisors should be to achieve self-management and long-term profitability. Comparisons should be made between AE 10 gardens and the estates with respect to the attainability of these goals.

5. MCI should carefully assess the reasons why the RIO posts have not yet been localized and take appropriate action to correct the situation. It may be necessary to lower the qualification requirements in order to fill the posts with individuals prepared to make a long-term commitment to this work.
6. The surveys of industrial potential in rural areas should be completed as soon as possible. The findings should be used by MCI to formulate a rural industrial development strategy.
7. Two actions with respect to RSG management are needed at this time.
 - a. AID, RDU and the implementing ministries need to reach an agreement on what constitutes a sound management system for the RSG and how it should be used to assure an acceptable level of project performance. This information system should be tied as closely as possible to the implementation schedules prepared by AID and the GOB for the Phase II project paper. The information should be reviewed periodically, probably in the context of the quarterly Reference Group meetings and necessary actions should be agreed upon on the basis of these reviews.
 - b. Agreement needs to be reached between AID and the RDU on the specific responsibilities of the latter with respect to the management of the RSG. Although the RDU has clear responsibility for the overall management of the project, there is considerable disagreement between AID and the GOB as represented by the RDU on the extent to which the Unit, and more specifically, the Communal Area Coordinator, can or should get involved in resolving implementation problems being experienced in the line ministries.

ANNEX I

REVIEW OF PROJECTS IN THE LAND USE PLANNING AND RESOURCE MANAGEMENT SECTOR

INTRODUCTION

The Rural Sector Grant extended high priority to improving land use planning and resource management in communal areas. The rationale for this priority was drawn from the assessment of Botswana's acute land use and resource management problems provided in the Rural Sector Study. Rapid human and livestock population growth was leading to severe degradation of grazing lands. It was becoming clear that commercial development aspects of the Tribal Grazing Land Policy (TLGP) would not significantly relieve grazing pressure in communal areas. Instead, programs were needed to deal directly with communal areas; and with the immediate problems of small herders and farmers, and local resource management institutions.

RSG programs in support of land use planning first recognized that equitable land utilization systems were essential to well-distributed income opportunities in agriculture and animal husbandry. Hence, some form of communal tenure would be retained, and planning would work through local institutions or through small groups of herders and farmers utilizing the community's resources. Second, it was recognized that because Land Boards and Sub-Land Boards were responsible for implementing land use plans, these institutions needed significant upgrading in staff capabilities and infrastructure to carry out their basic responsibilities. Third, there was a shortage of information on the location of water points, management practices and environmental factors essential to the preparation of sound land use plans. Finally, these areas merited assistance from RSG because the Government of Botswana was extending priority to communal area problems, based in part upon the promising indications of land use planning efforts in western Ngamiland, the Matsheng villages in northern Kgalagadi, and in the Tswapong Hills area of Central District.

The RSG envisaged the following end of project status with respect to land use planning and resource management.

(a) local land institutions will have an improved capacity to resolve basic technical issues affecting land allocation, and to introduce and develop a system of land registration.

(b) a series of land use plans, developed and approved at the local level, will be under implementation for both (1) areas in Eastern Botswana where arable farming and grazing are currently practiced and (2) newly designated communal areas adjacent to commercial ranches where non-water right holders may be resettled.

(c) future water development within arable communal areas will be systematically planned on the basis of the data and findings generated by the Water Points Survey currently in progress.

An amendment to the project in year one added a fourth program component:

(d) a program of applied research on local institutions and their roles in land use planning and resource management.

PROJECT SUMMARIES

The RSG supported four Government of Botswana projects in pursuit of the above objectives.

1. LG 31 - Implementation of Integrated Land Use Plans

This "umbrella" project within the Ministry of Local Government and Lands has been in existence in 1972. It has provided a funding conduit for several types of project, including purchase of technical equipment for land and water surveying in TGLP commercial areas, planning consultancies, and infrastructure related to land development projects, including housing, offices, and vehicles. RSG assistance focused on five main areas: land inventories, water surveys, sub-land board boundary demarcation, assistance to land use planning in Communal First Development Areas (CFDAs), and institutions research. (Research related activities are evaluated in Attachment 1 to the LG 31 evaluation.)

2. LG 36 - Development of Land Institutions

This MLGL project sought to address problems of (1) poor staff working conditions and (2) low levels of staff and Land Board member competence in a variety of Land Board subject areas, including legal and administrative procedures, financial management, and technical fields such as mapping, surveying and land demarcation. RSG support for LG 36 provided for construction of eight Sub-Land Board offices. Assistance for training development included a consultancy to design training curricula, development of course materials, and funds for Land Board member and staff training.

3. Water Points Survey

This Ministry of Agriculture project was staffed and managed by a Cornell University research team. The survey was undertaken in eastern communal areas. It described water point construction and management practices, analyzed livestock and range resources, and determined the cost effectiveness of different types of water facilities. Policy guidelines for water development in eastern communal areas were recommended.

4. DP 01 - Planning Consultancies

This project, administered by the Rural Development Unit of the Ministry of Finance and Development Planning (MFDP), provided for feasibility and other specialist studies in the field of rural development. RSG funds have been used to finance four studies related to CFDA planning, a pre-seminar to a Financial Assistance Program (FAP) training conference, the purchase of a micro-computer for use by FAP, and publication of an RDU handbook on CFDA's.

PROJECT EVALUATIONS

The four projects are evaluated in turn below. For each project, there will be:

- (a) a brief summary of objectives and achievements, followed by
- (b) an analysis of project performance,
- (c) conclusions and
- (d) where appropriate, recommendations.

The evaluation will conclude with a brief overall summary assessment of projects in the land use planning sector.

LG 31 - IMPLEMENTATION OF INTEGRATED LAND USE PLANS

A. Achievement of Output Targets

Fifteen sub-projects have been funded by the RSG under LG 31 activities. The sub-projects fall within five main categories; land inventories, water inventories, Sub-Land Board boundary demarcation, CFDA land use planning, and institutions research.

1. Land Inventories

Two types of land inventory projects have been supported by LG 31. The first type provides for the detailed mapping of arable fields within crop production zones. Typically, this type of inventory involved three components: initial mapping based on aerial photographs, usually at a scale of 1:10000 or 1:12500; field surveys to up-date basemaps, establish ownership, and collect detailed data on land use; and registration of holdings with the Sub-Land Board and issuance of customary certificates of right. Land inventories of this type have been proposed or undertaken in areas within three of Botswana's more densely populated districts; Tlokweng in Southeast District, Phitsane-Molopo in Southern District (Ngwaketse Land Board), the Barolong Farms area in Southern District (Rolong Land Board), and Tati Siding in Northeast

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District; and in the molapo village areas in Western Ngamiland. A principal objective of each of the inventories is the development of a better land information base for guiding Sub-Land Boards in considering applications for arable land. Disputes over ownership of uncultivated areas have increased dramatically as the amount of previously unclaimed land diminishes in relation to growing populations. Land inventory projects are usually designed as collaborative activities between District Officer (Lands), Land Board Technical Assistants (LBTA) and UB students available during term breaks to assist with survey work. In the case of the Bar long Farms Survey, the Ngwaketse Land Board appointed a temporary Lands Inventory Officer.

MLGL has encouraged districts to take a diversity of approaches to land inventory, with the hope that experimentation would permit a thorough assessment of the most suitable form of inventory, in terms of cost, most effective use of staff time, and ease of record keeping. The results of the inventory projects are summarized below.

The Phitsane-Molopo land inventory was successfully completed in 1982. All arable fields in the area were identified and numbered on a grid map at 1:10000. The maps have not been used as a guide for evaluating and registering new field applications, because it is the view of District authorities that the Sub-Land Board does not have the staff capability to properly use the map-grid system. The maps are being held by the DO(L) in Kanye until such time that capacity improves.

The Tlokweg Land Inventory project was abandoned before field activities were started. This was attributed to poor communications between DA staff and the Land Board, and to insufficient Land Board technical capability to implement the project.

Three land inventory projects have been carried out in the Barolong, one in 1975/76 and two in 1980. In June 1983, 383 plots were mapped in the Barolong area, and Certificates of Customary Grant were issued to those farmers who agreed to demarcate their plots with permanent markers. In September 1980 an additional 148 plots were demarcated. Farmers demonstrated a high level of interest in the exercise, which permitted resolution of long-standing uncertainty over the extent of some land claims.

The Tati Siding registration project is more accurately described as a land inventory similar to the ones described above. Its main objectives were to settle disputes over ploughing land boundaries, provide data for a land use plan for Tati Siding, and to formalize ('register') all plot and field allocations so that immigration and settlement of newcomers could be controlled by the Tati Land Board. The project was undertaken and completed in 1980. By the end of the project, 610 residential plots, commercial sites and fields were registered. An evaluation of the project undertaken in 1982 by the Applied Research Unit found that a land registry had been established and continues to be maintained by the Land Board.

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A land inventory was carried out at Tutu Island near Gomare in Western Ngamiland in 1980. In all, 183 plots were 'registered' on individual forms, with details of the land user on one side of the form and a locational sketch map of the plot on the other. A final base map was then produced by the Agricultural Officer (Land Resources). This pilot project has not been extended to other areas in Western Ngamiland.

MLGL has evaluated district experiences with pilot projects. Valuable information has been generated on various technical aspects of land inventory, including the most appropriate type and scale of mapping and aerial photography, field demarcation techniques, and recording and numbering systems. Important lessons have been learned on the administration of land inventory records. Large-scale implementation of land inventory projects will await substantially improved staff capability in Land Boards to administer land record systems. The utility of a workable system has been demonstrated in Tati Siding and in the Barolong. Progress in this area is directly dependent upon improved Land Board training and staffing, especially in the Land Board Technical Assistant cadre.

The second type of land inventory is that used to provide data for land use planning exercises. The Assessment of Present Land Use in the Ngamiland CFDA, prepared for Northwest District by a team of consultants, is the only completed example of an inventory of this type implemented under LG 31 with RSG funds. The land inventory collected a great variety of land use-related data, including information on physical infrastructure, water resource distribution, seasonal grazing patterns, cropping patterns, the relationship between cattleposts and lands, and agricultural and land use strategies of different groups. The inventory was completed in December 1981 for a total cost to LG 31 of P17,000. The inventory was essentially the first phase of Ngamiland's CFDA land use plan, and as such will be considered in more depth in the discussion of that project in section (4). Land inventories as inputs to broad land use planning exercises are presently underway in Chobe and Southern Districts. Neither as yet are using RSG funds. An inventory being planned for Kgatleng District, but a project memorandum for RSG funding has not been submitted.

2. Water Point Inventories

The RSG project paper recognized the importance of good data on water sources to improving land use planning and resource management. Water point distribution ownership, and use are probably the most important determinants of grazing patterns and important factors in influencing grazing intensity and levels of land degradation. The Cornell Water Point Survey generated useful data on how water points were used and managed in some eastern communal areas but most of the information was collected through sample surveys. The survey was not a comprehensive water points inventory at the level of detail necessary for area planning. Detailed inventories were considered necessary for communal area land use planning exercises. They were also seen of immediate and urgent use to Land Boards in considering applications for new boreholes in communal grazing areas.

Four districts submitted project memoranda to MLGL for funding of water point inventories under LG 31, Kweneng (1980/81), Southern (1981/82), Ngamiland (1982/83) and Central (1982/83). The projects stipulated hiring of consultants to do the survey work, with the district providing a vehicle (purchased by the project), supervision, and field assistants. Data was to be collected on water source type (borehole/haffir/well), number, ownership, use, location (mapped at 1:50000 or 1:100000), yield, year of drilling (if a borehole) and alternative water sources in case of borehole breakdown. Tender bids for Kweneng and Southern districts were won by a single firm. The inventory was satisfactorily completed for Kweneng District in late-1982. The Southern District inventory has been rendered largely unusable for planning purposes because of major inaccuracies in the water distribution map prepared by the consultants. The District is withholding final payment of the consulting fee pending resolution of discrepancies. The DO(L) expects that a satisfactory map will be produced, and that it will be very useful in district borehole planning.

The Ngamiland Water Point Survey is nearing completion. This survey is limited to two of the five district production zones, Maun and Ngami (the Sehitwa area). The project will also map water point data already collected for the CFDA planning area in Western Ngamiland. A consultant has been retained for undertaking the Ngamiland inventory, and district staff, including the DO(L), are satisfied with progress.

A water point survey project memorandum was submitted by Central District in 1982, and was approved by MLGL. However, implementation of the project was suspended, due to the projected vacancy of the DO(L) post. The survey was to have been carried out in the Boteti sub-district area, which includes the district's CFDA. The project will be reactivated as the district staffing situation improves.

Kgatleng District is in the early planning stages for a water point inventory. Because of limited borehole drilling capacity in Ghanzi District, district planners do not extend high priority to an updated water survey there. Data on water points is being collected as an aspect of the land inventory presently underway in the enclave area of Chobe District. Water Point Surveys are not at present planned for Northeast, Southeast or Kgalagadi Districts.

Although implementation of water point inventories has been slow, (and hampered in Southern District by poor quality work) the importance of an accurate information base on water sources is recognized by MLGL and the districts. Water records are maintained by the DO(L), who advises the Land Board on the suitability of individual borehole applications. Hence, water inventories do not face the same kinds of administrative problems that apply to land inventories.

3. Demarcation of Sub-land Board Boundaries

Two project memoranda for Sub-land Board boundary demarcations in Southern and Central districts were submitted for LG 31 funding during the 1981/82 financial year. The projects aimed to reduce time spent by Sub-Land Board members and staff in resolving conflicts arising from confusion over the boundaries between Sub-Land Boards. This became a particularly troublesome problem on these occasions when one Sub-Land Board allocated customary land rights in the area of jurisdiction of a neighboring Land Board. Demarcations were to be carried out as consultative exercises between members of bordering Land Boards. Members would jointly trace an agreed boundary which would be demarcated by permanent beacons.

Neither project was implemented, due in Southern District to staff turnover and changing staff priorities, and in both districts to a changing assessment of the usefulness of the exercise, especially given more pressing Land Board issues.

4. CFDA Land Use Planning

This aspect of RSG support for LG 31 was considered the most important in the project paper. Project designers expected that by the end of Phase I, "a series of land use plans ... will be under implementation in ... (1) Eastern Botswana where arable farming and grazing are currently practiced and (2) newly designated communal areas adjacent to commercial ranches." Progress toward achievement of this objective has fallen far short of expectations. RSG-assisted land use plans are under implementation in only one district, Ngamiland. (The Matsheng Land Use Plan for northern Kgalagadi has been under implementation since 1979. Its preparations was supported by non-RSG funds.) As indicated by the preceding analyses, some progress has been made toward providing preliminary land and water data for land use planning exercises in some districts. This section of the analysis considers project achievements, specifically the Western Ngamiland Land Use Plan, and various activities in Central Government in support of CFDA land use planning.

(a) The Western Ngamiland Land Use Plan

The Western Ngamiland Land Use Plan was developed in three phases over the course of three financial years, 1980/81, 1981/82, and 1982/83. Virtually all planning activities were financed by LG 31, and RSG funds accounted for approximately 80 percent of total planning costs. Two consultants were retained to carry out all major data collection and planning tasks, though their work received supplementary assistance and input from regular Government and Council staff. The three planning phases were:

- (i) land inventory, which involved mapping, data collection, and analysis of land use patterns and major resource use problems;

- (ii) development of land use planning proposals, which were based upon the indications of the technical surveys, and major problems as identified by villagers, and;
- (iii) plan programming and implementation, in which the plan was integrated into the district development plan and staff work plans, and projects were implemented drawing upon funds from NDP projects such as AE 10, CI 08 and LG 17.

The major planning documents are compiled in Land Use Planning - Ngamiland Communal First Development Area, by H. Bendsen and H. Gelmroth, August 1983. (Land use planning activities in Ngamiland are discussed in more detail in Attachment 2 to this section of the Annex.)

(b) Status of Land Use Planning Exercises in Other Districts

No other district has undertaken a CFDA land use planning exercise as extensive as that in Ngamiland. Southern and Kgatleng Districts are preparing to undertake comprehensive planning programs, based roughly on the Ngamiland model, in their CFDA's. (The Southern CFDA has had a coordinator for two years. A coordinator for Kgatleng was recently appointed, but is not yet in post.) Kweneng District has not yet formally identified a CFDA. Central District is recruiting a CFDA coordinator, and land use planning work will likely await the filling of the coordinator position. Land use planning work in the Northeast District is concentrating on more urgent needs in squatter areas near Francistown. Ghanzi District land use planning will emphasize a land resource investigation of prospective wildlife management areas. The investigation will be financed by LG 31 and implemented in part by staff from the Department of Wildlife. None of the projects are presently funded by RSG, though some may be in the future. Southeast District has expressed interest in preparing a comprehensive, agriculturally oriented land use plan, but has no specific plan for beginning such and exercise. In Chobe District, a land inventory for the enclave villages is underway, preliminary to a land use planning exercise on the Western Ngamiland model. The inventory is being prepared by the MOA Land Use Officer (Maun), formerly one of the consultants involved in the Western Ngamiland Plan exercise. Kgalagadi District's CFDA Plan was completed in 1979 and is currently under implementation, with emphasis on its forestry aspects.

(c) Central Government Assistance to CFDA Planning Activities

Central government assistance to district-based land use planning has taken the following forms:

- (i) Administration of LG 31: For the most part this has involved normal economic appraisal of project

memoranda from districts requesting assistance from LG 31 and other projects. This is the responsibility of the MLGL Planning Unit, and specifically the PO II.

The Planning Unit has a LG 31 sub-project entitled 'CFDA land use planning', that provided a total of P45000 for seminars for district staff, purchase of copies of aerial photographs, and land use planning equipment for DO(L)s. Photographs were purchased for Ngamiland, Kgalagadi, Northeast and Central Districts. Approximately P11000 was spent on equipment for DO(L), including map cabinets, drawing tables, and drawing equipment, and field compasses and measuring equipment. This sub-project also purchased a vehicle for the CFDA coordinator in Southern District.

- (ii) Management and Supervision: The Lands Division in MLGL is responsible for the day to day management and administration of land related programs. LG 31 has not been the primary responsibility of any single officer in the Lands Division. The Division does not have a technically oriented land use planning officer among its (four person) administrative/professional staff. The Post of Commissioner of Lands formerly provided a measure of professional and technical input to district land use planning. This post has been vacant since early 1982. Formal guidelines or directives for CFDA land use planning have not been promulgated by MLGL, or by the inter-ministerial Land Development Committee (LDC), for which the Lands Division provides the Chairman and Secretariat. The Land Development Committee recently began to solicit reports from districts on the status of land use planning activities in communal and commercial areas.
- (iii) The CFDA Working Group jointly prepared a paper in March 1982 entitled Land Use Planning in the Communal Areas, which was distributed to the districts. The paper is general and non-technical in nature, and concludes with a recommendation for a seminar on communal area land use planning. No such seminar was held, though a seminar of DO(L)s held in July 1983 reviewed personnel and administrative obstacles to undertaking land use planning in CFDAs, and made a specific request for planning assistance from Government.

5. Communal Service Centers

This sub-project of LG 31 provided funds for construction of basic social service facilities in sandveld areas affected by TGLP

ranch development. A basic objective was to ensure that the land, water, and social service needs of small holders and non-stockholders were thoroughly accounted for in an integrated area plan. RSG funds were used to construct two classroom blocks and a health post at Lepashe in Central District. Non-RSG funds were used to construct a second service center at Mmalatswai, also in Central District.

The major achievements of LG 31 activities assisted by the RSG are summarized below.

First, six pilot land inventory projects were approved, and five were completed. MLGL encouraged districts to experiment in the technical and administrative organization of the exercises, and valuable information was generated on the comparative costs and benefits of different approaches. However, limited administrative and technical capacity suggests that, for the time being, maintenance of record systems is beyond the capability of most Land Boards and Sub-land Boards. Water point inventories were approved for four districts. One has been satisfactorily completed (Kweneng) and two others are near completion (Southern and Ngamiland). The fourth (Central) has been delayed due to shortage of staff. The water surveys are universally considered essential to improved planning in communal areas. Two Sub-Land Board boundary demarcation projects were not implemented, and the utility of such exercises is now considered doubtful.

Institutions' research activities (discussed in Attachment 1) produced a number of reports on local-level institutional arrangements and resource management problems. Their usefulness to district planning has been limited by slow progress in implementing CFDA activities generally.

In the area of communal area land use planning, only one land use plan, for the Western Ngamiland CFDA, has been completed, although planning for commercial areas and other land use sectors has continued in most districts. An analysis of the factors which have affected LG 31 performance follows.

B. Analysis of Project Performance

It is obvious from the preceding description of LG 31 activities that project achievements fell short of objectives, and particularly the expectation that by the end of RSG Phase I land use plans would be under implementation in eastern communal areas. The reasons for this outcome are numerous and complex. Furthermore, in light of the success of CFDA land use planning in Ngamiland and the experience gained in implementing land and water inventories, some results have been positive. The Ngamiland experience is worth examining for the presence of elements which, because they may have been absent elsewhere, resulted in a less than satisfactory outcome nation-wide.

Factors which affected the performance of LG 31 are considered below.

1. Implementation problems

(a) Staff shortage and lack of staff continuity

DO(L)s interviewed identified this as perhaps the single most important implementation problem. Vacancies in the DO(L) cadre have been a particular problem during the life of RSG I. Of a total of 44 person years of DO(L) staff time from 1980 through 1983, posts have been vacant for approximately eight person years, or 20 percent of the total period. Five of the ten districts had three different DO(L)s during the calendar years 1980-83. Four districts had two, and only one district, Ngamiland, had a single DO(L) during that period. (DO(L)s will receive Masters Degree training under the District Administrative Training component of Phase II, and many of the problems discussed above will be alleviated.) In the absence of clear priority directives from district or ministerial authorities to the contrary, DO(L) work priorities are often based upon an informal individual assessment of work priorities made during the first weeks on the job.

Poor program continuity is avoided where staff transfers are minimized, and where program priorities are derived from district plans and reenforced by close supervision by the Council Secretary and the District Commissioner. Both of these elements have been present in Ngamiland District since the beginning of the Western Ngamiland planning process in 1978.

(b) Districts have had other planning responsibilities in addition to CFDA land use planning

This was particularly the case in the eastern districts, where planning and replanning of TGLP commercial areas has demanded a large measure of staff time, particularly DO(L)s, Land Board Technical Assistants, and Agricultural Officers (Land Resources). In smaller districts without commercial zones, including Northeast, Kgatleng, and Southeast, district planners have had to deal in a reactive fashion to settlement and resource use problems related to proximity to large urban areas, Gaborone and Francistown.

(c) Districts have been slow to designate CFDAs, and to articulate CFDA development strategies

Kweneng and Southeast do not have CFDAs. The precise extent of the Northeast CFDA was in dispute until recently. The Ghanzi CFDA focuses on RAD (Remote Area Dweller) settlements, with only limited land use implications. Central District designated the Boteti area as its CFDA in 1981, but has been unable to apply significant land use planning resources beyond initial research into local institutions and local development problems. The presence of a CFDA coordinator appears to be a critical factor in successfully organizing planning activities at the local level and in implementing land use plans. At the time of the evaluation, only two districts, Ngamiland and Southern have had a CFDA coordinator in post for any length of time.

2. Validity of Assumptions and Appropriateness of Design

Even if there had not been any implementation bottlenecks such as those described above it is not clear that LG 31 would have achieved its overall objective of having integrated land use plans in most districts. The achievement of this objective was based on several key assumptions most of which were only partially valid during Phase I of the RSG. These assumptions are discussed below.

(a) It was assumed that GOB accorded a high priority to communal area planning

At the time that the RSG was under design, there was much discussion in Government on the need to direct greater attention to the planning and resource management needs of communal areas. Successful pilot planning activities in Matsheng and Ngamiland suggested workable models for communal planning elsewhere in the country. The project paper stated categorically that Government priority would be accorded to communal areas during the project's lifetime.

Although problems of communal areas were and are priority concerns of Government, other more pressing demands on staff and policy planning resources have detracted from the attention necessary to undertake effective communal area programs. This has been the case in the districts as well as at the center. In the districts, other priorities have included TLGP commercial area planning, resource and population surveys of remote area communities, and coordination of village planning activities.

(b) Regardless of priorities, the staff establishment in the districts is not large enough to sustain communal land use planning exercises

This is especially a problem in the larger districts. Given their many professional responsibilities, DO(L)s only in the rarest cases have time to devote concentrated attention to CFDA land use planning matters. If larger districts are to make progress greater use of short-term planning consultants, working under close DO(L) supervision, will probably be necessary. Planning consultants were used in both the Matsheng and Ngamiland exercises, and their example suggests that the judicious use of consultants is a major element in making progress in this area.

(c) The RSG underestimated the complexity of communal land use problems

Land use planning is only one component of any strategy to improve resource management in communal areas. Land use plans will be only minimally useful unless progress is made toward addressing several broader questions of resource control and regulation. This is especially the case in the grazing and livestock

sector. This underlines the fact that LG 31 as a project is bound up with a number of difficult issues of land policy. As such, it is probably unrealistic to expect steady, predictable outputs from LG 31, in the conventional project mold. Land policy development is an inherently difficult undertaking in most countries, and projects such as LG 31 should be cast to support the evolution of policy. This stance to a certain extent assumes the need for modest expectations and flexible response, but it is the only way to achieve meaningful and sustainable results.

C. Conclusion

The RSG assumed MLGL and districts would extend high priority, in terms of staff time and policy development, to communal areas. RSG also assumed that communal land use planning guidelines would be promulgated, and that sufficient capacity existed at the district level to prepare and implement land use plans.

The assumption of a policy priority, as manifested in the assignment of adequate staff resources, was probably premature. District and central government staff continued to be involved, as a matter of priority, in TGLP commercial planning and other day to day matters. Staff shortages in some districts, and high staff turnover, also hampered progress. Some tasks, such as the land inventory/registration activities assumed administrative and technical capabilities in the Land Boards that were rarely present. The full benefits of useful studies of local institutions were not realized because most districts did not accord priority to CFDA planning problems, or did not begin CFDA planning activities until late in the life of Phase I.

It proved more difficult to develop replicable models (and guidelines) for communal land use planning than was anticipated. Greater use could have been made of locally available consultants (as was done in Ngamiland) to advance land use planning programs in CFDAs. There has been a lack of a clear point of reference for LG 31 and communal land use planning matters in the Lands Division.

Despite the problems described above, there has been progress in this sector worth noting. The Ngamiland plan is a notable success, and prospects for similar exercises elsewhere may be improving. District level staff capacity has improved since 1983. CFDA programs are getting underway in Kgatleng and Southern Districts. Central and Kgatleng are recruiting CFDA coordinators. TGLP commercial planning is well advanced, and more MOA, Land Board and DA staff time will, in principle, be available for communal projects.

Despite an improving administrative and planning environment for communal projects, some problems remain. There is a lack of consistent staff attention to LG 31 communal matters in MLGL. There continues to be a need for CFDA land use planning guidelines. For some time to come progress in the area of communal resource use will require development of policy on basic problems of resource control and management.

D. Recommendations

LG 31 is not included for funding in RSG Phase II. LG 31 remains, of course, a project of the Government of Botswana, and the following recommendations are made in the hope that they may be of use to MLGL, RDU and districts in charting future strategies for this project.

1. Land inventory and water points projects are most useful when treated as aspects of a larger planning program. Their utility as tools for improving Land Board allocation procedures will be limited until such time that Land Board administrative and technical capacity is significantly up-graded.
2. Planning activities must be closely linked with implementation capacity from the very beginning of any planning exercise. For this reason, integration of land use plans into CFDA activities is essential. Land use plans should probably not be implemented in CFDAs where a coordinator is not in post.
3. Districts should not be reluctant to use LG 31 to contract locally available planning consultants, who are familiar with Botswana's planning system and have a demonstrated ability to work at the local level. Using consultants underlines the importance, however, of clear planning guidelines which provide for a predominant accounting of community priorities in the land use plan. MLGL has already prepared a document providing procedural guidelines for districts for contracting consultants.
4. Guidelines for CFDA land use planning should be promulgated by the Lands Division, with assistance from the Land Development Committee. Guidelines should be indicative and not directive in character. They should incorporate a careful accounting of planning experiences in Ngamiland, Matsheng, Southern and elsewhere.
5. MLGL should designate an officer in the Lands Division who would work primarily on LG 31 communal development matters. This officer would also be responsible for liaison with DO(L)s and districts on land use planning matters generally.
6. The RDU and MLGL should jointly undertake a review of the status of CFDA planning activities nationwide and recommend changes or adjustments in CFDA strategy based on their findings. Particular areas of attention should be the manpower and staffing situation in districts as they affect CFDAs, participation of central government departments in CFDA programs, the relationship of CFDA planning to on-going district planning processes, and CFDA planning and management at the local level, and specifically the role of the CFDA coordinator. The role of the CFDAs Government's rural development strategy should be clearly stated in NDP VI, presently under preparation.
7. The Ministry of Agriculture should be more directly involved in CFDA land use activities. MOA has recently completed a project proposal for improving communal grazing management. The project provides funds for, among other things, group development of livestock water supplies in communal areas. This project is highly relevant to efforts to improve

communal resource management in CFDAs and elsewhere, and should take into account RDU, MLGL and district CFDA activities and policies in this area.

8. The capacity of the Lands Division to coordinate and provide assistance to land use planning in communal areas needs to be strengthened. Technical assistance could usefully be applied to improving the Lands Division's capacity in this area.

9. It is essential to progress in communal areas that LG 31 be continued. Donors should consider ways of supporting LG 31 in a manner consistent with the lessons learned from Phase I of the Rural Sector Grant. The key lessons are: inputs should be seen in terms of support for the evolution of sound land policy in communal areas; outputs should not be limited to numbers of land use plans or completed surveys alone, but also to an improved ability to manage communal resources; and finally, assistance should be long-term and flexible in character, capable of adjusting to varying planning capacity at the district level and able to support experimentation.

EVALUATION OF THE UNIVERSITY OF WISCONSIN LAND TENURE CENTER
STUDIES FOR THE APPLIED RESEARCH UNIT

Description

Two sets of studies were carried out by LTC researchers for the ARU. The first was a study of the role of local institutions in communal area development. The objective of the study was to make recommendations and advise districts on ways of increasing the effectiveness of local institutions in the Communal First Development Areas (CFDAs). This study was divided into four phases:

1. Baseline inventory of local institutions and how they worked;
2. In depth analysis of issues related to the role of local institutions in communal area development, including linkages between village organizations and government agencies and linkages between villages with respect to development issues that crossed village lines;
3. A final report of findings and recommendations on government policy and extension methodology;
4. Consultations and training in the CFDAs to apply the findings of the studies.

The second set of studies addressed access to land issues, specifically access to lands by women and young males and the effectiveness of traditional intra-family land allocation and transfer mechanisms. The objective of the studies was to develop an overall model for equitable and efficient land allocation and mechanisms for addressing problems of landlessness.

Achievements

This component of LG 31 achieved all of its output targets. The local institutions research project produced fourteen reports consisting of:

1. Local institution inventories in four districts (Kgatleng, Ghanzi, Southern and Ngamiland);
2. Five detailed studies of local institutions and resource management in four districts (Southern, North East, Kweneng and two in Central);
3. A report relating the findings of the inventory studies to local institutions development in the CFDAs;
4. A report on strengthening extension services;

5. Two policy reports, one on the role of local institutions in communal area development and one on resource management issues;
6. A facilitators handbook for village level extension workers.

The findings of these studies were conveyed to district and village level staff through seminars and consultations. The policy reports were used as the basis for national seminars on extension and on water and resource management. Most of the studies did not initiate CFDA planning until well after the studies were completed. This problem is discussed further below.

The access to lands research activity produced two reports: one on Kweneng District, one on access to land and communal land management in Eastern Botswana. A related study was done on the Tati Siding and Shashe Bridge area of North East District. The second study was based on field research in Kgatleng, Southern and Southeast Districts, and the Barolong Farms. All studies achieved their intended objectives and the second was the subject of a national seminar on access to lands.

Implementation

There were no major implementation problems related to this project component. An agreement signed between the GOB and the LTC and financed by AID was instrumental in expediting the recruitment of researchers. The studies were carried out by or under the supervision of senior (PhD) and junior (PhD candidates) researchers provided by the LTC. In addition, UBC students were hired as research assistants. With two exceptions, the key researchers were well qualified and most had Botswana experience. The ARU was very satisfied with the cooperation and backstopping provided by the LTC. It should be emphasized that the overall high quality of research was due in large part to the professionalism and overall supervision of the Chief of Party.

With a few minor exceptions, the quality of the studies and reports met or exceeded the requirements of the project. The methodology was sound and included extensive consultations with leaders of local organizations as well as government officials in the districts and villages. One criticism of the studies is that they contained much information that was already well known. In studies where this was the case, however, the analysis of the information provided relevant and useful insights concerning the nature of problems and approaches to their solution.

There were no significant shortcomings in the ARU's overall management of the research. Although the research proposals were sometimes vague in terms of their objectives and methodology, the monitoring of the studies was sound and thorough. All studies were reviewed periodically to assure satisfactory progress and content. This resulted in substantive revisions that added greatly

to the accuracy and potential usefulness of the final reports. Finally, the ARU made specific efforts to maximize the use of the studies in national policy deliberations as well as at the district level.

Impact

The research on local institutions and access to land was to have contributed to the planning of the CFDA's and provided inputs into policies related to resource management in communal areas. At the district level, the research had very little direct impact. The only districts to use the research for CFDA planning were Ngamiland and to a lesser extent Southern. The other districts were not prepared to designate CFDA's and prepare development plans at the time that the research was being conducted. Furthermore, the information obtained from the studies was perceived by some districts as neither new nor immediately relevant to their needs. One major impact in the districts that do not have CFDA's underway was the increased understanding of local institution and resource management issues that resulted from consultations between the researchers and district village level officials at the time that the research was being conducted.

At the national level, the impact was more concrete. Perhaps the most widely used product of the research at this time is a facilitators' handbook to assist village extension workers in forming and working with local institutions. Second, three key policy oriented reports were produced: one on local institutions' development, one on resource management in communal areas, and one on land allocation mechanisms. These studies have been widely reviewed and discussed and, although they have not led to major policy changes, it is the view of the ARU and of this evaluation team that they have provided important insights that will lead to better informed policy decisions in the future. Finally, this component produced a working paper on strengthening extension services that made practical recommendations concerning the organization, training and logistic support of extension staff. The Rural Extension Coordinating Committee (RECC) in the GOB has issued an official report on the basis of the working paper recommending a number of actions to strengthen extension services at the village level.

The cumulative effects of these actions at the national level are, first, to create a better understanding of local institutions and resource management issues in the communal areas, and, second, to strengthen the quality of extension services being provided to villages and farmers in the communal areas. It needs to be pointed out, however, that this same impact could have been achieved with fewer studies and at lower cost. The main justification for the district-level studies was to assist in preparing development programs for CFDA's and this is where their greatest impact should have been. In this respect, the ARU/LTC research program did not achieve its original intended objectives. The main lesson to be

drawn from this experience, and one which the ARU is already well aware of, is that district-level studies should be carefully conducted with district officials and should be undertaken when they address well defined felt needs of the district.

Conclusion

The ARU/LTC research program was well implemented and well managed and achieved all of its output targets. The research did not lead to policy changes at the national level, but through well prepared policy reports and extensive discussions in seminars and conferences had a greater impact on policy considerations than had been expected in the original design. Except for Ngamiland and Southern districts, the research did not have its intended impact on CFDA's, primarily because it was conducted without sufficient district-level consultations and before the districts were ready to proceed with CFDA planning.

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COMMUNAL FIRST DEVELOPMENT AREAS:

A DISCUSSION OF CURRENT ISSUES

INTRODUCTION

The concept of Communal First Development Areas (CFDAs) was introduced in late 1980 and early 1981 as a strategy for development in Botswana's rural districts. "The basic premise was that within each district a limited geographical area should be selected from within the [communal zone], and this area should receive priority attention for several years" (Barclay, 1981:1). An important rationale for this approach was provided by realization of the need to concentrate scarce manpower and investment resources in a limited area if progress was to be made on complex problems of land management and employment creation.

Standard infrastructure development, extension programs and other activities would continue throughout the district, but the CFDA, (and in turn the Second Communal Development Area, etc.) would be the subject of special planning exercises, especially for activities in support of agricultural production and off-farm employment. Particular attention would be given to land use planning and to strengthening local institutions. CFDA plans would be integrated into the districts' annual planning exercise. Department heads were to ensure that staff vacancies were minimized in the CFDA, and that staff worked toward achieving CFDA targets. A CFDA Coordinator employed by the District Council was to be posted in designated CFDAs to coordinate planning activities, to liaise with district and government departments, and provide a link between agencies and local communities.

Most districts have designated sub-district areas as CFDAs (utilizing a variety of selection criteria) but only two districts, Ngamiland and Southern, have made any significant progress toward planning and implementing CFDA programs. This paper briefly reviews the experiences of Ngamiland and Southern, and applies those experiences to a more general discussion of issues facing the CFDA concept at the end of Phase I of the Rural Sector Grant. The discussion on Ngamiland focuses on the land use plan and its role in providing a comprehensive organizing instrument for virtually all CFDA activities. The discussion on Southern District considers the success of the CFDA coordinator in mobilizing village participation in planning and implementing small-scale projects.

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EXPERIENCES IN NGAMILAND AND SOUTHERN

(a) The Western Ngamiland Land Use Plan

The Western Ngamiland Land Use Plan was developed in three phases over the course of three financial years, 1980/81, 1981/82, and 1982/83. Virtually all planning activities were financed by LG 31, and RSG funds accounted for approximately 80 percent of total planning costs. Two consultants were retained to carry out all major data collection and planning tasks, though their work received supplementary assistance and input from regular Government and Council staff. The three planning phases were:

(i) Land inventory: The land inventory involved mapping of the area using available aerial photography, synthesis and compilation of available resource data, and field checks and informal surveys to collect additional information as needed. These activities were carried out over a six-month period, and resulted in a report, published in December 1981, entitled Ngamiland CFDA Assessment of the Present Land Use, by H. Gelmroth and H. Bendson. The report included basic information on population, population distribution, land use patterns, including crop production areas, grazing patterns, water distribution and use, and agricultural practices, and the relation of settlement patterns and agricultural production to the region's ecology.

(ii) Development of Land Use Planning Proposals: The Second Phase of the planning exercise involved framing of development proposals based upon the "felt needs" of CFDA population. A series of kgotla meetings were held in the main CFDA villages; Etsha, Gomare, and Nokaneng-habu. The consultants presented the findings of their technical surveys, and solicited the views of villagers on their major land use, agriculture and resource-related problems. Technical information was synthesized with villager input to form a set of preliminary planning proposals for each village area. The consultants, properly, gauged their recommendations and development proposals toward resolving resource and land use problems identified by villagers. "The so-called 'felt need approach' confines itself to developing planning proposals only for those types of land use assessed as relevant by local communities." (Final Planning Report, P.7). Several specific planning and development proposals were made for each of the villages, based upon their particular problems as brought out in the consultations. Common problems experienced throughout the planning area, which are addressed in one form or another in each village are: conflicts between arable uses and grazing, overgrazing, and reduced grazing land due to construction of a buffalo fence.

A final report of the planning exercise (Land Use Planning - Ngamiland CFDA) documents major land use constraints for each village area, and proposes area-specific 'land use improvement measures'. Some illustrative improvements include: drift fences to separate grazing and crop zones; improving local control over

access to water and grazing, restoring river flow to molapo farming areas; and improving road access to crop production areas.

Planning proposals, besides being discussed by villages in kgotla, were presented for discussion and approval to the District Land Board, the Gomare and Nokaneng Sub-Land Boards, the District Council, and the District Development Committee (DDC).

(iii) Plan Programming and Implementation: The third phase of the planning program involves plan implementation. Planning proposals were adopted and fully integrated into the work program of the CFDA coordinator as approved by the DDC and District Council. Drift fences have been constructed in each village area, with financing from the AE 10 Small Projects Fund. Extension teams in each village have been briefed on the plan and plan-related activities have been incorporated into the work programs of individual extension workers. The CFDA is fully integrated into Northwest District annual planning and quarterly reporting procedures. Western Ngamiland CFDA is treated as a discrete component of the district's annual plan. The 1984/85 plan lists 25 sub-project activities within the CFDA. About one-half of these are directly or indirectly related to land use plan implementation. They draw upon a variety of projects, including LG 31, CI 08, and LG 17. The evaluators observed a high level of awareness by departmental staff in Western Ngamiland of CFDA and CFDA land use related activities. It appears that in most cases, plan proposals have been translated into on-going development activities. In other words, good links have been forged between the planning and implementation functions. This is largely attributable to the role played by the CFDA coordinator in public relations, in promoting integration of plan proposals into departmental work programs, and in coordinating and directly managing a number of implementation activities.

(b) Southern District CFDA

A very different approach to CFDA interventions has been adopted in Southern District. The Southern CFDA encompasses 17 villages in a corridor that envelopes the Barolong Farms. The corridor (recently expanded to incorporate the agricultural and grazing hinterlands of the villages) runs from Phitsane in the northeast to Phitsane-Melopo in the southwest. The area had an estimated population of 18,000 in 1981.

Development in the CFDA has two principal thrusts: a multi-sector program of village development focusing on small projects requiring high levels of participation from villagers, and; emphasis on training VDCs and other community members in project preparation and community organization. There has been a strong overall emphasis on non-farm employment creation and basic social and agricultural services, and only a modest emphasis on land use planning and resource management. Land use matters will receive increasing emphasis in the near future.

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Forty-five new, small scale enterprises have been started in the CFDA area. Typical projects include brick making, knitting, dress making, carpentry, mesh wire making, welding, black smithing and manufacture of simple agricultural implements. Vegetable gardens have been started in several villages. Extension assistance has been provided for some projects by Partnerships for Productivity (PPF).

Other, non-employment related projects include village water supply, road construction, and up-grading health facilities. Improvements in this area typically involved the CFDA coordinator in making submissions in support of projects to departments in the district capital or in Gaborone. Many of these projects also involve a large measure of villager input in the form of cash and labor contributions. Appropriate contributions are agreed upon in kgotla.

Institutions research has been used to good effect in the Southern CFDA. Research findings on the respective roles of the headmen, VDCs and other village organizations helped the CFDA coordinator chart a village by village strategy for approaching local development problems.

The key to the success of the Southern CFDA has been the pivotal role of the CFDA Coordinator. The Coordinator has acted as mobilizer of villager interests and energies. He has given emphasis to identifying problems as perceived by villagers, and then working out effective strategies for implementing projects. Villagers have been closely involved in the planning and implementation process. A key aim has been to teach VDC members how to prepare acceptable project memoranda, and to thereby carry on with village development after the Coordinator moves on. Also, the Coordinator has acted to overcome implementation bottlenecks in Kanye and Gaborone, by walking paperwork through the system and by prodding officials to deliver on commitments. This has enhanced the credibility of the Coordinator (and government generally) and villagers have come to see him as an ally and partner in the development process.

OBSERVATIONS

Other districts, with the possible exception of Ghanzi and Kgalagadi, have not made significant progress toward planning for or implementing CFDA activities. Ngamiland and Southern stand out as exceptions to the rule. It is not possible here to undertake a thorough assessment of the factors that have contributed to progress in Ngamiland and Southern, and detracted from it elsewhere, but the following observations underline some important opportunities and issues in this area.

1. The experiences of both Ngamiland and Southern suggest the critical importance of the coordinator in virtually every aspect of

CFDA activity. In both districts, the coordinators act as community organizers, planners, and provide liaison with district and central government departments. The presence of a coordinator is absolutely essential to progress in CFDA's, and it is unrealistic to expect any significant progress in CFDA's in those districts without a Coordinator.

Because of the nature of the job, Coordinators must be highly motivated persons capable of relating to the villagers and to other public officials. Coordinators are essentially creating new economic opportunities and administrative services in sub-district areas, and as such must be extremely resourceful people. These are rare qualities, which has implications for other issues, discussed further below.

2. The land use plan in Western Ngamiland provided the integrative framework for the CFDA development strategy. A land use plan has not yet been done for the Southern District CFDA, and some district officials believe that as a result the full benefits of a highly effective field network are not being realized. (The preparation of a land use plan for the CFDA is in its early stages).

The central role of land use planning to the CFDA strategy underlines the importance of making progress generally in the area of LG 31 land use planning.

3. The CFDA concept in Ngamiland has the strong support of the District Commissioner, the DO(D), DO(L), and the Council Secretary. This is because it fits into the overall development planning approach for the district which is based on production zones. These are geographic areas that have distinct agro-ecological and/or demographic characteristics that are used as the basis for sub-district level development planning. The CFDA coincides with one of these zones and plans are in progress for designating another of these zones as the Second Communal Development Area. Other districts do not approach development planning in this way and this partly explains why they have less of a commitment to the CFDA concept.

4. The implementation experience in the Ngamiland CFDA provides some interesting insight into the relationship between CFDA activities and the work programming of line departments, especially the Ministry of Agriculture. For instance, the DAO in Western Ngamiland has not made any commitments to direct additional staff support to the CFDA by virtue of the CFDA designation alone. His mandate is to serve an entire agricultural region, that includes villages outside of the CFDA as well. He has, however, directed his staff posted within the CFDA to implement programs in the agricultural sector which has grown out of the CFDA planning process. This is a sensible approach to the question of the role of non-Council departments operating in and near CFDA's.

5. Nevertheless, the CFDA program can benefit generally from a higher level of commitment and direction from the implementing ministries, particularly MLGL and MOA. The relationship of the CFDA strategy to the rural development programs of the ministries needs to be restated.

6. More thinking needs to be done on the question of the administrative structure and staffing of CFDA's once the CFDA designation has expired, (e.g. within the next year in Western Ngamiland and Southern). In Ngamiland, the CFDA broadly coincides with a sub-district area with its center in Gomare. An assistant Council Secretary will be posted to Gomare, though in contrast to the CFDA Coordinator, his duties will be more in the order of administration of Council business and conventional development activities. This approach suggests an additional rationale for the CFDA strategy: building up the basic administrative capacity of a sub-district area to the level that development activities can be managed in an on-going, "business as usual" fashion.

Of course this kind of designation may not always be possible, but it might be included as an additional criterion in selecting CFDA's.

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LG 36 - DEVELOPMENT OF LAND INSTITUTIONS

A. Activities and Achievements

LG 36 - Development of Land Institutions is an MLGL project which aims to improve the capacity of Land Boards and Sub-Land Boards to execute their responsibilities under the Tribal Land Act. Their duties pertain mainly to the allocation of land under customary and common land title and the administration of land policies, e.g., the granting of leases for ranches under TGLP. A series of Government Commissions (the Inter-ministerial Committee on Land Board Operations (1978), the Local Government Structure Commission (1979) and most recently the Presidential Commission on Land Tenure (1984)) have underscored the importance of upgrading member and staff capabilities and improving the working conditions of Land Boards. RSG assistance to LG 36 focussed on two activities: construction of Sub-land Board offices and training for Land Board members and staff.

1. Construction of Sub-Land Board Offices

Eight Sub-Land Board offices were constructed: at Lentsweletau, Artesia and Mathubudukwane in 1980/81; at Hukuntsi, Nata, Charleshill, and Tsabong in 1981/82; and at Molepolole (originally planned for Ghanzi) in 1982/83. All offices were completed on time and to prescribed engineering and construction standard. RSG funding also provided for purchase of furniture and equipment for the new offices. Funds for this purpose (P40,000) were spent as budgeted.

2. Training

The program of assistance for training had three components: a training consultancy; training course development; and funds for training courses.

a. Training consultancy

The consultancy ran for nine months, beginning in February 1981, and concluding with publication of a Final Report (the 'Higgins Report') in November 1981. The need for training programs and curricula was well known at the beginning of the consultancy. Hence the consultant concentrated on the design of specific curricula for key Land Board staff cadres and for Land Board members. Training courses and materials were developed, tested and evaluated, and described in detail in the consultancy report. The following courses were described in the report.

(i) Land Board Technical Assistants (LBTA)

- (a) an introductory map reading and drawing course
- (b) a basic chain surveying and drawing course

- (c) a certificate course in Land Use Administration and Planning offered by Botswana Polytechnic in Gaborone

- (ii) Junior administrative staff

Five specialized Land Board courses were designed for staff members within the grades LGA6 and LGA4, to be taken in advance of a certificate course in Land Board administration. The first two are basic courses which would be taught by the Land Board Training Staff. More formal training in cartography, land use planning, interpretation of aerial photographs, property law and land tenure would be offered in three additional courses at the Polytechnic.

- (iii) Senior Land Board Staff

- (a) A 15 week certificate course in Local Administration, offered by the Institute of Development Management (IDM)
- (b) A certificate in Land Board Administration, for Land Board Administrative Secretaries. This is a 32 week course, taught in 4 eight week modules at UB.

- (iv) Training for Land Board Members

One week short courses on Tribal Land Act Procedures and map reading were designed and tested in the course of the consultancy.

The consultancy was completed to schedule, and the recommended training programs are now part of standard Land Board curricula.

- b. Training course development

This sub-component of the training program entailed development of course materials for use in training Land Board members. A Handbook of Tribal Land Regulations was compiled, in English and Setswana. Packets of material for use in two map reading courses were designed and printed. A procedural work book, incorporating case studies of common Land Board cases was produced in Setswana. Classroom materials such as wall charts and tapes were purchased.

- c. Training

- (i) Training for members

The first training courses for members were held in 1982. Each of the twelve Main land Boards participated in one of

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four five-day seminars in Land Board procedure given by the staff of the Land Board Training Unit (LBTU). Also in 1982, members of each of the 35 Sub-Land Boards were given training in Land Board procedures in one of six five day seminars.

In 1983, three map reading seminars for Sub-Land Board members was held. Further member training has been suspended until after the 1984 elections, at which time new Land Boards will be appointed.

In 1983, approximately 280 village headmen received training in their role in the land allocation process in the course of fourteen two day seminars carried out by the staff of the LBTU.

(ii) Staff training

Eleven Land Board Technical Assistants (the LBTA cadre was established in 1980) completed a one year training course at Botswana Polytechnic. They have been posted to the Main Land Boards. Ten additional LBTAs (to be posted to Sub-Land Boards) are presently in training.

All twelve Land Board Administrative Secretaries are presently enrolled in a eight week module in the 32 Certificate program in Land Administration at U.B.

A comprehensive Land Board Training Program for 1984/85 has been prepared. The program schedules nine certificate courses, two diploma courses and one degree course for 83 participants from five Land Board staff cadres. All courses will be held at Botswana training and educational institutions, and will be conducted by institutional staff. BIAC will offer programs in accounting and basic and advanced administration. Courses in records management, communications for managers, work methods, and local government administration will be offered at IDM. Land use and surveying will be taught at Botswana Polytechnic. Finally, in August two officers will begin a four year degree program in public administration at the University of Botswana.

B. Analysis of Project Performance

The construction component of the project was completed as planned. Buildings met all construction standards. Equipment was purchased and installed in a timely fashion.

The consultancy of Land Board Training was carried out by a highly qualified professional in the field of adult education and training. The consultant was very familiar with Botswana's institutional arrangements and manpower problems, having worked in the country since 1968. Training materials such as the Handbook of Tribal Land Regulations and the map reading course have proven useful instructional tools.

The rate of implementation of the training program has been very slow. Only one round of training for members in procedures, three map reading seminars, one advanced course for Land Board administrative secretaries and one course for LBTA have been undertaken to date. The main factors that delayed implementation of the training program are:

1. Nearly two years passed between completion of the training consultancy and formal adoption of its recommendations by the Land Board Training reference group in MLGL. This delay is attributable to two factors: staff turnover and changing staff priorities in the Land Board Training Unit (LBTU had three heads between 1980 and 1982); and an absence of clear policy direction from the responsible department in MLGL, the Lands Division. (Progress has recently been made toward clarifying responsibility for Land Board training matters in MLGL. The LBTU has been placed within the Unified Local Government Services (ULGS) and steps are being taken to integrate Land Board training activities into the overall ULGS training program.)

2. The LBTU is understaffed. Its total staff complement is two administrative grade officers. The two officers are expected to carry out all program planning, administration, and field training activities related to Land Board training. The training consultancy report (Higgins Report) recommended the addition of two full time trainers to the LBTU. This recommendation has not been implemented.

Other non-administrative factors which have contributed to slow implementation of the training program include:

3. Low literacy levels of Land Board members. Members tend to be older citizens of the community with little or no formal education.

Hence, the utility of instructional techniques that assume at least some measure of literacy may be very low. The LBTU has made recommendations to MLGL on up-grading member qualifications. At the same time, most members have responded with enthusiasm and hard work to the courses that have been offered. The effectiveness of courses in improving member performance should be carefully evaluated before major decisions are taken in this area.

4. Entry qualifications into certificate and diploma courses offered by Botswana training institutions surpass those held by many Land Board staff. Between 50 and 75 percent of existing staff may not qualify for entry into courses offered at BIAC, Botswana Polytechnic, IDM or UB. This suggests the need for remedial training of staff and/or more in-service training by the LBTU. With respect to the latter, training modules would have to be designed for use by training staff, and the LBTU trainer cadre would have to be expanded.

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C. Conclusions

Implementation of the building, equipment purchase, training consultancy and course development components of the program has gone according to plan. Implementation of training programs for members and staff has been hindered by delays in taking decisions on program recommendations, uncertainty over administrative responsibility for the LBTU, and shortage of training staff in the LBTU. Major organizational problems have for the most part been resolved with the recent shifting of the LBTU from the Lands Division to ULGS. The LBTU still has insufficient training staff. Suitable Land Board staff training curricula have been integrated into the instructional programs at BIAC, Botswana Polytechnic, IDM and UB. Formal instruction at these institutions will begin in earnest in 1984/85.

In sum, major progress has been made over the last year in overcoming bottlenecks to the implementation of the training program. Appointment of two to three trainers to the LBTU would substantially improve training capacity and is essential to implementation of members' training.

D. Recommendations

As is the case with LG 31, LG 36 is not included for funding in RSG Phase II. The following recommendations for future implementation of LG 36 are offered to the Government of Botswana.

1. The Higgins Report recommendations for staffing of the LBTU should be adopted and implemented as a matter of priority.
2. Evaluation techniques for assessing the benefits of training programs for Land Board member performance should be designed and implemented.
3. A determination should be made of the number of Land Board staff eligible for admission to Land Board training programs at Botswana institutions. Based upon the results of the assessment, steps should be taken to either provide remedial training for under-qualified applicants and/or develop training for staff that would be taught by the LBTU.

CONSULTANCIES FUND FOR RURAL DEVELOPMENT PLANNING (DP 01)

A. Description

This project administered by the Rural Development Unit in MFDP was established to fund short term studies and consultancies on issues related to rural development and especially to CFDA planning. Reports produced under this project included: a study on communal area development in the Kweneng; a report on training for development in new settlements in Ghanzi District; and an action plan for the Southern District CFDA. Supplementary consultant costs needed to complete the Western Ngamiland CFDA land use plan were also provided by DP 01. Funds were used to compile an RDU report on CFDA planning. DP 01 funded a seminar to discuss training policy for the Financial Assistance Program (FAP) and purchased a micro-computer to monitor FAP implementation.

B. Achievements

The following studies funded by DP 01 were reviewed by the evaluation team.

Communal Area Development in the Kweneng, by William Duggan and Lynn Ellsworth (August 1981, 38 pages). This report was prepared for the Kweneng District Spatial Planning Committee. It provides a review of communal development problems in the Kweneng, especially in the agricultural sector; summarizes population income, infrastructure, water and resource data on the district's communal zones; and makes recommendations for a communal development strategy for the district. The principal recommendation, that all water supplies should be mapped, led directly to the now completed Kweneng Water Points Survey.

Training for Development in New Settlements Ghanzi District, by Joyce Stanley (March 1982, 32 pages). This three-week consultancy, in the Western Hanahai CFDA, collected information on the problems of residents and groups in the area of resource management. Interviews were undertaken while the community was implementing a perimeter drift fence project. The report provided training guidelines for extension workers and community workers.

Communal First Development Areas as a Strategy for Rural Development. Rural Development Unit (November 1982, 132 pages). This volume was a compilation of ten already existing papers related to CFDA issues. Included were reports on communal development policy, CFDA planning, village planning and land use planning, as well as progress reports on CFDA planning activities in Ngamiland, Ghanzi and Southern Districts.

Land Use Planning: Ngamiland CFDA by H. Gelmroth and H. Bendson (December 1981, 163 pages). A small amount of funds were provided by DP 01 to complete work on the Ngamiland CFDA land use plan. Already existing planning documents were edited and compiled for publication in a single report.

The FAP micro-computer is still in service in MFDP, and has been of general use to record keeping and for monitoring progress of FAP projects. No information was collected on the seminar in FAP training.

C. Implementation

DP 01 was managed by the Communal Area Coordinator in RDU. It was used as a flexible fund for financing short-term projects which were of urgent use to districts in CFDA planning. It was also used to finance projects, such as the FAP training seminar and micro-computer, which were outside the CFDA's but related to the rural industry component of the RSG.

All studies were of high quality and appeared directly useful to district planning activities.

D. Impact

In the case of the planning consultancies, DP 01 served to facilitate completion of projects begun under other budgets, or which were one-time efforts not covered by other established projects. The communal study for Kweneng led directly to planning and implementation of the district's water point survey. DP 01 facilitated completion of the Ngamiland CFDA land use plan. Useful information was provided and widely circulated in all consultancy reports.

THE CORNELL WATER POINTS SURVEY - MINISTRY OF AGRICULTURE

A. Description

This project was begun in August 1979 and completed in December 1980. Most funds for this project came from non-RSG sources. The objective of the study was to provide a better understanding of water use practices and problems in the communal areas of eastern Botswana, so as to provide a basis for better informed policy making on water development and water and land management in communal areas. The study was carried out by two principal researchers from Cornell University, a Ph.D rural sociologist and a public policy analyst. Both researchers had extensive work experience in Africa, and the latter had worked in Botswana as a District Officer (Development) from 1972-1975. Additional research input was provided by a Cornell University Ph.D. candidate economist, who was in Botswana for nearly one year, by a Cornell Master's degree candidate in remote sensing, and by short-term input from several Cornell faculty, including an animal scientist, a range ecologist, and an agricultural economist. Substantial assistance was provided by the Ministry of Agriculture staff, including research assistants, enumerators, and other field assistants.

A variety of research techniques were employed in carrying out the study. Approximately 250 households were interviewed in 12 village communities. Information was solicited on water use practices, water costs, agricultural and especially livestock production strategies, household income and labor endowment, and community and group management of water points. Field surveys were undertaken on domestic and livestock water use at a variety of water points, including boreholes, hafirs, dams, and open wells. Data was collected on range condition and on the relationship between different types of water points and range degradation.

The researchers produced a series of reports describing the research, presenting research findings, and offering recommendations on water policy and planning.

B. Achievements

The research program achieved all of its output objectives. Research findings and recommendations were published in three major Ministry of Agriculture-Cornell University reports:

1. The Water Points Survey by Louise Fortmann and Emery Roe. (January 1981, 450 pages). The main study report, this document provides a detailed account of survey data, an in depth analysis of water use practices, and a summary of findings and recommendations.
2. Water Use in Eastern Botswana: Policy Guide and Summary of the Water Points Survey by Louise Fortmann and Emery Roe. (February 1981, 96 pages). This report summarizes the main study findings and relates them to key policy issues, such as costs and benefits of alternative water point types,

the relationship between water use strategies and land and water ownership, and various issues in private and public management of water points.

3. Keeping Cattle and the Cost of Water in Eastern Botswana by Charles Bailey (December 1980, 84 pages). Considering the costs of providing water for livestock in the broadest sense, the author documented the trade-offs herders make between the reliability, convenience and cost of alternative water points at different times of the year. The study compares the costs of constructing and operating different types of water point. The report concludes with broad recommendations to MOA on water policy for livestock development.

In addition to the three major studies noted above, six other studies or reports on related topics were published by MOA or Cornell University. These included a short history of water policy in Botswana, a method for rating cattle condition, a Masters Thesis on use of Landsat data for rangeland monitoring, and a key to maps produced by the research project.

The research team made extensive recommendations on water policy for agriculture and domestic use, especially for lands and cattle-post areas. Recommendations were made pertaining to group management of small dams, soil and water conservation activities of MOA, range ecology and range monitoring, communal area land use planning, and the activities of the Small Dam Building Unit in MOA. Specific recommendations were made to appropriate District Councils and Land Boards on steps that could be taken to improve the management of water resources in each of the twelve village study areas.

The Water Points Survey team presented its recommendations to seminars in MOA and at appropriate conferences involving district staff.

C. Implementation

The project experienced no major implementation problems. All of the researchers were highly qualified. Field activities, which involved 12 rural communities and over 250 households, were well managed, and in light of the difficult logistics were carried out with a high degree of coordination and efficiency.

The research team produced reports of high quality in a timely fashion. Major findings and conclusions were summarized in a clear and concise manner. The research team liaised closely with MOA and other Government departments throughout the course of the study, and kept officials closely apprised of findings and recommendations as they evolved. Recommendations were realistic and reflected a clear understanding of prevailing policy and technical constraints.

D. Impact

To date, the research has had very little direct impact upon water policy and water planning in eastern Botswana. Government has not acted formally on the Water Points Survey recommendations. A seminar organized by the Applied Research Unit in MLGL in March 1984 provided an opportunity for MOA, MLGL, and district representatives to comment on the survey recommendations, and the seminar acted on resolutions accepting or rejecting key recommendations. Most recommendations were accepted, but formal Government acceptance awaits action at other levels.

The study provided basic information on the interrelationships between land and water use patterns and land tenure, and is a useful primer on land and water planning in eastern Botswana.

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ANNEX II

AGRICULTURAL PRODUCTION AND INCOME

INTRODUCTION

Sub-purpose II of the Rural Sector Grant, as intended, has been used to encourage the development and implementation of programs for increasing productivity in arable agriculture in Botswana. In spite of drought conditions over the life of the project, it has been successful in stimulating village level initiatives and has provided the financial vehicle for an array of pilot or experimental sub-projects some of which are serving as village models on a countrywide basis.

The major objectives of this component of the RSG are to:

1. address the problems of rural employment and income generation;
2. support decentralized planning and implementation by supporting village initiated projects;
3. provide incentives for small farmers to join together and mobilize their own resources for development;
4. encourage Ministry of Agriculture field staff to work with farmers in assessing opportunities for small projects; and
5. allow the Government of Botswana to assist large numbers of rural dwellers with a relatively small amount of funds.

To accomplish these objectives the RSG financed the following projects:

1. AE 10 Small Projects
2. AE 11 Horticultural Estates
3. AE 15 Rural Afforestation
4. AE 19 Arable Lands Development Program Pilot Projects.

AE 10 - AGRICULTURAL SMALL PROJECTS

A. Description

The Small Projects Program (AE 10) was established by the Government of Botswana in August 1978 as a mechanism for responding to village level initiatives involving small scale agricultural infrastructure and production activities. Its major emphasis was to encourage inputs at a local level, or a 'bottom up' rather than a national 'top down' approach. Administered by the Ministry of Agriculture's Department of Field Services, this flexible fund can assist groups in a variety of efforts. It has included establishment of vegetable gardens and poultry projects, fishing groups, erection of drift fences to exclude cattle and other animals from crop land areas, building of storage and marketing facilities for crops and agricultural inputs, and the development of soil conservation and water resources for cropping purposes. This component of the RSG provides up to P5 000 for any production related activity initiated by groups of small farmers. Beneficiaries must contribute at least 10 percent of total costs in cash, kind or labor. These groups must demonstrate their capacity to maintain project infrastructure and manage project enterprises.

Small projects financed through AE 10 must meet the following criteria:

1. Assist in development of local community by either creating agricultural infrastructure or by increasing agricultural production.
2. That the community will demonstrate its need for and commitment to a project and its spirit of self-reliance by making a counterpart contribution to capital costs. It is expected that a counterpart contribution, in cash, kind or labor will be 10 percent or more and will be assessed on the basis and merits of the project.
3. To demonstrate that a viable community or group has the capacity to maintain the infrastructure or operate the enterprise funding the recurrent finance arising from the project is expected.
4. Projects will be developed on the basis of income distribution, employment generation, target groups, impact and dietary levels. It is expected that projects aimed at poorer income groups from female headed households and non-livestock owners will be preferred.

B. Project Performance

The AE 10 Agricultural Small Project is relatively simple in both design and function. The most complex component has been project review approval and implementation. However, over the life of the project this procedure has been simplified by

the MOA by gaining authority to approve all AE 10 small projects at headquarters levels and by delegating authority to the RAO to approve projects up to P2 000 in funding. To make the process even faster, the AID review team recommended that an assistant to the Principal Agricultural Officer (PAO) be appointed to follow through on day to day progress of project memoranda and to assist field staff in logistic support. However, no action on this recommendation has been taken.

Since the inception of this sub-project there has been a steady expansion in the number of projects approved each year. In 1978 only sixteen projects were approved. By 1982 the number had risen to 150 approved and implemented projects.

Sixteen different categories for projects have been identified with fencing selected by 51 percent of the groups, gardens selected by 26 percent and the other fourteen categories (poultry, fishing, dosing tanks, woodlots, etc) by only 23 percent of the groups.

Drift fences. These are probably the most important single activity in terms of plant protection, development of village infrastructure and providing employment. During the life of AE 10 over 1 200 km of drift fences have been erected on 79 different projects. Also, this activity had the largest amount of budgeted funds (P188 502) and the most beneficiaries per project (99). By any measurement, the most successful activity and far exceeding expected end of project accomplishments.

Evaluation: strongly positive.

Gardens. The second most important activity in terms of project selection by the village, but probably most important in terms of increased food production and agricultural diversification, income generation, improvement in nutritional intake, particularly by children, and target group identification. Forty garden and horticultural projects have been implemented at a budgeted cost of P42 223 and with an average of 38 beneficiaries per project. Several of the gardens in the Mahalapye area were commercial in size and production capability, exceedingly well managed, quite independent of financial support from the project and profitable. These accomplishments are noteworthy in view of the drought conditions prevailing and budgeted funds of less than P5 000 per garden. In-kind contributions from members are probably exceeding 75 percent of the costs. When compared to the cost of production and unit efficiency of the Horticultural Estates in AE 11, these larger garden projects are a much better investment of scarce funds and are in the private sector. Again, end of project status far exceeds expectations.

Evaluation: strongly positive; allocation of funds for gardens should be increased significantly.

The other fourteen project categories selected by village groups have not been quite as successful yet they have served a useful purpose in that they were conceived, designed and

implemented at the village level using resources provided by the MOA at all levels. It was a learning process in community participation and development that would be hard to value.

Evaluation: strongly positive. In many cases continued technical assistance will be required to support such projects such as poultry, woodlots and nurseries, grain mills and fishing groups. Incorporating the village woodlot component of AE 15 into the small projects activity would be desirable if good technical assistance and backstopping were provided by professionals.

C. Conclusions

AE 10 Agricultural Small Projects delivered what the RSG was designed to do in the allocated time and within budget limitations.

1. It generated an increased volume of small projects planned at the village rather than national level, which are presently being implemented by the farmer.
2. It demonstrated that the community or groups in the community have the capacity to maintain the infrastructure and operate the enterprise with income derived from the project.
3. It assisted district level field staff to increase their capacity to formulate and implement production oriented projects in the non-livestock agricultural sector.
4. It assisted in the decentralization of authority to the Regional Agricultural Officer by delegating approval authority for sub-project activities that cost less than P2 000.

D. Recommendations

1. The AE 10 Small Projects portion of sub-purpose II should be continued and expanded along with increases in absorptive capacity and portfolio of projects should be expanded to include:
 - a. small woodlots
 - b. school tree nurseries and woodlots
 - c. garden projects with fruit and forest tree production
2. It is recommended that the maximum level of funding per activity be significantly increased.
3. The amount and quality of technical advice for projects should be improved. There are several ways this can be accomplished.
 - a. The MOA should place additional emphasis in the project memorandum on a clear description of the source and amount of technical advice to be provided to each project.

- b. MOA should specifically review the technical advice component and identify sources of technical assistance, preferably within Botswana, but, if necessary, from sources outside of Botswana.
 - c. The MOA should recognize and promulgate policy that additional Department of Field Services (DFS) and Research staff time will be required to support new initiatives.
4. An end-of-year review of all projects should be carried out, at least on the national level, preferably in the regional office, in which relevant Research and DFS staff would sit together and evaluate the technical, program and economic successes and problems. Discussions of complementary activities and estimation of spread effect should be encouraged.
 5. Encourage the design of projects to fit what is needed then adjust funding to the request rather than adjusting the design to available funding. However, a maximum funding amount per project should be retained to assure that AE 10 remains a small projects fund.

AGRICULTURAL SMALL PROJECTS

Years 78/9 - 83/84

Project	No Of. Projects	Beneficiaries Total (or Participants)	Remarks
Drift Fence	79	7924*	1,225 Km
Gardens	40	1501*	
Poultry	9	114	
Fishing Groups	3	96	
Small Stock Dosing	8	40	
Woodlots	4	5395*	
Other	<u>12</u>	695	
Total	155		

*Beneficiaries include the whole village

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The following tables provide an analysis by type and size of project.*

AGRICULTURAL SMALL PROJECT SPENDING BY TYPE OF PROJECT

Type of Project	Total Obligations	Number of Projects	Average Size of Project	Beneficiaries Per Project
Fencing	P 188 502	79	2 386	99
Gardens and Horticulture	42 223	40	1 056	18
Poultry	16 312	9	1 812	14
Woodlots	8 652	4	2 163	631**
Fishing	8 076	3	2 692	14
Dosing Group	4 016	8	502	25
Other	11 564	7	1 652	47

**Beneficiaries include the whole village.

AGRICULTURAL SMALL PROJECTS SPENDING BY SIZE OF PROJECT

Size of Project	Total Obligations	Number of Projects	Average Size of Project	Beneficiaries Per Project
P500 or less	11 727	37	317	27
P500 to P1000	17 864	24	744	54
P1000 to P2000	50 335	32	1 573	200
P2000 to P3000	70 610	29	2 435	112
P3000 to P4000	22 624	7	3 232	56
P4000 to P5000	49 902	11	4 536	206
Over P5000	56 283	10	5 628	56

AGRICULTURAL SMALL PROJECTS SPENDING BY YEAR

Year	Total Obligations	Number of Projects	Average Size of Project	Beneficiaries Per Project***
1978	11 752	16	734	50
1979	33 833	23	1 471	89
1980	49 717	30	1 657	140
1981	63 972	39	1 640	182
1982	120 071	42	2 859	55
Total	P279 345	150	1 862	110

***This only includes data for those projects which gave information about beneficiaries).

*Source. Rural Sector Grant Amendment, Annex D, July 1983. The figures cover the period 1978 to 1982.

Regional distribution of project activities illustrates:

AGRICULTURAL SMALL PROJECT SPENDING BY REGION

Region	Total Obligations	Number of Projects	Average Size of Project	Beneficiaries Per Project
Central	62 841	30	2 095	231
Francistown	13 815	7	1 974	350
Gaborone	105 923	37	2 863	68
Maun	51 097	28	1 825	48
Southern	40 107	44	912	48
Western	5 562	4	1 391	1 435*

*Source. Rural Sector Grant Amendment, Annex D, July 1983. The figures cover the period 1978 to 1982.

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AE 11 - HORTICULTURAL ESTATES

A. Description

The creation of horticultural estates is one initiative in a package proposed in 1977 to foster a horticultural industry in Botswana. Revenue generated annually from the sale of horticultural products in Botswana is about P4 million. The greatest part of local production comes from the Tuli block farms. About 60 hectares of this production area is dedicated to citrus fruits and about 180 hectares to vegetables. There are fewer than thirty small growers (commercial) of fruits and vegetables in Botswana. Four of these, with a combined annual output of around 120 tons from 12 hectares, are situated in the Southeastern Region, mainly supplying Gaborone and Lobatse. There are about twenty marginal commercial producers, with varying degrees of technical skill and universally low capital inputs in other regions of Botswana. Their total production from about 15 hectares does not exceed 220 tons per annum. Present national output represents only about 22 percent of estimated demand.

With this kind of potential it seemed reasonable to design a project that would test the feasibility of vegetable production by small groups of farmers. Two pilot horticultural estates were proposed, one to be located at Mogobane in the Southeastern District and a second at Mathubudukwane in the Kgatleng District. Each estate was to cover ten hectares and eventually support twenty members. Irrigation and site facilities installation, transport, a horticultural advisor and a loan fund were to be provided by grants. Members would carry operating and production costs plus interest charges starting from the harvest of the first crop in order to sustain a revolving fund.

RSG support for Mogobane, all of which was to be provided in Year 1, was budgeted at P99 555. In Year 2 of the RSG, the Mathubudukwane estate was scheduled for development. Support to this activity had been tentatively budgeted at P125 124.

Approval of the Project Memorandum for AE 11 was delayed until January 1981 due to the USAID/W review and revision of the pesticide risk/benefit analysis. During the delay the Mogobane plan was redesigned to:

1. adjust for a shortage of water at the dam site; and
2. allow for a reassessment of the optimal size of group schemes while still in the pilot phase.

The reassessment of optimal size was based on the experience of Kolobeng Horticultural Cooperative Society located at Manyana and the Ithuteng Agricultural Management Association (AMA) at Mankodi. Both of these projects were developed in their current form with funds from the Overseas Netherlands Volunteers (ONV). Their work indicated that smaller plot sizes were required to reduce risk of crop failure and to provide the opportunity for

training in intensive management practices; that high initial membership turnover and group dynamics problems were to be expected --further emphasizing the need for smaller scale operations; that irrigation facilities should be kept as simple as possible within the engineering constraints imposed by local conditions; that manpower constraints of the Horticultural Department called for a slow phasing of new estate creation; and, that improved marketing procedures would be a critical element in creating viable opportunities for smallholder vegetable production.

Based on these and other considerations, an addendum to the original Project Memorandum was prepared that carried all Year 1 RSG funds into Year 2. Redesign and costing was done to allocate funds among the three estates at Mogobane, Manyana and Mankodi. The three schemes were to be operated under the general supervision of the existing horticultural advisor to the Kolobeng group. A second horticultural advisor had been identified to work exclusively with the Mogobane group. All three schemes were to receive extension support from the MOA Agricultural Demonstrators (ADs) assigned to their areas.

During 1981/82 the major activities were to be the construction of two houses at Mogobane (for the horticultural advisor and AD), the purchase of a vehicle for the Mogobane group and the construction of weirs and pipelines at Manyana and Ithuteng. The proposed activities at Manyana and Ithuteng were intended to increase the efficiency of these two schemes, while the activities at Mogobane were intended to provide the basic structure and equipment needed for production and marketing of vegetables.

RSG contributions to the project were to be the house construction at Mogobane, pick-up for Mogobane, the weirs at Manyana and Mankodi, fencing, tools, equipment and horticultural supplies needed at all three sites, and transport expenses for the horticultural advisor based at Manyana. The revised budget allocated P42 499 to Mogobane, P23 582 to Manyana and P18 223 to Mankodi and P9 050 for contingency.

B. Objectives

Increased production of vegetables and fruits to substitute for those already being imported is one of the primary objectives of this plan. Other objectives of equal importance are raising on-farm incomes for the poor majority who own a few or no cattle and presently cultivate small parcels of land, and diversification of agricultural production in activities with income-generating potential. It was expected that this project would:

1. demonstrate the economic viability of the estate concept;
2. result in a rapid decline in imported vegetables and fruit;
3. produce new markets and improved marketing conditions for small producers;

(1)

4. provide increased incomes for grower members; and
5. provide technical, management, and financial assistance to producers outside the estates.

C. Project Performance

1. Mogobane

a. Achievements

First year activities were funded from GOB DDF allocations and the group was able to purchase necessary materials for fencing, well lining, water reservoir, pump, irrigation pipe and fittings, and enough cement to start the irrigation sluices. An AD was assigned to the project and was able to supervise land clearing and stumping, fencing, and installation of pipe necessary for Year 1 and appeals to the Water Apportionment Board to raise the level of the Mogobane Dam were made. Also, the MOA signed a cooperative agreement with the nearby Farm Development Company (FDC) to facilitate water allocation, exchange of technical information and joint transport marketing.

Year 2 activities were enhanced when the advisor at Manyana and Mankgodi schemes was assigned as the horticultural advisor to Mogobane and overall supervisor of the three estate projects. A full-time horticulturalist (volunteer) arrived in May 1981 and supervised the building of the first irrigation sluice and planting of one maize and one cabbage crop. A solar pump was installed and tested. This pump supplies water to a reservoir which serves a 500 m² nethouse used for seedling production and some cultivation of tomatoes and spinach during the summer growing season. The house and portable storage shed was completed, a transport vehicle purchased and a field stand for marketing was set up in Gaborone. Land preparation for the second crop was completed using a tractor. All cultural preparation of the land and weeding will be done with mules. The volunteer horticulturalist and AD initiated on-the-job training of the group's officers and members: seven women and one man.

Despite aggravated drought conditions and a shortage of water for irrigation purposes, 1982/83 was a banner production year. Advanced land preparation and excellent timing for planting the crop enable the members to grow a maize and cabbage crop under natural rainfall conditions. The crop came in early and members were able to benefit from high market prices. News of success travels fast and membership jumped to twelve women and three men. In-service training continued with the members and was started on a limited basis with younger family members.

Year 4 (1983/84) has been difficult. There has been no water in the dam and only a small amount from the boreholes. An early crop of maize and about half a crop of spinach and cabbage will enable the estate to cover costs and provide a small

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profit. Some members have left to go on drought relief, and others are working only part time. Only the spirit of the volunteer and the AD and the exceptionally good training of the volunteer have kept things going. Timing the crops around water needs and high market prices, innovative use of water conservation procedures and cultural practices, judicious selection of crops and crop varieties (most tolerant of drought), use of the nethouse to concentrate production and cut down on evapo-transpiration and other good management practices have meant survival for the Mogobane estate.

b. Implementation

Although implementation problems were severe and the project got off to a slow start, it has moved ahead at a rapid pace. Water is still a problem and unless adequate supply can be assured, the project will flounder. Member management capacity is still a problem. Preoccupation with the physical infrastructure and growing crops has left little time to train members in all phases of farm management. This problem is quite serious and must be considered when a cost analysis of estates is made. Are the management capabilities of the horticultural advisor to be considered as initial investment, and consequently not paid for by the members, or should it be part of the cost of production? At the present time management of the estates is a free service to the members. Institutionalization of the project hinges on the members managing their own estate or paying a manager out of revenues.

c. Production

The Mogobane scheme, starting late in 1981, was able to produce only P1 721 worth of output as opposed to a projected P5 000. In 1982 output was P9 393, or nearly P400 over target. Since costs were considerably below forecasts, the net profit (before depreciation) per farmer was P795 in 1982, above the target figure of P140 in Year 2, and exceeding the end of project target of P470.

d. Monitoring Arrangements

The assistant horticultural officer in the MOA has primary responsibility for monitoring this project. Day to day operations are monitored by the Dutch volunteer assigned full time to Mogobane and assisted by the AD from the MOA.

Financial monitoring of the Mogobane group is to take place on an annual basis by the office of the Commissioner of Agricultural Management Associations. A bookkeeping system appropriate to the needs of the members and auditors has been initiated by the volunteer.

2. Manyana and Mankgodi Estates

a. Achievements

Manyana and Mankgodi, formerly the Kolobeng Horticultural Cooperative Society and Ithuteng Agricultural Marketing Association,

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respectively, came into the scheme in the second year. Set up in essentially the same manner as Mogobane the inputs are almost identical. To cover day-to-day operations the Horticultural Advisor (Dutch volunteer) is stationed at Manyana and the AD at Mankodi. Marketing of produce is done locally and in Gaborone. A single transport is shared by both estates for marketing purposes. Although very little production has taken place in 1983/84, they do have an adequate water supply if managed properly. An anticipated shortage of water, a very late start on the rains (poor timing) and plots spread over the entire estate rather than concentrated for good water conservation are part of the reason for failure in production. In this case management capabilities are related to training and experience, the volunteer being trained in Landscape Architecture with almost no experience in production horticulture.

Land is being prepared for the 1984/85 growing season and plans are underway to acquire a 5 hectare adjacent plot of land. This area has a better soil type and will allow for a crop rotation on an annual basis.

b. Implementation and Problems

The same problems exist as in 1982, difficulty in obtaining engineering and design services and establishing an accounting system simple enough to be undertaken by its members and accurate enough to improve group financial management. Both the horticulturalist and AD are working to solve both problems. Being registered as Agricultural Management Associations will help.

High membership turnover is still a problem with both groups. This can be expected under conditions of poor production and low income. Drought relief will always look better to some people, particularly if it will provide them with an income. At present each estate has ten members, about 80 percent being women.

c. Monitoring

As in the case of Mogobane, the Assistant Horticultural Officer in Gaborone has primary responsibility. A Dutch horticultural advisor and AD has been added, and they are responsible for Manyana and Mankodi. Additional assistance is available from extension personnel. Financial records will be audited by CAMA now that both are registered as AMAs.

3. Mathubudukwane

a. Achievements

Originally designed as a fruit and vegetable project, experience has dictated a change to only vegetables. Site development was completed in late 1983 and a crop planted for the rains in 1983/84. This estate has the most reliable water source and could evolve as the most profitable of all the estates. The group has sold some of its crops already and has about one half of its total land in production. It is too early to make predictions but excellent yields of high quality vegetables look possible.

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b. Implementation

Site development is complete and no water problems are apparent for the near future. Like the other estates, book-keeping will be troublesome, but with the experience gained it will be managable. Eventually it will be necessary to provide good bookkeeping assistance to all estates. The horticultural advisor and AD are not trained accountants and find it very difficult training group memebers.

D. General Discussion

1. Technical

Water availability during dry years is a serious constraint to production on all the estates. At Mogobane the alternative choices for resolving the problem are de-silting at the Mogobane dam site or digging wells in the Taung River. At Manyana and Mankgodi a simple, cost effective system is needed. Engineering studies indicate that mule powered pumps might be satisfactory. These have low capital and recurrent costs but are limited as to flow of water. Mathubudukwane seems to have the least serious problem and the water engineer from the MOA has recommended a multi-level pumping set-up that will accommodate for the risc and fall of the Marico River. Water supply issues must be resolved soon if Mogobane, Manyana and Mankgodi are to remain viable.

The current horticultural advisors and ADs are dependent upon research results that have been translated into extension information. They do not have the time or expertise to conduct all the necessary tests to determine varieties, fertilizer rates, pest control procedures, spacing distances, etc. This information comes from the Horticulture Research farm at Sebele and the out-reach stations at Kanye and Bobonong through the publication Agrifacts. This information is the most up-to-date available in Botswana and considers both the marketing and production aspects of vegetable farming. Phase I RSG funds are now being used to support a research Horticulturalist and economist, and their funding should be continued.

Crop diversification is an objective of this project that might receive a little more attention, particularly if the water crisis is resolved. Cowpeas should be tried on some of the estates as an alternate crop. It has good market value, requires no special attention, is drought tolerant, fixes nitrogen in the soil and after harvest the plants make excellent animal fodder. Other possibilities for diversification are seedling trees for the AE 10 project, citrus and small scale seed production (vegetable and/or legumes).

2. Management

Project initiation and implementation was delayed at all the sites because of the availability of horticulturalists and ADs. These advisors are critical to the project and the MOA

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should assure the provision of ADs as vacancies occur. Also, full time horticultural advisors should be at each project, and projects should not be started unless an advisor is on post. The advisor issue brings up another point for consideration. At every estate the horticultural advisor acts as the farm manager/bookkeeper for the group. This procedure does not lead to institutionalization but makes the management of the farm part of the infrastructure and comes without charge to the members. It seems that if these projects are to be eventually free-standing and self-sustaining, management should be part of the institutions and chargeable against farm income. This could be resolved by using the horticultural advisor to train a designated member of the group as the farm manager. Since the manager requires special skills, understanding and insight, the position should not be taken too lightly, but chosen with much care.

3. Economics

Key constraints to small holder vegetable production are usually economic. Egner and Martin pointed to this in their report on 'Horticulture in Botswana' and the farmers in the Kolobeng groups experienced this in their marketing activities. Returns to labor are restricted due to inefficient farming practices and competition from South African growers. Simulations of commercial small holder production at the Sebele Horticulture Research Farm indicate productivity can be doubled over average performance on small holder estates. Several of the more efficient growers on the larger AE 10 gardens have demonstrated the same point to me. As the production increases, marketing becomes a constraint. To be viable, these small holder schemes must find a way to provide their markets with a constant supply of a uniform product. The South East Growers Association (SEGA) has been formed to overcome the various constraints to efficient marketing. Phase I of this project is also paying for an agricultural economist who will be of considerable assistance to the farmers.

4. Beneficiaries

The four estates have a direct impact on 44 producers plus about 30 casual workers (family members working on the estates). About 80 percent of these beneficiaries are women. There will be spread effects as their incomes are converted into effective demand for other goods and services supplied in the rural areas. Also, an upgrading of nutritional intake will be apparent as more vegetables are consumed. It is estimated that one-half cup of vegetables (leafy) per day provides a child with the minimum daily requirement in essential vitamins and minerals.

5. General

There is no evidence yet that these estates will ever be financially self-sufficient, particularly if they start to depreciate their capital investments. However, because of the large number of variables at play, many beyond the control of the farmer, it

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would be unfair to judge this project on only three years of results. It would be interesting to compare the inputs and outputs of these estates with some of the larger AE 10 gardens in the Mahalapye area. Several of these gardens are 8 hectares in area, are producing essentially what the estates are capable of doing, are marketing all of their own produce, are part of the private sector, and the seed-money costs are P5 000 or less.

E. Conclusions

AE 11 Horticultural Estates did essentially what it was designed to do.

1. The project has served as a pilot activity to test the feasibility of small scale horticultural enterprises in the region, and it has generated agricultural sector employment.
2. It has dealt squarely with the target groups: female headed households from low income groups and non-livestock owners.
3. It has provided the small holder with an opportunity to diversify from the traditional sorghum-maize cropping system.
4. It has rendered assistance in marketing to producers, through extension and organization of horticultural markets.

On the negative side:

1. It has not demonstrated yet that it is a viable system that can substitute for the importation of vegetables from countries surrounding Botswana.
2. It has not yet provided technical, management and financial assistance to producers outside the estates.

F. Recommendations

1. This project has served as an excellent experiment but it is too early to evaluate results. It will take at least three more 'normal' years before that can be accomplished with any degree of reliability. In the interim the following is recommended:
 - a. Continue the project for at least three more years or if necessary until the drought has ended and a reliable source of supplemental water is available.
 - b. Continue with only those estates for which funds have already been approved.
 - c. Provide only a minimum of funding for operational purposes; no funding for expansion of the capacity of existing estates.
 - d. Investigate the possibility of private sector grants to the estates.

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- e. Continue to support the research horticulturist and agricultural economist at the research station in Sebele from project funds.
2. Expedite completion of engineering studies on water management. If necessary bring in consultants from centrally funded Water Synthesis II project.
3. Explore the possibility of raising cowpeas for market and for seed production, on the estates. A new drought tolerant variety, ER 7, has just been released in Botswana but seed supply is short.
4. The horticultural advisor and AD are critical to the success of the project and should be at their post before new estates are opened.
5. The following are suggestions for trials on the estates:
 - a. citrus production
 - b. vegetable seed production
 - c. mulching systems and drip or trickle irrigation
 - d. fruit and forest tree nurseries
 - e. small woodlots
 - f. melons and cucumbers (winter season)
 - g. white potato production.

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AE 15 - RURAL AFFORESTATION

The Rural Afforestation Program is divided into two components: AE 15 (I) Establishment and Expansion of Government Tree Nurseries, and AE 15 (II) Small Afforestation Projects. The objectives are:

1. to provide individuals, village groups and non-governmental agencies with tree seedlings for afforestation, amenity and horticultural purposes; and
2. to financially and technically assist village groups and non-governmental agencies in the establishment of village woodlots for the purpose of providing firewood, posts and construction material for local use.

AE 15 (I)
ESTABLISHMENT AND EXPANSION OF GOVERNMENT TREE NURSERIES

Until 1981 the Ministry of Agriculture's (MOA) Forestry Section operated six nurseries with a combined production of 114 000 seedlings. Production in these nurseries was supposedly geared to the Forestry Section's annual planting programs and demands for seedlings from other sectors of the community are said to have not been fully met in the past. Thus, the AE 15 (I) component was funded under the RSG in order to create three new tree nurseries for the Forestry Section of MOA's Division of Land Utilization and expand the equipment, tools and stores it has at its disposal. The three new nurseries originally scheduled for construction during year one were to be located at Ramatlabama, Serowe and Kasane. However, the Forestry Section decided to stagger construction over three years, and on the recommendation of the Year 1 RSG review team, changed the location of the Serowe nursery to Kang. The Ramatlabama nursery became fully operational in FY 1981/82, and the Kang and Kasane nurseries in late 1983. Of the P66 362 warranted for nursery construction, P50 768 has been spent to date and an estimated P5 000 in outstanding expenditures remain to be reconciled. A description/analysis of each nursery is provided below.

A. Ramatlabama Nursery

Construction and equipping of the Ramatlabama nursery was completed on schedule. The nursery became fully operational in Year 2 of the RSG and has the capacity to produce 20-25 000 seedlings per year with a staff of one nursery manager and ten industrial class laborers on a site of about 0.125 hectares. Production in the nursery consists predominantly of pole and firewood species (mostly eucalypts: Eucalyptus teriticornis, E. camadulensis, E. grandis, E. maidenii, E. microtheca) with some ornamentals (Jacaranda Mimosifolia, Bodonia sp., Cupressus sp.) and fruit trees. Seedlings destined for individual and community plantings are sold with prices varying from P1.25 for a fruit

tree to P0.20 for gums. All seedlings are produced in polythene sacks under nylon shade netting with potting soil transported from sixty kilometers to the nursery site.

Although the concept of decentralized nurseries is an excellent one and should be encouraged, placing a nursery at Ramatlabama was a poor choice. The majority of the nursery's production goes to the Good Hope plantation, located about half way between Kanye and Ramatlabama. Seedlings for this plantation's yearly requirements of only 2 000 trees could easily be transported from Kanye. Also, as stated in the RSG First Annual Review, the nursery can only serve an area of about one third of a circle, given its location directly on the South African border.

Additionally, the design of the nursery is excessively expensive resulting in an average cost per seedling of about P1.25, including most operational costs and overheads, but excluding buildings and equipment. The tractor and implements are basically used to transport trees to government plantation sites and to transport firewood from natural forest stands to the village, for plowing firebreaks and maintenance of Good Hope plantations. This equipment is neither needed nor used in the nursery itself, other than to transport potting soil from 60 km away.

The building at the nursery site is also underutilized, with about 20 percent of its 92.25 m³ surface area in actual use. The staffing level is also disproportionately high. A nursery of 0.125 hectares should be able to run with a staff of one manager, two full time laborers and two or three seasonal laborers. Although nylon shade netting or similar shading devices are essential in commercial nurseries or where frost is a problem, they can be considered a luxury in Ramatlabama, given the quantity of trees produced and the fact that most species only need shade for the first two weeks (this could easily be provided by trees or locally constructed devices). Production in the Ramatlabama nursery continues to exceed demand in the surrounding area. At the end of each planting season, 30-70 percent of the nursery's yearly production remains and is either sold to the surrounding villages for planting--with obvious meager chances for survival--or destroyed.

The nursery manager is operating the nursery in a manner consistent with typical nursery practices in Southern Africa. He has also taken into account several recommendations of the Year 2 RSG review team, particularly with regard to keeping records of sowing dates, numbers sown, germination times, etc. However, several issues remain to be addressed.

1. Transporting potting soil from a distance of 60 km appears to be unwarranted, as there seemed to be an abundant supply of cattle manure available for making standard potting mixtures with local soil;

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2. Seedlings are neither sun-hardened nor water-hardened before distribution/planting. They spend their entire time in the nursery under netting and are watered in a normal fashion until distribution. This lack of hardening can, in some cases, reduce survival rates by 15-20 percent.
3. Nearly 70 percent of the nursery's production is in Eucalyptus sp.. However, when the nursery manager was asked what species the local villagers preferred to plant, he responded that most people preferred fruit trees and ornamentals to eucalypts and that he was not able to produce enough of the former to meet local demand.
4. All nursery stock was seeded or rooted in polythene sacks of various dimensions. Although potting can increase a seedling's chance of survival, they are heavy and difficult to transport in); quantity.

Lastly, the nursery manager was unable to sell or outplant last year's (1983) nursery production due to the drought and intends to hold the seedlings over for the next (October 1984) rainy season. This is not a good nursery practice as

1. the seedlings roots are already penetrating ground (and no root pruning is envisioned and
2. the seedlings will be too large to successfully outplant by October 1984.

It is recommended that these seedlings be destroyed and new ones prepared for the next planting season. This action will also more fully occupy an otherwise unoccupied labor force.

B. Kang Nursery

After examining the alternatives available within the Serowe area, the Forestry Section concluded that the Brigade's nursery at Serowe was capable of meeting present demand and that the capacity of the nursery could be expanded to meet medium-term requirements. Also, the Government concluded that the development of the Matsheng Land Use Plan would be greatly facilitated by a nursery in the area and the establishment of another AE 15 woodlot at Kang could easily justify transferring the nursery from Serowe to Kang. However, difficulties in nursery site selection and in assigning a MOA forester to Kang delayed nursery establishment until late 1983. The original assumption that Kang nursery would provide seedlings for MLUP is now not valid given the establishment of a nursery at Hukuntsi. However, the location of the nursery is still justified as demand for seedlings appears quite high. (One individual farmer intends to establish 50 hectares of Eucalyptus sp. plantations.)

Kang nursery is now fully operational with a current production of about 15 000 seedlings and a potential production of about 25 000. All ordered project commodities have arrived and

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a small office/storage building has been constructed at the site in line with previous recommendations. Species produced are predominantly eucalyptus (E. camaldulensis, E. teriticornis, E. sidercoylon, E. interteta) plus some ornamentals (Dodonia sp. and Syringa sp. and some Australian acacias, notably A. coricae and A. victoria.) Worth mentioning is an Australian provenance of E. camaldulensis which showed considerably better form and growth--in the nursery--than South Africa or local provenances found in other GOB nurseries.

As a whole, the nursery is functioning extremely well and the MOA forester has demonstrated good technical skills and excellent initiative in operating the nursery under fairly adverse conditions. In particular, the MOA forester has ordered his own seed (what appears to be good provenances). intends to experiment with species other than eucalyptus, has constructed his own shade netting from burlap sacks and pieces scavanged from other nurseries, has developed a local potting medium, and keeps excellent nursery records.

While the Kang nursery is technically sound, several problems remain which are basically out of his control. These are:

1. The nursery site. The original site was to have been adjacent to the 13 hectare experimental agriculture site of the Matsha Brigades. For some unknown reason, the site was changed and the nursery was established in the perimeter of the Kang Woodlot. While this is satisfactory, particularly in terms of transport, the change has resulted in somewhat strained relations between MOA and the Brigades (as described in detail in the Kang Woodlot section). Roles and responsibilities between MOA and the brigades are still unclear and need to be agreed upon and formalized in writing for purposes of project continuity.
2. The labor force. A labor force of nine industrial class workers is again excessive for small production nurseries. More importantly, the nursery workers are not Kang residents but have been assigned from the Gaborone nursery to Kang by the MOA. This has resulted in conflict between nursery staff and Kang residents seeking remunerative employment. Additionally, housing has not been provided and these workers are now living in tents at the nursery site. Given the situation, the evaluation team recommends that MOA re-assign these laborers and hire up to five industrial class workers directly from the Kang community and additional casual labor as required.
3. Capital equipment. The sub-warrant for Kang nursery establishment called for the purchase of a tractor, trailer, moldboard plow, disc plow, sub-soiler and trailer, and the construction of a small office/storage building. However, there was no provision for hand tools or shade netting as was included in the original Project Memorandum. The MOA forester has

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had to scrape and scrounge used items from other nurseries in order to achieve his objectives. The evaluation team would therefore recommend that MOA use approximately P2 500 of any RSG Phase I carry-over funds to supply this equipment.

4. As regards the tractor and attachments, their purchase was totally unnecessary for either the nursery or the woodlot. Site preparation in sandveld conditions requires at most a sub-soiling (which can be done by animal traction) and hand cultivation/maintenance.

C. Kasane Nursery

The Kasane nursery became fully operational in October 1983 with all equipment purchased and office/storeroom building constructed at that time. Although the evaluation team did not visit the Kasane site, quarterly reports from the MOA Forest Officer indicate that production is about 15 000 seedlings yearly including some indigenous species for the Chobe Forest. Most seedlings appear destined for MOA plantations. It also appears from correspondence that MOA tried to follow Year 2 RSG review recommendations for nursery establishment by limiting the size of the office/storeroom, by sharing capital equipment between Kasane and the nursery at Kachikau, and by limiting the number of laborers employed at the nursery.

D. Summary of Findings and Recommendations: AE 15 (I)

As a whole, the nursery component of the Rural Afforestation Program achieved its objective of providing additional seedlings, but in the case of Kasane and Ramatlabama, the majority of seedlings go to government plantations instead of individuals, village groups and non-governmental agencies as was originally intended. This would lead one to believe that the demand for seedlings by the private sector is not as great as originally thought, that the species being provided are not necessarily the ones desired, or that the MOA has been lacking in providing extension services for tree planting activities. The evaluation team believes that it was probably a combination of these three factors which resulted in this component's less than optimal performance. Decentralized government nurseries are an excellent concept, but care should be exercised in order to ensure that there is a definite need for the nursery, that it provides appropriate seedlings, and that it will be able to serve the widest possible area and population.

In terms of replicability, the design of all three nurseries was excessively expensive given actual seedling demand. This has resulted in one of the highest subsidized costs per seedling in Africa, without considering capital depreciation and supervisory costs. The objectives of decentralized nurseries are to provide quality seedlings of people's choice to those desiring them, at the closest possible distance to the planting site and at the lowest possible cost, subsidized only if necessary to encourage planting. The AE 15 (I) project has, unfortunately,

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done little more than channel commodities to the Forest Section, building its infrastructure but not its ability to provide appropriate seedlings at a reasonable cost. However, to their credit, MOA has attempted to address some of the above concerns (better record keeping, reduced labor input, smaller buildings, less capital equipment, etc) in the design of the Kang and Kasane nurseries and should be able to establish nurseries elsewhere in Botswana, using their own resources providing the following points are taken into consideration.

1. The size of the nursery and its production should be based on probable demand.
2. Staffing of the nursery should be based on its production; one nursery manager plus two permanent laborers and three seasonal workers is usually sufficient for a 20 000 seedling output.
3. The use of a tractor and implements for a nursery with production of 20 000 seedlings is hard to justify. It is also questionable whether its use can be justified for plantation/woodlot site preparation and maintenance given their small size and the possibility of using animal traction, hand labor or at the most, renting a tractor. However, their use could be considered if the tractor and implements would be shared or integrated into other activities in the village(s) served by the nurseries.
4. Large P10 000 store/offices can in no way be justified. A small vermin-proof tool/seed/equipment storage shed with a small office annex not to exceed a total of 30 m² is all that is necessary.
5. The use of nylon shade netting, particularly in frost free areas, is an expensive luxury. Most species (including Eucalyptus sp.) can be started under shade trees and then gradually be set out to be sun-hardened.
6. Nursery managers should be encouraged to develop local potting mediums, experiment with new species (exotic and indigenous), and new techniques (bareroot stock, direct seeding, stumps, smaller polythene bags, etc), not only to reduce production cost but to provide a wider variety of seedlings and add to the sector's information base.
7. As regards use of any carry-over funds from RSG Phase I, the evaluation team recommends that Kang nursery be given priority and that MOA prepare a Project Memorandum not to exceed P2 500 for additional nursery equipment (including shade netting as frost is a problem in Kang, and hand tools).

Lastly, the Government should actively encourage and support the development of AE 10 'mini-nurseries' (less than 5 000 seedling production) both in the private (individuals, village groups, brigades) and the public sectors (schools, training centers,

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horticultural estates, government institutions, etc). These organizations have the potential of greatly expanding seedling distribution and accessibility while drastically reducing seedling costs.

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AE 15 (II) - SMALL AFFORESTATION PROJECTS

Given MOA's limited capacity to develop and manage woodlots, plantations and natural forest stands, it has chosen to leave the task as far as possible to the private sector, limiting its role to provision of extension advice, public education, production of seedlings, training, research and financial assistance. To this end the MOA's Forestry Section encourages individuals, village groups and non-governmental organizations to establish artificial plantations and woodlots not only to ensure a continued and sustained production of wood for building materials, fence posts and fuel but for erosion control, import substitution, employment and income generation purposes as well. The AE 15 (II) Small Afforestation Project, funded by the Rural Sector Grant, was to provide a framework for government assistance to plantation and woodlot projects with the above aims.

To date, this component has funded small afforestation projects in the Matsheng, Takotokwane, Palapye, Kang, Mochudi, Bobonong Itsoseng and Mahalapye. Of these, the evaluation team visited all sites except Bobonong and Itsoseng. Details of each sub-project visited, including objectives, achievements, performance and recommendations are provided below.

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WOODLOT MANAGEMENT PLAN FOR THE MATSHENG VILLAGES

A. Objectives and Achievements

The objectives of this sub-project are to:

1. Manage the degraded savannah woodland between the villages of Lehututu, Tshane, Logkwabe and Hukunsti using a coppice-with-standards management system; and
2. Initially, establish 30 hectares of trial plantations (woodlots) divided into four plots of equal sizes (7.5 hectares), one being located near each village.

Funds of P19 088 were subwarranted to the Matsheng Village Development Council (VDC) in FY 1980/81 but due to the absence of a project manager until FY 1981/82, no expenses were incurred. The arrival of a temporary project manager in 1982 accelerated the establishment of the woodlots (as well as VDC enthusiasm) and at that time woodlot sites were either partially or totally cleared and fenced in all four villages. After the project manager's departure in April 1982, work and village enthusiasm did not really resume until the arrival of a permanent (and current) project manager in March 1983. Additional funds of P26 153 were sub-warranted to the Council in FY 1982/83 for the completion of both Years 1 and 2 of the plan's forestry component.

In terms of project accomplishments to date, all four woodlot sites have been fenced, cleared and prepared, and initial out-plantings of 2 hectares each were established in Hukunsti, Tshane and Logkwabe in October 1983 to March 1984. Plantings at Lehututu have been postponed until the October 1984 rainy season due to initial start-up difficulties and the problems entailed in organizing village (VDC) input into the simultaneous establishment of four separate plantations. However, these problems have been resolved and all planting of the remaining area in all four woodlots is expected to be undertaken during the October 1984 rainy season. Species used are predominantly E. camaldulensis and E. teriticornis (which appear to be of fair provenance) with some trials of Acacia cyclops, Rhu lancea and Atriplex sp. Survival rates are excellent at greater than 97 percent on all planted sites after more or less three months' growth and little watering. Site preparation and maintenance techniques have been scaled down to a simple sub-soiling of the rows to be planted (3m x 3m spacing) and manual cultivation of a 1m radius around the seedlings. These techniques are both more appropriate and less costly than the mechanical site preparation and cultivation techniques proposed in the Project Memorandum. Some extension work has also been done by the Matsheng Land Use Plan (MLUP) in the area including some primary school tree plantings. Although a work plan has been developed and a site selected for the natural bush management component, actual work has not begun due to the priorities placed on woodlot establishments. Additionally, an assistant MLUP Forest Officer has been identified and is being seconded to the Kgalagadi District First Development Area (CFDA) by the MOA with the CFDA assuming the Officer's salary and benefits. He is expected to arrive on site in June/July 1984.

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B. Performance

This sub-project, after an initially slow start due to the late arrival of the Forest Officer, is now progressing at a more than acceptable pace. VDC/villager enthusiasm and participation continues to be excellent although the input of voluntary labor called for in the original Project Memorandum has been problematic due to the introduction of drought relief programs. (Whereas the villagers provided their labor free of charge in 1983, they now expect to be compensated at drought relief rates). However, the VDCs have somewhat made up for this additional expense by providing use of vehicles and some transport costs as necessary. Questions of control, management of plantations and distribution of benefits also appear to have been resolved through the creation of VDC forestry sub-committees. All woodlots are recognized as being VDC endeavours and not MOA's or MLUP's. The VDC forestry sub-committees will have ultimate responsibility for all woodlot management decisions with only technical input provided by the Forest Officer/MOA. Perhaps the best indication of the sub-project's performance/importance is the fact that the CFDA has agreed to pay the MOA seconded forester's salary and benefits. This will hopefully set a precedent for future MOA-CFDA collaboration in other districts.

An internal review of the forestry components conducted by MLUP staff recommended several revisions to the project accompanied by a revised financial plan requesting an additional FY 84/85 input of P89 529 from carry-over AE 15 funds. With the exception of the natural bush management component and construction of a small nursery at Hukuntsi, the revisions are primarily financial in nature with the majority of funds going to replace some capital equipment (tractor and plow) and to compensate for unforeseen under-budgeting of the labor component in the original plan as a result of the drought relief program.

Technical revisions are limited to a revised natural bush management plan, establishment of a small nursery at Hukuntsi and the creation of a more formal extension program. Details of the proposed changes are described below.

1. Natural bush management. The original Project Memorandum called for the demarcation and management of eight natural bush coupes within each village area. However, MLUP staff felt that this would be extremely difficult to implement given probable community skepticism regarding such practices, the high degree of community mobilization that would be required, and the difficulties in controlling, monitoring and managing the coupes. Instead, MLUP proposed to demarcate and fence a 10 hectare research and demonstration site centrally located to all four villages which would be subdivided into eight or ten unfenced plots. Each plot would be treated to a different cutting regime/sylviculture treatment with measurements being taken of wood produced and biomass regeneration (yield and species). An additional plot would be established outside the fenced perimeter for purposes of control.

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2. Establishment of a small nursery. In the original Project Memorandum, the Kang nursery was to have provided seedling stock for MLUP. However, delays in Kang nursery establishment and difficulties in securing seedlings from other sources led MLUP staff to the conclusion that a small 20-25 000 seedling production nursery was needed at Hukuntsi. A site with a permanent water supply has been selected for this purpose and already approved by the Land Tenure Board.
3. Creation of a more formal extension program. The arrival of the Forest Officer in Hukuntsi has led MLUP to the conclusion that a more formalized extension component can now be implemented in order to complement woodlot activities and reach a wider section of the community. This component proposes encouraging individual and community tree planting sessions at schools, clinics, RAD settlements, public buildings, yards, etc. through talks and demonstrations.

C. Conclusions and Recommendations

This sub-project, an integral and on-going part of the Matsheng Land Use Plan appears firmly institutionally established and well underway. It is also one excellent example of what can be achieved when donor and community resources are mobilized and supported by good technical backstopping and sound management and administration. The evaluation team supports the proposed MLUP forestry revisions and recommends that MOA and USAID/Botswana approve MLUP's revised forestry component and give top priority to supporting MLUP's 1984/85 budget request. However, given past VDC contributions to the forestry component, the evaluation team believes that the proposed transport operations and labor line items could be reduced by around P8 000 and that these savings should be used in other sub-projects, particularly Kang woodlot and nursery.

Actual sub-warranting of any funds to MLUP should, however, be made on the condition that MLUP submit a detailed implementation plan for the natural bush management component. The team feels that this is an important part of the Matsheng Land Use Plan and as the current Forest Officer's contract is due to expire late in 1984 or early 1985, a detailed plan will greatly assist his replacement with implementation.

Additionally, the evaluation team recommends that MLUP add several applied research initiatives to the woodlot component. In particular, MLUP should explore:

1. The possibility of establishing live fences around woodlot perimeters using species which can be reproduced vegetatively or by direct seeding (eg. Euphorbia sp. and Prosopis sp.), thus providing additional benefits (fuel and fodder) while negating the need to protect the site during regeneration after coppicing.

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2. The potential for intercropping crops and forage grasses on woodlot sites, as a means of providing additional economic benefits and reducing labor costs (eg. cultivation/weeding of trees in exchange for forage/thatching grass removed).

SANDVELD PLANTATION TRIALS, TAKATOKWANE

A. Objectives and Achievements

The main objectives of the trials are to ascertain, under sandveld conditions:

1. the most suitable tree species for the production of building poles, fencing timber, firewood and timber generally, for local consumption;
2. the practicality of growing certain shrubs for the production of stock fodder to supplement existing local resources;
3. the best and cheapest methods of establishing and maintaining such trees and shrubs and also the efficiency of using fertilizer.

The 6 hectare trial site was cleared and fenced in FY 80/81 and a total of 3 hectares were prepared for planting. However, actual trial plantings were delayed until the October 1982 rainy season when an additional 1.5 hectares were cleared and a total of 4.75 or 19 one-quarter hectare plots were planted with a different species or provenance. No additional trials have been established to date. Of the P16 767 originally warranted for the sandveld trials, approximately P4 000 remains to be sub-warranted by MOA in order to plant the remaining area and adequately maintain existing plots. The trials were evaluated and a report prepared in March 1982.

B. Project Performance

The sandveld trials have fallen under a considerable amount of disrepair (poor maintenance) due primarily to the absence of an experienced forester (transferred to MLUP in Hukunsi), water system failure/poor water quality and the fact that remaining funds have not as yet been sub-warranted. However, the trials as a whole were successful and their contribution to Botswana's forestry program significant. Some of the more important findings are as follows:

1. With regard to pole species certain provenances of E. camaldulensis and to a lesser extent E. teriticornis have proven extremely adaptable to Kalahari/sandveld conditions, and under particularly adverse conditions (lower than average rainfall, irregular watering after the first year and irregular weeding/cultivation).
2. Under these same conditions, Atriplex sp. and Prosopis sp. have proven extremely hardy (80 - 90 percent survival) in the fodder/small tree category.
3. At the suggestion of the Year 2 RSG review the trials have demonstrated that intensive site preparation (moldboard plowing) and tree maintenance (mechanical cultivation) in

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sandveld conditions are not necessary. Simple sub-soiling along tree rows prior to planting with subsequent hand cultivation along the rows 1m on each side is sufficient.

4. Cost accounting information from the trials is also excellent and for the first time accurate information on establishment/maintenance costs per hectare is available for planning/economic analysis purposes.

Additionally, as surviving trees mature, they will provide a proven, local seed source for additional plantings.

C. Conclusions and Recommendations

The sandveld trials are essentially Botswana's first research attempt to determine appropriate species which can adapt to the severe ecological limitations of the Kalahari. As such, they have played and continue to play a critical role in the development of Botswana's forest sector, both in terms of species adaptability and establishment techniques, and as a future seed source. However, much additional research needs to be undertaken. In particular, trials on other provenances (Australian) of E. camaldulensis and E. teriticornis needs to be done in addition to further trials of multi-purpose trees and agro-forestry systems (windbreaks, shelter belts, live fences, etc). Plantation failures at Mochudi would also indicate that further research is required on spacing/tree alignment. While specific research recommendations are offered in another section of this report, the evaluation team recommends the following for Takotakwane:

1. that MOA move as quickly as possible to sub-warrant the remaining P4 000 for continuation of the trials and maintenance of existing plots;
2. MOA has requested a second evaluation of the trials to be undertaken in June/July by ex-trial coordinator (now MLUP Forest Officer), Ralph Nickerson. The evaluation team would suggest that Mr Nickerson's terms of reference include the preparation of a Project Memorandum for additional support to the trials in the event additional RSG Phase I fall-out funds become available. We would also suggest that Mr Nickerson prepare, in addition to his formal report, a short, not too technical pamphlet on species and establishment techniques to be used in the Kalahari. This should prove extremely useful for the on-going Kang woodlot project and other eventual projects in the sandveld environment.

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PALAPYE - THE DEVELOPMENT OF TREE PLANTATION AND WIND BREAKING SYSTEMS ON THE PALAPYE DRYLAND CROP DEMONSTRATION FARM (PDCDF)

A. Objectives and Achievements

The objectives of this sub-project were to harness and possibly reverse a degrading site situation at PDCDF and to demonstrate to local farmers the direct benefits that can accrue from trees by instituting a comprehensive conservation program involving windbreaks, shelterbelts, woodlot systems and fruit tree plantations.

In order to accomplish these objectives, PDCDF was to undertake the following activities:

1. establishment of two 500 m windbreaks of three and two rows;
2. establishment of 0.5 hectare of shelter belt/shade tree plantings around an existing kraaling yard;
3. establishment of 2.5 hectare of woodlots;
4. establishment of 0.5 hectare of fruit tree plantations;
5. development of 50 hectare of utilized grazing land for experimental fodder production (included as part of PDCDF's overall plan but not funded by AE 15).

Funds of P5 708 were sub-warranted to PDCDF in FY 1981/82 but actual work did not begin until FY 1982/83. All funds sub-warranted have been spent by PDCDF but records were not available for review.

The following is a summary of project achievements to date:

1. two 500 m windbreaks of four and two rows have been fenced and established with a tree survival rate of between 40 and 60 percent;
2. a number of shelter belts/shade seedlings have been planted in and around the kraaling yard (exact number not known) and about 15 (or about .005 hectare) have survived;
3. 0.5 hectare of fruit trees (100 trees of citrus and peach) were established but with 0.0 percent survival.

B. Project Performance

While excellent in terms of concept, this sub-project has fallen extremely short in meeting its stated objectives. The reasons for this are primarily a lack of an institutional framework/technical backstopping to ensure project continuity, inappropriate choice of species/poor quality fruit tree stock, and water/irrigation problems combined with two years of below average rainfall.

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1. Institutional framework. The project was conceived by a past expatriate agronomist attached to PDCDF who unfortunately, after having completed his contract, left Botswana with all knowledge of the sub-project in his head. There are no records of what species were planted, planting dates, growth rates, survival rates, expenditures or plans to implement the remaining activities. While the new PDCDF agronomist (expatriate) is interested in continuing sub-project activities, he is not familiar with tree establishment techniques and does not know how or when to begin.

2. Species. The original project memorandum called for the use of a number of species, particularly Cupressus sp. which are totally inappropriate to the agro-ecological conditions of Palapye. Fortunately, owing probably to Gaborone nursery seedling availability, these species were not planted and were substituted with Eucalyptus camaldulensis/terticornis, Acacia cyanophylla, Leucaena leucocephala, Atriplex sp. and Pinus halepensis for both windbreak and shade plantings. Of these only A. cyanophylla and P. halepensis show very poor survival (less than 20 percent) and should be replaced with more suitable species (A. erioloba and Prosopis sp. were suggested). The eucalypts planted showed fair survival (70 - 80 percent) but varied greatly in height and form indicating a poor provenance and/or poor species control from Gaborone nursery (eg a mixture of E. camaldulenis and E. tenticornis, difficult to distinguish in the intermediate state but the former being more suited to Palapye conditions). The leucaena showed mediocre survival (30-40 percent) but this is probably due to the fact that it was being actively cropped by a number of turkeys and chickens on the site. Fruit tree mortality is probably due to the fact that the seedlings being imported from the Republic of South Africa were severely root pruned for transport reasons and were not able to re-establish themselves after being planted.

3. Water/irrigation. While no records were kept of the watering regime, a PDCDF chauffeur thought that the trees had been watered regularly for about a year and after that, very irregularly until present due to a breakdown in the water system. This combined with two years below average rainfall is the probable reason for mortality in the eucalypts.

C. Conclusions and Recommendations

While this sub-project has not met its objectives, neither the concept of windbreak /shelter belts and the sub-project itself should be considered as RSG/developmental failures. Windbreaks and shelter belt plantings in other semi-arid areas (Egypt and Niger) have resulted in net increases of cereal crop production of up to 25 percent due primarily to reduced water loss/evaporation. They can also provide much needed organic matter to the soil through litter fall while serving as pumps for nutrient recycling. Additionally, properly designed and managed windbreaks and shelter

belts can provide limited but important quantities of fuel wood, fodder, food and other products.

Given the above, the PDCDF's agronomist's interest in continuing the project using local resources, and in order to provide a small degree of institutional continuity, the evaluation team recommends that MOA send a forester to Palapye initially for two to three weeks and quarterly for one week thereafter, whose terms of reference would include:

1. assessing/documenting existing plantings;
2. assisting PDCDF in establishing small (5 - 10 000 seedlings) nursery at the PDCDF site using locally available resources/materials and including training in seed germination and sowing techniques;
3. assisting in eventual replacement of dead trees in the windbreaks and in establishment of the 2.5 hectare woodlot;
4. assisting and providing training in the care, maintenance and eventual harvesting of the trees.

Pending the above, PDCDF should immediately choose a control site (an unsheltered section of the farm) and ensure that crop yields are accurately measured on both the windbreak and control sites for purposes of comparison and eventual demonstration to local farmers. Additionally, USAID/Botswana should ensure that PDCDF receives the Crop/Tree Interface Design, Monitoring and Evaluation Methodology currently being developed by USAID/W as soon as it becomes available. Should any USAID/W Africa Bureau regional funds become available for implementing applied research projects on tree/crop interactions (as now seems probable), the evaluation team recommends that USAID/Botswana consider Palapye as a possible site.

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KANG WOODLOT

A. Objectives and Achievements

The objective of this sub-project is to establish a 5 hectare woodlot in order to:

1. provide wooden building poles and fire wood to Kang village and the surrounding area;
2. study the suitability of various tree species in the Kalahari environment;
3. gain experience in the operation of a village woodlot in the Kgalagadi.

A total of P11 010 was sub-warranted to the Matsha Brigades in FY 1981/2 which was presumably spent on fencing and site preparation. However, no records of expenditures are available, but it is assumed that all funds were spent. While the site was cleared and fenced in FY 1981/2, actual planting did not occur until FY 1983/84 (November 1983) when a MOA forester was assigned to Kang to undertake nursery establishment (as part of AE 15 (I) and supervise woodlot operations. A total of 1 450 seedlings (more than 1 hectare) were planted in December 1983 to March 1984 with an Australian provenance of E. camaldulensis. Survival rates are excellent at 99 percent and initial growth and form appear very good as well. The remainder of the site is to be planted in October 1984. Matsha Brigades have also submitted an additional Project Memorandum for P8 805 for a ten hectare extension of the woodlot (for fencing and site clearing) with site preparation and planting to be done by MOA.

B. Project Performance

Although two years late in implementation, technically speaking, the Kang woodlot has been very successful in meeting its first two objectives since the arrival on site of a MOA forester. Initial growth rates of the Australian provenance E camaldulensis appear to be significantly better (40 percent) than provenances from Botswana or the Republic of South Africa. The nursery (discussed under AE 15 (I) activities) is currently producing a number of additional species which will be out-planted in October-December 1984 in order to determine their suitability to sandveld conditions. Excellent technical and financial records are being kept in all woodlot operations by the MOA forester. The forester has also demonstrated considerable initiative in ordering seeds/provenances of various species and conducting sound operations in fairly adverse conditions (lack of tools, operating expenses, etc). The only technical criticisms are the unnecessary intensity of site preparation and the possibility that a 3m x 3m tree spacing may be too dense for sandveld conditions. With regards to the former, the site had been moldboard plowed twice prior to planting which is both costly and environmentally unsound. However, this was done prior to the arrival of the MOA forester who agreed that this operation was not necessary in the sandveld and that

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simple sub-soiling along the rows would be sufficient. With regards to the spacing, a partial thinning operation may be necessary if trees begin to show signs of stress as they mature and competition increases.

There are however two major non-technical problems which need to be resolved as soon as possible, and prior to approval of the Kang Woodlot Expansion Project Memorandum. The first is the fact that the woodlot is not at all a community endeavor. The only community input to the woodlot to date has been site clearing and fencing, organized and supervised by the Brigades and paid for at 'drought relief' rates. All nursery, site preparation and planting operations were carried out by the nine industrial class nursery laborers imported from Gaborone. There is virtually no sense of community involvement with the woodlot and community workers see it as a Brigades/MOA activity and not their own.

Secondly, the above problem is further compounded by the somewhat strained relationship between the Matsha Brigades and the MOA. The Brigades feel that as they submitted the requests for woodlot funding and secured the land for the woodlot site, that they should be responsible for woodlot harvesting and marketing and benefit from any eventual revenues. However, the MOA maintains that since they produced the seedlings and prepared and planted the site, that they should share in any benefits or at least be reimbursed by the Brigades for their input.

C. Conclusions and Recommendations

While technically sound, the Kang woodlot is far from being a community endeavor. No effort was made by the Brigades or MOA to instill a sense of community ownership of the woodlot and it is now probably too late to do so. However, the woodlot is still viable and should be considered as a service provided to the community by the Brigades and MOA, with financial benefits accruing to both parties but not directly to the community. The evaluation team would therefore recommend that the Brigades and the MOA Forest Officer draft an agreement on woodlot management and benefit accrual for submission to MOA for concurrence/approval.

With regards to the Brigades' request for the Kang woodlot extension, the evaluation team recommends that it be approved on the conditions that:

1. roles of the Brigades and MOA with regard to woodlot management are clearly defined in writing; and
2. that the community be more actively involved in plantation establishment and management.

The Project Memorandum should be revised to reflect these considerations.

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MOCHUDI FARMERS BRIGADE FORESTRY WOODLOT AND EXTENSION PROJECT

A. Objectives and Achievements

The objectives of this sub-project are to:

1. develop forestry resources and conserve soil resources in the Kgatleng District village area at a low cost per hectare;
2. provide additional incentives, organization and flexibility for the establishment of forestry projects by groups on a self-help basis;
3. derive continuing benefits from forestry work experience and necessary facilities provided through the previous forestry development project at the Kgatleng Development Board (KDB);
4. provide a source of income for Mochudi Farmers Brigade; and
5. encourage the process of village group organization and project implementation

In 1977, using its own funds, the KDB began a forestry demonstration and extension project and succeeded in establishing a nursery and 20 hectare woodlot between 1977 and 1981. In FY 1980/81, KDB submitted a three year proposal for RSG AE 15 (II) funding in order to establish an additional 24 hectare of woodlots. These plantings would permit KDB to harvest on a rotational basis and to continue the extension program. RSG funds of P7 140 were sub-warranted to KDB/Mochudi Farmers Brigade in FY 1981/82 in order to accomplish a first year Project Memorandum target of 6 hectares. However, only about three hectares were fenced and planted with E. camaldulensis during this period and no additional plantings were undertaken. An additional sub-warrant of P9 833 was provided in FY 1982/83 for a second year Project Memorandum target of hectares, but either targets were not achieved or survival was nil. Records of RSG expenditures/remaining funds and planting history were not available for review and KDB staff were unavailable for comment. However, the nursery's germination bed did contain about 50 000 seedlings of E. grandis, E. teriticornis, E. camaldulensis, E. siderorylon, E. maidenii, Causuarina cunninghamia, and J. mimosifolia of which only E. camaldulensis, E. teriticornis and J. mimosifolia (for amenity plantings) are suited to the site.

The woodlots, both RSG and KDB funded are as a whole in poor condition, with about 30-40 percent of the trees in five blocks A - F) dead or dying. Trees appear to be suffering from drought stress, compounded by termite damage and possible nutrient/trace element deficiency. The drought stress has been induced by a number of factors including poor rainfall penetration (owing to too little cultivation and poor tree alignment), a too large density of trees per hectare given site conditions and weed competition. Additionally, some of the species E. grandis, E. maidenii,

E. citriodora) were totally inappropriate for Morwa site conditions and some of the provenances of E. camaldulensis and E. teriticornis demonstrated wide genetic variations in growth, form and site adaptability.

KDB's extension program has also been marginally successful and ceased operation in FY 1982/83 when all full time forestry staff were released. From the Year 2 RSG review, the self-help component of the woodlot plantings was quite low and it appeared as though the woodlots were pushed on the farmers by KDB without their really understanding the concept. During the FY 1981/82 a 3 hectare site was cleared, plowed, fenced and planted by people from a temporary 'work camp' and as a result, the only farmer contribution was maintenance of the trees.

However, KDB has to their credit, produced and distributed many trees locally for amenity plantings, encouraged and assisted plantings at schools and clinics, and encouraged and assisted plantings by VDCs, individual farmers and farmers groups. While exact numbers were not available, a very successful KDB extension effort can be seen in the form of a Eucalyptus woodlot at the Mochudi dam.

B. Project Performance

The sub-project showed the poorest performance of any AE 15 woodlot sites visited during this evaluation. A contributing factor to this poor performance was poor management/administration of the project by KDB and a lack of KDB staff continuity. However, the major reasons for sub-project failure appears to be a lack of technical assistance (either expatriate or Batswana) for both technical and extension issues, and related to this, the use of inappropriate species/provenances combined with prolonged drought.

1. Technical assistance. The project/KDB has never had a full time, experienced forester on its staff. The foreman in charge of nursery and plantation operations (who has since been laid off for financial reasons) was an agriculturalist with no forestry or extension experience. While both the foreman and the KDB were enthusiastic about the project, they lacked the requisite technical and community development skills to implement it. This lack of skills is evidenced by the irregular spacing of the plantations, poor plantation layout/site selection, inappropriate choice of species/provenances, poor community participation and the marginal success of the extension program.
2. Species. The majority of species grown at Morwa are either inappropriate to the site (E. grandis, E. Citriodora, E. maidenii) or genetically inferior provenances or hybrids of E. camaldulensis and E. teriticornis, evidenced by the great variation in height, form and site adaptability of these two species.

C. Conclusions and Recommendations

R A Nickerson, Matsheng Land Use Plan Forest Officer, and G Legage, Acting Manager, Forestry, Kweneing Rural Development Association, were asked by the KDB coordinator to offer observations and recommendations on KDB's forestry extension program to date and on the immediate treatment of the Morwa-Mochudi Farmers Brigade plantation. With the exception of their recommendation to clear cut blocks A to F, the evaluation team supports their recommendations and lists them below for purposes of this report.

KDB management should:

1. Examine as well as possible the history of their extension endeavors to date, rating constraints and problems to be avoided and successes to be pursued or replicated;
2. Visit Molepolole and Kanye to consult with KRDA and SRDA forest extension officers to view other woodlot projects and to acquire the forthcoming report on Matsheng Communal Forestry activities;
3. After due local and internal consultations, prepare a draft plan for a resurrected extension/plantation program and submit the plan to MOA's Forest Officer and the FDB director.
4. To provisionally identify, if possible, a potential local Forestry extension officer; such a post is a positive prerequisite for any program, and as such, will largely depend its success or otherwise.

With regard to Nickerson/Legage's recommendation to clear cut blocks A to F, they were not aware that the National Institute for Research (NIR) was conducting a study on three blocks to determine whether any relations exists between site and size of trees and their performance/death. As such, clear cutting these blocks would jeopardize on-going, very relevant research. The evaluation team therefore supports NIR's recommendation to remove/harvest only deadwood for immediate sale and cut the rest after NIR's research has been completed.

MAHALAPYE WOODLOT SCHEME

A. Objectives and Achievements

The objectives of this sub-project were two-fold. The first was to establish mini-nurseries and small woodlots in the court-yards of two primary schools in Mahalapye (Leetile and Fredericks) as a means of providing fuelwood to the schools and eventual income through the sale of seedlings, poles and fire wood. The second objective was to incorporate a mini natural resources conservation curriculum in the schools using the nurseries and woodlots for practical, educational and demonstration purposes, on the principle of one tree planted and cared for per student.

Originally, both schools had received funds totalling P2 236 from the Mahalapye Development Trust for fencing and cattle grids to enclose an approximately 3 hectare area around each school. Subsequently, the Trust requested an additional P15 in RSG funds in 1980/81 to assist in establishing mini-nurseries at each school. The mini-nursery at Leetile failed due to the technical difficulty in germinating Eucalyptus and the school's vacation schedule. However, the nursery at Fredericks succeeded in raising 200 of the 300 seedlings planted. Although both schools had intended to continue to try to raise their own seedlings; their nurseries became inoperational during subsequent years due primarily to the absence of any technical backstopping and the difficulty in caring for the seedlings during school holidays.

As a result of nursery failure, some of the RSG funds were used to purchase approximately 600 trees (mixed Eucalyptus) from Gaborone nursery. Five hundred seedlings were planted at Leetile and 300 (including those raised at the mini-nursery) were planted at Frederick's in October to December 1982. Survival rates after two years are about 50 percent at each site.

B. Project Performance

The objectives of this sub-project were only partially met due primarily to inadequate technical backstopping and poor/inappropriate choice of species resulting in very mediocre survival rates.

1. Technical backstopping. Both schools are interested in trying to re-establish the nurseries and continue planting. However, the Principals felt that without a qualified forester to periodically assist them, past, somewhat disappointing experiences would only be repeated and scarce resources wasted. Additionally, without seedlings, the conservation curriculum is difficult to implement.
2. Species. The Gaborone nursery provided 600 seedlings to both schools composed of at least five species of Eucalyptus of which at least one, E. grandis, was totally inappropriate to the site. The rest were basically genetic garbage of

E. teriticornis, E. carmaldulensis and E. sideroylon of poor or unknown provenance given extremely visible variations in height and form. (Some of the E. camaldulensis were more than 4 meters high after three rainy seasons and sporadic watering by the students, while the E. sideroylon and some E. teriticornis were still bushes.

C. Conclusions and Recommendations

School nurseries and planting programs are usually sound 'social forestry' investments providing there is a high level of local commitment and adequate technical backstopping. In the case of Mahalapye, the first was and continues to be true while the latter is non-existent. The evaluation team therefore recommends that MOA send a forester to Mahalapye to assess the situation at the schools for itself and determine future actions, particularly with regards to seedling supply to the schools.

The evaluation team also believes that MOA should explore the possibility of assigning a 'roving forester,' based perhaps in Mochudi, who would have regional backstopping responsibilities for AE 15 woodlot activities in Mahalapye, Palapye as well as Mochudi, and AE 10 woodlots in Shoshong and Serowe. This appears to the evaluation team to be a logical cost-effective use of limited MOA Forest Section personnel.

Additionally, the evaluation team believes if there is a high level of local commitment and participation, adequate technical backstopping and appropriate species available, school nurseries and woodlot programs are technically and socially sound and should be considered for RSG Phase II AE 10 funding.

SUMMARY OF FINDINGS AND RECOMMENDATIONS - AE 15 (II)

I. Findings

Enthusiasm and support for village woodlot projects continues to be high, particularly among local government officials and the villagers themselves. However, while some of the AE 15 (II) projects have met with notable initial success in achieving their objectives, the project as a whole failed to initiate a program that will continue on an expanded scale. There are primarily four inter-related reasons for this failure:

1. difficulties in implementing community woodlot programs in general;
2. lack of a sound GOB forest policy;
3. MOA difficulties in providing required (and RSG assumed) research and extension backstopping; and
4. the short length of the project.

A. The Community Woodlot Concept

Although Government and Brigades' nurseries have sold seedlings to non-governmental organisations, individuals and private groups in the past, the idea of a communal or village woodlot is still a relatively new concept in Botswana. Community woodlot projects in Africa have, on the whole, been problematic particularly with regard to mobilization of community resources and distribution of benefits. Botswana is now experiencing some of these same difficulties. However, a community woodlot program can be successful providing care is taken in determining whether the four main prerequisites for a successful community effort exist. These are:

1. political support for rural development at all levels;
2. the willingness of the local community to participate and its capacity to continue the development process with its own means and resources;
3. an institutional framework sufficiently flexible to ensure inter-agency coordination and cooperation, particularly at the working level; and
4. adequate/appropriate technical backstopping.

A rough analysis indicates that these four elements were present and considered, albeit in varying degrees, in all woodlots visited. However, only in the case of MLUP were all prerequisites met.

B. Forest Policy

The GOB does not currently have a forestry policy that is useful for either planning or implementation purposes. The existing policy statement describes the objectives of the forestry program but provides no indication of the relative seriousness of the different problems being addressed, the relative priorities of the different objectives, or clear strategies based on a thorough analysis of the constraints to increased production. More importantly, the forestry sector's critical role in sustaining/supporting other sectors, particularly range and agriculture, has all but been ignored by the MOA.

While the Forestry Section of MOA has chosen to limit its role to the provision of extension advice, production of seedling, training, research and financial assistance, only seedling production efforts are readily visible. Recommendations in the first RSG Annual Review on establishing a useful forestry policy remain valid.

C. MOA Difficulties in Providing Required Support

1. Extension Advice

Extension advice in this sense means everything from help in design, including review of Project Memoranda, to periodic monitoring and implementation assistance. The necessity and importance of this advice is evidenced by the fact that where there were foresters permanently or semi-permanently attached to a project, all were more or less successful in achieving technical objectives (Kang, Hukuntsi and Takotakwane). Where there were no foresters (Mochudi, Palapye, Mahalapye), the projects failed after one or two years. However, the original project design assumed that the Forestry Section would be able to provide much of this advice. The problem is that the Forest Section has only three BSc foresters (one Motswana and two expatriates) and only seven certificate/diploma foresters. AE 15 project management responsibilities were given to the Headquarters Forest Officer whose other duties include natural forest exploitation, government nursery and plantation establishment, channeling aid and assistance to non-governmental organizations outside the RSG, plus all forestry extension, promotion, seed production and research. To assume that this Officer and his small staff could adequately review, both technically and financially, all AE 15 Project Memoranda and eventually monitor/backstop project activities, was, in the evaluation team's opinion, clearly unrealistic. However, to the Forestry Section's credit they have streamlined the project approval process, have developed a quarterly reporting system to monitor project accomplishments, problems and financial status, now require accurate nursery records from their nursery managers, and have reduced nursery establishment costs following RSG review recommendations.

Another false design assumption is that the Brigades would be able to fill any extension gap that MOA's Forestry Section

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could not provide. However, it has been well demonstrated by the project that while Brigades have the capacity to mobilize people for individual and group action, their technical and administrative skills are often lacking. Brigades also have a problem in terms of continuity of staff and a general failure to locally institutionalize projects and programs.

2. Research

While the sandveld trials have contributed to reduced cost site preparation techniques and some good species specific information for sandveld conditions, the evaluation team finds that an inadequately developed technical package, particularly with regard to proper species and provenances, has significantly hampered project achievements. The eucalypts that have been or are currently being planted in the woodlots are either totally inappropriate to Botswana's rainfall (E. maidenii, E. grandis) or genetic garbage (poor/inappropriate provenances or crosses) of more suitable species such as E. camaldulensis and E. Teriticornis. Variations in form, growth and survival rates of these two species vary considerably within and between woodlots. Also, species spacing and site requirements were not adequately analysed prior to implementation of the project. Furthermore, the project emphasized gums to the neglect of other, perhaps more desirable species including fruit and multi-purpose trees.

3. Length of Project

Lastly and most importantly, forestry is a long term proposition. At least one study in Botswana has demonstrated that Brigade, community, or private woodlots initiatives in Botswana can be financially and economically viable operations. However, trees require seven to nine years to reach merchantable size and continued out-planting over this period is required in order to ensure a sustained yearly yield. To support a new, unproven forestry program for only three years and expect Government to replicate, continue and expand the program with its own initiative and limited financial and human resources is developmentally unsound.

II. Recommendations

While USAID/Botswana has decided to exclude AE 15 activities from the Rural Sector Grant Phase II, there are still several actions within Phase I parameters which the Mission and MOA could undertake in order to support forestry sector development in Botswana and more fully realize AE 15 Phase I objectives. These are:

1. Technical assistance. Given the increasing number of non-governmental organizations interested in or with a demonstrable commitment to rural afforestation, coupled with their limited technical skills, it appears that the creation of a Forestry Research and Extension slot in the MOA is long overdue. In retrospect, the establishment of this slot should have been a pre-condition to AE 15 implementation. The evaluation

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team therefore recommends that MOA initiate a dialogue with USAID/Botswana with regard to placing a Forestry Research and Extension Operations Expert in the Forestry Section and simultaneous identification of at least one individual for long-term preferably MSc level training in Forestry. Terms of reference for this position would include but not be limited to the following:

- a. providing technical assistance to and coordinating all non-governmental organizations, parastatals, village/community groups, etc, actively or potentially engaged in rural afforestation and allied operations.
- b. increasing the expertise, efficiency, success rate, productivity and cost-effectiveness of Government and non-governmental forestry work by practical applied research and information dissemination.
- c. National promotion of multi-purpose tree plantings and associated benefits.

Pending the eventual creation of this position, it is further recommended that MOA use the newly created Forestry Association of Botswana (FAB) to support, to the fullest extent possible, on-going and proposed AE 15 activities. FABs responsibilities would include periodic monitoring and evaluation of on-going projects and assistance in development/review/approval of all future AE 15 Project Memoranda.

The evaluation team also recommends that MOA explore the possibility of assigning 'roving foresters' to areas of high woodlot activity or interest. A roving forester would have the responsibility of technically backstopping several woodlot projects while working out of one central location. Providing MOA could meet the transport costs of such positions, the evaluation team believes that this is a logical cost-effective use of limited MOA forest section personnel.

2. Research

While the AE 15 project has made some progress, or at least learned some lessons in developing a viable technical package, a great deal of research still needs to be undertaken which the evaluation team finds critical to the development of Botswana's Forestry Sector. In particular, research and trials aimed at determining the:

- a. most suitable species and provenances for production of timber for building, fencing, saw timber, fire wood, etc, due regard being paid to local hardiness and ease of establishment, growth rates and volume production, form and suitability for the various purposes. Equal importance should be given to various provenances of E. camaldulensis, E. teriticornis, multi-purpose trees and indigenous species;

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- b. relationship of different soil types to 'best species' growth;
- c. appropriate stocking rates, ground preparation, cultivation, management and other practices;
- d. beneficial effects of fertilizers, according to soil types, and not disregarding top-dressing;
- e. best post-planting management practices, felling and/or thinning cycles, etc, for maximum volume production and/or financial return;
- f. most cost-effective establishment/maintenance practices, with a bias towards labour intensive work wherever practical, but including recommendations on most appropriate mechanical and fixed equipment; and
- g. most appropriate/acceptable natural bush management techniques.

The evaluation team therefore recommends subject to MOA concurrence, that USAID/Botswana engage a research forester for a period of four to six weeks, using remaining RSG Phase I contractual funds. The researcher's terms of reference would include, inter alia:

- a. assessment/evaluation of all existing or proposed basic or applied forestry research in Botswana;
- b. identification of the most appropriate institution (or institutional linkages required) to conduct forestry research in Botswana (Ministry of Agriculture, National Institute for Research and the Forestry Association of Botswana would appear to be likely candidates);
- c. assist MOA in determining research priorities;
- d. development of a standardized research methodology for use by non-governmental organizations;
- e. development of a Project Memorandum for AE 15 funding should any carry-over funds from RSG Phase I be made available.

3. Use of Carry-Over Funds

There is approximately P90 000 remaining in unallocated or warranted but unspent RSG Phase I AE 15 funds. The evaluation team recommends that these funds be spent on the more successful, on-going projects. In order of priority, the team recommends that USAID/Botswana and MOA approve the following Project Memoranda/request for funds.

- a. MLUP. MLUP's funding level should be reduced from the requested P89 529 to approximately P80 000 in order to reflect actual VDC contributions of labor and transport and the Kang request for additional nursery equipment. The Project

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Memoranda should only be approved on the condition that MLUP prepare a detailed implementation plan for the natural bush management component.

- b. Kang Nursery. Kang nursery's request for P2 500 for shade netting and hand tools should be approved as soon as possible as these items are required and were included in the original Project Memorandum but never supplied.
 - c. Kang Woodlot. The Matsha Brigades request for P8 805 for an extension of the Kang woodlot should be approved subject to the Brigades and MOA reaching a formal agreement on future management of the woodlot.
 - d. Should there prove to be additional remaining RSG AE 15 funds other than the estimated P90 000, it is recommended that they be used to support: research activities as determined by the proposed research consultant; or the sandveld trials another FAB's proposal to develop a small research activities would be on the condition that adequate technical backstopping is available. (With regard to the sandveld trials, MOA should move as quickly as possible to sub-warrant the remaining P4 000 for continuation of the trials and maintenance of existing plots.)
4. Lastly, where the prerequisites for a successful community woodlot exist, MOA and USAID/Botswana should actively encourage and support woodlot establishment through the use of RSG Phase II AE 10 Small Projects funds.

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AE 1.9 - ARABLE LANDS DEVELOPMENT PROGRAM PILOT ACTIVITIES

A. Description

In 1980/81 the Rural Sector Grant provided financing of P180 500 for a series of pilot projects designed to remove constraints to arable agriculture, undertaken within the Arable Lands Development Program (ALDEP), a major Botswana Government initiative targeted to reach 40 000 - 65 000 smallholder crop producers who plow no more than ten hectares. It is a program aimed at increasing the production of staple foods, generating productive employment, and raising incomes in rural areas. Pilot objectives were to:

1. test ideas which might be included in the main ALDEP programs,
2. develop implementation capacity,
3. provide transition into full ALDEP implementation, and
4. maintain the momentum generated during ALDEP's initial district consultative planning phase.

The six pilot programs approved for RSG funding were:

1. Implement Credit Scheme
2. Donkey Draft Power Credit Scheme
3. Small-scale Water Development Scheme
4. Fencing Development Scheme
5. Extension Assistants in Remote Areas

District institutions, however, were given the latitude to adapt ministerial guidelines for implementation of these programs to meet their individual needs or to generate other pilot proposals for funding.

B. Performance¹1. Implement Credit Scheme

At the heart of ALDEP lies the introduction of an improved agricultural technology package which emphasizes use of the single

¹ The ALDEP Pilot Projects were essentially completed by the end of Year 2 of the RSG and were fully evaluated during the course of the two annual reviews in 1981 and 1982. The evaluation team devoted very little time to re-evaluating this activity. The information provided in this section is based almost entirely on the findings of these two reports.

row planter and cultivator within an overall program of improved cropping practices. In fiscal year 1980/81 the RSG provided the subsidy element and Government the loan component of a pilot program in which 500 individual or small groups of farmers across the country could participate.

Following on the heels of a similar pilot program the previous year in which fifty subsidy/loan packages were made available to farmers in two districts of the country, the scheme aimed at assessing specifically:

1. farmers' response to the opportunity to undertake an improved arable land management and credit program,
2. the effect of a 30 percent subsidy on the demand for selected farm equipment, and
3. the capabilities of agricultural supply organizations, as well as of credit delivery and agricultural extension systems, to support such a program.

It is not clear how actively agricultural field staff have mounted demonstrations and short training courses for scheme participants in an effort to maximize the potential of the available planters and cultivators, but it seems that at least in some areas, not much extension assistance has been given to prepare farmers for full use of their new tools. Likewise, despite the importance of follow-up work with farmers regarding implement use and the adoption of improved management practices, it seems that farm visits have not always been undertaken. There is no clear-cut evidence as yet regarding the extent to which implement credit scheme participants have used their new machinery. District agricultural officials, however, indicate that this year available planters have often been used on only part of farmers' fields. In the final analysis, crucial extension assistance to farmers regarding utilization of equipment and improved techniques and practices may prove the weakest link in the future success of this key ALDEP program, whatever its final form.

2. Donkey Draft Power Credit Scheme

Access to adequate draft power when the plowing season begins constitutes an important constraint to increasing production for approximately 30 000 arable farming households. The Donkey Power Credit Scheme was ALDEP's initial attempt to assist such poorer target households through a subsidy/credit program. In 1980/81, 110 packages, funded fully and solely by the RSG, were made available throughout the country to those smallholders without their own draft power. The package provided a 50 percent subsidy on the purchase price of a team of donkeys and donkey harnesses. If necessary, the purchase price of a plow was also to receive a 50 percent subsidy. A loan for unsubsidized costs was to be made through either the NDB or BCB, with the principal repayable at 4 3/4 percent straight line interest for a period of up to eight years.

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Despite submission of project memoranda to the Ministry by some districts only at the time plowing was to begin, and despite an apparently unenthusiastic response in certain areas by agricultural field staff and farmers to adoption of what some have traditionally considered 'poor man's draft', about one-half of the donkey draft power packages have been subscribed to by farming households. Farmers have sometimes had problems, however either in finding the requisite number of animals in their area to make up a draft team, or in putting together a team of available donkeys at an uninflated price. Although this pilot project is young and experience with it limited, obstacles so far may portend substantial problems in trying to promote donkey draft power within the main ALDEP effort.

3. Small-scale Water Development Scheme

The purpose of the small-scale water development pilot program was to help farmers develop a water supply at their lands for use during key periods. In 1980/81 the scheme, underwritten entirely by the RSG, took the form primarily of a generous subsidy for individual farmers in the labor-intensive development of an underground sealed and covered tank to catch and store water running off from a nearby threshing floor, for draft power and human consumption. This was to be achieved by a farmer's preparation of a hole for the tank, for which he would receive a P20 payment, followed by the actual construction of the tank by a contractor in the area.

Almost 100 smallholder families participated in the catchment tank scheme. The greatest constraint in the implementation of this pilot project, which has been well received by farmers, was the late submission of sub-project memoranda to the Ministry of Agriculture by the districts. Another constraint has been the identification and organization by various district officials of local builders to construct the tanks.

4. Fencing Development Scheme

Effective control of livestock in lands areas has long posed a problem for crop producers. Herding of livestock by young children and bush fencing have been traditional solutions to the threat of crop destruction, but these mechanisms have become increasingly difficult to maintain as primary education has spread to the rural areas and bush and labor in lands areas become more scarce. The 1980/81 ALDEP Fencing Development Scheme tackled the problem of livestock intrusions into crop areas with a subsidy/loan program for enclosing individual fields up to ten hectares in size. The scheme, whose subsidy element has been funded by the RSG and whose loan component is underwritten by the NDB, provides for 260 packages. Each package allows for a payment of P50 for fencing labor plus a 50 percent subsidy of the cost of fencing materials, up to a maximum subsidy of P225. The remaining expenditure can be financed through a NDB loan, repayable over five years at 4 3/4 percent.

The fencing scheme proved very popular and was fully subscribed during the first year. In order to improve information flow to scheme participants concerning the alternative types of fencing which they can build, and to assist farmers more in actual construction, ADs and DAOs attended in-service training courses that focussed on fencing as well as other ALDEP matters.

5. Extension Assistants Training and Support Scheme

Manpower shortages in the agricultural extension service have meant that over the years, vast and sparsely populated areas of Western Botswana have received very little extension coverage. Agricultural Demonstrators, the country's farm-level extension workers, have never been posted to the west. In an attempt to fill the gap created by the absence of ADs, while recognizing the extension service's manpower constraints, the RSG has supported in their entirety, programs in Kgalagadi and Central Districts which employ locally recruited individuals to serve as extension assistants following a one-month training course in the application of certain basic farming operations. Concomitantly, the government has supported one such program in Ghanzi District. Supervised by the DAO, these extension workers are responsible for advising local residents about cropping procedures, demonstrating improved farming techniques, and informing supervising officers about the constraints farmers face.

During 1980/81 nine Agricultural Extension Assistants in the two RSG-funded programs were recruited; those from Kgalagadi District were given a short training course in basic agricultural practices and skills, while Central District project recruits were from the Farmers' Brigade in Serowe, and therefore did not require special training. The scheme did not encounter any major obstacles.

C. Impact

In the first annual review of the RSG, stress was laid on the pilot nature of the ALDEP projects and on the need to monitor and evaluate the performance of the program's components. Information needs were spelled out in order to determine what kind of modifications to the main ALDEP outreach effort would be needed to ensure that project objectives were achieved. More specifically, the analysis of Year 1 activities highlighted the need for:

1. tracking of delivery and use of the implement packages;
2. assessment of the implementation status of the other packages within the pilot schemes;
3. monitoring of the volume, rate and types of loans being processed;
4. assessment of the conformance to eligibility criteria and analysis of the socio-economic status of participants; and

5. identification of the most important constraints to the implementation of each pilot program.

It was argued that without the collection and analysis of data showing not only what was happening on individual farms, but why it was happening, those responsible for the main ALDEP effort would not have the information needed to most effectively program, or re-program, its activities.

Unfortunately, while the MOA's evaluation report on the ALDEP pilot projects and outreach efforts contains much useful information, it falls short of requirements. The donkey draft, water tank, extension assistance, fencing and garden projects were not extensively treated. Thus many of the questions to have been answered by the pilot phase of ALDEP were not adequately addressed. In some cases this is due to incomplete reporting by the involved financial institutions and the built-in lags they experience in processing loans. In others, deficiencies in MOA monitoring are responsible.

Subsequent to the carrying out of the evaluation of the ALDEP Pilot Projects, MOA took a closer look at the results of these projects for use in designing the full scale program. Thus, although the systematic evaluation of the results of the pilot projects left much to be desired, there were some lessons learned and these did have some influence on certain elements of the ALDEP program. It is clear, however, that the pilot project did not have a major influence on the ALDEP program and consequently the impact of this activity was considerably less than had been anticipated in the original design.

GROUP III: NON-FARM EMPLOYMENT OPPORTUNITIES

CI 08 RURAL INDUSTRIES DEVELOPMENT

Objectives

The overall objective of the Rural Sector Grant (RSG) is to assist the Government of Botswana (GOB) to realize its stated commitment to increasing income and employment opportunities in rural areas through the promotion of small scale productive activities. The RSG incorporates the CI 08 component as a sub-set of activities designed to increase non-farm rural employment opportunities. This sub-project helped launch the Ministry of Commerce and Industry's (MCI) rural industries program which consists of a Rural Industrial Officer (RIO) cadre in the districts supervised by a Senior Rural Industrial Officer (SRIO) with a support staff in MCI. The cadre's function within the context of the RSG is to identify possibilities for increased small-scale productive activities in rural areas and to provide assistance to existing or potential entrepreneurs. USAID funds were used during RSG Phase I to finance:

1. the salary of the OPEX technician serving as SRIO;
2. logistical support and equipment for the SRIO and RIOs;
3. training of the Botswana Assistant Rural Development Officers (ARIO) and two Industrial Officers; and
4. a decentralized Small Projects Fund to provide training to rural producers, hire extension assistance from the private sector and finance market surveys, feasibility studies and demonstration projects. The GOB contribution to the project consists of vehicles, offices and recurrent costs including personnel costs and travel expenses.

Achievements

The stated end-of-project status for the CI 08 component of the RSG are two-fold:

1. a support system will exist at the district level, back-stopped by MCI, to service rural enterprise through the RIO cadre; and
2. a comprehensive data base on resource availability, market potential and investment needs for enterprises in rural areas will have been assembled, providing the framework for an expanded MCI program during the mid-1980s.

The support system is in place and ten RIOs are presently in the field. Since the project's inception, ARIOs have been added to the

cadre with ten Batswana currently posted throughout the country. Positions for one RIO and one ARIO have been vacant for some time and the Directorate of Personnel (DOP) is currently recruiting for these positions. At present, eight RIO positions are held by expatriate volunteers; the other two posts are held by a Motswana and a Zimbabwean.

The SRIO works together with a Senior Industrial Officer (SRIO) who recently underwent graduate training in the United States as part of the SRIO localization plan. An additional Industrial Officer is currently enrolled in a graduate degree program in the USA. Training funds for these individuals were provided for under RSG Phase I.

Despite the leadership vacuum resulting from discontinuity in SRIO turnover in 1982, the RIO cadre has provided significant assistance to existing and potential entrepreneurs through two separate, but complementary, incentives: The GOB's Financial Assistance Policy (FAO) and the RSG Small Projects Fund (SPF).

Although the Employment Policy Unit of the Ministry of Finance and Development Planning was to be responsible for the day-to-day administration of FAP, it was in the districts and towns that decisions for FAP's small-scale program were to be made. It was specified in early 1982 that rural projects eligible for FAP small-scale assistance would be appraised by the RIO Cadre and brought to the attention of the district Production Development Committee (PDC). The Cadre is responsible for providing information to interested entrepreneurs, receiving applications and the initial appraisal of these requests. If certain criteria are met and financial viability is established, the RIO presents the application to the PDC for consideration.

Within days of the GOB's announcement of the FAP program, lines formed at the doors of many of the RIOs and the demands on the RIO's time escalated through the end of last year. This demand is said to be easing partially as a result of some district PDCs imposing a moratorium on applications in certain sectors due to market saturation. In spite of the limits on their implementation capacity, the RIO Cadre, as sole district representatives for non-agricultural FAP project appraisal, was responsible for facilitating the approval of 394 small projects throughout the country by the end of 1983. It is projected that 1,047 jobs were created in rural areas as a result of the PDCs' decision to approve these projects. The predominant sectors receiving assistance were sewing, knitting, blockmaking, welding and carpentry representing 81 percent of all non-agricultural small-scale projects approved.

Although FAP administration has been a burden, it has provided RIOs with a vehicle to relieve what had commonly been perceived as the primary constraint to small enterprise development in Botswana, access to capital. The RSG-sponsored SPF is an ideal compliment to FAP. The SPF was established to address constraints to rural productive activities and is a particularly effective tool in underwriting these activities due to the rapid response time and

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flexibility permitted. Activities up to P2 000 can be approved by the PDC either during a regularly scheduled meeting or if individual PDC members are sought out for SPF approval by the RIO. The SRIO estimates that as many as 6 700 Batswana have been impacted in one way or another through SPF-financed activities. Although RIO, Headquarters is in the process of developing a formalized data collection/monitoring/evaluation system, its absence precludes estimates of employment generated or productivity increased as a result of SPF assistance. As such, little can be said about how particular SPF activities impacted upon the target group.

The following table illustrates SPF usage and commitments for three time periods during RSG Phase I. The data in the table should be interpreted with some degree of caution, however. Actual expenditures for activities financed by the SPF amounted to P264 691 between the inception of the SPF and the end of March 1984. The significant difference between commitments to the end of March 1984 in the amount of P415 000 and actual expenditures is said to be largely a function of the lag time between approval of expenditures for SPF activities and actual disbursement of the funds by GOB together with an over-estimation of the cost of projects. Because the SPF was designed as a rapid response to district needs, it is difficult to understand how an amount in excess of P150 000 can become delayed in the funding conduit. It is therefore recommended that the Ministry of Finance and Development Planning (MFDP) investigate the reasons for this phenomenon.

SMALL PROJECT FUND

USAGE AND COMMITMENTS NOVEMBER 1980 - MARCH 1984

<u>November 1980-March 1982</u>	Number Of Projects	Total Cost of Projects (P)	Average Cost (P)	Training	Type of Project		
					<u>Studies-Surveys</u>	<u>Demonstration</u>	<u>Other*</u>
Headquarters	15	74,623	4,975	2	8	5	0
Districts	170	79,992	471	80	27	25	29
<u>April 1982-March 1983</u>							
Headquarters	6	16,658	2,776	1	4	0	1
Districts	104	61,671	593	70	14	17	3
<u>April 1983-March 1984</u>							
Headquarters	11	63,009	5,728	5	4	2	0
Districts	<u>193</u>	<u>119,388</u>	<u>619</u>	<u>143</u>	<u>15</u>	<u>35</u>	<u>4</u>
Totals	499	415,341	832	308	72	84	37

*Other includes Agricultural Shows and Grants

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Since the inception of the RIO program and especially since the launching of FAP, it has become clear that the problems facing small-scale producers are inextricably linked. These include:

1. a limited market for locally produced goods (of sometimes poor quality) stemming from a small population with limited purchasing power confronted with an influx of South African products;
2. the lack of technical skills which can result in inferior quality of goods produced; and
3. the lack of managerial skills which can impact on sustained economic activity.

It is obvious that a total package of extension resources are needed to rectify all the aspects of the above mentioned constraints to a successful small enterprise sector in Botswana. In the absence of such a package, the RSG has nevertheless provided the GOB with the basis by which to coordinate and implement its rural employment creation policies.

Though statistics are deficient, there is little doubt that the training courses, economic base studies and market research carried out during RSG Phase I were of benefit to the districts, especially to the PDCs (allowing for realistic information to base FAP-related decisions upon). As such, RIOs must redouble their efforts to identify individuals for high quality training and target sectors for localized market research on a continuing basis in order to increase their impact upon the target group they are meant to assist.

The current cadre of RIOs have been in their positions for a period of two months to one and a half years. The Evaluation Team was told that as they gain familiarity with their districts and those involved in the development process, they become more influential as secretaries to the PDC which in some districts is becoming a relatively sophisticated entity and is assuming a more dominant role in the district planning process. Many factors, including RIO involvement, are responsible for the district's new emphasis upon non-trade related economic activities. This phenomena reflects the spirit of the NDP V which is reliance upon district-level initiatives in the area of non-farm employment.

The comprehensive data base called for as an End-of-Project Status is, at this point in time, somewhat skeletal. Some surveys of existing and potential rural producers were conducted during the first year of the project while others are still only in the planning stage. A producer survey is ongoing in Chobe District. Unfortunately, different types of collection methodologies have been employed and the existing sub-sets of data may not be compatible for aggregate analyses.

Further achievements of the RIO program during Phase I included scheduled RIO seminars and the informal upgrading of the ARIO cadre. Seminars permit a mutual exchange of ideas, proposals, problems, strategies, etc. as well as serving as a morale booster. Additionally, they provide a forum to share views, both positive and negative, with RIO HQ staff and other GOB personnel and an opportunity to receive feedback from the SRIO regarding program, project and personnel performance. Although the seminars can, in the words of one RIO, have a salutary effect, they have been reduced by half in the past year.

Besides their formal education, another, and perhaps more important, element that expatriate RIOs can bring with them to Botswana is a relatively broad range of practical experience acquired through employment during school holidays or through innumerable other ways. The latitude provided in the RIO terms of reference allows the RIO to base his/her approach to the job on formal training and practical experience, the needs and resources of the district and the personal interests and motivation of the individual RIO. This combination has led to truly innovative projects.

Despite the bitter disappointment felt by the ARIOs over a lack of formalized training courses, the on-the-job training and experience gained from working with innovative RIOs is certainly not without its merits and is recognized by ARIOs as a valuable experience. In the medium to long-term, however, on-the-job training will not substitute for a formal upgrading of the ARIOs GCE-level education which is crucial to their future in the government service.

Earlier this year a study of ARIO training needs and options for providing these individuals with a diploma course was financed by the RSG. As a result of this exercise the morale of the ARIO Cadre was raised in anticipation of the training they had been promised for so long. At this writing, a training plan has been developed for AKIOs and is in the final stages of approval. However, MCI should recognize that it risks losing this valuable group of field trained extension workers if training is not provided for all members of the cadre.

Performance

The evaluation team believes that the stated objectives of the RSG Phase I were realistic and there was a sound relationship between these objectives and CI 08 activities financed by the RSG. The CI 08 sub-project provided the main thrust around which the GOB organized its small-scale Financial Assistance Policy which has generated rural employment in excess of the expectations of the individuals who designed the FAP program.

Nevertheless, there were (and still are) numerous implementation problems. These can be categorized as being institutional and managerial in nature and have potential ramifications for the success of the RSG Phase II.

As mentioned above, nine RIO positions are presently held by expatriates and one by a Motswana. The most critical problem facing the rural industries project has been the difficulty in recruiting qualified Botswana counterparts capable of replacing the expatriate RIOs. This has serious implications for the sustainability of the RIO program. Although MCI has been aware of the problem since the earliest RSG evaluation, the Ministry has managed to place only one Motswana university graduate in a RIO slot. Directorate of Personnel (DOP) recently recruited four university graduates to serve as counterparts to expatriate RIOs. As a result of attitudinal and motivational problems relating to rural postings, only one individual is still in the field.

In 1981, DOP began recruiting a group of secondary school leavers, many of whom did not hold full Cambridge Certificates, as Assistant Rural Industrial Officers. Lacking the skills or practical experience to advise rural producers on technical matters, they have nevertheless been valuable in terms of data collection and information dissemination regarding FAP, SPF and other RIO activities. Because of the ARIOs' deficiencies in formal education it was originally intended to develop a long-term training program for these individuals to correct these deficiencies and provide them with the necessary qualifications to allow them to advance to more responsible positions within MCI. USAID had earmarked funds for this purpose and recruited an expatriate trainer to develop a curriculum package for the ARIOs in conjunction with the Institution for Development Management. Recruitment delays and incompatibility problems once the trainer arrived in country has resulted in ARIO training to date totalling only three weeks (one two-week course and a seminar).

Phase I of the RSG made provision for a training officer whose responsibilities would, among other things, be the design of curriculum for a diploma course in business extension for ARIOs and other business extension personnel. Lack of absolute confirmation from GOB regarding its plans (or lack of them) for such an individual precludes USAID from taking any action regarding recruitment. Even if a formal request was received within a relatively short period of time, recruitment is a time consuming effort. Additionally, the time required to develop a new curriculum has been under-estimated by the design team. With so many academic and bureaucratic elements, a new curriculum for the diploma level could take years to complete. Given such a probability, it is recommended that MCI proceed with its plan to provide all ARIOs with long overdue training utilizing the Botswana Institute for Administration and Commerce (BIAC) as a venue for a certificate course whose curriculum is already in place. One must keep in mind, however, that ARIO training is a long-term solution of RIO localization. It is further recommended that GOB make a decision regarding whether it wants an expatriate trainer to develop a curriculum for business extension personnel. If such an individual is not required, Phase II funds allocated for this activity can be made available for more pressing needs.

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To help relieve the manpower constraints to RIO localization in the short run, the evaluation team suggests an alternate recruiting strategy. The existing BIAC Business Diploma curriculum consists of Accounting, Quantitative Methods, Communication Skills, Commercial Environment and Law, Cost and Management Accounting, Statistics, Data Processing, Economics and Principles of Management and Administration. While these courses are not a totally ideal mix for business extension service personnel, they would certainly provide sufficient academic background for a position as an RIO counterpart. Understudying with an expatriate could, over a relatively short period of time, provide the counterpart with sufficient experience to carry out the duties of a RIO. These individuals' skills could be upgraded periodically through in-service training provided by RSG monies earmarked for counterpart training. As such, it is recommended that while DOP continues its search for university graduates in economics and business, it seriously consider recruiting promising individuals with less than university degrees such as those possessing BIAC Business Diplomas.

An additional manpower constraint which has resulted in implementation problems, especially as they relate to the SPF and with long-term rep cussion for the success of FAP, is the lack of qualified Business Advisory Service (BAS) field staff. If the potential for rural small enterprise to diversify the economy and provide sustained productive employment is to be maximized, these enterprises must receive on-going skills training support.

The evaluation team found a generally low level of managerial skills comprehension among a majority of individuals who had received instruction from BAS personnel. Although the BAS merger with Botswana Enterprise Development Unit (BEDU) theoretically strenghtens BEDU's capacity to develop entrepreneurs' managerial skills, this did not manifest itself during the team's field visits.

Although knowledge of business skills is not as crucial an element as that of technical skills, poor management practices can cause business failure. Such a situation would undermine the success of FAP in generating rural employment. Since SPF monies are being used to provide producers an opportunity to learn business skills from BAS personnel, RIOs should guard against providing existing and potential producers with less than adequate skills training. RIOs, through help from the S^RIO, must search to find more resources appropriate for upgrading the skills of small producers.

Together with manpower constraints there is an institutional bottleneck which has plagued the project in recent years. As mobility is the most important element of a successful extension service, RIOs have in many instances been left without transportation or with inadequate transportation due to the cumbersome workings of the Central Transport Office (CTO). It is suggested that the S^RIO use his position as secretary of the newly formed Industrial Extension Co-ordinating Committee to lobby for a streamlined mechanism to replace vehicles. Since the RIO Cadre has effective responsibility for implementing the small-

scale component of the FAP and the project supported under the SPF, the cadre must be provided with the resources required to coordinate and implement the GOB's rural employment creation policies.

Managerial problems inhibited optional performance of the CI 08 sub-project during Phase I. While not considered to have hindered project implementation to the extent that manpower and institutional constraints have, they do have ramifications for the successful realization of Phase II of the RSG. Many of the managerial problems which have arisen at RIO headquarters can be attributed to the increasingly influential role of the RIO. Nevertheless, there are some issues that need to be addressed and changes made that could result in a more effective program under Phase II.

First and foremost, the SRIO is charged with the supervision, professional guidance and coordination of the operation of the Rural Industrial Officer cadre. Due to an increasing administrative burden, the SRIO and the SIO have been unable to develop much one-on-one rapport with RIOs in the field. Field visits are rare and although the SRIO communicates with RIOs over the phone and when they are in Gaborone for seminars or other business, RIO headquarters has seemingly been unable to communicate to the cadre what the RIO programs's priorities are. While in the field, the evaluation team did not get the impression that RIOs were aware of any particular set of priorities that had been defined by RIO headquarters. A case in point is the long overdue comprehensive data base on resource availability. None of the RIOs that were interviewed were aware that this was a major output expected from Phase I yet the SRIO's files contain numerous correspondence to RIOs requesting that they carry out this task. It would appear that memoranda are not an effective method of communicating program priorities. On the other hand, there appears to be a reluctance on the part of the RIOs, especially expatriate volunteers, to carry out RIO headquarters directives. Since this has potentially serious ramifications, MCI should seek to remedy the situation. It is further suggested that the Director of Industrial Affairs, in conjunction with the SRIO, review the program's priorities and that these be personally communicated to the RIO cadre as soon as possible.

Although the demands on the time of the SRIO, SIO and RIOs escalated significantly after the initiation of FAP, the surveys could have nevertheless been completed through the use of consultants as provided for in the SPF. RIOs stated that they were not aware of the end use of the surveys, namely to analyze the data in aggregate to ascertain the nature of the small enterprise sector in order to develop strategies for interventions. Such information would have allowed RIO headquarters to help guide RIOs in more effective use of SPF interventions.

Along the same lines, there is confusion among the RIOs as to their exact goals and objectives and the steps necessary to carry them out. Since the RIOs' terms of reference provide the RIO with a good deal of latitude, RIOs are pursuing experimental approaches to their jobs based on their background, experience, perception of district needs, special interests and motivation. There were numerous complaints regarding lack of feedback from headquarters and as a result it is not too difficult to envisage how RIOs might be able to be confused over what to do and which direction to take.

This same lack of understanding extends to the use of the SPF whose present guidelines have led to very creative projects some of which were outside of the spirit for which the fund was intended. RIO headquarters should review from time to time the activities for which the SPF is being used and make suggestions on optimal use of the SPF versus the NORAD-sponsored LG 17 small project experimental fund. Furthermore, RIO headquarters should provide guidance on exactly what constitutes 'demonstration' usage of the SPF.

The issue of lack of feedback also extends to the performance of the individual RIOs themselves. With little personal contact outside of the bi-annual seminars and occasional office visits by RIOs it is difficult to envisage how one might properly go about monitoring the performance of individuals for personnel evaluation purposes. Given the goal of localization, evaluation techniques must be developed to allow a Batswana staff of the future to be fairly judged for government service promotions.

Monitoring and evaluation should also be extended to the programs undertaken in the rural industry sector with which RIOs are involved. This would allow headquarters to coordinate activities which are being successfully implemented and to discontinue those which are not. It would provide a basis for RIO headquarter's decision making on whether or how to proceed in a particular area, as well as provide training in the analytical approach to evaluating such activities. It is highly recommended that RIO headquarters formalize its monitoring system as soon as possible in order to provide for standardization guidelines for data collection (both that which is internally collected and that which is collected by consultants) in order to allow for aggregate analyses to be performed.

Other particularly important areas in which to employ monitoring systems are in determining the cost effectiveness of different types of projects financed by the SPF as well as in an attempt to ascertain whether employment is created and/or productivity increased as a result of SPF intervention. Without such information it is impossible to determine which of the 499 SPF activities to date has had the greatest impact on the beneficiary group. As a result, RIO headquarter's ability to develop policy regarding the targeting of particular sectors and sub-sectors and corresponding strategies for implementation is a moot point.

The review team did not have the time to investigate whether some of those management practices considered to be lacking were tested during the tenure of the first SRIO and subsequently abandoned because they were inappropriate or unable to be implemented for whatever reason.

Preliminary Assessment of Phase II

Unless a series of steps are taken to rectify the problems identified in the Phase I evaluation, it appears that the success of Phase II could be jeopardized.

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First and foremost, the manpower issue must be resolved. But given the manpower constraints which currently confront Botswana, it is unrealistic to expect that a localization program for the RIO cadre can be accelerated unless MCI relaxes its academic requirements to the diploma level. If this will not be considered, it would appear unwise to expand the program thus making it even more dependent upon expatriate voluntary organizations. Indications are that CUSO's participation will not exceed five volunteers. Given the recent difficulties in timely recruitment of appropriate Peace Corps volunteers, an expanded program staffed by expatriates could be problematic.

The issue of ARIO training must be resolved as soon as possible. Unless the entire cadre is trained en mass, MCI risks losing a valuable extension resource.

The institutional bottleneck relating to vehicle replacement must be removed, especially as significant numbers of existing vehicles are near retirement. The vehicle is the support system for the RIO. Without it there is no program -- this is not an office-based activity. Likewise, the management shortfalls described above must be redressed in order for the program to move toward operational efficiency.

The comprehensive baseline investigations on resource availability, market potential and investment needs must be assembled immediately. Since it appears impossible to get RIOs to initiate these tasks in their districts, the SRIO must take the initiative to coordinate consultants to upgrade existing surveys and initiate new ones using a standardized methodology that will allow for aggregate analyses.

In addition to this research activity, SPF funds should also be used to review the 72 market surveys and feasibility studies that have already been completed to ascertain whether any of this information can be incorporated into the comprehensive data base.

After these activities are completed an accurate assessment of the small enterprise sector can be made. Subsequently, one can then ascertain where selected studies of the potential for product diversification should be conducted.

It is only after this mass of research (which must be periodically upgraded) has been carried out that the SRIO, or anyone else in GOB, will, for the first time, have the necessary tools to develop policy for small-scale industrial promotion. Only then will FAP and SPF be able to systematically assist small producers while attempting to diversify the economy.

As of the end of December 1983, some 394 small rural producers were provided with FAP grants. Of these, 81 percent were in the sewing, knitting, blockmaking, welding and carpentry sectors. Without proper information upon which to base an industrial promotion policy, the RIO cadre, as mandated implementors of small-scale FAP, would be likely to continue to assist these sectors until PDCs put

a moratorium on grants to these producers due to market saturation. This would not be judicious use of the RIOs' time nor of SPF monies. With a promotion policy, new products could be promoted and new markets explored in a realistic attempt to truly diversify the economy. However, one should not be deceived by believing that the country can readily absorb new products. One must remember that Botswana's small population has limited purchasing power for non-essential goods and services. Unless goods can be of higher quality than one commonly sees being produced in rural areas, the prospects for import substitution or export are limited.

In this light, the issue of absorptive capacity merits discussion. SPF expenditures during Phase I started off slowly but gained momentum during the first sixteen months of the project then declined in absolute terms during the year after FAP initiation and then more than doubled during the 1983/84 financial year. The later phenomenon may have been the result of increased demand for SPF projects or partially a result of RIO headquarter's encouragement to make expenditures prior to the end of Phase I allocations. Whatever the reason for the 1983/84 jump in expenditures, the RIO program was left with a surplus of Phase I SPF allocations as a result of the recent strength of the US dollar. Had the dollar not appreciated against the Pula, total SPF commitments would have been lower than illustrated in the table above. It is obvious from the SPF Phase I experience that 'moving' money is no problem. Since no monitoring was done during Phase I of the cost effectiveness of different types of training, studies or demonstrations, it is impossible to state whether the total Phase I RSG monies allocated to the SPF were spent effectively or not.

Phase II is envisaged as a more mature period for the RSG when start up problems in establishing its defined role and having it understood and accepted in the GOB and at the district level have disappeared. Phase II should be a period during which quality is to be emphasized over quantity since many of Phase I expenditures were for a large number of experimental projects, many of which, one would assume, failed. Lessons have obviously been learned and both SRIO and the RIOs are aware of what works and what doesn't.

If the requisite data called for under Phase I is collected and consolidated with what already exists and supplemented by selected research into product diversification, expenditures during the first year of Phase II will be relatively high. Subsequent years, however, should require less expenditures as the program funds fewer projects whose potential impact upon the targeted beneficiaries is greatest. Use of LG 17 funds for experimental pilot projects and other activities allowed for under that program will also contribute to slacken demand for SPF monies.

In summary, the prospects for a successful RIO program under Phase II are positive if steps are taken to correct the problems identified in the Phase I evaluation. A comprehensive investigation of resource availability, market potential and investments needs for

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the small enterprise sector coupled with product diversification research will probably reveal relatively limited potential for a significant diversification of the economy at the small-scale level in rural areas. As such, RIO activities during Phase II should be oriented towards upgrading the performance of select entrepreneurs who demonstrate potential as well as other activities called for under a small industries promotion policy to be developed by the SRIIO. The use of SPF monies should, therefore, be more limited than was the case in Phase I as the emphasis shifts from an experimental approach trying to reach as many people as possible to a more focused approach aimed at greater impact upon selected individual producers.

Conclusions

1. The RIO program was an extremely timely intervention which provided the main thrust around which the GOB organised its small-scale FAP which has generated more productive employment in rural areas than was anticipated by its designers.
2. The RIO program is proceeding well despite institutional bottlenecks and management shortfalls.
3. The most critical problem confronting the RIO program is the inability of the DOP to recruit qualified counterparts capable of replacing the expatriate RIOs. Such a failure has serious implications for the sustainability of the RIO program and is exacerbated by the program's planned expansion. MCI should begin to consider diploma holders as counterpart candidates.
4. Lack of a formalized monitoring system precludes an analysis of the SPF's impact on the beneficiary group. Such a system should be implemented immediately with an emphasis upon analysis of the cost-effectiveness of RIOs' involvement in projects of varying sizes (based on cost) and types.
5. Prospects for Phase II of CI 08 are bright. Research called for under Phase I and pending completion will probably demonstrate that a significant diversification of the economy by small scale producers in rural areas is unlikely. Phase II activities should emphasize projects whose potential impact upon the targeted beneficiaries is greatest rather than attempting to impact upon as many producers as possible.

Recommendations

1. Expansion of the RIO cadre should be contingent upon DOP recruitment of four Batswana counterparts for these new posts to understudy expatriate volunteers.

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2. While DOP should continue its attempt to recruit Batswana with university degrees in business and economics, it should seriously consider the recruitment of promising individuals with diploma level education for counterpart positions.
3. Since a vehicle is the most important support system of the RIO program, the CTO should prioritize the vehicle needs of RIOs and provide for a rapid replacement mechanism.
4. That a review of the RIO program's priorities be conducted by the Director of Industrial Affairs in conjunction with the SRIO and that these priorities be personally communicated to the RIO cadre.
5. In order to relieve the management constraints at RIO headquarters, MCI should create a third full time post staffed at the PR4 level. This individual should be mandated to handle the administrative responsibilities of RIO headquarters which is currently interfering with the guidance and coordination of RIO field staff.
6. Develop various methodologies for field testing which will allow the SRIO to evaluate the performance of individual RIOs.
7. Develop a methodology to analyze the cost-effectiveness of RIO involvement in activities of varying size (in terms of cost) and type.
8. Develop a standardized methodology to be used in the collection of country-wide data regarding resource availability, market potential and investment needs which will allow for compatibility required for aggregate analysis.
9. Identify qualified individuals to carry out and/or update the resource survey called for under Phase I.
10. Develop a systematic RIO post visitation schedule in order to:
(1) allow the SRIO to more accurately assess the area's needs thereby allowing for a more realistic basis by which to develop operational policy; (2) provide the RIOs with additional guidance and allow for input and feedback from the cadre; and (3) allow the SRIO to begin to test various evaluation techniques on rural industrial projects and individual RIO performance.
11. Increase the frequency of RIO seminars to three times per year with the major focus shifted to information sharing among the RIOs and the development of strategies to promote economic activities based on the cadre's field experience.
12. Clarify the Small Project Fund's guidelines with particular attention paid to adequately defining the parameters of 'demonstration' activities.

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13. GOB should make a determination regarding the development of a diploma curriculum for business extension personnel so that in the event that such a project is deemed unnecessary funds allocated for this activity can be made available for more pressing needs.
14. Arrange for the matriculation of all ten ARIOs at BIAC in a single group.
15. Encourage the appropriate use of other small scale productive activity funds such as LG 17.

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GAO2: WILDLIFE MANAGEMENT AND DEVELOPMENT

Objectives

The objective of this sub-project is to assess the ecological viability and economic soundness of various possible wildlife utilization schemes and to increase access to productive, income-generating employment through more effective utilization of Botswana's wildlife resources.

RSG funds were provided to finance: 1) the salary of an OPEX wildlife resource economist (WRE) who served as planning officer for wildlife projects in the Department of Wildlife and National Parks (DWNP) in the Ministry of Commerce and Industry (MCI); 2) consultancies on various aspects of wildlife utilization; 3) short training courses; and 4) study tours in and outside of Botswana. GOB was to provide logistic support for the WRE and the short-term consultants.

Achievements

The key to carrying out the objectives of this sub-project was the staffing of the economist position. The position, however, was not actually filled until March 1981 but this delay had no impact in terms of what was accomplished.

There was no progress toward reaching the End-of-Project Status of at least one project designed and implemented involving remote area populations. Although the GAO2 sub-project has been disappointing in terms of accomplishments, the WRE was not idle during his tenure at DWNP. The following are projects initiated by WRE and commissioned under GAO2.

1981-82

1. Investigation of the Present and Potential Markets for Wildlife Products. The report serves as a reference for Wildlife Management Area planning and utilization policy formulation.
2. Training Course in Hunting Wild Animals and the Field Treatment of Skins and Meat. This was a two-week field course for Game Scouts and RIOs. However, participants felt course provided insufficient knowledge. The expatriate project manager departed before follow-up courses could be organized.
3. Gameskin Groups Extension Project. Purpose was to organize, train and support village groups to hunt, treat wildlife trophies and sell them to local tanneries. RSG funds provided for logistical support.
4. Gemsbok Domestication Project. USAID withdrew its earmarked funds due to the controversy surrounding the project but provided an OPEX Project Manager. An alternate site had to be located and implementation did not begin until March, 1984.

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5. Pre-feasibility Study and Proposals for Establishing Small Mammal Fur Farms in Rural Botswana. Project approved by USAID but rejected by MFDP as not practical.
6. In March 1981, senior officials of MCI and DWNP visited Kenya on a study tour intended to familiarize these individuals with wildlife management techniques in Kenya.

1982/83

1. Pre-feasibility Study for the Establishment of Demonstration Game Farms. Project was intended to investigate the feasibility of implementing a game farm as a demonstration of this form of wildlife utilization and natural land management. Project was approved by USAID and MFDP but not implemented by DWNP.
2. Wildlife Extension Officer Cadre. Project was intended to broaden the non-formal education and extension activities of DWNP in order to create a greater conservation awareness among Botswana and assist rural development of wildlife utilization industries. Project memorandum was submitted to the Ministry of Finance and Development Planning (MFDP) but no action was taken.
3. Wildlife Development and Localization. Project memorandum was drafted calling for continued technical assistance to wildlife utilization development for three additional years while at the same time providing education and training for a Botswana Wildlife Resource Economist. No action was taken by DWNP.
4. Wildlife Culling during Drought. Project to commercially utilize a determined quota of animals to reduce grazing competition during drought and create rural employment opportunities. Lack of a Wildlife Utilization Policy prevent approval.

1983/84

1. Maun Wildlife Training Center. Project to upgrade to minimum standard the infrastructural and pedagogic resources of the training center opened in 1979. Project Memorandum submitted to MFDP.
2. Wildlife and Range Assessment. Project to establish a continuing, ongoing program for management decisions and implementation. Project Memorandum submitted to MFDP.
3. Okavango Swamp Crocodile Farm. Construction began in July, 1983 to export live crocodiles and skins. Twenty jobs will be created and is intended as a major foreign exchange earner. DWNP has yet to determine fee structure.
4. Ostrich Farming by Richmark Poultry. Pilot project to experiment with the capture and farming of ostrich and guinea fowl. Products are to be sold locally and exported.

Performance

The original terms of reference for the WRE called for the individual to be integrated into DWNP and charged with planning wildlife utilization development. However, these original terms of reference stipulated that the WRE would remain directly responsible to the MCI Planning Unit which, as in other line ministries, is responsible for identification, preparation and appraisal of development projects.

These original terms of reference were altered six months after the arrival of the WRE by MCI and DWNP and the post was placed under the direct control of the Director of Wildlife. This action was a seemingly unilateral action undertaken without consultation with the MCI Planning Unit on the Director of Economic Affairs who oversees economic planning.

As mentioned above, the function of the MCI Planning Unit is to prepare and monitor development projects. The change in the WRE's terms of reference effectively removed control of wildlife development planning from the Planning Unit and placed it in the hands of the Director of Wildlife. Since DWNP was not oriented toward the wildlife utilization concept and has been primarily involved in protection and conservation, wildlife development planning and implementation virtually came to a halt.

The situation improved somewhat with personnel changes in MCI but DWNP inaction and indecision on issues of wildlife development continued until the end of GA 02 funding. However, through the efforts of the Senior Planning Officer, some progress has been made towards developing a utilization policy statement which the WRE contributed to.

Conclusions

1. Secondment of the WRE to DWNP was a mistake since it put control over wildlife development planning in the hands of a department that was not oriented towards wildlife utilization.
2. The lack of a Wildlife Utilization Policy during the term of GA 02 precluded tapping wildlife utilization's vast potential for employment creation.