SECOND ANNUAL REVIEW

of the

RURAL SECTOR GRANT

Prepared for

USAID/Gaborone

and the

Government of Botswana Reference Group

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Second Annual Review of the Rural Sector Grant

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ACKNOWLEDGEMENTS

The Second Annual Review of the Rural Sector Grant took place between February 22 and March 13, 1982. The Review Team from Development Alternatives, Inc. (DAI) consisted of Tony Barclay (team leader), Don Humpal (agriculturalist) and Chris Dunford (land use planning specialist). James Seyler, a forestry specialist based at AID's regional office in Nairobi (REDSO/EA), was the fourth member of the team and is a co-author of this report.

The team would like to express its deep appreciation to all of the Government of Botswana officers who participated in the review. Special thanks are due to Ambrose Masilila, Coordinator of Rural Development; to Bill Jeffers, Communal Area Coordinator in the Rural Development Unit; to planning officers and technical officers in the Ministries of Agriculture, Local Government and Lands and Commerce and Industry, who assisted the Review Team; and to the numerous officers who were interviewed during visits to the Districts. Mr Paul Guedet, Assistant Director for Projects at USAID, gave excellent support and guidance to the team throughout the course of this review, and the team would like to record its appreciation.

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SECOND ANNUAL REVIEW OF THE RURAL SECTOR GRANT

INTRODUCTION

The main purposes of this report are to review progress to date of sub-projects financed under the Rural Sector Grant (RSG) and to present recommendations for the allocation of USAID funds to this project during Year 3 of the Grant, which corresponds to the Government of Botswana's 1982/83 fiscal year. USAID has contributed $1.25 million in each of the first two years and has $1.28 million available for the third year. The programming of funds under the grant is based on annual obligations of funds by USAID after the Government of Botswana has submitted an implementation plan for review. This report provides USAID and the Government of Botswana (GOB) with a basis for joint decision making.

This is the fourth consecutive year in which Development Alternatives, Incorporated (DAI) has assisted the USAID and the GOB with analysis and review of the sector grant approach to rural development. The initial visit in 1979 produced the Botswana Rural Sector Study, which was widely distributed within Botswana, and a Project Identification Document for this innovative project. In 1980, a team from DAI assisted with the preparation of a Project Paper, and in February - March 1981 the firm provided a five-person team for the first Annual Review of the RSG. Continuity of personnel on these teams has ensured familiarity with the basic rationale of the sector grant mechanism, with the GOB institutions involved in implementation and with the content of individual sub-projects supported under the grant.

This report contains an overview of RSG performance in relation to the stated goals of the project, a discussion of the financial situation as of the end of Year 2, and a summary of the team's principal recommendations regarding Year 3 proposals. The recommendations specifically concern the allocation of the remaining $1.28 million by USAID and the GOB before or immediately after the start of the new fiscal year. Brief comments are also provided on the potential form and content of a project extension subsequent to Year 3; although USAID is not committed to fund an extension, this possibility will receive further consideration over the next six to nine months.

Detailed commentary on each RSG sub-project follows the overview section, and the reader is referred to those sections for a full description and analysis of the activities that are being supported under the grant.

OVERVIEW OF RURAL SECTOR GRANT PERFORMANCE

The overall purpose of the Rural Sector Grant is to assist the GOB in the development and implementation of strategies to provide the rural population with increased access to productive employment opportunities. The common characteristics of all projects financed under the grant is that they either have a direct impact on production and incomes at district level or address broader constraints that must be overcome

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before production-increasing interventions can be undertaken. Within this broad context, the RSG has three sub-purposes:

-- to improve land use planning and land management in communal areas;

-- to increase small scale agricultural production and income; and

-- to increase non-farm employment opportunities in rural areas.

Activities financed by the RSG are grouped according to the purpose to which each is related. Each group is discussed separately below. In November 1981, AID carried out a mid-term evaluation of the RSG which examined project performance in relation to its three sub-purposes or groups of activities and the specific objectives within each group. Though at that time the RSG had been active for only 1½ years, the evaluation concluded that the project was making good progress in achieving its goals. The following overview of each group re-examines the progress of the RSG in achieving its three sub-purposes in light of performance during the last two years (Years 1 and 2) and proposals for activities during the next year of the grant (Year 3).

Group I: Land Use Planning and Management

This category of projects has three stated objectives: (1) to improve the effectiveness of Land Boards, (2) to prepare and implement land use plans for communal areas, and (3) to formulate a water development strategy for the arable lands of Eastern Botswana. During Years 1 and 2 of the RSG considerable progress occurred in achieving the first and third of these objectives. Under the sub-project, Development of Land Institutions (LG 36),[1] eight Subordinate Land Board offices have been constructed and Land Boards have been supplied with office, camping and technical equipment necessary for them to perform their land allocation tasks. Training courses have been developed for Land Board members and staff. Also, a team from Cornell University in Year 1 of the RSG completed a detailed policy-oriented study of how water points are used in Eastern Botswana. The information generated by this survey is directly applicable to policy formulation related to water development in communal areas.

There was less progress in achieving the second objective; the sub-project, Implementation of Integrated Land Use Plans (LG 31), funds investigation, planning and initial implementation of integrated land use development in the communal areas. During Years 1 and 2, RSG funded activities in the following categories: pilot lands inventory, water points inventory, demarcation of Subordinate Land Board boundaries, development of a communal service center, applied research and Communal First Development Area (CFDA) land use planning. For Year 3, it is proposed that RSG fund a lands inventory, three water points surveys and three applied research projects. In addition, the balance of a Year 2 fund for CFDA planning (LG 31) will be available for similar activities in Year 3. A complementary general fund for CFDA consultancies (DP 01) was established for Year 2. The balance of the fund will be available for consultancies in Year 3.

These diverse project activities address important components of land use planning and management in communal areas, but with the exception

[1] Project numbers used in this report refer to Project Memoranda which are the basic documentation used in the design and approval of projects by the GOB.

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of LG 31 activities in Western Ngamiland, RSG funds have not directly contributed to District programs to generate land use plans for development of communal areas. With the advent of government policy (at the end of Year 1) to initially concentrate District efforts on development of high priority communal areas, called Communal First Development Areas (CFDAs), it was hoped that RSG funds would be requested for LG 31 activities to prepare and/or implement land use plans for CFDAs, as in Western Ngamiland. However, the proposals for Year 2 and Year 3 activities remain a mixture of diverse projects which emphasize information collection rather than planning. These proposals are worthy of RSG support, but it is disappointing that there has been little District-level initiative to use RSG funds in support of coherent, comprehensive planning for CFDAs.

There are several plausible reasons for lack of District initiative. Most important may be that the strategy of concentration on relatively small priority areas is not fully accepted or understood. The political repercussions of favoring one area of a District are feared. The administrative implications of diverting staff from District-wide to local area concerns are unknown. There is only vague guidance from Central Government on what should be the relationship between local-level planning and the operations of the District Administration, the Tribal Administration, the Land Boards and the Ministry of Agriculture.

While the importance of local participation in village-level land use planning is recognized as the starting point for CFDA planning, there is no consensus in the GOB on how local-level land use planning is to be carried out or even on what land use planning means at the village-level. The information needs for planning at this level are subject to considerable dispute. The need for a facilitator-animator-coordinator to start up and sustain CFDA planning through dialogue with village institutions is clearly recognized, but it is quite unclear who should play this role. The DO(D) or DO(L) has the training and the position to effectively link CFDA planning with district and national programs and to integrate the interventions of these programs in the CFDA; however, these officers already have far too many roles and responsibilities in the district administration. Assistant Community Development Officers and Agricultural Demonstrators are in the most accessible and professionally appropriate position to act as facilitators at the village level, but their experience and training are too limited and their roles are too narrowly defined to allow them to effectively facilitate or coordinate integrated village development activities without considerable moral, intellectual, administrative and logistical support. The recently proposed solution is to create a new post of 'CFDA Coordinator' to be filled by a well-trained, experienced generalist. This could be a good compromise, if it does not effectively isolate concern for CFDA development by delegating it to a person outside the mainstream of district government.

Given these many unresolved issues in CFDA planning and development, it is perhaps obvious that districts would be slow to take advantage of funds available for communal area land use planning. For this reason, the RSG can be most effective by helping the GOB to resolve these difficult issues by:

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-- focusing information collection activities (water points surveys), pilot activities (lands inventories) and applied research (especially the local institutions research) proposed under LG 31 on the CFDAs and the important issues of land use planning in these areas;

-- funding national and district-level seminars on communal land use planning, through the general Project Memorandum for CFDA Land Use Planning and Implementation; and

-- encouraging MLGL and MOA, especially, to learn lessons from the experience of pioneering efforts such as the Ngamiland CFDA program and use these lessons to provide clear guidance to all district CFDA programs.

Group II: Agricultural Production and Incomes

As specified in the original project design, the objectives of this set of projects are: (1) to facilitate production-related inititives by farmers groups; (2) to test ways of diversifying agricultural production; (3) to carry out pilot activities necessary before the GOB's Arable Lands Development Program (ALDEP) could get fully underway; and (4) to upgrade MOA field staff skills in project formulation, design and implementation. Funding for Year 1 encompassed the second and third objectives. In Year 2, the first objective, to facilitate production-related initiatives, was supported through the Small Projects mechanism (AE 10). No plans to finance MOA field staff training were advanced in Years 1 and 2, although ALDEP pilots and AE 10 were seen as providing valuable work experiences that would increase staff effectiveness in the medium term. A proposal aimed at improving the communications and extension skills of field staff working with smallholders, as well as directly improving information flow to farmers, has been submitted with a request for Year 3 funding by the Agricultural Information Service of MOA.

Under the objective of facilitation of production-related initiatives by farmer groups, the RSG funded Year 2 activities of AE 10. While there has been a significant growth in demand for funds to support small projects, there has been very little monitoring of the implementation status of individual projects. Drift fencing and vegetable gardening projects have dominated Year 2 grants, but the lack of evaluation of results and potential import by the Agricultural Field Services headquarters unit means that it is not possible to judge the program as a whole. The Ministry of Agriculture is passing up a valuable opportunity to examine the feasibility of decentralized systems for agricultural project identification, design and implementation.

There are two activities which fall under the rubric of diversification: horticulture (AE 11) and forestry (AE 15). After a protracted delay due to AID's environmental review requirements, the horticulture project had to be re-designed to fit water availability, smallholder management capacity and institutional constraints. Fusion of the project with older horticultural initiatives has led to improvements in technical operations. The potential for greatly improved production and marketing efficiency has been identified, but its realization is blocked by the problems of transfer of financial planning and management to poor smallholders, and over-whelming competition from South Africa. The key to the estates'

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viability will be whether or not they can gain a firm market position, and do so affordably. This is unlikely to be determinable by the end of Year 3.

The Rural Afforestation Project (AE 15) has been constrained by lack of manpower, dependence on excessively capital-intensive practices for site and seedling production and establishment, and by its dependence on a very narrow species spectrum. While enthusiasm for woodlot activities is high in the project areas, unless less costly and less management-intensive technologies are developed, it seems doubtful that participants will obtain an economic return, or that a national village woodlot program can be sustained.

It appears very unlikely that RSG support to the ALDEP pilot scheme (concentrated in Year 1) will significantly influence the components of the main ALDEP outreach program. RSG funding was predicated on the assumption that careful evaluation of the pilot packages would result in the adaptation of the interventions to different ecological zones, and to the needs of different socio-economic groups. An evaluation has taken place, but only after the main ALDEP outreach program had already begun. The limited scope of the evaluation, and its failure to examine the farm-level financial feasibility of the planter/ cultivator package studied, probably means that little significant adaptations of ALDEP technology will occur as a consequence of RSG interventions.

The Agricultural Information Service of the MOA has drafted a project memorandum that requests Year 3 funding of P68 400. The project is aimed at reducing the information constraints to implementation of rural production and employment projects such as SLOCA, ALDEP, AE 10, the CI 08 Small Projects Fund, CFDA (Communal First Development Areas) planning and others. At the time of this Annual Review, the PM was still under-going revision to better present the approach to reduction of information-based constraints, and to detail the system for monitoring and evaluation of materials and methods, in order to ensure that the desired impact will be achieved. It is expected that the approved PM will be available for Reference Group Review by 31 March 1982.

A general assessment of Group II sub-projects in the first two years leads the Review Team to focus on deficiencies in ministerial monitoring and follow-up of implementation. The pilot nature and inherent complexity of all these sub-projects demanded a substantial investment of staff time to permit the careful evaluation and modification of technologies, management systems, implementation arrangements and institutional linkages to meet the demands of different environments and the needs of different socio-economic groups. While it may be argued that the Ministry was rationally trading off the costs of monitoring with the need to promote and support established programs, it is difficult to understand how improvements in arable agriculture and diversification will occur unless pilot project managers can identify the implementation problems (or successes) which determine the viability of their activities. The need for MOA project managers to critically examine project implementation processes and to carry out the indicated activity modification is consistently reflected in the Review Team's recommendations for the individual sub-projects.

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Group III: Non-Farm Income and Employment

Substantial progress has been made in this component of the Rural Sector Grant, mainly through the successful establishment by the Ministry of Commerce and Industry (MCI) of a cadre of Rural Industrial Officers (RIO). The RIO program (project CI 08) is new, and there is a serious shortage of qualified Batswana to fill these posts. But the essential first steps are being taken towards eventual localization; and in the meantime, information on existing and potential productive enterprises is being assembled, and direct assistance is being made available to producers (mainly in the informal sector) through a Small Projects Fund managed by RIOs.

It is now clear that the objectives of increased employment and higher non-farm incomes will require a sustained long-term effort on the part of both the public and private sectors. MCI has made effective use of RSG funds by developing its capacity to contribute to this effort. The GOB is about to launch a nationwide Financial Assistance Program (FAP), and half of the P5 million pledged for the FAP is earmarked for subsidies to small scale projects in the rural areas. This initiative creates both opportunities and risks for the RIO program, with its limited extension capability, and the integration of the FAP with on-going CI 08 activities is a matter of urgency for the two ministries concerned, MFDP and MCI.

Efforts to develop both a wildlife utilization policy for Botswana and specific projects in this sector have not yet paid off. RSG funds under sub-project GA 02 (Wildlife Management and Development) are supporting a wildlife resource economist in the Department of Wildlife and National Parks, along with short-term consultancies and study tours. Activities under GA 02 only got underway in Year 2, and it is still too early to tell whether the Department of Wildlife and National Parks will move decisively to plan and implement wildlife utilization projects that may offer substantial benefits to poorer members of the rural population in remote areas.

FINANCIAL STATUS AS OF MARCH 1982

By its very nature, the Rural Sector Grant poses certain obstacles to routine financial monitoring. First, there are two categories of funds and those disbursed directly by USAID in dollars, and those reimbursed to the Government of Botswana in pula, based on the prevailing exchange rate at the time that each request for reimbursement is processed by the USAID controller. Second, expenditure rates vary among sub-projects, and the GOB's computerized system tends to run several months behind actual expenditures by the implementing ministries. Third, the decentralized nature of many of the activities funded under this grant mean that data within central ministries may reflect allocations (sub-warrants) to district authorities or non-governmental organizations without supporting data to confirm that the approved activities have actually been implemented and that funds have been spent.

These inherent difficulties have two important implications for this review and for the utilization of funds over the remainder of the RSG period, which runs until June 1985. One result has been that members of the Review Team had to obtain much of the data needed for the financial analysis from planning officers in each ministry (by interviews, and in some cases by reviewing detailed files on sub-projects),

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rather than having it available to them at the beginning of the consultancy. This has been extremely time-consuming and does not represent an efficient use of the individual team members' time, given their mandate. A similar situation arose at the time of the first Annual Review, and there was no noticeable improvement in the quantity or quality of financial data assembled this year prior to the Team's arrival. The formal developed in the course of this Annual Review is straightforward, and it is strongly recommended that it be used by the GOB -- at the sub-project level in ministries, and at the aggregated level for the RSG by the Rural Development Unit in MFDP -- to display comparable financial data before any future review is begun. Since GOB officers and documents are the source of all this information, it is entirely reasonable to ask that this be done.

There is also implications for both RSG budgeting and expenditure in the fluctuations in value of Botswana's currency (the pula) relative to the US dollar. The original Year 1 (1980/81) budget was based on an exchange rate of P1 = $1.27. Over the next twelve months, the rate climbed to above $1.40, and then dropped: in February 1981 at the start of the first Annual Review it was $1.36, and by March it fell to $1.31. The decline of the pula has continued since then, reaching $1.10 as of March 12, 1982. The result of this is that reimbursements requested in Year 1 tended to consume more funds out of the grant than had been budgeted (at $1.27), while claims in Year 2 have not required as many dollars as were budgeted when the rate was P1 = $1.36. Overall, the net effect has been in the GOB's favor, and as of now there is a 'reserve' of dollar funds within the RSG against which reimbursements can eventually be claimed, in excess of the amounts originally budgeted in pula. This situation should arise again in relation to the dollar; in any event, however, only activities within approved sub-projects in conformity with RSG criteria are eligible for such reimbursement.

These comments provide a framework for examining the data in Table 1, which displays the financial situation of the RSG at the end of Year 2. The figures shown for each sub-project are drawn from tables accompanying the detailed reviews of those sub-projects. Pula figures in column (1) are based on the 1980 rate of $1.27, and the figures in this column reflect the breakdown of the first RSG tranche of $1.25 million. All dollar amounts shown in Table 1 (and in all tables in this report) represent funds managed and disbursed by USAID. Column (2) shows unspent balances in dollars and pula at the end of Year 1 relative to the amounts budgeted. In column (3), however, the distribution of funds from the second tranche (also $1.25 million) reflects an exchange rate of P1 = $1.36. (As explained above, the subsequent fall in the value of the pula means that some excess dollars would remain available after the GOB claimed reimbursement for the full P that was budgeted.)

Column (4) combines carry-over funds from Year 1 with the allocations of Year 2 RSG funds to show the total expenditure anticipated prior to the start of the fiscal year. Columns (5) and (6) reflect the best available information on expenditure through March 31, 1982 and balances to be carried over to Year 3. The accuracy of these figures is judged to be sufficient for planning purposes, with the exception of AE 10 (see the detailed review for a discussion of the problems encountered with this sub-project).

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Table 1

RURAL SECTOR GRANT

FINANCIAL SITUATION AFTER TWO YEARS

Project	(1) RSG Budget Year 1	(2) Balance remaining end of Year 1	(3) RSG budget Year 2	(4) RSG funds available for Year 2 (col 2 + col 3)	(5) Estimated Expenditure Year 2	Estimated balance end of Year 2
LG 31	$ 32 510 P 61 169	$ 29 732 P 43 659	$ 95 955 P113 865	$125 687 P157 524	$125 687 P100 834	$ - P 56 690
LG 36	P172 700	P103 979	P137 000	P240 979	P162 020	P 78 959
AE 10	-	-	P 50 000	P 50 000	(unknown)	(unknown)
AE 11	P 99 555	P 99 555	-	P 99 555	P 51 443	P 48 112
AE 15	P 58 228	P 43 733	P 79 261	P122 994	P 59 131	P 63 863
AE 19	P180 500	P 54 390	-	P 54 390	P 33 998	P 20 392
CI 08	$ 50 800 P128 150	$ 40 800 P 59 117	$ 40 650 P204 432	$ 81 450 P263 549	$ 30 000 P 94 918	$ 51 450 P168 631[1]
GA 02	$ 60 960 P 32 000	$ 60 960 P 28 692	P 65 280 P 32 000	$126 240 P 60 692	$ 55 310 P 27 938	$ 70 930 P 32 754
IP 01	-	-	P 45 000	P 45 000	P 10 000	P 35 000
Water Points Survey	P 41 540	P 6 518	-	P 6 518	-	P 6 518
Baseline Studies	P 22 028	P 14 278	P 772	P 15 000	P 5 000	P 10 000
Communal Area Coordinators	$ 45 000	-	$ 45 000	$ 45 000	$ 45 000	-
External Evaluation (AID)	-	-	$ 52 415	$ 52 415	-	$ 52 415
DAI Annual Review	$ 50 000	$ 20 000	$ 50 000	$ 70 000	$ 40 000	$ 30 000
TOTALS	**$239 270** **plus** **P795 860**	**$151 492** **plus** **P453 924**	**$349 300** **plus** **P662 280**	**$500 792** **plus** **P1 116 204**	**$295 997** **plus** **P595 282[2]**	**$204 795** **plus** **P520 919[2]**

[1] Includes P82 000 committed but not yet spent under the Small Projects Fund.

[2] The pula total in column (5) is lower than the actual expenditure due to the exclusion of AE 10; similarly, the total in column (6) may be understated.

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Table 2

RURAL SECTOR GRANT

FINANCIAL PROJECTIONS FOR YEAR 3

Project	Funds carried over from Year 2	Funds needed for continuation or completion of ongoing activities	Balance Available for new Year 3 Activities	Funds needed for new activities in Year 3	Allocation from Year 3 RSG Funds	Total planned Expenditure in Year 3
LG 31	$ - P 56 690	$ - P 22 240	$ - P 34 450	$222 787 P348 803	$222 787 P314 353	$222 787 P371 043
LG 36	P 78 959	P 78 959	P -	P -	P -	P 78 959
AE 10	(unknown)	(unknown)	(unknown)	P 50 000 ?	P 50 000	P 50 000 ?
AE 11	P 48 112	P 48 112	P -	P 83 096	P 83 096	P131 208
AE 15	P 63 863	P 29 695	P 34 168	P139 960	P105 792	P169 655
AE 19	P 20 392	P 20 392	P -	P -	P -	P 20 392
CI 08	$ 51 450 P168 631	$ - P 96 906[1]	$ 51 450 P 71 725	$170 000 P261 015	$118 550 P189 290	$170 000 P357 921
GA 02	$ 70 930 P 32 754	$ 70 930 P -	$ - P 32 754	$ - P 32 754	$ - P -	$ 70 930 P 32 754
DP 01	P 41 518	P -	P 41 518	P 41 518	P -	P 41 518
Baseline Studies	P 10 000	P -	P 10 000	P 10 000	P -	P 10 000
Communal Area Coordinator plus unused amount from AID Evaluation	$ - $ 52 415	$ - $ -	$ 52 415	$100 000	$ 47 585	$100 000
DAI Annual Review	$ 30 000	$ 30 000	$ -	$ -	$ -	$ 30 000
TOTALS	$204 795 plus P520 919	$100 930 plus P296 304	$103 865 plus P224 615	$492 787 plus P967 146	$388 922 plus P742 531	$593 717 plus P1 263 450

[1] This assumes P82 000 committed under the Small Projects Fund will eventually be disbursed.

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When columns (1) and (2) are compared it can be seen that 63 percent of budgeted dollar funds and 57 percent of budgeted pula funds remained unspent at the end of Year 1. Implementation performance, in terms of the capacity to utilize RSG funds, improved considerably during Year 2. The estimates in column (6) of unspent funds as of March 31, 1982 represent only 34 percent of the cumulative dollar amount (columns (1) and (3) combined) and 36 percent of the pula amount budgeted in the first two years. In the case of the pula figure, if P83 000 committed (and not yet spent) for CI 08 Small Projects is subtracted from the balance shown then almost three-quarters of funds budgeted in the first two years of the grant will have been utilized.

Special attention has been given here to the financial situation because of the diffuse nature of the sector grant mechanism. This does not mean that the capacity to spend money should be equated with successful implementation performance, however, and readers are encouraged to study the detailed sub-project reviews to obtain a more complete and balanced picture of RSG-financed activities.

RECOMMENDATIONS FOR YEAR 3 FUNDING

Table 2 contains financial projections for the 1982/83 fiscal year, incorporating the Review Team's recommendations for allocation of the remaining RSG funds. The figures in column (1) are identical to those in column (6) of the preceding table. In column (2), estimates are given of the carry-over funds needed for activities that are already underway (details appear in the individual sub-project reviews). This includes, for example, the costs of Land Board training courses under LG 36, completion of the three small horticultural estates under AE 11, and the eventual disbursement of money committed for small scale industrial projects under CI 08. The balance available for new activities after these commitments are met appears in column (3).

Although provisional estimates of Year 3 requirements were drawn up in previous years -- both in the RSG Project Paper and in last year's Annual Review -- many of the underlying assumptions have been modified during the life of the grant. As a result, GOB requests submitted for Year 3 did not always correspond to earlier projections.

The figures in Table 2 are based on the recommendations of the Review Team, which differ in several instances from the proposals put forward by the ministries concerned. Here is a summary of the main recommendations, with changes from the GOB proposals noted where applicable.

-- LG 31: RSG funding is recommended for three projects to be undertaken by the Applied Research Unit (local institutions, access to land and the Tati Siding land inventory follow-up), and for water points survey in three districts. An Applied Research Unit proposal for research on land tenure in major villages (P62 000) was judged inappropriate for inclusion in the RSG and is omitted from the total.

-- LG 36: The large balance carried over appears more than adequate for Year 3 needs, and no additional RSG funding is recommended.

-- AE 10: Serious problems in MOA's reporting for this sub-project led the Review Team to recommend a reduction in the Year 3 allocation from P100 000 to P50 000.

-- AE 11: Estimates for the new estates in Kgatleng District have been reduced by MOA in the course of re-designing this sub-project. Funding under the RSG is recommended at the level requested in the revised PM.

-- AE 19: No additional funding was requested, and none is recommended for this sub-project.

-- CI 08: Dollar funding for a two-year period is recommended for both the Senior Rural Industrial Officer and Training Officer posts. Replenishment of the Small Projects Fund is recommended in order to provide P160 000 for Year 3, and the balance of the pula amount shown for CI 08 would be spent on the Ministry's training and localization program.

-- GA 02: This activity has been limited to technical assistance, consultancies and study tours intended to lay the foundation for major long-term wildlife utilization projects. No new RSG funds are required at this time due to the amount of carry-over funds available. The Review Team recommends that the dollar-funded Wildlife Resource Economist position be supported through Year 3, but believes that a decision to extend it beyond March 1983 would be premature.

-- DP 01 and Baseline Studies: The amounts carried over are expected to be adequate for Year 3 requirements, and no new RSG funding is recommended.

-- Communal Area Coordinator: This position is of crucial importance for RSG monitoring and management. Support for an additional two years (through June 1984) is recommended. Unused funds from the external evaluation of November, 1981 (conducted by AID personnel rather than consultants) can be applied towards the estimated costs of $50 000 per year.

-- DAI Annual Review: A balance of approximately $30 000 will be available during Year 3 to finance further consultancies in support of the RSG, possibly including assistance with design of a second phase.

The recommended allocations from the third tranche of $1.28 million appear in column (5) of Table 2. Using an exchange rate of P1 = $1.12, the allocation of $388 922 plus $742 531 are equivalent to $1 220 557, leaving a balance of $59 443 not yet earmarked.

There are several possibilities for utilization of the unallocated funds. One would be the restoration of AE 10 funding to the requested P100 000 level, which would consume P50 000 ($56 000). Another would be a guarantee to support the Wildlife Resource Economist post in DWNP through 1983/84, which would require a similar amount of money. However, the Review Team does not consider either of these options necessary or advisable at this time.

Other options exist with two PMs that were drafted during the course of the Annual Review and have not yet been put in final form, let alone formally approved by the GOB. The Agricultural Information Service (AE 06) request is for P68 400 ($76 608) while the proposed Financial

Assistance Program training/promotion project (DP ?) would request P65 000 ($72 800). Both projects are potentially suitable for RSG support, and the GOB regards both as important. There is a possibility that the Financial Assistance Program will be funded from other sources, in which case it would be withdrawn from consideration for the RSG. The Agricultural Information Services' proposal needs further attention from the Ministry of Agriculture's Planning and Statistics Division. No major technical problems have surfaced, however, and thus joint USAID/GOB approval of a finished PM for AE 06 would be a routine matter if both parties wish to earmark funds for it. This would take place at any time prior to or following the start of Year 3.

FUTURE PROSPECTS

This report focuses primarily on the performance to date of the RSG, and on the funding requirements for 1982/83. No formal request has been made by the GOB for an extension of the grant with additional funds, but this is expected to occur during Year 3. USAID and the GOB have had the benefit of an external evaluation that endorsed the idea of an extension, but the availability of funding within the overall AID budget has not yet been determined.

Several brief recommendations are offered here in anticipation of a future Project Paper revision or a complete re-design leading to additional funding for the RSG:

-- The RSG is a project mechanism well suited to the system and requirements of the Government of Botswana. As such it would benefit from an internal GOB evaluation that is not limited to financial issues, but examines implementation problems and defines ways to strengthen inter-ministerial coordination.

-- An internal evaluation of this kind should re-examine the criteria established for the RSG and the provision for adding sub-projects from year to year. Specifically, it would consider whether a narrower or broader focus is required in a second phase of the RSG.

-- There appear to be strong substantive and administrative arguments for sharpening the focus so that a smaller number of sub-projects is involved (possibly one each in Groups I, II and III). This might lighten the monitoring burdens while concentrating donor resources on those activities that have gone well in the first phase.

-- While CI 08 and LG 31 are umbrella sub-projects that could stand alone as components of a streamlined RSG, there is no obvious candidate among MOA sub-projects currently being assisted (though AE 10 has significant potential).

-- Both USAID and the GOB might consider whether RSG resources should be predominately (or exclusively) concentrated on CFDAs during a second phase.

-- Design assistance, whether from DAI or another source, can be used much more effectively for an RSG extension if these and other issues are thoroughly explored before the consultants arrive.

GROUP I: LAND USE PLANNING AND MANAGEMENT

LG 31: Implementation of Integrated Land Use Plans

DESCRIPTION

This sub-project serves as a funding umbrella for a variety of activities relating to land use planning. A major issue in the creation of a viable rural development program in Botswana is the need to evolve methods for the proper utilization of commonly-held land. LG31 has been designed to provide assistance to Districts in the development of productive activities and the essential services to support such activities. LG 31 especially seeks to support investigation, planning, and initial implementation of integrated land use development. The objective within the context of the Rural Sector Grant (RSG) is to provide a foundation for development of productive activities in the communal areas. During Years 1 and 2, several activities were funded by RSG. These activities can be grouped into the following categories: pilot lands inventory, water points inventory, demarcation of Subordinate Land Board boundaries, development of a communal service center, applied research and Communal First Development Area (CFDA) land use planning.

Pilot Lands Inventory

Two small-scale pilot activities were proposed for Year 2; the Tlokweng Arable Land Registration Pilot Project (Tlokweng Land Board, South East District), and Ntlhantlhe Pilot Land Inventory (Ngwaketse Land Board, Southern District). Both activities followed a project design like that of the Ngamiland pilot (Year 1). A new activity, Barolong Farms Arable Inventory, was proposed for a two-year period (Years 2 and 3). Building on two recent lands inventory and registration pilots in the Barolong Farms area (Rolong Land Board, Southern District), this activity was intended to inventory and register all the cultivated fields in the Rolong Land Board area. It is the first attempt to develop a comprehensive land registration program for an entire Land Board area.

All pilot activities are monitored by the Commissioner of Lands, MLGL, with a view to eventual development of a nation-wide land inventory and registration system for communal areas.

Water Points Inventory

The Southern District Water Points Survey differed from the MOA Water Points Survey (Year 1) in that it was to be a complete inventory of existing water points rather than a sample survey. The inventory included description, ownership, location, and land use data. Funds were requested to finance a consultancy which would bring together information held by the Department of Water Affairs, the Geological Survey Department and the Water Apportionment Board about boreholes and dams in the district. More specific information was to be gathered in the field about wells, haffirs, haffir dams, springs, and sand rivers for the communal areas in the district.

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Demarcation of the SLB Boundaries

In those Land Board areas which are divided into several Subordinate Land Board (SLB) areas, confusion often exists among members and staff of continguous SLBs over jurisdiction. Substantial time and resources are required to resolve disputes, adversely affecting land use planning. Two proposed activities, Demarcation of Ngwaketse Sub-Land Board Boundaries (Southern District) and Demarcation of Ngwato Sub-Land Board Boundaries (Central District), were proposed to permanently demarcate the SLB boundaries.

Development of Communal Service Centers

The Lepashe Communal Service Center was designed to establish infrastructure for a service center in the Lepashe commercial ranching development area, providing services to the ranching enterprises as well as to the people resident on the ranches and in the communal area adjacent to the ranches. These services include a communal borehole, a small school, a health post, and an office/storeroom as the base for various extension services to promote development of productive activities in the new settlement area.

Applied Research

The Applied Research Unit of MLGL put forward a proposal for Research on the Role of Local Institutions in Communal Area Development. Under the terms of a Memorandum of Agreement between GOB and the University of Wisconsin Land Tenure Center, three rural sociology researchers from the Land Tenure Center would be funded by this activity. The research team was augmented by a researcher from the Rural Sociology Unit of the MOA and the Head of the Applied Research Unit, who acted as overall monitor of the research activity. Working in four officially-designated Communal First Development Areas (CFDA), the team's research was broken into two phases: (a) identification of area-specific institutional problems which significantly affect prospects for collaboration between regional/district level officials and villagers on land management and development projects--through examination of literature, files, discussion, and inventory of village institutions and institutional relationships (the latter activity using university student enumerators); and (b) in-depth participant observation and analysis of the research problems identified in the first phase. The problem selection, analysis, and report writing were to be specifically targeted on formulation of government policy for development activities in the communal areas.

Communal First Development Area Land Use Planning

The Western Ngamiland Land Development Project was designed as a three-year activity which aims to provide a land use plan for improving agriculture in the Etsha-Gomare-Nokaneng village area, which has good potential for increased crop production. This village area has been designated as the Ngamiland CFDA. During the first year (Year 1) a pilot lands inventory was carried out on Tubu Island near Gomare. Activities planned for Year 2 included a second lands inventory project in two of the Etsha villages, a consultancy on land tenure in the CFDA

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with emphasis on the conditions before and after the inventory on Tubu Island, a consultancy to map and describe current land and water use and land/water use problems in the CFDA, and consultation with village institutions on land/water use problems identified by the previous consultancy.

A general Project Memorandum, CFDA Land Use Planning and Implementation, was prepared for Year 2 funding. Its purpose was to provide extra funds to support village-level land use planning and management by assisting the land institutions in the CFDAs and strengthening the links between them and the communities they serve. Funds were made available for education and training (seminars and community education), land use planning (technical support and materials/equipment), and implementation (short-term staff and small land development projects).

PROJECT PERFORMANCE

Achievements

The pilot lands inventory in Southern District was shifted during Year 2 from the Ntlhantlhe area to the Phitsane-Molopo area, in part because the latter area is within the CFDA recently designated by Southern District. The Phitsane-Molopo inventory has just recently been completed. The Tlokweng inventory has just started and will be completed in early Year 3. The Barolong Farms inventory is awaiting the selection of a suitable project manager who will lead the field team over the next 1½ to 2 years.

The Southern District Water Points Survey has not yet started, though the funds have been disbursed to the District Council, which has awarded the tender. The consultant will begin work shortly. The terms of reference for the consultant have recently been widened to include not only mapping of all water points, but formulation of a water development plan, probably with emphasis on the Southern District CFDA.

The projects for demarcation of Subordinate Land Board boundaries have had a slow start. The Ngwaketse SLB boundary project has started but the timing and logistics of convening members of Sub-Land Boards and the Main Land Board (Ngwaketse, Southern District) at the SLB boundary areas are proving more formidable than anticipated. The Ngwato SLB boundary project has been postponed due partly to a change of DO(L) in Central District, and partly because the Ngwato Land Board appears to assign low priority to the project.

The primary school and health post have been completed at the Lepashe Communal Service Center. These buildings have been inspected and approved by the USAID engineer. Additional works remain to be carried out, such as fences and a pit latrine. The teachers' quarters are being constructed by the VDC. Teachers, an FWE, and an AD have been posted to the Center. Though there was no need to purchase the borehole (P10 000 designated for this purpose was therefore deducted from the original allocation), the District Council only recently persuaded the previous user of the borehole to vacate to allow reticulation work to begin. MLGL is currently reviewing the service center concept and is trying to encourage greater attention to the development of productive activities.

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The Applied Research project on local institutions has assisted Districts in identifying the various institutions in their CFDA communities, and has indicated the ones with the most potential as well as various problems that need to be overcome. Research and consulting work has concentrated during Year 2 on the Southern District CFDA, three alternative CFDA locations in Kgatleng, the Ghanzi District CFDA (Hanahai), the Ngamiland CFDA (Etsha-Gomare-Nokaneng),and a portion of Central District that is a CFDA candidate. Reports on institutions in specific villages have been prepared as well as a general review ofextension activities in villages.

The Ngamiland land use planning project has successfully completed its second pilot lands inventory activity and the consultancies on land tenure issues and assessment of present land use. The reports of the consultancies have been produced and are in circulation. The consultation with village institutions on land use issues will soon start (before the end of Year 2).

The CFDA planning funds have hardly been used during Year 2. Small amounts will soon be disbursed to cover the expenses of the Workshop on Land Use Planning for the Communal Areas (24-25 February 1982) and to support expenses for the land use consultation with CFDA villages in Ngamiland.

Implementation Problems

Tne only important implementation problem is the dependence of District projects for lands inventory (Southern/Barolong), water points survey (Southern), and land use assessment (Ngamiland) on the hiring of consultants or special project managers. Recruitment delays combined with District Council indecision on terms of reference can greatly slow implementation, as in Southern District, for example.

The CFDA planning funds have hardly been touched, primarily because Districts have been slow to designate CFDAs and draw up development plans that might call for these funds.

The turnover of District staff, especially DO(L)s, can hinder implementation of land-related projects. A new DO(L) may take several months to become settled in the job and may set different priorities on projects left behind by the previous DO(L). This situation seems to have contributed to the indefinite postponement of the Ngwato SLB boundary demarcation project.

Financial Situation

Funds budgeted for GOB expenditure in Year 1 were P61 159, with an additional $32 510 earmarked by USAID for applied research under the agreement with the Land Tenure Center. An unspent balance of P43 659 was carried over to Year 2 and was supplemented by an additional P113 865 under the RSG budget. The unspent balance of $29 732 in USAID funds for applied research was carried over to Year 2 and was supplemented by an additional $95 955 for the Land Tenure Center. Table 3 shows the financial situation expected at the end of Year 2. A balance of P56 690 will be carried over for GOB-controlled expenditure in Year 3.

TABLE 3

LG 31: Implementation of Integrated Land Use Plans

Financial Situation After Two Years

	(1) RSG budget Year 1	(2) Balance remaining end of Year 1	(3) RSG budget Year 2	(4) Funds available for Year 2 (col 2 + col 3)	(5) Estimated expenditure Year 2	(6) Estimated balance end of Year 2 (col 4 - col 5)
USAID						
Applied Research	$32 510	$29 732	$95 955	$125 687	$125 687	-
GOB						
Applied Research	-	-	P 8 550	P 8 550	P 8 550	-
Ngamiland CFDA	P17 500	-	P19 000	P19 000	P19 000	-
Lepashe Center	P43 659	P43 659	(P10 000)	P33 659	P33 659	-
Barolong Farms	-	-	P24 336	P24 336	P10 000	P14 336
Tlokweng	-	-	P 4 855	P 4 855	P 4 855	-
Phitsane-Molopo	-	-	P 1 960	P 1 960	P 1 960	-
Southern Water Points Survey	-	-	P14 400	P14 400	P14 400	-
Ngwaketse SLB	-	-	P 6 410	P 6 410	P 6 410	-
Ngwato SLB	-	-	P 7 904	P 7 904	-	P 7 904
CFDA Planning	-	-	P36 450	P36 450	P 2 000	P34 450
Total (GOB)	P61 159	P43 659	P113 865	P157 524	P100 834	P56 690

TABLE 4

LG 31: Implementation of Integrated Land Use Plans

Financial Projections for Year 3

	(1) Funds carried over from Year 2	(2) Funds needed for continuation or completion of ongoing activities	(3) Balance available for new Year 3 activities (col 1 - col 2)	(4) Funds needed for new Year 3 activities	(5) Allocation from RSG Year 3 funds (col 4 - col 3)	(6) Total planned expenditure in Year 3 (col 2 + col 4)
USAID						
Institutions Research	-	-	-	$170 396	$170 396	$170 396
Access-to-land Research	-	-	-	$52 391	$52 391	$52 391
TOTAL	-	-	-	$222 787	$222 787	$222 787
GOB						
Access-to-land Research	-	-	-	P28 311	P28 311	P28 311
Tati Siding Research	-	-	-	P14 400	P14 400	P14 400
Barolong Farms Inventory	P14 336	P14 336	-	P13 709	P13 709	P28 045
Ngwato SLB	P7 904	P7 904	-	-	-	P7 904
Central Water Points	-	-	-	P146 520	P146 520	P146 520
Kweneng Water Points	-	-	-	P24 640	P24 640	P24 640
Ngamiland Water Points	-	-	-	P81 075	P81 075	P81 075
CFDA Planning	P34 450	-	P34 450	P34 450	-	P34 450
TOTAL	P56 690	P22 240	P34 450	P343 105	P308 655	P365 345

Monitoring Arrangements

All activities funded under this sub-project are monitored and coordinated by the Planning Officer (Lands) of the MLGL, which reports project performance and expenditure to the RDU. With the exception of applied research, each implementation activity is the responsibility of the appropriate District Council. The DO(L) monitors the District activity and reports to the PO(L). The applied research activities are directed by the Senior Sociologist and Head of the Applied Research Unit of MLGL. He also reports to the PO(L).

USAID monitors the expenditure and progress of the sub-project through regular reports from the RDU. A USAID engineer inspected construction work at Lepashe after the buildings were handed over officially to the Central District Council by the contractor.

It appears that the GOB and USAID monitoring arrangements are adequate to identify implementation problems at an early date and to undertake corrective actions when necessary.

PROPOSALS FOR YEAR 3

Two Year 2 activities, Western Ngamiland Land Development and Barolong Farms Arable Inventory, were expected to continue into Year 3. Ngamiland funds for Year 3 are no longer called for by the District. The Barolong project was slow to start, and most Year 2 funds will be carried over into Year 3. Nevertheless, an additional P13 709 is required in new RSG funds to ensure completion of the Barolong project (see Table 4).

CFDA planning funds allocated but unspent during Year 2 will be carried over to Year 3 (see Table 4) primarily to cover to costs of holding a national-level seminar on land use planning for the communal areas and subsequent District-level seminars in each of the ten Districts. This activity was recommended by the recent Workshop on this topic (24-25 February 1982) and is supported by the RDU. Additional funds not used for the seminars will be available for other CFDA land use planning activities within the scope of the Year 2 PM.

New proposals for Year 3 include three water points surveys for Central, Kweneng, and Ngamiland Districts. These proposals are very similar to the Year 2 proposal for the Southern District Water Points Survey. These proposals were initiated by the Districts and vary in duration and budget depending on the size of the District and the status of existing water points information (see Table 4). They call for hiring of consultants to do the work for the Districts.

The Applied Research Unit (ARU) has proposed an extension of the local institutions research started in Year 2. The proposed activities of the research staff include:

-- testing techniques which will facilitate community-initiated land use planning and implementation;

-- testing techniques which will facilitate interaction among District officials, extension staff, and rural residents and their institutions;

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-- completing the inventory of institutions in the CFDAs as requested by Districts;

-- undertaking research on resource management, including identification of changes in productivity and/or state of land/water resources which signal the need for change in resource use and the social mechanisms which respond to such signals and bring about change in resource use.

The results of these various activities will be presented to District officials in a form which allows them to work with rural residents in a mutually acceptable plan of management.

These research activities are proposed to take place in Central, Kweneng, North East, and Southern Districts at the request of these Districts.

A new research PM has been put forward by the ARU entitled 'Research on access to land in the communal areas'. The proposed research would address the following questions:

-- who lacks access to land for cultivation and grazing; how many and what kinds of households?

-- what is the effect of the access problem on the twin goals of employment generation and increased agricultural production?

-- how do Land Board procedures and practices affect access?

The research would be carried out in the North East District CFDA at the District's request. Another District's CFDA, yet to be chosen, will also be the subject of this research. This research would constitute the first phase of a larger project to examine the problem of access to land in areas contrasting in population density, settlement pattern, and history of Land Board intervention through lands inventory/registration.

ARU has proposed another new research project entitled 'Research on land tenure and attitudes to change in the major villages'. Its purpose is to determine what adjustments to the current system of land tenure in major villages may be necessary to adapt to rapid urbanization, especially in Serowe, Palapye, and Mahalapye. The proposed research would be conducted in either Serowe or Palapye, depending on which will be most affected by coal development in the area between the two major villages. The research would be concerned particularly with the relationship between tenure and investment in residential and commercial development.

It is expected that North East District will soon submit a research PM to follow up on the socio-economic effects of the pilot land registration project at Tati Siding, and to provide a data base for village-based land use planning and guidelines for future land registration elsewhere in North East District.

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ANALYSIS

The PMs for the three water points surveys and the research PMs for local institutions and access to land all have certain defects which are currently being remedied by MLGL. Funds for these should be earmarked by USAID and released once appropriate revisions or addenda are approved. In the case of the proposal for research on the access issue, MLGL must make a determination as to how the consultant(s) will be hired, through the Central Tender Board or through the Land Tenure Center at the University of Wisconsin. Allocations for Year 3 in Table 4 are based on the probable funding requirements ($52 391 + P28 311) of the second alternative, which would entail USAID disbursement of dollar funds to the LTC. Should MLGL elect to rely on local (Central Tender Board) procurement, the GOB would be able to obtain reimbursement in pula and some savings might be realized in the overall cost.

The research PM for Tati Siding has not been formally approved by the GOB, but funds for the work should also be earmarked pending PM approval. The research on major village land tenure is considered outside the guidelines for RSG funding, since it concerns residential and commercial holdings subject to rapid urbanization. The importance of such research is not disputed; however, funding should be sought from sources other than the RSG.

In general research proposals from the ARU are defective in their presentation of what will be shown, proven, accomplished and how this will be done. The original research PMs lack specific reference to relevant past research work in Botswana (this could appear in the 'Background' section). They also fail to clearly state hypotheses to be tested, pilot activities to be monitored, and/or government decisions to be affected. They are vague about methodology. It is, therefore, difficult for evaluators to judge the importance of the research goals or how likely it is that the researchers will achieve those goals. The good quality of reports produced by ARU researchers indicates that they have the capability to write better proposals.

The proposal for research on access to land needs to be revised substantially. Given its concern with the effects of Land Board intervention on access to land, specifically the effects of land inventory/registration, it would be appropriate to link this research proposal to the proposed follow-up research on the Tati Siding inventory and the just starting Barolong Farms inventory. Among other modifications discussed with ARU, the revised PM should propose such linkages, if possible.

Through the local institutions research activities, ARU staff have played diverse roles:

-- collecting and analyzing descriptive data;

-- acting as change agents attempting to help communities draw up land management plans;

-- providing advice to Districts on the design of data collection projects; and

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-- acting as trainers who attempt to facilitate interaction between District officers and village institutions.

It is most welcome that these researchers are willing to participate rather than simply observe and record. The diversity of roles being played in response to the initiatives and needs of the various Districts provides the ARU with an opportunity to compare the effectiveness of the various roles and determine how best to contribute to communal area development.

The sensitivity and responsiveness of ARU to District preferences, needs, and initiatives for social research is perhaps the strongest aspect of the current program.

The PM for a Water Points Survey of Ngamiland could serve as a model for such proposals. However, all three proposals should include the following additional information:

-- a plan for phasing the project to progress step-by-step from the highest priority area of the district to the next highest. and so on, according to a ranking which matches the ranking for other development activities (a priority list of areas by name is required);

-- a plan for orientation of consultants (perhaps one-to-two weeks) to village survey techniques by ARU or RSU staff with experience in the Water Points Survey of MOA;

-- a plan for water points map storage and distribution, with a distribution list including DTRP as well as district offices. (the ultimate location of original maps must be identified).

The water points surveys are dependent on the availability of good quality, recent aerial photography, which was to be acquired in 1981, but it now appears that the photo mission will have to be reflown in 1982. This delay could cause serious delays in the surveys, perhaps making it impossible for them to start during Year 3 of RSG. The status of airphoto acquisition should be checked with Surveys and Mapping (Ngamiland already has new photos from a 1980 photo mission, so this point applies only to Kweneng and Central).

The Workshop on Land Use Planning for the Communal Areas (24-25 February 1982) prepared for a national-level seminar to be followed by District-level seminars on communal area land use planning. This series of seminars is badly needed, as there is no concensus in the GOB on how to do detailed land use planning or even on what land use planning means at local levels. The relationship or integration of local-level land use planning with District Administration, Tribal Administration, and Land Boards and the role of the MOA has hardly been discussed, much less decided. A coordinator will almost certainly have to be designated (perhaps hired as a consultant) to organize and guide these seminars. Given their crucial importance for the communal area development program in Botswana, it is appropriate to provide RSG funds for the coordinator and seminar expenses through the PM for CFDA land use planning and implementation.

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While the Western Ngamiland Land Development project will not be funded by LG 31 during Year 3, it should be watched carefully by other Districts as a model for CFDA land use planning. The District's program and progress is well stated in the Ngamiland DDC's presentation to the 9th National District Development Conference. During Years 1 and 2 of the RSG, LG 31 funds were effectively used to help launch the District's CFDA program. Such achievements are the principal goal of LG 31/RSG.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

1. The Westerm Ngamiland Land Development project will not need RSG funds in Year 3.

2. The Barolong Farms Arable Inventory requires additional RSG funds to complete its 1½ to 2 year program, which is just now starting.

3. The three water points survey PMs (Central, Kweneng, and Ngamiland) are all defective in minor ways which have been discussed with the appropriate DO(L)s. PM addenda are expected from these three districts before the end of Year 2. Release of RSG funds earmarked for these projects should be contingent upon receipt by MFDP and USAID of approved addenda.

4. The proposal for extension of the local institutions research of ARU requires a PM addendum which has been discussed with ARU. Release of earmarked RSG funds should be contingent upon receipt by MFDP and USAID of an approved addendum, which is expected by the end of Year 2.

5. The proposal for research on access to land requires revision as discussed with ARU. Earmarked RSG funds should be released only upon receipt of an approved revised PM and MLGL's specification of procurement arrangements (through the GOB Central Tender Board or through the Land Tenure Center).

6. RSG funds should be earmarked for the Tati Siding land registration follow-up research, in anticipation of early receipt of an approved PM.

7. The proposed research on land tenure in major villages should not be funded under the RSG.

8. CFDA planning funds should be used, in part, to support national and District-level seminars on land use planning for the communal areas.

9. The Ngamiland CFDA program could serve as a model for CFDAs of other Districts, and MLGL should be encouraged to draw as many lessons as possible from experience in this pioneering effort.

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GROUP I: LAND USE PLANNING AND MANAGEMENT

LG 36: Development of Land Institutions

DESCRIPTION

This sub-project has been designed to strengthen the Tribal Land Boards to carry out their responsibilities as trustees, allocators and adjudicators of tribal land. Land Boards are new institutions, having been set up in 1970. The complexity of the job they are expected to perform is such that a considerable amount of training is necessary for both Land Board staff and members. They need assistance in understanding the administrative procedures and skills required in land allocation. Also, as land policy evolves, Land Boards must be given policy guidance from MLGL. This requires a research unit that can understand and interpret the impact of land use and land tenure policies. Finally, the Land Boards need infrastructure (offices, vehicles and equipment) so they can conduct daily operations.

During Year 1, the RSG provided logistical support in the form of new office buildings for four Subordinate Land Boards in remote areas, office furniture, camping equipment and technical equipment for Land Board staff in the districts, and a four-wheel drive vehicle for the newly established Applied Research Unit (ARU) of MLGL. The RSG was also to support training of Land Board staff and members by providing funds for a Land Board Training Consultant, training course development, and the training courses themselves.

Year 2 activities were continuations of those started in Year 1. Four more Subordinate Land Board offices were to be constructed in remote areas of Botswana, at Charles Hill and Ghanzi (Ghanzi Land Board) and at Tsabong and Hukuntsi (Kgalagadi Land Board). One more four-wheel drive vehicle was to be purchased for the Applied Research Unit, and more furniture and equipment were to be purchased for the Land Boards. The training consultancy and course development were to be completed in Year 2 and training courses held for Land Board staff and members.

PROJECT PERFORMANCE

Achievements

During Year 1, three Subordinate Land Board (SLB) offices were constructed at Lentsweletau (Kweneng), Artesia (Kgatleng) and Mathubudukwane (Kgatleng). By the end of Year 2, five SLB offices will have been constructed at Nata (Central), Hukuntsi (Kgalagadi), Tsabong (Kgalagadi), Charles Hill (Ghanzi) and Molepolole (Kweneng).

Due to the relatively low number of allocations made in Ghanzi District, MLGL decided that an SLB was not after all required in Ghanzi itself. Once the SLB is in operation at Charles Hill, it is felt that the main Land Board will be able to cover the eastern part of the District in its part time capacity as an SLB. As a result it was decided to use the funds available to construct an SLB office at Molepolole where at present both the main Land Board and SLB share a cramped house.

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The USAID engineer has inspected and approved the buildings at Lentsweletau, Artesia, Mathubudukwane and Nata.

The Land Boards with new SLB offices have been slow to request funds for furniture. Eqiupment has been supplied to the new Land Board Technical Assistants (LBTAs) though the items differ slightly from those specified in the Project Memorandum. Funds available for camping equipment have been disbursed. Each main Land Board has been given the P500 available for additional furniture/equipment needs.

The Land Board training consultant, course development and training courses were originally intended to form a logical progression. However, the delay in identifying a suitable consultant meant that several basic courses for SLB members and staff were provided by Land Tenure Officers in advance of the completion of the consultant's work.

The consultant, K M Higgins, began work in March 1981. As a result of problems inherent in the original terms of reference, she was an granted an extension from August until November 1981. The training needs of technical assistants, senior staff, junior staff and the members themselves were tackled separately.

A four stage training program has been designed for LBTAs, which will culminate in the taking of Higher Certificates or Diploma courses at the Botswana Polytechnic. A scheme of service for all technicians/ land use planners has been drawn up by MLGL. It is hoped that this scheme will be sufficiently attractive to candidates considering joining the LBTA cadre. Training at the Polytechnic for the third stage will be in the form of sandwich courses (three months course work, three months work experience then three months course work), so that after the forthcoming recruitment of the second batch of LBTAs, at least one assistant will be available at each main Land Board at any time.

In terms of subject matter there is considerable overlap between the training needs of the junior staff (ie clerks) and the senior staff (ie administrative secretaries and their assistants). Primarily these are record keeping (both administrative and financial), administrative procedures and land law. Courses have already been provided for administrative secretaries at IDM (including a special unit in land administration) and SLB clerks at the YWCA. Inevitably the development of training programs for these cadres has raised several issues concerning such matters as rational staffing structures, improvements in administrative procedures and the collection of rents, which are receiving attention within MLGL.

The final report of the Higgins consultancy was produced in November 1981, but it has not yet been accepted by the MLGL.

Two four-wheel drive vehicles have been purchased for the Applied Research Unit and both are currently in good running condition. They are serviced by CTO but are assigned specifically to the ARU, which has been a satisfactory arrangement.

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Implementation problems

The year-long delay in recruitment of a Land Board training consultant has upset the logical progression of training course development. However, the consultancy has been successfully completed, courses have been established, personnel and institutions committed and materials designed and in production. There remains the need for formal commitment of MLGL to this program before there can be further investment of RSG funds in training for Land Board members and staff.

Financial situation

Funds budgeted for GOB expenditure in Year 1 were P172 700. An unspent balance of P103 979 was carried over to Year 2 and was supplemented by an additional P137 000 under the RSG budget. Table 5 shows the financial situation expected at the end of Year 2. A balance of P78 959 will be carried over for GOB-controlled expenditure in Year 3.

There is an estimated overrun of the office construction budget item by P4 866. This overrun is allowed under USAID's Fixed Amount Reimbursement (FAR) system. For each of the eight units built, an initial cost estimate was used to propose a budget for construction within the overall RSG budget. Later these estimates were revised upward as FAR estimates, on a unit basis, to set the upper limit for USAID reimbursement for each unit (beyond which any overrun would have to be covered from GOB funds coming from the Domestic Development Fund). The FAR estimates being higher than the budget estimates for construction, the GOB is allowed to overrun the amount originally disbursed for construction by the RSG. This overrun is covered by the contingency item; however, confusion about the status of the contingency item led MLGL to transfer P20 000 in unused funds from the training courses item to the office construction item to more than cover the overrun in construction costs. Furthermore, P14 561 in savings from the training consultancy were transferred to office construction. In addition, P1 500 in savings from vehicle purchase was transferred to the equipment/furniture item. These unnecessary transfers are not reflected in Table 5.

Monitoring and evaluation

All the construction, purchasing, consulting and training activities funded under this sub-project are monitored and coordinated by the Planning Officer (Lands) of the MLGL, who reports to the RDU. Construction of offices is the responsibility of the appropriate district council which tenders the work to contractors and judges the acceptability of the work. The vehicles purchased are part of the CTO fleet and are assigned to the Head of the ARU, MLGL. The Planning Officer (Lands) is responsible for disbursement of funds to Land Boards and Land Tenure Officers to purchase specified pieces of furniture and equipment. The Commissioner of Lands in MLGL, having overall responsibility for the Land Boards and Land Tenure Officers, supervised the training consultancy and course development while the Land Tenure Officers followed-up with organization of training courses.

USAID monitors the expenditures and progress of the sub-project through regular reports from the RDU of the MFDP. A USAID engineer inspects the construction work at the time the office buildings are handed over officially to the district councils by the building contractors.

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PROPOSALS FOR YEAR 3

The proposals for Year 3 activities under LG 36 are extensions of two Year 2 activities--purchases of furniture and equipment for Land Board offices and staff and training courses for Land Board members and staff. The original GOB Project Memorandum (PM) estimates Year 3 expenditures at P9 000 for office furniture and equipment and P20 000 for training.

ANALYSIS

The RSG is providing support for Land Boards, as the land allocation mechanism for rural areas under customary tenure, by providing infrastructure (offices, equipment, boundary demarcation), training (course development and training courses), through LG 36, and information (water points surveys and lands inventories), through LG 31. RSG is also supporting communal area land use planning through research and pilot activities (LG 31 activities, including water points and local institutions research, lands inventory pilots and the Ngamiland CFDA start-up activities). In theory, the land allocation activities of the Land Boards support the results of the land use planning activities at local levels by regulating both the users and the uses of land according to land use plans. However, the land allocation mechanism is developing rapidly in the absence of a clear purpose; that is, there are few, if any, local-level (village, village cluster or sub-district) land use plans to steer the mechanism. There is no concensus in the GOB on how to do detailed land use planning or even on what land use planning should be at local levels (as shown by the Workshop on Land Use Planning for the Communal Areas, 24-25 February 1982). The relationship or integration of local-level land use planning with district administration, tribal administration and Land Boards and the role of the Ministry of Agriculture (MOA) has hardly been discussed, much less decided.

Rather than address this critical issue, MLGL is going ahead with the development of Land Boards as institutions without giving the Land Boards a sense of direction. MLGL is probably succeeding in replacing tribal control of land with Land Board control, at considerable cost of capital and recurrent expenditure, but the Ministry is not using the new control mechanism to generate benefits, such as improved land use, which are significantly greater than the benefits of tribal control of land. MLGL must soon shift from its emphasis on Land Board institution-building to Land Board role-definition and development of land use planning procedure in cooperation with the MOA.

The RSG can encourage the MLGL to make the shift by emphasizing training under LG 36 but making funds available only when MLGL accepts a set of Land Board training courses (such as the set proposed by the Higgins consultancy) which reflect Ministry decisions on the roles to be played by Land Board members and staff in land policy-making, land allocation, land dispute adjudication and district and local-level land use planning. The Land Board course development consultancy has just been completed (with RSG funds), and its report is awaiting MLGL approval. Review of this report provides MLGL an immediate opportunity to decide the roles of Land Boards.

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TABLE 5

LG 36: Development of Land Institutions

Financial Situation After Two Years (pula)

	(1) RSG budget Year 1	(2) Balance remaining end of Year 1	(3) RSG budget Year 2	(4) Funds available for Year 2 (col 2 + col 3)	(5) Estimated expenditure Year 2	(6) Estimated balance end of Year 2 (col 4 - col 5)
GOB						
Office construction	68 000	24 715	72 000	96 715	101 581	(-4 866)
Eqiupment and furniture	10 000	1 406	30 000	31 406	21 000	10 406
Training consultancy	30 000	28 500	-	28 500	13 939	14 561
Course development	9 000	9 000	-	9 000	4 000	5 000
Training courses	30 000	24 658	25 000	49 658	13 000	36 658
ARU vehicles	10 000	-	10 000	10 000	8 500	1 500
Contingency	15 700	15 700	-	15 700	-	15 700
TOTAL	172 700	103 979	137 000	240 979	162 020	78 959

TABLE 6

LG 36: Development of Land Institutions

Financial Projections for Year 3

	(1) Funds carried over from Year 2	(2) Funds needed for continuation or completion of ongoing activities	(3) Balance available for new Year 3 activities (col 1 - col 2)	(4) Funds needed for new Year 3 activities	(5) Allocation from RSG Year 3 funds (col 4 - col 3)	(6) Total planned expenditure in Year 3 (col 2 + col 4)
GOB expenditure (pula)						
Equipment/furniture	10 406	10 406	-	-	-	10 406
Training courses	68 553	68 553	-	-	-	68 553
TOTAL	78 959	78 959	-	-	-	78 959

A training program has been established through the Higgins consultancy. The program needs further coordination and continuous development from a sufficient staff of training personnel within MLGL, preferably in close association with the Lands Division. MLGL needs to make a definite commitment to giving coherent, useful training to Land Board members and staff. This commitment involves building the Land Board training division into a viable, dependable unit. Until such commitment is made, it is unwise to release further RSG funds for training.

While the original LG 36 PM calls for P31 900 in new RSG funds for Year 3, there is an unspent balance from Year 2 of P78 959. Given the rate of expenditure for furniture/equipment and training courses during Years 1 and 2, it is highly unlikely that MLGL can spend even the balance of Year 2 funds. No new funds are needed. The balance of Year 2 funds should be allocated as in Table 6.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

1. The rate of expenditure on Land Board infrastructure (buildings, furniture, equipment and vehicles for ARU) has been satisfactory for Years 1 and 2. No new funds are requested for Year 3.

2. Due to recruitment problems, the Land Board training consultancy was one year late in starting. As a result, actual training of Land Board members and staff has been far less than expected in Years 1 and 2. However, the consultancy was successful in establishing a training program for MLGL review and adoption.

3. No new funds for training are requested for Year 3 as there is an unspent balance from Year 2 of P68 553 available for training in Year 3. However, USAID should not release those training funds until MLGL formally reviews the report of the Land Board training consultant and makes a definite commitment to a specific program of training for Land Board members and staff.

4. As a pre-condition for reimbursement, a USAID engineer must inspect the Land Board office construction at Hukuntsi, Tsabong, Charles Hill and Molepolole at the time the offices are officially handed over from the construction contractors to the District Councils.

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GROUP II: AGRICULTURAL PRODUCTION AND INCOMES

AE 10: Small Projects

DESCRIPTION

The Government of Botswana established the Small Projects Program (AE 10) in August 1978 as a mechanism to respond to village-level initiatives involving small-scale agricultural infrastructure and production activities. Administered by the Ministry of Agriculture's Department of Field Services, this flexible fund can assist groups in a variety of efforts, excluding those which are aimed specifically at livestock development. These include the establishment of vegetable gardens and poultry projects, the building of storage and marketing facilities for crops and agricultural inputs, the erection of fences to separate croplands from grazing lands, and the development of soil conservation and water resources for cropping purposes. There is a funding maximum of P5 000 per project and beneficiaries normally must contribute at least 10 percent of total costs in cash, kind or labor. In addition, groups must demonstrate their capacity to monitor project infrastructure and to manage project enterprises.

PROJECT PERFORMANCE

Since 1978 the Ministry of Agriculture has funded sixty-seven projects throughout the country, using Dutch aid. There has been a steady growth in total funds approved annually, from a base of P17 768 in 1978/79 to P48 017 in 1980/81 and an estimated approval of P72 269 in 1981/82, the first year of RSG support to the project. In addition to an increase in total funds approved, there has been a broadening of project focus, although fencing efforts have constituted from between 42 percent and 69 percent of funding approvals annually. The next largest category of projects in terms of numbers has been vegetable gardens. From 1980/81 to 1981/82 of the RSG, approvals in this category more than tripled. In 1981/82 projects also included woodlots, poultry and storage building initiatives. A wide variety of groups started projects--fencing groups, schools, Farmers' Committees, women's groups, 4B organizations and Village Development Committees. A minimum of 10 percent contribution in cash or kind has been required for project approval. While incomplete, the available records indicate that many groups put in substantially more than this. Information from Maun and Central Regions gives some indication of the trends and regional differences in contributions that exist in the program.

Percent Local Contribution to AE 10 Projects

Year	Maun	Central
1978/79	n/a	41.2%
1979/80	12.8%	44.8%
1980/81	21.1%	34.8%

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Regional contribution of AE 10 projects is given in the following table:

AE 10 Project Approvals 1978/79 - 1981/82[1]

Region	Number of projects	Allocation
Gaborone	16	P35 506
Southern	37	32 458
Central	23	42 441
Maun	19	26 359
Francistown	4	8 530
Western	3	3 482
	102	P148 776

[1] Excludes identified projects for 1981/82 not yet approved.

The average project allocations for 1980/81 and 1981/82 have been approximately P1 850 and P1 700, respectively.

While the growth in demand for AE 10 funds has been impressive, a reporting system to monitor expenditures and implementation status has only recently (November 1981) been established. It is particularly important that the reporting system be institutionalized in the Agricultural Field Services Department, as approval authority for projects of less than P2 000 has been devolved to the level of the Regional Agricultural Officer (RAO) While this is a welcome change--as it can reduce delays between project proposal submission and the release of funds--the RAO still must be able to determine the status of RSG, other donor and DDF funds, and, as importantly, be able to diagnose implementation problems on a timely basis.

PROPOSALS FOR YEAR 3

The addendum to the AE 10 PM requests a budget of P100 000 from the RSG for the program. The Government has requested that the RSG provide the full amount to the project at the beginning of the fiscal year. In light of the estimated 1981/82 approvals of about P76 000, the Government believes that P100 000 will be fully allocated. As discussed in the following section, however, the Review Team has been unable to determine the amount of carry over funds that exist and the implementation status of the projects funded by the RSG. Consequently, the team recommends an allocation of only P50 000 in RSG funds for Year 3.

ANALYSIS

The original PM states that, 'Quarterly reports on physical and financial progress of projects will be required in accordance with the normal project monitoring procedures of the Planning and Statistics Division' (p 5.4.4). At the time of this Review (March 1982) there were no quarterly reports available. A reporting form that would adequately convey financial status had been developed by the PAO in November 1981, but RAO response was low. Consequently, it was not possible to determine what

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TABLE 7

AE 10: Agricultural Small Projects Fund

Financial Situation After Two Years

	(1) RSG budget Year 1	(2) Balance remaining end of Year 1	(3) RSG budget Year 2	(4) Funds available for Year 2 (col 2 + col 3)	(5) Estimated expenditure Year 2	(6) Estimated balance end of Year 2 (col 4 - col 5)
Small Projects Fund	-	-	50 000	50 000	unknown	unknown

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TABLE B

AE 10: Agricultural Small Projects Fund

Financial Projections for Year 3

	(1) Funds carried over from Year 2	(2) Funds needed for continuation or completion of ongoing activities	(3) Balance available for new Year 3 activities (col 1 - col 2)	(4) Funds needed for new Year 3 activities	(5) Allocation from RSG Year 3 funds (col 4 - col 3)	(6) Total planned expenditure in Year 3 (col 2 + col 4)
Small Projects Fund	(unknown)	(unknown)	(unknown)	P50 000 ?	P50 000	P50 000 ?

funds had been expended and which projects completed. As importantly, the PAO had no diagnostic tool to use to identify implementation problems and determine if the individual projects were having the desired effect. A further problem exists in the accounting for funds from different donors. Records were not available on assignment of RSG funds, Dutch aid, or DDF to the projects, making it impossible to determine carry-over from Year 2.

Given the problems encountered, it is recommended that the warranting of Year 3 funds to the MOA be delayed until accounts are brought up to date and have been inspected and approved by MFDP and USAID. Without information on the implementation status of the SPF as a whole and the individual Year 2 projects, the team also recommends that Year 3 allocations of new funds be maintained at P50 000, the Year 2 level.

A proposal for the MOA to raise the ceiling on individual projects from P5 000 to P7 000 has been made,with reference to fencing projects. Due to inflation, basic material costs have increased substantially since the SPF was begun. It has been suggested that the length and quality of drift fences constructed have been constrained by the limitation. However, review of drift fence projects approvals since 1978 gives the following frequency distribution:

Frequency Distribution of the Cost of Drift Fence Projects

Cost Range		Number of Projects
I	P1 - 1 000	14
II	P1 001 - 2 000	15
III	P2 001 - 3 000	15
IV	P3 001 - 4 000	3
V	P4 001 - 5 000	5

As the table shows, most proposals have been for projects below P3 000. The average drift fence cost has been P1 913. The Review Team believes that there is not a strong case for raising the ceiling. The request should be denied.

Besides the financial aspects of the project there has been little information generated on the impact of the SPF project. While socio-economic studies of one drift fence project in Central Region have been undertaken, there is little to indicate at the MOA level whether the projects fulfill the socio-economic selection criteria, are being successfully implemented, or have demonstrated that the groups are maintaining constructed infrastructure and sustaining production enterprises. The review team strongly urges the MOA to address these questions rather than pressing to greatly expand SPF allocations during Year 3.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

1. Due to poor financial reporting by the MOA, the Review Team has been unable to determine the implementation status of the Small Projects Fund. RSG funds were not distinguishable from other sources and

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expenditure rates were not known. It is recommended that the release of Year 3 funds be delayed until the accounting system has been updated and regional accounts are brought into compliance with the PAO's newly designed reporting system.

2. To reduce future regional reporting problems it is recommended that the PAO be required to withhold sub-warrant approval to regions which do not submit quarterly reports.

3. Due to the financial reporting requirements and the need for the MOA to more closely examine the implementation and impact status of the portfolio of SPF projects, it is recommended that the Year 3 allocations be reduced to P50 000.

4. The MOA should prepare a PM addendum by 31 March, 1982 for Year 3 activities. The PM will include a description of the reporting system for financial and implementation status and a plan for its execution. We recommend that approval of the PM addendum by the MFDP and USAID should be a pre-condition to earmarking of any RSG funds for AE 10 in Year 3.

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GROUP II: AGRICULTURAL PRODUCTION AND INCOMES

AE 11: Horticultural Estates

DESCRIPTION

The creation of horticultural estates is one initiative in a package proposed in 1977 to foster a horticulture industry in Botswana. The objectives of the plan were import substitution, rural income generation and crop diversification. The complete set of initiatives included:

-- establishment of horticultural estates in which smallholders would be members and managers rather than laborers;

-- provision of technical, management and financial assistance to producers outside the estates;

-- assistance in marketing to producers through extension and organization of horticultural markets;

-- establishment of a research program focused on production problems; and

-- provision of funding for village-level subsistence schemes.

As no donor was willing to finance the entire package, the major components were split up to seek separate funding.

Two pilot horticultural estates were proposed to test the feasibility of vegetable production by small groups of farmers. One was to be located at Mogobane in South East District and a second at Mathubudukwane in Kgatleng District. They were each 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 have been 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.

REDESIGN

Approval of the Project Memorandum for the horticultural estates was delayed until January 1981 due to the protracted USAID/Washington review and revision of the pesticide risk/benefit analysis. During this period the Mogobane scheme was redesigned due to (1) a shortage of water at the dam site, and (2) a reassessment of the optimal size of group schemes when they are still in the pilot phase. The reassessment of optimal size was based on the experience of the Kolobeng Horticultural Cooperative Society located at Manyana and the Ithuteng Agricultural Management Association (AMA) at Mankgodi. Both of these projects were developed in their current form with funds from the Botswana Christian Council and technical assistance from the Overseas Netherlands Volunteers (ONV). Their work indicated that

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smaller plot sizes were required to reduce risks 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 Horticulture Department recommended a slow phasing of new estate creation; and, that improved marketing organization would be the 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 which 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 Mankgodi. 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 MOA field personnel (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 the 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 structures and equipment needed for the production and marketing of vegetables.

RSG contributions to the project were to be the house construction at Mogobane, the pick-up for Mogobane, the weirs at Manyana and Mankgodi, the fencing, tools, equipment and horticultural supplies needed at all three sites, and transport expenses for the horticultural advisor based in Manyana.

PROJECT PERFORMANCE

Mogobane

Achievements

No Year 1 activities were funded by the RSG. DDF allocations were used to purchase materials for fence, well lining and reservoir construction and to buy a pump, irrigation pipes and fittings. Members working under the supervision of the AD assigned to the project carried out clearing, stumping, fencing and preparations for installation of the irrigation system. A cooperation agreement with the nearby Farm Development Company and the Ministry of Agriculture was drawn up in January 1981 to facilitate water allocation, exchange of technical information and joint transport marketing.

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Year 2 activities have benefited from the assignment of the advisor to the Kolobeng and Ithuteng as Horticultural Advisor and overall supervisor of the three estate projects. This permitted some preparatory work at Mogobane to be done before the full-time volunteer horticulturalist took up his post in May.

Since arrival of the volunteer one lateral furrow has been completed which has permitted the cultivation of one maize crop and one cabbage crop. The second lateral furrow should be completed in March 1982 in time for the second cabbage crop. A solar pump (photovoltaic) is being tested. The pump supplies water to a reservoir which serves a 500 m^2 nethouse used for seedlings production and some cultivation of tomatoes and spinach. A portable storage shed has been set up for equipment and supplies. Marketing of the first crop was done at a field stand and in Gaborone. The transport vehicle has been purchased and is in use. House construction has been completed. Initial ripping and land preparation has been done by tractor. Subsequent levelling, harrowing, planting and weeding operations are to be carried out with mules.

Mogobane are registered as an Agricultural Management Association in 1981. Current active membership is eight, seven of whom are women. On-the-job training of the group's officers is undertaken by the volunteer horticulturist and the AD.

Implementation and Problems

RSG funds, recruitment of the volunteer horticulturist and most site development was blocked for a year due to delay in approval of the pesticide risk/benefit analysis. While the delay permitted redesign of activities, it also resulted in the loss of at least three crop seasons.

Water rights and water availability were recurring problems in the development of the estate. The Water Apportionment Board initially refused to permit any modification of the Mogobane Dam's current capacity. In 1980 desilting to restore the dam to its originally designed capacity was approved and undertaken by the MOA Dam Unit. Work had to be halted due to early rain in September 1980 and little hope is held that the Dam Unit or funds will be available in the future. While an alternative plan to sink shallow wells in a dry stream bed was tested in 1981, subsequent flooding indicated that it would be difficult to site wells so that they remain structurally intact in wet years and supply sufficient water in dry years. An additional difficulty occurred when the contractor selected to dig the six wells in the Taung River bed did not show up.

Development of member management capacity has also been a problem. The time required to develop physical infrastructure and grow the initial crops has meant that little time has been available to train members in financial record keeping. GOB procurement procedures also have reduced operating efficiencies. Payment for purchases made through the Government Purchase Orders (GPO) can only be initiated when goods have been delivered and inspected. The slow processing of GPOs translates into a short-term interest free loan to the group by merchants. Suppliers are reluctant to take GPOs in exchange for materials. Further this method of operation means that the group cannot take advantage of cash discounts.

Financial Situation

Of the P41 300 allocated for Year 2 expenditure, P38 843 has been spent. The balance of P2 457 will be carried over into Year 3 (See Table 9).

Monitoring Arrangements

The assistant horticultural officer in the Ministry of Agriculture has primary responsibility for monitoring the implementation of this project. Since April 1981, the horticulturist who has worked as advisor to the Kolobeng Cooperative since 1976 was hired by the Ministry to act as general supervisor and advisor to the Mogobane, Kolobeng and Ithuteng groups. Day to day operations are monitored by the Dutch volunteer assigned full-time to Mogobane and assisted by an AD from the Ministry.

Financial monitoring of the Mogobane group is to take place in an annual audit by the office of the Commissioner for Agricultural Management Associations (CAMA). CAMA does not yet have qualified auditors on its staff. Also, the ledger system employed lists only member capital shares and subscription fees and a chronological account of income and expenses. This system is sufficient for the monitoring of individual members' production and trading performance, inventory control, petty cash, capital stock depreciation, etc. The volunteer horticulturlist has initiated a more appropriate bookkeeping system which will have to be further refined.

Kolobeng and Ithuteng

Achievements

Apart from the common supply of some inputs, materials, and transport, the RSG has supported few activities in these two estates. Construction of a 200 cubic meter water reservoir at the Kolobeng site was initiated. Construction of a grain, cement and vegetable marketing structure has begun, with AE 10 funding.

Implementation and Problems

The major implementation problem has been the difficulty in obtaining engineering survey and design services. The Ministry of Agriculture's water engineer is over-subscribed. While the engineer has indicated his availability for Year 3, a firm, approved schedule for design and costing of the weir and pipeline, diesel-powered pump and mule-powered pump alternatives should be established.

Kolobeng and Ithuteng have had difficulties establishing an accounting system simple enough to be undertaken by its members and accurate enough to improve group financial management. BDC has provided some assistance, but it appears that Kolobeng will have to change its status from a cooperative to an Agricultural Management Association before the way is clear to revise financial operations.

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TABLE 9

AE 11: Horticultural Estates

Financial Situation After Two Years (pula)

	(1) RSG budget Year 1	(2) Balance remaining end of Year 1	(3)[1] RSG budget Year 2	(4)[1] Funds available for Year 2 (col 2 + col 3)	(5) Estimated expenditure Year 2	(6) Estimated balance end of Year 2 (col 4 - col 5)
Mogobane Estates						
Mogobane Farmers Group	90 505	90 505	-	41 300	38 843	2 457
Kolobeng Farmers Group			-	22 182	4 670	17 512
Ithuteng Farmers Group			-	17 023	1 218	15 805
Common expenditures			-	10 000	6 712	3 288
Contingency	9 050	9 050	-	9 050	-	9 050
TOTAL	99 555	99 555	-	99 555	51 443	48 112

[1] Redesign of horticultural estates took place in 1980/81; no expenditures were made and all funds were carried to Year 2.

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High membership turnover has been a characteristic of both groups. The turnover rate however is slowing. This is seen by the advisor as a good sign of group maturation. The Kolobeng group, at least, appears to have a stable membership base which can accumulate management experience.

Financial Situation

Of the P22 182 allocated for Kolobeng, P4 670 will have been spent by 31 March 1982. At Ithuteng, P1 218 of P17 023 allocated will have been expended over the same period (See Table 9). The balance in both cases is targeted for weir and pipeline construction. Actual expenditures will depend on the selection by the water engineer of the most effective water supply alternative for the two sites.

Monitoring Arrangements

As in the case of Mogobane, the Assistant Horticultural Officer in Gaborone has primary responsibility. The Dutch horticultural advisor splits his time among the three estates but concentrates on Kolobeng and Ithuteng. While AD assistance was planned, the available extension personnel have not been able to spend much time with the groups due to competing demands for their services in the District. Kolobeng's financial records are audited by the Department of Cooperative Development (CODEC). Neither CODEC nor the Kolobeng Cooperative are satisfied by this arrangement. Ithuteng finances are to be audited by the CAMA. As yet there has not been sufficient trading by this group to warrant an audit.

On the whole, most design, implementation, and group development activities have been closely supervised by the horticultural advisor who has worked with Kolobeng and Ithuteng since 1976 and 1978, respectively. The major problems have been financial record keeping and follow-up of the engineering design for irrigation system consolidation.

PROPOSALS FOR YEAR 3

Activities being planned for Year 3 funding under the RSG include carry-over activities from the Mogobane, Ithuteng and Kolobeng estates and the establishment of a second focus for smallholder estate development at Mathubudukwane in Kgatleng District. It is expected that a financial management training advisor will be added to the expatriate horticultural advisory staff already in place for the three estates grouped under the Mogobane umbrella. Recruitment of a horticulture advisor and AD for the new estate at Mathubudukwane has not yet begun. A fifth estate planned for Ramonaka will not be funded under the current RSG, but is targeted for start-up in 1983/84.

During 1982/83, the major activities supported by the RSG at Mogobane will be consolidation of the water supply and irrigation facilities, and completion of fencing, tool and equipment purchases. Following engineering studies and cost analysis, selection of water supply alternatives (weir and pipe, diesel-powered pumps, mule-powered pump) and construction at Kolobeng and Ithuteng will occur. Water reservoir construction begun at Kolobeng in 1981/82 will be completed in 1982/83. Horticultural supplies will also be provided to each of the three estates.

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At Mathubudukwane land has been allocated by the Land Board for a 4 ha estate. Engineering studies have begun and will extend into Year 3. Activities during 1982/83 will include construction of water supply and irrigation facilities, site development, construction of housing for the horticultural advisor and the AD. Fencing, tools and planting equipment will be provided, and mules purchased for land preparation activities. RSG funds will also be used to purchase a two ton truck for the Mathubudukwane estate.

Funding Requirements

The total RSG budget for Year 3 activities at all four sites is P131 208, consisting of P2 457 for Mogobane, P17 512 for Kolobeng, P15 805 for Ithuteng, P12 338 for common services and supplies to the three sites, and P83 906 for development of Mathubudukwane. A detailed budget appears in Table 10. The salaries of the three horticultural advisors will be financed by other donors and the ADs will be provided by the GOB.

ANALYSIS

Technical Issues

Water availability during dry years is the basic problem at Mogobane. The alternative choices to resolve the problem are desilting the Mogobane Dam or digging wells in the Taung river bed. As the staff of the Horticulture Department believe that neither funds nor manpower would be available for dam rehabilitation, the latter seems to be the only near-term solution. Further engineering work should be undertaken to determine if the water supply to be made available justifies the costs that will be incurred in digging and maintaining the wells. The Ministry's water engineer should do this work.

At Kolobeng and Ithuteng the search for simple and cost effective water supply technologies has led to the need to carry out engineering surveys to choose among the available alternatives of gravity fed weir and pipe systems in which capital costs are high and recurrent costs low; diesel-powered pumps which have high recurrent costs and depreciation charges; and mule-powered pumps which have the lowest capital and recurrent cost but have to be adapted to local conditions of management and maintenance. The water supply issues must be resolved early in Year 3 if the RSG is to support construction costs.

Only preliminary engineering surveys have been done for Mathubudukwane. The water engineer from the Ministry of Agriculture has suggested that a portable, multi-level pumping set-up be used to accomodate the rise and fall of the Marico River. Local reports of a one-in-ten year flood that inundates the site for a day or so indicate that a diversionary dyke may need to be constructed to avoid this problem. Detailed design and costing of the pump-set, water storage and delivery infrastructure, and flood diversion structures have yet to be done.

All sites, designs, and costings will need to be approved by an AID engineer before construction starts.

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TABLE 10

AE 11: Horticultural Estates

Financial Projections for Year 3

	(1) Funds carried over from Year 2	(2) Funds needed for continuation or completion of ongoing activities	(3) Balance available for new Year 3 activities (col 1 - col 2)	(4) Funds needed for new Year 3 activities	(5) Allocation from RSG Year 3 funds (col 4 - col 3)	(6) Total planned expenditure in Year 3 (col 2 + col 4)
Mogobane Estates						
Mogobane Farmers Group	2 457	2 457	-	-	2 457	2 457
Kolobeng Farmers Group	17 512	17 512	-	-	17 512	17 512
Ithuteng Farmers Group	15 805	15 805	-	-	15 805	15 805
Common expenditures	3 288	3 288	-	-	3 288	3 288
Contingency	9 050	9 050	-	-	9 050	9 050
SUB-TOTAL	48 112	48 112	-	-	48 112	48 112
Mathubudukwane Estate						
Site development				27 240	27 240	27 240
Tools and equipment				1 911	1 911	1 911
Draft power				5 442	5 442	5 442
Vehicle				10 500	10 500	10 500
Housing				25 000	25 000	25 000
Horticultural supplies				3 049	3 049	3 049
Transport				2 400	2 400	2 400
Contingency				7 554	7 554	7 554
SUB-TOTAL			-	83 096	83 096	83 096
TOTAL	48 112	48 112	-	83 096	131 208	131 208

Management Issues

The Mogobane scheme is a pilot effort in terms of technology and management. In its initial stages, most advisory effort will necessarily be expended on site and facilities development, debugging of seedling and crop production schedules and practices, and establishing supply and marketing procedures. In a smallholder pilot effort members must gain the capacity to manage these activities, and the financial procedures which support them, if the group is to become viable. However, the technical advisors are unlikely to have sufficient time to train members in both technical and financial management. CAMA, while it holds training courses for AMA managers, secretaries and treasurers, does not have the capacity to follow-up formal training with work to establish and monitor bookkeeping systems. The horticultural supervisor for the three estates indicates that CODEC also has not been able to supply on-site assistance directly to the groups. Requests for assistance to the BDC and ONV have elicited some help. In late March it should be known whether or not BDC or ONV will be able to supply an accountancy advisor for the estates. If such assistance is not forthcoming, the Horticulture Department should consider hiring an independent accountant or bookkeeper to provide training. Without this input it will be difficult to accurately determine whether smallholder management is improving in efficiency and is capable of becoming self-sustaining.

Kolobeng and Ithuteng have been in operation in their current form since 1976 and 1978, respectively. Experience has shown that several years are required to sort out crop production and group decision-making practices with which members can cope. For the more complicated overall planning and financial management skills, the advisor indicates that the Kolobeng group could probably operate for about six months without technical assistance before collapsing. The question has to be raised about whether or not this is acceptable progress after five years. The advisor feels that the two groups have been highly experimental and that progress has been good given initial constraints. While operating costs have been covered at Kolobeng after the second year of production, the group cannot carry depreciation charges. Trading losses have recurred despite auxiliary sales of grain and cement by the two groups. However, work by the Horticultural Research Unit at Sebele indicates that the two groups should be able to double their production on a commercial basis. Also, marketing efficiency may improve when Kolobeng and Ithuteng begin to market through the South East Growers Association. It does seem that the horticultural advisor with the assistance of financial analysts, who may be provided by the BDC or ONV, need to carefully evaluate the experience of Kolobeng and Ithuteng to highlight practices which need improvement and to consult with the two groups on how to prioritize and undertake improvements. This should be a priority activity during Year 3. Special attention should be paid to production practices and costs, membership skill development, transport and marketing operations, and the recurrent cost implications of water supply and irrigation systems consolidation. The advisor's best estimates of when, or if, the groups can become self-sustaining should be circulated for discussion within the Ministry's Planning and Statistics Unit, the RDU and USAID during Year 3, well in advance of any potential future proposal development.

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The current system of procurement induces supply problems. Given the close association of the Mogobane, Kolobeng and Ithuteng groups and their like needs for materials, it would seem more efficient to project annual consumable stock requirements on a semi-annual basis and submit bulk orders for fertilizer, seeds, pesticides and packing materials. This may require some expansion in storage capacity.

Manpower Issues

Project initiation in Mogobane, Kolobeng and Ithuteng was constrained by availability of horticulturists and ADs. Experience at Kolobeng and Ithuteng estates indicates that start-up of 3 - 4 hectare projects takes the full-time attention of a horticultural advisor.

Based on recommendations of the current horticulural advisors a full-time AD is necessary to reduce problems of group formation and improve technical training transfer in the early stage of a new project. In Year 3, Mogobane will loose its current AD. Kolobeng and Ithuteng have not had adequate part-time AD assistance. The Ministry of Agriculture should assure the provision of ADs to all three estates. It is essential that an AD be posted to Mathubudukwane, as well.

Establishment of bookkeeping systems and member management of them has been one of the hardest tasks. The special attention required to train and supervise group treasurers has led the horticultural advisors to seek specialized assistance from the BDC. The BDC is scheduled to decide in late March whether it can provide continuing assistance. The ONV may be able to provide an accountancy training if the BDC cannot. The financial accounts are such an important part of the management and monitoring of the estate that the Ministry of Agriculture should be prepared to recruit and fund an accountancy trainer should no other source provide one.

Economic Issues

Horticultural consultancies and experience with the Kolobeng farmers groups indicate that the key constraints to smallholder vegetable production are economic. Returns to labor are restricted due to inefficient farming practices and competition from South Africa growers. However, simulations of commercial smallholder production at the Sebele Content Farm research unit indicate productivity can be doubled over average performance on the smallholder estates. The more efficient growers in the groups have demonstrated the same point over the past year.

Besides the production inefficiencies the major constraint is marketing. For these smallholder schemes to become mobile it is essential that they find a way to supply their markets with steady and reliable deliveries of quality produce. Further, marketing costs need to be much lower than those that prevail at present. The South East Growers Association (SEGA) has been formed to overcome the various constraints to efficient marketing. The objective of this group is to establish wholesale and retail outlets for locally grown vegetables. SEGA plans to begin its marketing operations in 1982.

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High costs of production, poor marketing and competition from South Africa have been cited as the main reasons why smallholder vegetable production is not viable in Southeastern Botswana. Past experience provides considerable support for this conclusion, but the continued efforts of schemes, such as the Kolobeng farmers groups, are leading to increased efficiency and better marketing techniques. For this reason it is felt that pilot activities of the type being proposed for RSG funding have sufficient prospects for income and employment generation to justify moderate levels of donor and GOB support. It must be emphazized, however, that these schemes will not be self-sustaining by the end of Year 3 of the RSG. During the time frame of the RSG, progress will have to be measured in terms of declining trends in production costs, sustained commitments on the part of small producers, and evidence of increased competitors vis-a-vis South African suppliers.

Beneficiaries

The four estates will have a direct import on about 50 producers. Most members of the existing three groups are women, and it is expected that the same will be the case at Mathubudukwane. There will be spread effects as their incomes are converted into effective demand for other goods and services supplied in rural areas. If the scheme proves replicable, the result will be additional job creation in the vicinity of major population centers in Eastern Botswana.

Monitoring and Evaluation

To date very little formal monitoring and evaluation has been done. Beyond the evaluation of the Kolobeng and Ithuteng groups proposed in the review of Year 2 activities, Year 3 should see the establishment of a monitoring system to trace the following indicators of economic performance: trend in production income on a surface area basis; trend in marketing costs on a commodity basis; coverage of operating costs through fees and charges; and, coverage of capital depreciation through fees and charges.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

1. While the delay in risk-benefit analysis impeded implementation, it also permitted the redesign of the Mogobane estate to accomodate lessons learned about irrigation technologies, crop practices, group development and scale of operations.

2. Further engineering studies of water availability at Mogobane are needed. Present cirumstances indicate that dam rehabilitation funding and services may not be available. The alternative solution of well construction has encountered difficulty. The Horticultural Department should prepare and gain Ministry approval for a schedule of needed engineering surveys and construction services.

3. Detailed engineering surveys and costing of the weir and pipe, diesel pump and mule-driven pump water supply options need to be done for Kolobeng and Ithuteng. The Horticultural Department should again develop a work schedule with the involved units to ensure their availability.

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4. Only rough surveys for Mathubudukwane water supply have been done. Detailed survey and locations of facilities should be done in March to ensure that site development can be completed by September 1982. House sites have yet to be selected.

5. At all three estates development of the financial management skills of members is critical. Current institutional arrangements do not provide adequate guidance and training. The move to seek BDC and ONV assistance is encouraged. If sufficient accountancy assistance cannot be obtained from these sources, the Ministry should seek accountancy training assistance on an urgent basis.

6. The Government Purchase Order procedures unduly restrict the groups' ability to obtain materials and services on a timely basis. If alternative procedures cannot be developed, long-term planning and bulk purchasing on an annual or semi-annual basis should be explored. If adopted, the latter approach may increase storage requirements.

7. Manpower requirements for the start-up phase of an estate includes a horticultural advisor, an Agricultural Demonstrator and a part-time bookkeeping advisor, with overall supervision by the Horticultural Department. Outstanding staff requirements for 1982/83 include 4 ADs, 1 horticultural advisor, and the bookkeeping advisor, all of whom need to be recruited on an urgent basis.

8. Production efficiency, marketing efficiency and competition from South Africa remain the major constraints to smallholder horticultural production. Improvements in the first two constraints have been achieved, and significantly greater improvement is expected over the next few years. Continual investment in pilot activities appears justified.

9. Detailed evaluation of the Kolobeng and Ithuteng groups should be done to chart trends and rates in production, marketing costs, and group development. The evaluation and the implications of these trends for the sustainability and time-phasing of smallholder estates should be circulated within the Ministry and discussed with AID during Year 3.

FUTURE ACTIONS REQUIRED

1. The MOA will prepare a PM addendum before March 31, 1981 describing the revised Year 3 activities and including an updated budget. The approval of the PM addendum by MFDP and USAID will be a pre-condition to the disbursement of funds from the RSG.

2. The MOA water engineer and the staff of the Horticulture Department will complete site survey, design, and costing for water supply, irrigation system, and housing construction in March/April 1982 to ensure that the work can be completed during the 1982 calendar year. An AID engineer will have to review and approve the designs before construction begins.

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-- Contingent upon the supply of financial management training assistance by BDC or ONV, MOA will seek such assistance on an urgent basis.

-- The Horticulture Department should explore alternatives to the GPO procurement system. Bulk purchases of supplies needed by all of the estates should be considered.

-- The Horticulture Department will undertake an evaluation of Kolobeng and Ithuteng experience to assess their progress towards sustainability and the implications for current and future estate development.

-- The Horticulture Department will establish a monitoring system of economic indicators for the estate program. The monitoring systems should include at least the following elements:

. production costs on a commodity basis;

. trend in gross and net producer income on a surface area basis;

. trend in marketing costs on a commodity basis;

. coverage of operating costs through fees and charges; and

. coverage of capital depreciation through fees and charges.

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GROUP II: AGRICULTURAL PRODUCTION AND INCOMES

AE 15: Rural Afforestation

BACKGROUND

Over 60 percent of Botswana's land area consists of sparce savannah woodland and scrub formations. Due to low and often erratic rainfall, combined with sandy and generally infertile soils, production of wood in this natural environment is thought to be less than $1m^3$/hectare/year, while consumption is estimated at 1.5 m^3/person/year. Wood accounts for over half of Botswana's energy consumption and is the vital raw material for the construction of houses, kraals, fences and for the manufacture of household and other utensils. Wood has been traditionally thought of as a 'free good' by the rural populations. As a result, large areas have been stripped of tree cover particularly around towns and villages. This same environment is also subject to heavy overgrazing, and areas surrounding many boreholes and other water points have become desert-like in appearance. The combined effects of deforestation, overgrazing and improper burning methods result in the annual conversion of 20 000 hectares of productive woodland to less productive grasslands and scrub formations, leading to serious soil erosion problems, flash flooding and local shortages of fuel and construction wood.

Nevertheless, Botswana is among the very few countries in the Third World fortunate enough to have a relatively small population compared with its land area and natural resource base. For the present, natural resource problems are localized, and a combined effort between Government and the people, if undertaken immediately, can prevent further deterioration.

In view of the Central Government'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 the Forestry Section's role (in MOA) to provision of extension advice, public education, production of seedlings, training, research and financial assistance. To this end, Botswana's National Forest Policy encourages individuals, village groups and non-governmental organizations to establish artificial plantations and woodlots. The aim is not only to ensure a continued and sustained production of wood for building materials, fence posts and fuel but to meet erosion control, import substitution, employment and income generation objectives, as well. The Rural Afforestation Project (AE 15),funded under the Rural Sector Grant, provides a framework for GOB assistance to plantation and woodlot projects with these aims.

The Rural Afforestation Project 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:

-- to provide individuals, village groups and non-governmental agencies with tree seedlings for afforestation, amenity and horticultural purposes; and

-- 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.

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AE 15 (I): Establishment and Expansion of Government Tree Nurseries

DESCRIPTION AND ANALYSIS

Until last year, the Ministry of Agriculture's (MOA) Forestry Section operated six nurseries with a combined production of 114 000 seedlings. Production in these nurseries is supposedly geared to the Forestry Sections's annual planting programs. 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) sub-project was funded under the RSG in order to create three new tree nurseries for the Forestry Section of the 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 1 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 first Review Team, changed the location of the Serowe nursery to Kang. Of the P50 858 warranted for nursery construction in Years 1 and 2, only about P14 170 has been recorded as spent. However, this is primarily due to late arriving receipts from the Ramatlabama nursery and the fact that construction of the Kang nursery has been postponed until Year 3. Funding requirements for Year 3 amount to P54 570 of which P33 052 in new funds will be provided by the RSG (see Tables 11 and 12).

Ramatlabama nursery (Year 1). Construction and equipping of the Ramatlabama nursery was completed on schedule. The nursery became fully operational in 1981/82 and currently produces 20 000 seedlings per year with a staff of one nursery manager and six industrial class laborers on a site of about 0.125 hectares. Production in the nursery consists of 40 percent pole and firewood species (mainly Eucalyptus cladocalyx, E grandis, E saligna, E globulus and E medinii), 50 percent ornamentals and 10 percent fruit trees. Prices for seedlings vary from P1.25 for a fruit tree to P0.20 for a Eucalyptus. All seedlings are produced in polythene sacks under nylon shade netting with potting soil transported from sixty kilometers to the nursery site. There were no implementation problems in the nursery construction and of the P30 000 allocated in Year 1, P14 170 had been spent as of 30 November 1981. Again, this low figure is primarily due to late arrival of receipts.

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 halfway 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 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 buildings and equipment, but excluding operational costs and overheads. The tractor and implements are basically used to transport trees to plantation sites and cut 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 m^3

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TABLE 11

AE 15: Rural Afforestation Project

Financial Situation After Two Years (pula)

Sub-project	(1) RSG budget Year 1	(2) Balance remaining end of Year 1	(3) RSG budget Year 2	(4) Funds available for Year 2 (col 2 + col 3)	(5) Estimated expenditure Year 2	(6) Estimated balance end of Year 2 (col 4 - col 5)
Establishment and expansion of Government nurseries	29 340	25 045	25 813	50 858	14 170	36 688
Matsheng Woodlot Management Plan	19 088	19 088	763	19 851	10 000	9 851
Sandveld trials	9 800	-200	2 685	2 485	2 485	-
Village woodlots (Sub-total)	-	-615	50 000	49 385	32 476	16 909
Mahalapye	-	(-615)	(615)	-	-	-
Palapye	-	-	(6 000)	(6 000)	(1 326)	(4 674)
Kang	-	-	(11 010)	(11 010)	(11 010)	-
Mochudi	-	-	(7 140)	(7 140)	(7 140)	-
Bokspits	-	-	(13 000)	(13 000)	(13 000)	-
Unallocated	-	-	(12 235)	(12 235)	(12 235)	-
TOTAL	58 228	43 733	79 261	122 579	59 131	63 448

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TABLE 12

AE 15: Rural Afforestation Project
Financial Projections for Year 3

	(1) Funds carried over from Year 2	(2) Funds needed for continuation or completion of ongoing activities	(3) Balance available for new Year 3 (col 1 - col 2)	(4) Funds needed for new Year 3 activities	(5) Allocation from RSG Year 3 funds (col 4 - col 3)	(6) Total planned expenditure in Year 3 (col 2 + col 4)
Establishment and expansion of Government nurseries	36 688	15 170	21 518	54 570	33 052	69 740
Matsheng Woodlot Management Plan	9 851	9 851	-	25 390	25 390	35 241
Sandveld trials	-	-	-	10 000	10 000	10 000
Village woodlots (Sub-total)	16 909	4 674	12 235	50 000	37 765	54 674
Mahalapye	-	-	-	-	-	-
Palapye	(4 674)	(4 674)	-	-	-	-
Kang	-	-	-	-	-	-
Mochudi	-	-	-	(9 833)	(9 833)	(9 833)
Bokspits	-	-	-	-	-	-
Unallocated	(12 235)	-	(12 235)	-	-	-
TOTAL	63 448	29 695	33 753	139 960	106 207	169 655

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 seasonal laborers. Although nylon shade netting or similar shading devices are essential in industrial nurseries, they can be considered a luxury in Ramatlabama, given the quantity of trees produced and the fact that most species planted only need shade for the first two weeks (this could easily be provided by trees or locally constructed devices). Lastly and most importantly, production in the Ramatlabama nursery far exceeds demand in the surrounding area, even taking the needs of the Good Hope plantation into consideration. At the end of the planting season, about half of the nursery's yearly production was left and was either going to be sold to the surrounding villages for planting -- with obviously meager chances for survival -- or destroyed.

The nursery manager is operating the nursery in a manner consistent with typical nursery practices in Southern Africa. However, several points should be raised:

-- 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.

-- Although the nursery manager monitors the outflow of seedlings by submitting monthly reports of sales to the Forestry Section, records of sowing dates, numbers, germination times, are not kept. Also, no detailed weather information is available. This lack of organization and information may have resulted in late sowing dates, pushing the maturity of seedlings (particularly Eucalyptus) later into the planting season and reducing their chances of survival. Seedlings present at the Ramatlabama nursery reached the optimum size for planting at the end of the rainy season, instead of the beginning -- approximately three months late.

-- Seedlings were neither sun-hardened or water-hardened before distribution/planting. They spent their entire time in the nursery under netting and were watered in a normal fashion until distribution. This lack of hardening can,in some cases,reduce survival rates by 15 - 20 percent.

-- Nearly 40 percent of the nursery's production is in Eucalyptus sp. However, when the nursery manager was asked what species the local villagers perferred to plant, he responded that most people preferred fruit trees and ornamentals to Eucalyptus, and that he was not able to produce enough of the former to meet local demand for these species.

-- 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 any quantity.

Kang nursery (Year 2/3). After examining the alternatives available within the Serowe area, the Forestry Section concluded that the Brigades' nursery at Serowe was capable of meeting present demand and that the capacity of the nursery could be expanded to meet medium-term requirements

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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.

Although construction of the Kang nursery was officially postponed to Year 2 and requested funds of P34 570 were warranted to MOA during the 1981/82 fiscal year, actual construction is not expected to begin until May 1982. This delay is primarily due to MOA's inability to select a site. A specific site has just recently been chosen, but negotiations with the local Land Board have yet to be undertaken.

Moving the second nursery from Serowe to Kang is an excellent idea, both because it will improve geographic distribution of seedlings and because the Serowe Brigades' nursery is more than adequate to meet current and intermediate needs with few additional inputs. The proposed site for the Kang nursery, if approved by the Land Board, is also excellent in terms of accessibility, soils and a permanent water source. It is located within the 13 ha agriculture experimental plot of the Matsha Brigades, almost in the center of town next to the secondary school. There is a permanent source of water (borehole) within 50 m of the site.

The proposed site also has other advantages, particularly in terms of integrating nursery activities into other ongoing activities in the Kang area and community life in general. As an example, the Matsha Brigades and the nursery staff should be encouraged to develop joint experimental/demonstration plots of agro-sylvo-pastoral systems applicable to ecological conditions in the Kang area. They should also be encouraged to collaborate with the secondary school staff in developing a mini-conservation curriculum, organizing tree planting days and days of practical works in the nursery and experimental plots for the school's students. Lastly, placing the nursery within the Matsha Brigades' experimental plots almost justifies Government-proposed expenditures for a tractor and implements, providing arrangements can be made to share this equipment on an equal basis.

Kasane nursery (year 3). The Kasane nursery is scheduled for construction in Year 3 of the RSG. However, no funds of the requested P41 806 have been warranted and a specific site has not as yet been selected. Site selection, however, is expected to be undertaken shortly along with resulting Land Board negotiations. Construction of the nursery is expected to begin in May/June 1982.

The Review Team finds the design of the proposed Kasane nursery excessively expensive, given probable demand. The nursery is to be used primarily for reforestation of the Chobe forest, parts of which are soon to be leased to a logging concession. However, no plans for reforesting these areas were available in the MOA.

SUMMARY OF FINDINGS AND RECOMMENDATIONS: AE 15 (I)

1. Ramatlabama nursery construction was completed on schedule. Construction of the Kang nursery is one year behind schedule due to delays in site selection, but construction of both the Kang and Kasane nurseries is expected to begin in May/June 1982. Nevertheless,

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negotiations for specific sites between the Forestry Section and the local Land Boards should begin immediately, and funds should be warranted to the MOA as soon as possible so that both nurseries will be in production by the October/November rainy season. Construction of both nurseries must be completed by June 1982, and sowing must begin immediately thereafter, to ensure that seedlings will be of optimum size for the planting season. Both Kang and the Matsheng villages (see AE 15 (II)) are counting on seedlings from the Kang nursery for their 1982 Village Woodlot Program.

2. The location of the Ramatlabama nursery is a poor choice. If the MOA were to consider establishment of additional Government nurseries, care should be exercised in order to ensure that there is a definite need for the nursery and that it will be able to serve the widest possible area and population. Decentralized government nurseries are an excellent concept, but in the case of Ramatlabama a small holding nursery or an AE 10 school nursery similar to the one observed at Mahalapye would have been more appropriate.

3. The design of all three nurseries is excessively expensive relative to probable demand. This results in one of the highest subsidized costs per tree in Africa, even without considering overhead and operational costs. The objective of decentralized nurseries is to provide appropriate 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 if necessary. As the AE 15 (I) project now stands, it does little more than channel commodities to the Forest Section, building its infrastructure but not its ability to provide appropriate seedlings at a reasonable cost. The MOA should take the following points into consideration before establishment of the nurseries at Kang or Kasane.

   a. The size of the nursery and its production should be based on demand. Half of the production in the Kanye and Ramatlabama nurseries will be destroyed this year due to lack of demand;

   b. Staffing of the nursery should be based on its production: one nursery manager plus two permanent laborers and three seasonal workers is normally sufficient for a 20 000 seedling output.

   c. The use of a tractor and implements for a nursery with a 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.

   d. A 95.2 m^2 P10 000 store/office 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 m^2 is all that is necessary.

   e. The use of nylon shade netting is not necessary. Seedlings can be started under trees or locally constructed devices and then gradually set out to be sun-hardened.

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4. Although the Ramatlabama nursery is operating in a fairly efficient manner and the monitoring of seedling output is satisfactory, the MOA should encourage their nursery managers to:

   a. develop a potting medium locally using a standard mixture of sand, soil and manure rather than relying on transporting forest soil from a distance of 60 km;

   b. keep a log book of sowing dates, germination times, seed treatments, percentage survival, as well as to monitor weather data in order to ensure that seedlings will be of optimum size for distribution at the beginning of the rainy season;

   c. ensure that seedlings are both sun- and water-hardened to increase their chances of survival during planting;

   d. gear nursery production to demand both in terms of quantity and species; and

   e. experiment with using bare root stock and new species, particularly indigenous ones such as Acacia erioloba and Terminalia sericea.

5. Lastly, the Government should actively encourage and support the development of AE 10 and AE 15 'mini-nurseries' both in the private sector (Brigades) and the public sector (schools, training centers, government institutions, etc). These organizations have the potential of greatly expanding seedling distribution and accessibility while drastically reducing seedling costs.

FUTURE ACTIONS REQUIRED

Before funds are warranted for the construction of the Kasane nursery, the MOA should:

-- submit a detailed analysis of the demand for seedlings in the Kasane area giving particular consideration to numbers and species needed for both village woodlot projects and future reforestation of the Chobe forest;

-- submit a detailed forest management plan for the Chobe forest including both harvesting and reforestation schedules;

-- justify expenditures for tractors, implements and a 92.5 m^2 storeroom/office given the above reforestation schedules and assuming demand by individuals and groups increases by 15 percent per year.

Pending receipt of this information, only P20 000 could be warranted in Year 3 in order to ensure that the nursery will be in at least partial production by the October/November 1982 planting season.

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AE 15 (II): Small Afforestation Projects

DESCRIPTION AND ANALYSIS

This sub-project can be further divided into the Sandveld Plantation Trials, the Matsheng Woodlot Management Plan and a Small Woodlots Project fund. Originally, the Sandveld Trials and the woodlot scheme of the Matsheng Land Use Development Plan were to have begun work in Year 1 of the RSG. However, because the MOA did not sub-warrant the funds for Takotakwane until late in the 1980/81 fiscal year and Matsheng lacked a Project Officer, first year activities for these two projects were basically limited to site preparation. No funds were warranted for small woodlots in Year 1, although P615 was given to the Mahalapye Bridgades Development Trust to assist in establishing mini-nurseries and plantations at two primary schools. Of the P50 000 warranted to the MOA for small woodlot projects in Year 2, approximately P32 476 will have been spent by the end of March, leaving a balance of P12 235 to be carried over into Year 3 (see Tables 11 and 12). A detailed technical and financial analysis of these projects as well as their achievements follows.

Sandveld Plantation Trials, Takatokwane

The main objectives of the trials are to ascertain:

-- the most suitable tree species for the production of building poles, fencing timber, firewood and timber generally, for local consumption;

-- the practicality of growing certain shrubs for the production of stock fodder to supplement existing local resources; and

-- the best and cheapest method of establishing and maintaining such trees and shrubs and also the efficiency of using fertilizers to boost growth and survival rates.

Of the original RSG request of P12 485, P9 800 was sub-warranted to the Kgalagadi Settlements Program late in Year 1 which permitted site preparation of 3 ha and fencing of the entire 6 ha project site, but delayed actual trials until the following rainy season (Year 2). Site preparation was done mechanically using a combination of plowing and subsoiling. During Year 2, P2 685 was sub-warranted and more than 12 quarter-hectare trial sites were laid out and planted in January 1982, with a variety of species including: Eucalyptus camaldulensis. E cydroxolon, E citriadora, E maculata, Casuarina cunninghamia, Prosopis juliflora, Melia azederach, Grevellea robusta, Acacia saligna, Cupressus arizonica, and Tamarix articulata. All trees are planted in a 3m x 3.25m spacing, are watered once a week and are mechanically cultivated.

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 an extremely critical role to play in the development of Botswana's forestry program. Although it is too early to quantity or qualify any

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trial results, preliminary findings indicate that E camaldulensis, P juliflora and Melia azederach have the potential of adapting to the Kalahari's harsh environment.

However, given the degree of mechanical site preparation and the necessity of watering the seedlings, the Review Team questions whether the third and probably most important objective in terms of village woodlots is actually being met. Are the methods used at the Sandveld Trials actually the best and cheapest, and would a village or villagers be willing to invest limited time and resources in such a technical package? As the trials now stand, they suggest that village woodlots should resemble mini-industrial plantations. In particular, the Review Team questions:

-- the necessity of mechanical site preparation and maintenance, particularly plowing and cultivation which requires a large investment and exposes scarce topsoil to the effects of wind and water erosion. Wind erosion was particularly evident in woodlot sites mechanically prepared in the Matsheng, and sheet and gully erosion was obvious in mechanically prepared woodlots visited in Shoshong, Serowe and Mochudi;

-- the 3m x 3m spacing, particularly for Eucalyptus. Eucalyptus sp are known to require extremely large quantities of water, and planted at this spacing and over a relatively small area, could have a potentially negative impact on ground water availability;

-- the need to destump a plantation site given the time and labor necessary to accomplish this task; and

-- the necessity of watering once a week, given the limited availability of this resource in most villages, and again, the time and personnel required to accomplish this task.

The basic issue is whether the capital inputs and recurrent cost necessary to establish one hectare of village woodlot with the above techniques are worth the return in poles, firewood, fence posts and time saved. This is especially true given the disappointing growth rates of Eucalyptus shown in other countries with similar ecological conditions (Niger, Upper Volta) and the unknown reaction of the other trial species to the Kalahari environment.

Therefore, we strongly recommend that the sandveld trials place equal emphasis on both species adaptability and site preparation/maintenance techniques, specifically:

-- by experimenting with site preparation techniques which require no destumping and minimum tillage -- or the use of a subsoiler at most;

-- by experimenting with non-mechanized cultivation techniques, eg, using hand labor to simply cut back grass and coppicing vegetation;

-- by experimenting with spacings other than 3m x 3m; and

-- by experimenting with water harvesting/erosion control devices such as micro-catchment basins and bunds, as well as different watering schedules.

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Since additional funds would be required for such activities as these above, the Review Team would strongly support submission of a PM addendum and has recommended that a total of P10 000 be reserved in Year 3 funds for this purpose.

Woodlot Management Plan for the Matsheng Villages

The objectives of the Matsheng Village Woodlot Management Plan are to:

-- manage the degraded savannah woodland (composed predominately of Acacia giraffae, A leuderilzii, Terminalia sericea and Grewia flava) between the villages of Lehututu, Tshane, Lokwabe and Hukuntsi, on a sustained yield basis, using a coppice-with-standards management system; and

-- initially establish 30 ha of trial plantations (woodlots) divided into four plots of equal sizes (7.5 ha), one being located near each village.

Funds of P19 088 were sub-warranted to the Village Development Council in Hukuntsi in Year 1 of the RSG, but due to the absence of a project manager until Year 2, no expenses were incurred. The arrival of a project manager in January 1982 has somewhat accelerated the establishment of the woodlots and all four villages are currently in various stages of site preparation. Hukuntsi is the most advanced, with 75 percent of the 7.5 ha site cleared and almost ready for fencing, whereas at Lokwabe, only the perimeter of the woodlot has been cleared. Some fencing materials hae been ordered, but no records of expenditure to date were available. No work has begun on implementation of the natural forest management plan.

The Matsheng Woodlot Management Plan is basically sound both in concept and design, although the plantation/woodlot component of 7.5 ha per village may be too ambitious, especially when the woodlots are considered to be experimental. Again, we question the appropriateness of intensive site preparation. The natural vegetation management scheme is of particular interest given that countries with somewhat similar ecological conditions (Niger and Upper Volta) have found that yields per hectare in both wood and secondary products from 'useless brush' can exceed yields from artificial plantations of E camaldulensis, both rain fed and irrigated, at 25 percent of the cost.

The arrival of a project manager in Year 2 has clearly added to the villages' already high degree of enthusiasm for this component of the Matsheng Land Use Development Plan. Even though the villages are in various stages of site preparation/organization, interest in the woodlot scheme seems high, given attendance at demonstration plantings and turnout for site preparation. However, the project manager is scheduled to leave in March 1982 and is not to be replaced until November 1982, when a two year Peace Corps forester (transferring from Ghana) will arrive. Also, the villages are counting on production from the yet-to-be-established Kang nursery for the 1982 planting season.

The major design issues regarding the Matsheng Woodlot Management Plan can be summarized as follows:

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-- The necessity/appropriateness of the site preparation and maintenance techniques envisioned in the PM is questionable. If the plots are indeed intended to be experimental, then equal emphasis should be placed on both species and planting and maintenance.

-- The target of 7.5 ha per village appears too ambitious. This is especially true given the person-days necessary to clear the sites, and the time and labor required to water 8 000 trees located at the average distance of 2 km from the nearest water point. It is therefore recommended that plantation size, including site preparation and fencing be limited to no more than two hectares per village for the first year. The only possible exception to this would be Hukuntsi, which could conceivably clear and fence-in the entire site by the planting season. However, the actual plantation size within the cleared and fenced area should be limited to two hectares.

-- The establishment of the nursery at Kang is crucial to the success of the Matsheng Plan. The nursery has to be constructed and seeds sown by the end of July 1982 in order for seedlings to be of optimum size for planting in November 1982. If the nursery at Kang is not established by this date, or if it is established later in the year, seedlings for the Matsheng will have to come from Kanye -- greatly reducing their chances of survival -- or immature plants from Kang will have to be used, reducing percentage survival.

-- The most crucial element in the Matsheng Woodlot Management Plan is the presence of a Project Manager. After his departure, technical and organizational backstopping for site preparation and fence installation for the four villages can be assured by the GDO until only July 1982. However, the months between July and the arrival of the Peace Corps volunteer in November is critical in terms of final site preparation (digging holes) and actual collection, distribution and planting of seedlings. It is therefore recommended that the Peace Corps either recruit a volunteer for placement in Hukuntsi by July 1982, or a short-term consultant forester be hired through USAID to fill the gap during the interim.

Small Woodlots: Mahalapye, Palapye, Kang, Mochudi, Shoshong[1] and Serowe[1]

The RSG budget proposed no funds for the establishment of small self-help oriented village woodlots in Year 1, although the MOA did sub-warrant P615 to the Mahalapye Development Trust for the establishment of two mini-nurseries/woodlot schemes in two primary schools. Prior to Year 2, Project Memoranda were received for village woodlots in Palapye, Kang and Mochudi, and P50 000 was allocated for their construction, as well as for additional proposals. Table 11 indicates an estimated remaining balance of P16 909 at the end of Year 2, but actual unallocated funds should be between P12 000 - P13 000 as receipts for expenditures are notoriously late in arriving.

[1] Woodlots at Shoshong and Serowe were funded under AE 10 and are listed here for purposes of comparison only.

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Kang Woodlot/Pilot Forestry Plantation. The objectives of the Kang woodlot are to provide wooden building poles and firewood to the Kang village, to study the suitability of various trees and the local environment and to gain experience in the operation of a village woodlot in the Kalahari.

The total PM request was for P11 010, all of which was sub-warranted to the Matsha Brigades. All funds should be spent by the end of Year 2, with the possible exception of purchase of seedlings. Clearing of the 5 ha site is in progress, and providing the Kang nursery is in production by the November 1982 rainy season, planting should take place according to schedule, albeit one year late. Design considerations are again the degree of intensive site preparation and maintenance needed for plantation establishment.

Development of Tree Plantations and Windbreaking Systems on the Palapye Dryland Crop Demonstration Farm. The objectives of this project are to increase production of wood products and promote resource conservation through the establishment of windbreaks, shelter belts, woodlot and fruit tree plantations. The project proposes the creation of 1.5 ha of windbreaks, 0.5 ha of shelter belts, 0.5 ha of fruit trees and 2.5 ha of woodlots using a variety of indigenous and exotic species. The total PM request was for P6 000 and this amount was sub-warranted to the Palapye Development Trust during Year 2. However, expected expenditure at the end of year 2 is only expected to be P1 326, as funds were warranted late in the year, and only a relatively small portion of the project could be implemented.

The design of the project is excellent, and if successful has the potential to be replicated in other areas of Botswana with similar ecological conditions and problems. It is also an excellent example of an agro-forestry system, combining fruit production with wood production.

Mahalapye Woodlot Scheme (Year 1). The Mahalapye Development Trust requested and received P615 during Year 1 of the RSG to assist in establishing mini-nurseries and small woodlots at two primary schools in Mahalapye. Both projects are an example of what can be done with small amounts of money and a high level of local commitment.

The Leetile Primary School received funds totalling P2 236 from the Brigades, with which an approximately 3 ha area around the school was fenced, cattle grids installed, a mini-nursery established and 500 seedlings of mixed Eucalyptus were planted. The mini-nursery failed due to the difficulties of germinating Eucalyptus and the school's vacation schedule, but will be tried again this year. However, the seedlings are thriving and are maintained on the principle of one tree per student. No site preparation techniques were used other than digging fairly large holes. The school plans on planting an additional 500 trees per year, including Eucalyptus, citrus and ornamentals until the entire site is covered. Products from the plantations will either be sold or used at the school.

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A similar project was begun in Year 2 at Fredericks School in Mahalapye, and the only major difference was that this schools succeeded in raising 200 of the 300 Eucalyptus planted.

Both schools incorporate a mini-conservation curriculum into their programs, and the woodlots and nurseries are used for educational and demonstration purposes. The schools should be able to continue these programs with no additional input of RSG funds.

Mochudi Farmers Brigade's Forestry and Woodlot Extension Project. The objectives of this project are to:

-- develop forest resources and conserve soil resources;

-- provide additional incentives, organization and flexibility for the establishment of forestry projects by groups on a self-help basis;

-- provide a source of income for Mochudi Farmers Brigades; and

-- encourage the process of village group organization and project implementation.

A total of P7 140 was allocated by the MOA to the Mochudi Farmers Brigade in Year 2 of the RSG. The original PM called for the establishment of a 6 ha woodlot. However, only about 3 ha were fenced and planted with E camaldulensis in late December, at a cost of about P4 000. Records are not available vis a vis remaining funds although it is assumed that they will be spent by the end of Year 2 on site preparation for the additional 3 ha. Techniques used in the establishment of this woodlot were similar to those encountered elsewhere, eg mechanized site preparation and intensive cultivation with some hand-watering.

The self-help component of this project appeared to be quite low and it seemed that the woodlot was pushed on the farmers by the Brigades without them really understanding the concept. The entire site was cleared, plowed, fenced and planted by people from a temporary 'Work Camp'; as a result, the only village contribution was maintenance of the trees, and that was generally lacking. However, as this was the Brigades' first experiment in village woodlots, they have gained valuable experience in community development techniques and should be able to use the entire Year 3 RSG allocation of P9 833 for the continuation of their program.

Shoshong and Serowe Woodlots (AE 10). These two woodlots are included in this section for purposes of comparison only. Techniques used in site preparation and maintenance of the trees were similar to those used in the Mochudi woodlot. The biggest difference was the self-help component which amounted to almost 20 percent of total woodlot cost compared to only about 5 percent of the Mochudi woodlot. The farmers' interest in maintaining the woodlots was evidenced by the fact that the trees were well cared for in both plantations. However, the woodlot in Shoshong had only about a 75 percent survival rate as the borehole had broken and villagers were unable to water the trees effectively.

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ANALYSIS

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. Although the Forestry Section of MOA has chosen to limit its role to the provision of extension advice, production of seedlings, 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.

The project approval process for AE 15 (II) has been streamlined, with the inception of standardized guidelines for submission of woodlot proposals. There also appears to be no difference in the time required for approval between AE 10 and AE 15 woodlot proposals, although it should be noted that the former seem to have a somewhat higher self-help contribution.

There is still no system for the regular monitoring of the woodlot program. A simple quarterly reporting system needs to be set up which would monitor both project status, accomplishments and problems as well as financial outflows. This is particularly true in the case of Brigade-supported activities, in which there are virtually no records of project inputs and outputs. This system should be backed up by regular field visits of MOA staff to the woodlot sites.

Although Government and Brigades' nurseries have sold seedlings to NGOs, individuals and private groups in the past, the idea of a communal or village woodlot is a relatively new concept in Botswana. Care must be taken in establishing a village woodlot program to determine whether three main prerequisites for a successful community effort exist:

-- political support for rural development at all levels;

-- the willingness of the local community to participate and its capacity to continue the development process with its own means and resources; and

-- an institutional framework sufficiently flexible to ensure inter-agency coordination and cooperation, particularly at the working level.

A rough analysis indicates that these three elements were present and considered, albeit in varying degrees, in all the woodlots visited. Enthusiasm and support for village woodlot projects are high, both among Government officials and the villagers themselves. Interagency coordination, although lacking in certain cases, can also be evidenced by the fact that DAOs and ADs are interested in starting woodlot projects in the absence of Forestry Section personnel. However, the first critical question appears to be whether the technical package currently being offered to the villagers will provide an adequate return on their investment. Specifically, will the villagers be willing and able to continue to establish woodlots with their own means and resources?

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The technical package currently available to villages is a scaled-down version of industrial plantation techniques. The intensive (often mechanized) site preparation and cultivation methods used are expensive and/or time consuming. More importantly, they result in the loss of scarce topsoil through wind erosion as evidenced in the Kalahari, or sheet and gulley erosion as evidenced in the woodlots at Mahalapye, Shoshong, Serowe and Mochudi. Also, the use of Eucalyptus sp as the preferred species in this package is questionable for two reasons.

-- Growth rates of Eucalyptus, particularly E Camaldulensis have been disappointing in other countries in Africa with similar ecological conditions, even under irrigation. Also, Eucalyptus Sp. require extremely large quantities of water and even if planted over relatively small areas using a 3 m x 3 m spacing, can have a significant negative impact on ground water availability; and

-- In Botswana, Eucalyptus appears to be considered a 'Man's' tree and the trees in the woodlots will be used mainly for construction poles and fenceposts rather than firewood - thereby having little impact on the fuelwood situation, or on reducing women's workload. When women at some of the sites were questioned what species they preferred, their first choice was always fruit trees followed by firewood species.

Although the Sandveld Trials have an important role to play in determining appropriate species suitable to the Kalahari environment, little has been proposed in terms of site preparation and cultivation trials, which the Review Team considers to be of equal, if not greater importance.

A second important question to be asked is who is going to deliver the technical package. The MOA has implicitly made a decision not to become involved in forestry extension to any significant degree. This means that whatever extension services will be required by groups requesting woodlots will have to be provided by sources other than MOA staff. The Forestry Section has only a few qualified field employees, and staffing levels are not expected to increase significantly over the next several years. Brigades and other NGOs have in the past demonstrated an ability to work with villagers in establishing woodlots, but their technical and financial management skills are limited. More importantly, Brigades do not exist in every village.

A last important question to be asked is where the trees are going to come from. One of the main causes of failure in village woodlot schemes is the late delivery or non-delivery of trees during the rainy season. This was an important factor in the low survival rates at most of the woodlots visited, as the trees should have been planted in November, but were actually planted in late January/early February. Establishment of nurseries at Kang and Kasane will help alleviate this concern by reducing transport time. But, in order for a village woodlot project to be successful, villagers should have easy, guaranteed access to seedlings of their choice.

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SUMMARY OF FINDINGS AND RECOMMENDATIONS

1. The Takatokwane Sandveld Trials, although crucial in determining species adaptability in Botswana, are not achieving their third objective which is to find the best and cheapest methods of establishing and maintaining trees and shrubs. Current methods used require intensive site preparation which is costly and requires a great deal of time and labor, threatening to reduce the return on villagers' investment. It is therefore strongly recommended that in addition to KSP's Year 3 request of P3 077 for continuation of the species trials, an additional sum of P6 923 be set aside to be used for site preparation, spacing, maintenance and perhaps agroforestry trials, pending submission and approval of a PM addendum from KSP. The objective of this project should be the development of a sound and economical technical package(s) to be used by villages, groups, or individuals for woodlot extension.

2. The establishment of the nursery at Kang is deemed vital to the success of both the Kang woodlot and the Matsheng Woodlot Management Plan. The MOA must make every effort to finalize site selection and negotiation with the Land Board in order for the nursery to be in full production for the November 1982 planting season. It is strongly recommended that the nursery be placed within the perimeter of the Matsha Brigades Agriculture Experimental Plot.

3. The recruitment of a project manager for the woodlot component of the Matsheng Land Use Development Plan is critical to project success. Interim technical backstopping for this project can be assured until July by the GDO after departure of the current project manager in March. However, Peace Corps must make every effort to recruit and place a volunteer forester/project manager in Hukuntsi no later than the end of July 1982. If this is not feasible, funds must be found either in Peace Corps or USAID to hire a personal services contractor/forester from July 1982 to the end of the planting season in January 1983, pending recruitment and training of a long-term project manager. If this is not done, Matsheng woodlot activities will be delayed an additional year jeopardizing both the project and the enthusiasm already demonstrated by the villagers.

4. The scale of the plantation/woodlot component of the Matsheng Plan of 7.5 ha per village is too large given the adult population per village, the amount of time and labor required and the necessity of transporting water over 2 km for maintenance of the trees. It is recommended that the villages in the Matsheng area prepare and plant a maximum of 2 ha per village in 1982/83, subject to supervision by the project manager and the development of a more appropriate technical package. The scale of the other woodlots also seems too large, and it is recommended that the MOA and the Brigades take care in analyzing village capabilities before starting woodlot projects.

5. The project approval process for the small afforestation component seems to have been streamlined with the use of standardized project guidelines developed after last year's review. It is recommended that these guidelines continue to be used. There seemed to be no difference in the approval process between AE 10 and AE 15 woodlots, although the AE 10 woodlots seemed to have a higher self-help component.

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6. MOA still has no system for the regular monitoring of the financial and implementation status of woodlot projects. It is recommended that a simple quarterly reporting system be developed which could monitor project accomplishments, problems and financial outflows, and with back-up through regular field visits of MOA staff to the woodlot sites.

7. Although the sub-project AE 15 (I) will help reduce some seedling distribution and transport problems, the provision of seedlings of choice in a timely manner is critical in village woodlot projects. It is therefore recommended that MOA staff monitor nursery production in order to ensure that seedlings will be of optimum planting size by the beginning of the rainy season. It is also recommended that nursery production be diversified to take into account real demand. Lastly, it is also recommended that the MOA encourage and assist in the establishment of mini-nurseries at schools and training centers, similar to the projects in Mahalapye in order to further extend seedling accessibility.

8. The absence of a forestry extension service will hamper efforts to expand existing woodlot projects and develop new ones in other areas. Given the Forestry Service's limited staff and the Brigades' shortage of technical, financial and organizational skills, the potential for expansion of the woodlot program in both quantity and quality is limited. It is therefore recommended that the MOA, USAID and Peace Corps begin discussions immediately on the possibility of using Peace Corps volunteer foresters in this extension role.

9. Given that the proposals for woodlot projects for Year 3 are at about the same level as last year, it is recommended that the RSG Year 3 allocation for village woodlots other than the Matsheng be set at P50 000.

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GROUP II: AGRICULTURAL PRODUCTION AND INCOMES

AE 19: Arable Lands Development Program (ALDEP) Pilot Activities

DESCRIPTION

In 1980/81 the Rural Sector Grant provided financing of P180 500 for a series of pilot projects designed to remove constraints to crop production. These were undertaken with the Arable Lands Development Program (ALDEP), a major Government of Botswana initiative aimed at the 40 000 - 65 000 smallholder producers who plow no more than 10 hectares. ALDEP is a program aimed at increasing the production of staple foods, generating productive employment and raising incomes in the rural areas. The objectives of the pilot projects were to: (1) test ideas which might be included in the main ALDEP program; (2) develop the Ministry of Agriculture's field-level implementation capacity; and (3) provide a transition into the full ALDEP program (originally scheduled to start in 1981/82), by sustaining the momentum generated during ALDEP's previous consultative planning phase in the districts. All RSG funding for AE 19 was allocated in Year 1. The five pilot projects approved for funding were: (1) Implement Credit Scheme, (2) Donkey Draft Power Credit Scheme, (3) Small-Scale Water Development Scheme, (4) Fencing Development Scheme, and (5) Lock-up Stores Development Scheme.

PROJECT PERFORMANCE

Allocation of funds by the Ministry of Agriculture varied from the Year 1 budget in one important respect. No money was spent on the Lock-up Stores pilot project, but most of these funds were allocated by the Ministry a pilot Extension Assistants Training and Support Scheme in central sandveld areas. In addition, P3 700 was warranted for a project aimed at extending and improving a secondary school garden in Ghanzi. The implement, donkey draft and fencing funds were disbursed during Year 1. While initially slow to start, the small-scale water development funds will have been disbursed by the end of 1981/82. About 40% of funds allocated to the extension assistant and Ghanzi garden projects will be carried over to Year 3 of the RSG. Table 13 shows the financial situation for AE 19 as of the end of the 1981/82 fiscal year.

An evaluation by MOA's Planning and Statistics Division of the 1980/81 ALDEP pilot projects and the main ALDEP outreach efforts through October 1981 was done late in Year 2. It concentrated on the distribution of the planter/cultivator equipment and studied some of the structural and production aspects of the farms of smallholders. The evaluation also included a brief study of the RSG-funded pilot water tank project. Additionally, an attempt was made to track ALDEP loan approvals by the National Development Bank (NDB) and the Botswana Cooperative Bank (BCB), the two major financial institutions administering the loans.

There are no new activities proposed or money required from the Rural Sector Grant in Year 3. The RSG's sole involvement with ALDEP will be expenditure of the remaining P20 392 (see Table 14) for the extension assistants and Ghanzi garden projects.

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TABLE 13

AE 19: Arable Lands Development Program Pilot Activities (ALDEP)

Financial Situation After Two Years

	(1) RSG budget Year 1	(2) Balance remaining end of Year 1	(3) RSG budget Year 2	(4) Funds available for Year 2 (col 2 + col 3)	(5) Estimated expenditure Year 2	(6) Estimated balance end of Year 2 (col 4 - col 5)
Implement Credit	43 500	-				
Donkey Draft	29 000	-				
Fencing	29 000	-				
Water Development	29 000	12 468	-	12 468	13 998	-1 530
Extension Assistants	-	40 108[1]	-	40 108	20 000	20 108
Ghanzi Gardens	-	1 814[1]		1 814	-	1 814
Lock-up Stores	50 000[1]	-	-	-	-	-
TOTAL	180 500	54 390	-	54 390	33 998	20 392

[1] Due to delays with the lock-up stores program, funds were reallocated to the Extension Assistants Program and to a gardening project.

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TABLE 14

AE 19: Arable Lands Development Program Pilot Activities (LDEP)

Financial Projections for Year 3

	(1) Funds carried over from Year 2	(2) Funds needed for continuation or completion of ongoing activities	(3) Balance available for new Year 3 activities (col 1 - col 2)	(4) Funds needed for new Year 3 activities	(5) Allocation from RSG Year 3 funds (col 4 - col 3)	(6) Total planned expenditure in Year 3 (col 2 + col 4)
Small Scale Water Development	- 1 530	- 1 530	-	-	-	- 1 530
Extension Assistants	20 108	20 108	-	-	-	20 108
Ghanzi Gardens	1 814	1 814	-	-	-	1 814
TOTAL	20 392	20 392	-	-	-	20 392

ANALYSIS

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 by NDB and BCB; (4) determination of the status of the RSG allocations; (5) assessment of the conformance to eligibility criteria and analysis of the socio-economic status of participants; and (6) 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 far short of the requirements outlined in last year's Annual Review. The donkey draft, water tank, extension assistant, fencing and garden projects were not extensively treated. Nor did the report present an accounting of RSG funds in relation to project performance. Thus many of the questions raised concerning the 1980/81 pilot phase of ALDEP have not been 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. The backlog of unanswered questions forces the conclusion that the investment of RSG funds in AE 19 has had, and will have, little impact on the future evolution of ALDEP.

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GROUP III: NON-FARM INCOME AND EMPLOYMENT

CI 08 Rural Industries Development

DESCRIPTION

The purpose of this sub-project is to increase employment opportunities and incomes in the rural areas through the promotion of small-scale and medium-scale industries. The principal mechanism is the establishment of and support to a cadre of Rural Industrial Officers (RIOs) in the districts under the supervision of a Senior Rural Industrial Officer (SRIO) in the Ministry of Commerce and Industry. Funds from the Rural Sector Grant have been instrumental in launching the RIO program during Years 1 and 2. The role of the RIO cadre is to identify possibilities for increased industrial production in the rural areas, and to provide assistance to existing and potential entrepreneurs, either as individuals or in groups. RSG funds have been programmed to cover (1) the salary of the SRIO at MCI headquarters, (2) office equipment and vehicles, (3) training aimed at localization of the RIO cadre, (4) a Small Projects Fund for use by the RIOs, (5) partial costs of a study of gathering, processing and marketing of wild plants for export (see Attachment 1 to this section), and (6) a pilot project for training rural blacksmiths and mechanics. GOB contributions consist of vehicles, offices, transport expenses, salaries of Batswana Assistant RIOs, and approximately 40 percent of the costs of the gathering study.

PROJECT PERFORMANCE

The project has sustained the momentum that was built up during 1980/81, and the effectiveness of the RIO cadre has been strengthened significantly. The full complement of 11 RIO posts is now staffed (seven were filled in Year 1), systems for substantive and procedural support to the RIOs have been improved, and utilization of the Small Projects Fund has increased. MCI has made an initial step towards localization of the RIO cadre - at present, there are nine expatriate volunteers, one Zimbabwean and only one Motswana among them - by hiring Assistant RIOs (nine of whom are now posted to Districts) with a secondary school education (GCE certificate level), but has not been able to recruit qualified counterparts capable of replacing the RIOs themselves.

Surveys of existing and potential rural industries have continued in the Districts along the lines established in Year 1, and most RIOs have developed inventories of producers who would be eligible for various types of assistance. As their familiarity with the Districts has grown, the RIOs have been able to act more effectively as secretaries to the Production Development Committees (PDCs), which are sub-committees of the District Development Committees. This in turn appears to have strengthened the role of the PDC within the district planning process. Several of the District Annual Plans for 1982/83 place greater emphasis on productive activities relative to infrastructure and social services than the Annual Plans prepared in previous years. This is a trend which GOB policy and the design of the Rural Sector Grant strongly support.

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The quantity and quality of support to the new RIO cadre has continued to improve during Year 2. An energetic headquarters team, composed of the original SRIO and Industrial Officer, has provided excellent administrative, substantive and moral support to the Districts. Among the most useful measures have been the preparation of a resource manual/ handbook for RIOs (to be produced by the Government Printer as Volume III of the District Planning Handbook), quarterly meetings of the RIOs on a rotating basis at district sites, regular distribution of PDC minutes and other documents produced by individual RIOs to all Districts, and the testing of evaluation techniques on certain rural industrial projects.

Utilization of the Small Projects Fund has grown considerably during Year 2. Total commitments in Year 1 were P38 158, and MCI estimates that commitments during Year 2 will total about P110 000. The latter figure is P40 000 less than the expenditure projected for Year 2 at the time of the first RSG Annual Review. The SPF is a decentralized mechanism, however, and many of the individual projects judged by MCI as most successful have been very small in terms of their funding requirements. Table 15 summarizes the distribution, by District and by funding level, of 105 SPF projects for which commitments were made between April and November 1981. Of these, 97 were initiated at the District level and approved by PDCs, with a mean funding level of only P586. A large proportion of SPF projects concern technical training for individuals or groups prepared to start new productive enterprises. Interviews with RIOs have highlighted both the potential for additional SPF-financed training due to its demonstration effect, and the need for follow-up assistance to producers who benefited from the initial round of projects.

Projects financed through MCI headquarters under the SPF include five in the range of P5 000 - 10 000:

-- A pilot project for controlled grapple harvesting and marketing (P5 300);

-- A production survey in Southern District's Communal First Development Area (P9 117);

-- A pilot project on silk production (sericulture) - analyzed in Attachment 2 to this Section (P6 358);

-- A study of potential building materials based on mineral deposits in the Southern District CFDA (P8 901): and

-- A course to upgrade the skills of textile instructors held in Bulawayo (P8 839).

The recommendations from the first RSG Annual Review were adopted by MCI, with satisfactory results. Criteria for the use of SPF funds were developed by the Annual Review team and the SRIO, and these have been followed with reasonable consistency during Year 2. The decision to grant approval authority to PDCs for projects costing up to P1 000

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TABLE 15

CI 08: Small Projects Fund

Commitments for Period April - November 1981

District	No. of Projects	P1 - 100	P101-500	P501-1 000	Over P1 000	Total cost of Projects
MCI Headquarters	8	2	1	0	5	P39 165
Central	9	4	3	2	0	P 2 987
Chobe	1	0	1	0	0	P 500
Ghanzi	12	7	2	3	0	P 2 982
Kgalagadi	4	0	1	2	1	P 4 599
Kgatleng	14	3	6	4	1	P 6 565
Kweneng	14	2	5	2	5	P15 836
Ngamiland	10	2	6	1	1	P 3 248
Northeast	4	1	2	1	0	P 1 401
Southeast	6	0	4	2	0	P 2 771
Southern	23	3	10	7	3	P15 982
Totals	105	24	41	24	16	P96 036

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(previously projects costing over P300 required approval by the full DDC, which meets less frequently) has expedited the commitment of funds without weakening the technical assessment of proposed activities.

Although P32 000 had originally been earmarked for long-term (overseas) and in-country training of RIO counterparts during Year 2, no funds have been spent on these activities to date. MCI's proposals for Year 3 include a major emphasis on training, and the unexpended balance will be carried over from Year 2 to Year 3.

The training program for rural blacksmiths and mechanics planned for Year 2 has been delayed and will not get underway until the first quarter of Year 3. The unexpended balance (P13 899 out of P14 100 warranted to MCI) will be carried over to Year 3.

The absence of Batswana counterparts to the cadre of expatriate RIOs (serving on two-year contracts) was identified in the first RSG Annual Review as a critical implementation problem. The difficulty of recruiting university graduates with the skills needed for the RIO assignment was acknowledged, and MCI has managed to hire only one such individual in the past year. The new group of RIOs recruited recently do not have training in economics, and many do not hold full Cambridge certificates. While they can be of direct assistance to the current RIOs in terms of data collection and dissemination of information about MCI programs in the Districts, they do not have the skills or practical experience to advise the rural producers whom those programs are designed to reach. Thus they cannot be regarded as 'counterparts' capable of assuming the duties of RIOs. MCI must develop a long-term training program for this cadre in order to provide them with the necessary qualifications, or look elsewhere for the personnel to replace expatriate RIOs.

Experience in the past two years indicates that demands on the time of RIOs are escalating as they become more knowledgeable about their Districts. The limits of their implementation capacity, as the sole qualified MCI officers holding district-wide responsibilities, are becoming increasingly evident, too. The SPF 'pipeline', representing the lag between commitments and expenditure, has grown considerably between Year 1 and Year 2: the amount committed but unspent after Year 1 was P17 696, and after Year 2 it is projected to be P82 000. This raises the question of whether RIOs risk being overextended in identifying and appraising new projects, to the point where they cannot adequately monitor and/or supervise implementation of projects that have been previously approved.

The blacksmith/mechanic training programme was scheduled to begin during the second half of Year 2; USAID reviewed and approved a PM for this sub-project in August, 1981, and earmarked P14 100 for eventual reimbursement to the GOB. A Motswana trainer (to be based at the RIIC in Kanye and backstopped by that institution) was recruited but subsequently disappeared. A replacement is being sought so that the course can be held early in Year 3.

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Funds budgeted for GOB expenditure in Year 1 were P128 150, with an additional $50 800 earmarked by USAID for the SRIO under an OPEX contract. An unspent balance of P59 117 was carried over to Year 2, and was supplemented by an additional P204 432 under the RSG budget. USAID also reserved $40 650 of Year 2 funds for the SRIO. Table 16 shows the financial situation expected as of the end of Year 2. A balance of P86 631 will be carried over for GOB-controlled expenditures, and savings of approximately $51 450 on the SRIO contract during the first two years will be applied towards the costs of the new SRIO who will take up the post early in Year 3.

The SRIO holds overall responsibility for management of the RIO cadre and the Small Projects Fund. The first RSG Annual Review noted that a regular reporting system between RIOs and Ministry headquarters had been established, and that field activities were being monitored carefully. This continues to be true, and the SRIO and former AIO serves as his deputy have travelled extensively in order to assist the RIOs and to stay abreast of their work and the problems encountered at district level. RIOs have also been able to monitor the progress of each other's work due to the circulation of documents among Districts and the exchange of views at quarterly 'reunions'. The SRIO and MCI Planning Unit have also monitored studies currently in progress on the gathering, processing and marketing of wild plants and the potential for sericulture. Issues relating to these studies are examined in Attachments 1 and 2, respectively.

PROPOSALS FOR YEAR 3

MCI's request for Year 3 funding under the Rural Sector Grant includes three components: long-term technical assistance for two positions, the SRIO and a Training Officer; a further contribution to the Small Projects Fund; and the costs of long-term (overseas) and short-term (in-country) training programs aimed at upgrading ARIOs and fully localizing MCI posts at headquarters and in the Districts. Completion of two activities launched in Year 2, the gathering study and the blacksmith/mechanic training program, will be financed with carryover funds; no additional RSG funds have been requested for these.

Technical Assistance

The SRIO post has been vacant since January, 1982, following the resignation of the officer who guided the CI 08 sub-project during Years 1 and 2. After considering several candidates, MCI has selected a replacement with substantial experience in Botswana as RIO/Central District from February 1980 to January 1982. This person will take up her post in early May.

At present a Motswana Industrial Officer is receiving long-term training in the US (funded under SAMDP I) and is due to return late in calendar year 1982. It is expected that he will assume the duties of SRIO within the next year, and that the newly recruited SRIO will remain in an advisory capacity through mid-1984. For this reason, MCI is requesting funds to support the SRIO/advisor on an OPEX contract for two years. The full amount is being requested now since there is no assurance that the RSG will be extended beyond Year 3.

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TABLE 16

CI 08: Rural Industries Development
Financial Situation After Two Years

	(1) RSG budget Year 1	(2) Balance remaining end of Year 1	(3) RSG budget Year 2	(4) Funds available for Year 2 (col 2 + col 3)	(5) Estimated expenditure Year 2	(6) Estimated balance end of Year 2 (col 4 - col 5)
USAID						
SRIO: Salary and allowance	$50 800	$40 800	$40 650	$81 450	$30 000	$51 450
GOB						
Vehicles	P28 000	-	P20 240	P20 240	P17 000	P3 240
Equipment	P12 150	P 9 275	P 7 500	P16 775	P16 224	P 551
Small Projects Fund[1]	P60 000	P21 842	P118 192	P140 034	P110 000	P30 034
SRIO Training (overseas)	P21 000	P21 000	-	P21 000	-	P21 000
RIO Training (in-country)	P 7 000	P 7 000	P 4 000	P11 000	-	P11 000
Gathering study	-	-	P34 500	P34 500	P33 493	P 1 007
Blacksmith training	-	-	P20 000	P20 000	P 201	P19 799
TOTAL (GOB)	P128 150	P59 117	P204 432	P263 549	P176 918	P86 631

[1] Figures for the Small Projects Fund in columns (2) through (6) are based on commitments of funds to approved sub-projects, and not on actual expenditure of funds for those sub-projects.

A second long-term position is for a Training Officer to design and manage a broad-based program for the RIO and ARIO cadres. This officer may be seconded to the Institute of Development Management (IDM) but is expected to hold an approved post within MCI. Funds are being requested for two years on the same basis as for the SRIO/advisor.

Prior to the Annual Review, MCI requested that an expatriate Chief Food Technician for the proposed Botswana Food Lab be funded under the RSG. The rationale for inclusion of this position under the grant was judged by the Review Team to be quite weak, and the request has since been withdrawn and funding will be sought from SAMDP or other sources.

Small Projects Fund

MCI has estimated that P160 000 will be required for SPF sub-projects that are identified and approved during Year 3, of which P60 000 would be reserved for the headquarters fund and P10 000 would be provisionally allocated to each District. Because actual expenditures have tended to lag behind commitments (approvals of funding for sub-projects), the Ministry has emphasized that funds in the SPF 'pipeline' as of the end of Year 2 will eventually be disbursed. Thus, the P160 000 request does not include money for sub-projects that have already been approved.

Two changes are proposed that would affect the administration and management of the SPF. One is to tighten approval procedures for the headquarters SPF by requiring that an additional officer (possibly the Director of Industrial Affairs) co-authorise sub-projects with the SRIO. The second proposal concerns revision of the SPF criteria to take account of the GOB's new Financial Assistance Policy, which is scheduled to be launched in the 1982/83 fiscal year. The new criteria would clarify the definition of an 'industry' to distinguish it from agricultural or commercial enterprises, and would delete certain items that will be catered for by means of grants under the Financial Assistance Policy.

Training and Localization

Recognizing the difficulty of obtaining university graduates to replace expatriate RIOs, MCI has proposed a training program that will be initiated in Year 3 under the direction of the RSG-financed Training Officer. Although the details of this program will be worked out after the TO takes up the post, the main features can be summarized here.

The primary thrust will be to gradually upgrade the cadre of recently recruited ARIOs. Over a four year period beginning in 1982/83, they will benefit from a combination of on-the-job training from RIOs and central ministry staff, in-service courses on job-related subjects, and formal academic instruction equivalent to the first two years (Part I) of the UBS education. The phasing of this program over four years will allow ARIOs to develop practical skills in their jobs as district extension personnel, and will allow MCI to evaluate their performance and potential as future RIOs and screen out those who do not perform well. In the fifth and sixth years, those having successfully completed Part I would attend UBS on a full-time basis, emerging with BA degrees at the conclusion and moving into RIO posts at Grade PR 4. Many of the ARIO cadre originally hired at Grade GA 5 to GA 6 would have the opportunity for promotion to GA 4, or possibly GA 3, as they advanced through the training program.

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IDM will serve as the institutional base for this training program, and it is assumed for purposes of budgeting that the in-service courses and formal university-equivalent instruction would take place there, drawing primarily on IDM staff. A vehicle will be purchased for the TO with RSG funds to allow for extensive in-country travel.

On a more limited basis, specialized in-service training will also be provided for RIOs currently serving in the Districts. Such training will have two main themes. The first would involve techniques of financial appraisal, linkages between rural enterprises and the banking sector, legal questions affecting enterprise development in Botswana, and similar subject. The second theme will be 'training of trainers' so that RIOs will be better prepared to train both district-level (e.g. PDC members) and village-level extension personnel in the fundamentals of rural business development. Both themes are seen by MCI as essential if the RIOs are to play their designated roles in carrying out the new Financial Assistance Program and in reaching the maximum number of rural producers.

Funds have also been budgeted for a two-year Masters Degree program in the US for a Motswana currently serving as Assistant Industrial Officer at MCI headquarters. On completion of his overseas training, this person would be promoted to IO (Rural) and serve as deputy to the Motswana SRIO. By that time the expatriate SRIO/advisor will have departed and MCI will have two qualified Batswana in the headquarters unit to oversee the RIO program.

Financial Requirements

Funds held and managed by USAID will cover the costs of long-term technical assistance. These are estimated at $170 000 for the two positions (SRIO/advisor and Training Officer) for a two-year period. Savings of $51 450 from the previous SRIO's position will be applied towards this total, and the balance of $118 550 will come out of Year 3 RSG funds. SPF requirements of P160 000 will be met through a carryover of P30 034 uncommitted in Year 2, reprogramming of P5 900 from the blacksmiths training project and an RSG allocation of P124 066. The training and localization program is budgeted at P91 964, of which P59 964 would be new RSG funds. Details appear in Table 17.

ANALYSIS

Technical Assistance and Training

RSG - financed technical assistance has been essential to the successful initiation of the RIO program - indeed, it is difficult to see how MCI could have coordinated this effort without an energetic SRIO in post, given the Ministry's limited experience and severe manpower constraints. With the transition to new leadership in the immediate future and to localization within a year, it will be interesting to see whether existing momentum can be sustained. The prospects for this appear relatively bright, because of the attention that has been given to establishment and routinization of systems used by the RIO cadre and headquarters staff. The handbook/resource mannual is an especially useful product of the SRIO's work; monitoring of the Small Projects Fund has also been carried out on a conscientious and timely basis. Equally important, the record of responsiveness to suggestions and criticism from RIOs in the Districts (for example, on approaches to the problem of localization) provides a valuable precedent for the rural industries program as it continues to evolve.

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TABLE 17

CI 08: Rural Industries Development

Financial Projections for Year 3

	(1) Funds carried over from Year 2	(2) Funds needed for continuation or completion of ongoing activities	(3) Balance available for new Year 3 activities (col 1 - col 2)	(4) Funds needed for new Year 3 activities	(5) Allocation from RSG Year 3 funds (col 4 - col 3)	(6) Total planned expenditure in Year 3 (col 2 + col 4)
USAID Funds						
Technical Assistance						
SRIO/Advisor: 2 years @ $35 000	$51 450	-	$51 450	$70 000	$18 550	$70 000
Training Officer: 2 years @ $50 000	-	-	-	$100 000	$100 000	$100 000
SUB-TOTAL	$51 450	-	$51 450	$170 000	$118 550	$170 000
GOB Expenditure						
Vehicles	P 3 240	-	P 3 240	P 8 500	P 5 260	P 8 500
Equipment	P 551	-	P 551	P 551	P -	P 551
Gathering Study	P 1 007	P 1 007	P -	P -	P -	P 1 007
Small Projects Fund	P112 034	P82 000[1]	P30 034	P160 000	P124 066	P242 000
Blacksmiths Training	P19 799	P13 899	P 5 900	-	-	P13 899
Overseas (US) Training MA 2 years @ $20 000 plus special preparation @ $7 000	P21 000	-	P21 000	P41 964	P20 964	P41 964
In-country training (IDM)	P11 000	-	P11 000	P50 000	P39 000	P50 000
SUB-TOTAL	P168 631	P96 906	P71 725	P261 015	P182 290	P357 921

[1] This represents the 'pipeline' of committed but not yet expended funds.

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The proposed phasing of the new SRIO into an advisory role following the return of the Motswana SRIO - designate from U.S. training appears sound. It assures that a two-person team will be maintained in the headquarters unit while a second Motswana receives long-term training, and it provides continuity in the program over the next several months. In terms of the latter point, it is fortunate that a person with experience as an RIO and an MBA degree is available to fill this vacancy.

A PM is being prepared by MCI outlining the functions of the Training Officer and the type of program he or she is expected to develop. This PM has not been officially reviewed and approved yet, however, by the Ministry. In its initial form, the PM dealt only with the need to upgrade the skills of ARIOs, who presently number only nine. The Review Team and USAID perceived several problems with this design:

-- Costs appeared to be very high (especially when technical assistance is included) relative to the number of persons being trained;

-- The proposed program did not take account of potential wastage (dropouts) which would almost certainly reduce the number of RIOs produced at the end of a six-year program; and

-- There was no explicit discussion of training approaches that would directly or indirectly increase the capacity of non-MCI staff in the Districts to contribute towards the objectives of the rural industries program.

These design issues appear to have been resolved, based on discussions during the Annual Review, and a revised PM is now undergoing internal review within MCI. The Training Officer's brief has been expanded to encompass the 'training of trainers' concept, anticipating the need for RIOs themselves to pass on both information and skills to other personnel engaged in extension, as well as to fellow members of the PDCs in the Districts.

Some uncertainty remains about the placement of the Training Officer. This position could be designated within the Division of Industrial Affairs, with the officer then being seconded to IDM; alternatively, the post could be created at IDM, in which case the local salary and support costs of the TO would not be not be met by the Ministry. The second option would require considerably larger funding under the RSG since a grant or contract would have to be negotiated by USAID with IDM. There are several established posts within MCI that have not been filled, and the proposed training program is a long-term undertaking of major importance to MCI. Therefore we recommend that RSG funds only be committed to support the Training Officer if this position is directly affiliated with the Ministry and supported out of MCI's recurrent budget.

Small Projects Fund

MCI's projections of Year 3 requirements are P60 000 for the headquarters unit and P10 000 for each of the 10 Districts. These figures represent almost a 50 percent increase over the commitments made in Year 2. The increase in commitments from Year 1 (abbreviated due to the delayed start of the RSG) to Year 2 was 188 percent, but there was a wide variation

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in utilization among Districts. Interviews with RIOs during the Annual Review reflected this variation when the prospects for Year 3 were discussed: the RIO in Kgatleng suggested that he had explored the potential for SPF expenditure and doubted whether anything like P10 000 could be committed in the next year, while other RIOs looked forward to continued growth in small project assistance over the next year and beyond.

The placement of ARIOs in the Districts has already strengthened the extension function in the rural industries program. Many of the SPF activities approved thus far have been responses to identified needs for training - of the total funds committed in Year 2, almost one quarter involved training at or through the RIIC in Kanye - and the ARIOs can definitely aid in locating and screening additional candidates for training and technical advice, even if they are not yet capable of providing such advice themselves. Most Districts have compiled inventories of rural producers, of whom only a handful have been directly served through the SPF to date. In seeking to reach large numbers of them however, the RIOs and ARIOs must be careful not to neglect the opportunity and need to provide follow-up services to those entrepreneurs who have already participated in pilot projects, study tours and training courses. In other words, both the RIO cadre and the headquarters staff should begin to assess the tradeoff between quantity and quality in the extension effort that they have launched.

A key consideration in assessing the quantity/quality issue is the opportunity cost of the RIO cadre's time. The time devoted by Government Officers to small-scale projects frequently represents a 'hidden cost' that is overlooked in cost/benefit analysis of such projects. While there have been some notable successes in very low-cost SPF projects, the RIO cadre will have limited impact (and MCI's program will not be cost-effective) if a disproportionate share of its time is consumed by logistical and administrative details, which may be equally burdensome for projects costing P100 and those costing P1 000 or more.

Fortunately, a precedent has been set, in a recent evaluation of several mud oven projects by the SRIO, to include the 'overhead' and travel costs of the RIOs in the computation of costs and benefits. The evaluation document has been circulated to RIOs and within MCI, providing a good point of departure for future evaluations. Without requiring the RIOs to maintain precise records on their own time allocations, it would be useful for purposes of overall SPF monitoring and evaluation if they were to monitor the degree of their own involvement (estimating the number of days or weeks) in sub-projects from the stage of identification through to actual implementation. This type of monitoring could be incorporated into the quarterly reports that are submitted to MCI headquarters. The information would be useful in diagnosing implementation problems and assessing progress relative to the RIOs' workload, and for evaluation purposes as well, when the costs of sub-projects are measured against their benefits.

The first RSG Annual Review (February - March 1981) called attention to the need for a monitoring and evaluation system in the rural industries program. There has been encouraging progress on this front over the past year, as evidenced by the pilot evaluations of the mud ovens and factory shell projects. Headquarters staff must avoid the trap of demanding so

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much data from their District Officers that the latter are immobilized in paperwork. Thus far a reasonable balance has been maintained, meaning that information requirements are in scale with the type and amount of implementation activities. As the program grows and approved sub-projects proliferate, the arrangements for monitoring and evaluation will need to be re-examined and possibly revised.

These comments deserve special emphasis because the absence or neglect of monitoring and evaluation functions can undermine the basic rationale of decentralized funding mechanisms. The discussion of problems encountered in the review of AE 10, which appears elsewhere in this report, may be useful to MCI in its assessment of the future direction and management of the SPF.

Implications of the Financial Assistance Program

Although the Government's Financial Assistance Program has begun to receive publicity and its official starting date is April 1, many details and procedures still remain to be worked out. There is a formal commitment to channel P5 million into employment generating projects by means of grants and subsidies. Of the total amount, half has been earmarked for small-scale projects, defined as those with a total investment of P10 000 or less. Projects of this size will be concentrated in the rural areas, and the PDCs (whose secretaries are the RIOs) will have responsibility for appraising and approving subsidy applications and for monitoring FAP activities in the small-scale industrial sector. Although some agricultural grants (excluding those for cattle) will be made available to individual producers, it is generally expected that the FAP will stimulate the expansion of existing industrial enterprises and the creation of new ones. The basic objectives are to increase the level of productive employment and to either reduce imports or generate exports.

Despite the fact that the RIOs are expected to play a leading role in the implementation of the FAP, little analysis has been done by MFDP's Employment Policy Unit--which has had primary responsibility for drafting the new policy--regarding the implementation capacity of district institutions for a complex program of this kind. A briefing seminar held for RIOs and ARIOs at IDM in February appears to have raised more questions than it resolved. While the underlying rationale of the FAP seems to be generally accepted, consultation with district staff to facilitate their input to the program was neglected, creating an impression that the FAP was being handed down from central government with unrealistic expectations about the performance and capacity of the RIO cadre. Provisional funding allocations to districts based on population, rather than on investment needs as defined by district officers themselves, reinforced this impression.

Many of the 'birth pangs' of the FAP may be resolved or diminish in importance over the coming months. The Review Team noted a high level of interest in the program and a desire to make it work. In the initial phase, public receptivity to the program is likely to outstrip the Government's ability to deliver the assistance that has been promised. During this period there are several caveats that should be observed:

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-- Scarcity of capital is a missing link in many rural enterprises, and in many it may be the key constraint to establishment or expansion of the enterprise. Rarely, however, is it the only constraint. The scale and high visibility of the FAP may tend to obscure this point and suggest to potential recipients (and possibly those administering the program) that grants are a cure-all for non-financial problems.

-- The types of analysis needed to screen and then appraise applications for grants are unfamiliar to the vast majority of PDC members, let alone extension staff, and are not commonly practiced by the RIOs themselves. The recently completed RIO Handbook contains information and examples on analytical tools that can be used for this purpose, but few of the staff now in post are experienced in project appraisal. The Employment Policy Unit appears to have underestimated the difficulty of the tasks that will fall more or less exclusively on the RIOs' shoulders.

-- A thorough analysis of the overhead and administrative costs associated with the FAP is urgently required. It is an illusion to think that the program can be channelled through the existing system of district institutions without straining their capacity and claiming resources (staff time of technical officers, clerical support, vehicles' running expenses, etc) that would otherwise be used for ongoing projects. It seems advisable that either a portion of the P5 million or a supplement to it should be reserved to cover these costs.

-- If the RIOs are to integrate FAP responsibilities into their existing activities, a sustained and thorough dialogue must take place between them, MCI headquarters staff and the Employment Policy Unit. This should ot be delayed while the Employment Policy Unit 'fine tunes' the details of the program--on the contrary, the dialogue should deal precisely with the question of how the FAP can be adapted to district needs and district realities.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

1. Technical assistance to the rural industries program through the SRIO post has been very valuable, and this position should be funded for an additional two years (May 1982 - May 1984). Present plans for localization of the headquarters unit staff in MCI appear sound.

2. Recruitment of a Training Officer for the rural industries program is an urgent priority, and the post should be filled as early in Year 3 as possible. RSG funds sufficient for two years (estimated at $100 000) should be allocated now. The Training Officer should be an MCI officer on secondment to IDM, with the mandate to develop a comprehensive long-term training program for the Ministry. RSG funding for this post should be conditioned on MCI's establishment of the post on a permanent basis.

3. Training activities should be aimed both at the cadre of ARIOs, whose skills the Ministry intends to upgrade, and also at the RIO cadre (directly) and the full range of extension staff in the rural areas (indirectly) who play a role in small scale industrial

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development. A 'training of trainers' approach, utilizing the RIOs, appears feasible and appropriate for the latter objectives.

4. Expanded utilization of the Small Projects Fund is anticipated in Year 3. The Review Team recommends that MCI's request of P160 000 be filled through allocation of P124 066 on top of carry-over funds from Year 2 totalling P35 934. Revised SPF criteria taking into account of the Financial Assistance Program should be formally instituted at the start of Year 3.

5. Further attention should be given to monitoring and evaluation of the SPF, building on pilot efforts carried out by the original SRIO. In particular, the cost-effectiveness of RIOs' involvement with projects of differing size (cost) and type should be analyzed periodically.

6. Continuing consultation between RIOs, MCI headquarters staff and the Employment Policy Unit is urgently required to address major unresolved issues concerning implementation of the Financial Assistance Program. Minimal involvement to date by district staff in the planning of this program raises doubts about the feasibility of its small-scale projects component, and the FAP may create expectations among the general public that cannot be met.

FUTURE ACTIONS REQUIRED

1. Formal approval by MCI and MFDP of the revised PM for the ARIO/RIO training program.

2. A decision by the DIA to establish the post of Training Officer on a permanent basis within the Ministry of Commerce and Industry.

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INTERIM ASSESSMENT:

HARVESTING AND MARKETING OF WILD PLANT MATERIALS
(CI 08)

DESCRIPTION

In 1981/82 the Rural Sector Grant provided financing of P34 500 towards a study of the raw material supply, processing and marketing of wild plants and other products of the veld. These funds support some local salaries, vehicles, camping equipment and purchase of sample materials. Additional funds of P80 514 were provided by the German Agency for Technical Cooperation (GTZ) to finance expatriate salaries, product analyses and test marketing. From the Domestic Development Funds (DDF) the Government of Botswana allocated P81 013 to cover salaries, travel, collection and processing facilities and equipment and operating costs. The objectives of the study are to determine raw material supply, appropriate processing technologies and market demand for medicinal herbs, bush teas, florist supplies, fresh and dried wild fruit, vegetables and fungi, edible caterpillars, vegetable dyes and other products. The aim is to provide the basis for a follow-on commercial effort which would provide increased income to the poorest segments of the population, who currently receive up to 18 percent of their subsistence from gathering.

PROJECT PERFORMANCE

Achievements

The project has benefited from its association with Pelegano Village Industries (PVI) in Gabane. PVI is active in the purchase of florist and handicraft materials and has participated in some gathered veld food activities as well. Under the name Veld Products Research, the consultant has established a collection, processing and packaging operation in the PVI workshop complex.

During 1981/82 the consultant's team produced a desk study to provide background information on commercial potentials of veld products. The report identifies 22 categories of produces and makes brief comments on income generation, ethnobalanced research, nutrition, processing, markets and employment issues. Surveys and collections have been undertaken in 100 villages along with processing trials for juices, fruit, leather, jams and dried vegetables, test marketing of products in Botswana and South Africa, plant propogation observations, collection of seeds, a grapple plant pilot marketing project, and subcontracting of food analyses. A short-list of products has been selected which are reputed to have near-term market potential, relatively low investment requirements, and relatively good income potential for rural dwellers. The main product categories on this list are veld foods, medicines, florist materials, thatching grass, firewood, craft materials and jumping beans.

The sixteen month study extends into 1982/83. The consultant's final report is due in October 1982. By the end of the 1981/82 fiscal year, however, nearly all of the allocated RSG funds will have been spent.

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Implementation problems

Initiation of field surveys and plant collection was delayed until April when the contract with the research consultant was signed. It was not possible to collect many of the veld products produced during the rainy season of 1980/81.

Personnel recruitment has been a problem. The Field Coordinator for the project had to be dismissed in November, 1981. The botanist recruited to replace him decided not to take the job. A food technologist recruited for the project also decided to withdraw. These vacancies leave the study short-handed at a time when collection and survey efforts should be consolidated to ensure that adequate material is available for test marketing trails and that sufficient data is available for analysis for the final report.

Financial situation

Of the P34 500 originally budgeted for the project under the RSG about 33 500 will have been spent by March 31, 1982. The expected balance of P1 000 carried over into Year 3 consists of partial financing of collection agents' salaries. Cost overruns in camping equipment, sample materials and vehicles are estimated at P1 086 to the end of the 1981/82 fiscal year (see Table 18 for details).

Monitoring Arrangements

The consultant provides quarterly progress and financial reports to a Veld Products Reference Group. The chair and secretary positions are held by officers of the Ministry of Commerce and Industry. Other members of the group are representatives from the Ministries of Agriculture, Finance and Development Planning, and Health. the Natural Resources Conservation Board, and the most recent addition, the Botswana Development Corporation. The progress reports describe general activities but provide little information on technical data analyzed, products collected, and processing methods tried. There is no explicit contractual requirement for these types of information to be included in the progress reports, but as the following analysis section details, lack of such information makes it difficult to assess the status of the study.

The financial reports are confusing. These seem to be based on a mix of current cash and total expenditure booking. (A corrected financial statement prepared by the Review Team is given in Table 19.)

ANALYSIS

This study is still at an early stage in collecting data and plant materials, testing processing methods and exploring markets. The scope of investigation is broad, and while the consultant is narrowing the focus, progress reports and the Review Team's admittedly brief discussions with the consultant and some of the processing staff, did not permit clear delineation of the criteria used to select the products of interest. It is understood that many judgements have to be based on partial information and fragmentary analysis in a study of

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this sort. However, very little information which would permit independent verification or external consultation to permit adjustments to budgets, work plans or personnel has been presented. This statement is not intended as a critique of the consultant's performance, but of the lack of specificity in contractual reporting requirements. Where surveys are planned, the survey design should be available for external review. When processing experiments are conducted, materials, methods and data should be accessible. Similar concerns can be raised about experimental design for harvesting techniques, sustainable yield determinations, and regeneration rate estimations and market surveys.

The PM makes statements about research scope and techniques which are dubious in nature. For example, interview techniques to address the question of regeneration rates and annual fluctuations in the wild crops can only yield fairly general information. To suggest that the consultant will be able to set up experiments on harvest techniques, sustainable yields and regeneration rates for each veld item in the survey during a 16-month period stretches credulity to the breaking point.

While the project may be making significant headway towards its aims, the Review Team found insufficient information to justify funding (P50 000 had been suggested) for a follow-up project based on analyses which will not be available until October, 1982. It is recommended that the MCI consider two funding alternatives that fit the framework of the RSG, should an acceptable follow-on proposal come forward.

-- funding of up to P10 000 out of the headquarters portion of the Small Projects Fund (SPF); or

-- if there were major expenditure shortfalls under the SPF as a whole, the Training Program, or both, it would be possible to allocate up to P25 000 under the CI 08 'umbrella' PM. This amount would be the absolute ceiling for the fiscal year, however, since no PM for a follow-up project was available at the time of this review.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

1. The major implementation problems have been the delay of PM preparations and approval until after the harvest period for many veld products, and the loss of, or failure to hire key field personnel.

2. The monitoring system is contractually indefinite and unspecific. Methodologies for surveys, experiments, and marketing efforts are not specified in the design. The progress report procedure has not provided the opportunity for independent review of the consultancy in other than administrative terms. While it is too late to affect the consultancy, any follow-on project should include provisions for methodological review and access to data on a scheduled basis.

3. Financial reporting is confusing, apparently mixing current cash status and expenditure based bookkeeping. The MCI financial section should inspect and regularize project accounts with the consultant.

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4. The RSG Review Team cannot recommend allocation of funds for a follow-on project, as no PM had been prepared. MCI may wish to consider funding a follow-on funding of up to P10 000 from the SPF or up to P25 000 under the CI 08 'umbrella' PM should a supportable PM be forthcoming.

Table 18

	Ref: GT 2	Budget	Estimated Total Expenditure		Balance
1A	Salaries and wages, non Batswana	52 900	21 772.34		31 127.66
1	Vehicle hire on external and research trips	4 500	3 124.01		1 375.99
2	International marketing trip: air fare and per diem	17 614	507.20		17 106.80
3	Subcontracting of food analysis	3 000	--		3 000.00
4	Test marketing in South Africa	2 500	135.70		2 364.30
	SUB-TOTAL	80 514	25 539.25	(31.7%)	54 974.75
	Ref: USAID				
5	Camping equipment	350	786.56		(436.56)
6	Purchase of sample materials	500	417.45		82.55
7	Lease/purchase of two 4x4 vehicles and outfitting	22 174	22 456.36		(282.36)
8	Partial contribution towards salaries of short-term collection agents	11 476	4 383.24		7 092.76
	SUB-TOTAL	34 500	28 043.61	(81.3%)	6 456.39
	Ref: GOB DDF				
9A	Field Coordinator	18 000	8 709.36		9 290.64
9	Short-term collection agents	2 524	1 357.43		1 166.57
10	General assistants	5 600	2 460.65		3 139.35
11	Part-time administrative assistant	4 500	1 013.85		3 486.15
12	Travel in Botswana	12 040	7 898.20		4 141.80
13	Rations	4 842	4 999.50		(157.50)
14	Freight charges for samples	750	150.27		599.73
15	Workshop and storeroom rental	2 800	1 700.00		1 100.00
16	Gathering and processing equipment	7 195	5 283.40		1 911.60
17	Office expenses	5 200	5 442.55		(242.55)
18	Running cost of vehicles	11 700	5 682.87		6 017.13
19	Inflation and contingencies	5 862	941.62		4 920.38
	SUB-TOTAL	81 013	45 640.34	(56.5%)	35 372.66
	TOTAL	196 027	99 223.20	(50.6%)	96 803.20

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Table 19

CI 08: HARVESTING AND MARKETING OF WILD PLANT MATERIALS, 1981/82 (Pula)

	Amount budgeted in original PM	Expenditure as of 12/31/81	Projected Expenditure end of Year 2	Expected Balance 4/1/82
Rural Sector Grant				
Camping equipment	350	787	937	(587)
Sample purchase	500	417	717	(217)
Vehicles	22 174	22 456	22 456	(282)
Collection Agent Salaries	11 476	4 383	9 383	2 093
	34 500	28 043	33 493	1 007

INTERVIEW ASSESSMENT:

Pilot Project on Silk Production in Botswana
Headquarters Small Projects Fund

CI 08

DESCRIPTION

The pilot project on silk production is one of the headquarter's sponsored small studies to determine the potential for rural industrial diversification. The silk production pilot project has been implemented by the Tshwargano Brigade Trust in Gabane. The objective of the six months' study was to evaluate the feasibility of production of four different types of silks under the socio-economic and climatic conditions of Botswana. USAID funds totalling P6 358.00 have been used to supply equipment, transport, analytic services, technicians and consultant services to the project.

PROJECT PERFORMANCE

Achievements

The study will finish its operations at the end of March. It has demonstrated that one of the four species of silk moth examined can be raised extensively in Botswana. This moth, Philosamia ricini feeds on the castor plant and produces eri silk. The consultancy entomologist believes that the mulberry silk moth Bambyx mori can be raised in the Maun area where stands of the mulberry tree already exist. Two Batswana silk production technicians have been trained by the entomologist. In late March or April an independent team from a UK textile institute will do a detailed inspection of the economic and financial feasibility of silk production in Botswana.

Implementation problems

The major implementation problems have been the lack of adequate numbers of cocoons to initiate some trials, degenerations in moth vigor and laying capacity with successive inbreeding, difficulty in collecting or growing sufficient quantities of palatable plant food, reluctance of external sericulture experts to supply seed, cocoon stock and information without direct involvement in the study, and the slow processing and analysis of cocoons sent to sericulture institutes and the International Silk Association (results were not received at the time of the RSG review in February). The consulting entomologist has outlined ideas to overcome these problems should the economic feasibility assessment be favourable. Primary among these are involvement of an FAO authority on sericulture, establishment of a grainage center to produce Disease Free Layers for each generation ofproducing silk moths, selection and cultivation of the more palatable castor plants, use of local construction materials and designs to provide a more favourable growing enrivonment, and site selection to ensure water supply for moth rearing and castor production.

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Financial situation

Of the P6 358 budgeted for this activity in the Year 2 it is expected that all will be expended by March 31, 1982.

Monitoring arrangements

The PM specifies that progress reports be submitted to the Brigade Trust and the MCI every two months. This obligation has been fully met. Data on the trials undertaken, their analysis and the resulting implications for additional research and silk production potential well detailed.

ANALYSIS

The research has specified the technical potentials and problems of silk production in Botswana. The economic implications of technical problems which have been identified should be investigated during the feasibility study. Particularly important are the costs, manpower, infrastructure, training and research requirements for establishment of a grainage center, the institutional support for trials of castor varieties for plant food, and siting of the silk production infrastructure. Discussions by the RSG Review Team with the Agricultural Research Service at Sebele indicate that the grainage facility would have to be developed independently and that only advisory assistance and some trial plot space could be provided for castor plant selection and production techniques observation. Should domestication of the weedy Ricinus africanus be required realistic assessment of the time required to do so should be factored into the feasibility study.

While some rough calculations performed by the entomologist indicate that moth rearing to the cocoon stage may be financially attractive for trained smallholders, final judgement should await the results of the feasibility study. Since the feasibility study is so critical to a realistic assessment of silk industry potential, it is recommended that the MCI consider funding the current actors in the technical study throughout the duration of the economic and financial analysis.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

1. Access to breeding stocks, plant food, sericulture information and product analyses have been the major implementation problems. The consulting entomologist has indicated courses of action to resolve these problems.

2. Funding of follow-on production activities should await the March/April economic and financial feasibility study. MCI should consider some funding to permit the involvement of the entomologist and technicians in the feasibility study.

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GROUP III: NON-FARM INCOME AND EMPLOYMENT

GA 02: Wildlife Management and Development

DESCRIPTION

The objective of this sub-project is to assess the ecological viability and economic soundness of various possible wildlife utilization schemes and to develop wildlife-related employment opportunities for remote area dwellers while preserving healthy and diverse wildlife populations. Due to the ability of wildlife to tolerate semi-arid conditions and resist disease, the potential economic benefit from appropriate wildlife utilization in remote, dry areas probably exceeds that of cattle ranching with its attendant water requirements and potential for overgrazing around water points

RSG funds are used to support an OPEX wildlife resource economist (WRE) who serves as planning officer for wildlife projects in the Department of Wildlife and National Parks (DWNP) of the Ministry of Commerce and Industry (MCI). In addition, the RSG finances short-term technical assistance in the following categories:

-- study tours in and outside Botswana, for the purpose of gaining knowledge/experience of the operation of wildlife utilization schemes;

-- short training courses necessary to increase the value of products of the existing offtake from wildlife populations;

-- consultancies on various aspects of wildlife utilization, including pre-implementation assessment of population responses of wildlife species to proposed utilization schemes

This sub-project funds only technical assistance, both long-term and short-term. DWNP is keenly interested in the prospects for wildlife utilization and increased offtake both for maintaining Wildlife Management Areas and free-living wildlife populations in Botswana and for increasing the income-earning opportunities of remote area dwellers who are already hunting wildlife on a casual basis. This sub-project allows the Department to explore the feasibility of improved wildlife utilization by providing access to technical assistance. However, pilot utilization schemes or other activities that actually increase offtake from wildlife populations beyond the present level may not be funded by this sub-project, unless an Environmental Assessment is carried out and approved by USAID/ Washington.

PROJECT PERFORMANCE

Achievements

DWNP and USAID did not choose a person to fill the WRE position until late in Year 1, and that person did not start work in Botswana until March 1981. However, the WRE well established in the Department and has a thorough understanding of his role and the operations of the GOB. He also demonstrates a wide-ranging familiarity with the situation of wildlife in Botswana and potentials for improved wildlife utilization. He has supported the development of District plans for Wildlife Management Areas (for example,

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'Initial Strategy Paper for the Improvement of Utilization in Ngamiland Wildlife Management Areas (WMAs)', September 1981, prepared for Ngamiland LUGAP and DDC by the DO(D), Maun). He is also backstopping the wildlife-related small-project initiatives of the Rural Industrial Officers (RIOs). Short-term technical assistance and training in Years 1 and 2 have included a study tour to Kenya for senior DWNP and MCI officers, interim funding of a district-level Gameskin Extension Officer, two national training courses for Game Scouts and RIOs in field treatment of game meat and skins and a wildlife products market survey.

In March 1981, three senior officers from MCI and DWNP visited Tsavo East National Park and the Galana Game Ranch in Kenya. The purposes of this study tour were to meet and discuss wildlife management issues of mutual interest with the Kenya Wildlife Conservation and Management Department and the Wildlife Planning Unit, to gain an insight and understanding of the United Nations Environment Program (UNEP), Global Environmental Monitoring System (GEMS) and its operational framework in Kenya for future development in Botswana and to further DWNP's knowledge of game capture, domestication and ranching for the Gemsbok Domestication Project (GA 11).

The RIO in Kweneng District has helped the Kgalagadi Settlements Project based at Takatokwane, to establish local cooperative game skin groups to enhance income generation by rural people using wildlife resources. In conjunction with this project, a Gameskins Extension Officer post has been initiated to provide training and assistance to those using wildlife. This post is being funded for a six-month interim period from RSG funds until full funding can be secured from other sources for a full two-year period.

In April-May 1981, two national one-week training courses in the field treatment of game meat and skins were held for Game Scouts and RIOs in the south and north of the country. The Senior Game Warden (Operations) provided training in hunting techniques. A local game skin tanning expert was employed through the RSG funding to provide training and information on proper techniques of skinning and field treatment of skins. The objective of the course was to provide knowledge and demonstration of techniques for Game Scouts to use for extension training in the rural areas. As a result of the courses, the Department of Non-Formal Education is preparing an Extension Training Manual and related informational materials for the participants to use in their extension courses. It is planned to hold a one to two day review course to distribute and discuss the extension materials.

A three-month marketing survey was initiated in mid-July by L Kaye to assess the national and international market potential for wildlife products produced in Botswana. A final approved report was made available to DWNP in early November for central and local government review. The report will aid in developing viable rural wildlife industries and management plans for Botswana's proposed Wildlife Management Areas.

The consultancy for abattoir design, scheduled for Year 2, has been postponed indefinitely, because the WRE decided that consideration of abattoir design is premature at the current stage of planning for wildlife utilization.

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Year 2 funds have been committed for a consultancy by a Kenyan wildlife rancher and consultant, D Hopcraft, to assess sites and management potential for a wildlife ranching demonstration project in Botswana. The consultant is due to begin work in March 1982.

Implementation Problems

There have been no major problems in the implementation of this sub-project. However, one minor problem is timely access to MCI vehicles for use by the WRE and visiting consultants. Four-wheel-drive vehicles are available from the MCI fleet through the CTO, but very often not when they are needed to visit districts to support district initiatives or information-collection activities of consultants. This fact indicates that MCI may be giving insufficient priority to its support of wildlife planning.

Financial Situation

Funds budgeted for GOB expenditures in Year 1 were P32 000, with an additional $60 960 earmarked by USAID for the WRE under an OPEX contract. An unspent balance of P28 692 was carried over to Year 2 and was supplemented by an additional P32 000 under the RSG budget. USAID also reserved $48 500 of Year 2 funds for the WRE's position. Table 20 shows the financial situation expected at the end of Year 2. A balance of P32 754 will be carried over for GOB-controlled expenditures and an unspent balance of about $54 150 will be applied towards the cost of the WRE in Year 3. The position will therefore be funded for two years, rather than three as originally planned, because of the delay in filling it.

Monitoring and Evaluation

The WRE monitors and evaluates consultancies, study tours and training courses funded by RSG. He reports through MCI to the RDU which in turn reports regularly to USAID.

PROPOSALS FOR YEAR 3

MCI/DWNP propose that the WRE position continue to be funded at the same level in Year 3. The economist-planner will continue to have the following responsibilities:

-- to review utilization schemes proposed by DWNP and select those which warrant in depth investigation by a consultant or the WRE;

-- to evaluate consultancy reports on proposed utilization schemes and arrange appropriate consultation with local and Central Government authorities on these reports;

— to produce project memoranda for those schemes which are favorably reviewed by consultants and approved by DWNP and appropriate authorities;

-- to secure funding for and initiate implementation of projects accepted and approved by MFDP.

In addition, DWNP proposes that RSG funds be used for study tours by DWNP staff to the Spencer's Creek Crocodile Ranch at Victoria Falls, ostrich farming operations in Zimbabwe, the disease-free buffalo program in Zimbabwe, and commercial harvesting programs in South Africa and Zimbabwe.

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TABLE 20

GA 02: Wildlife Management and Development

Financial Situation After Two Years

	(1) RSG budget Year 1	(2) Balance remaining end of Year 1	(3) RSG budget Year 2	(4) Funds available for Year 2 (col 2 + col 3)	(5) Estimated expenditure Year 2	(6) Estimated balance end of Year 2 (col 4 - col 5)
USAID						
Economist in DWNP	$60 960	$60 960	$65 280	$126 240	$55 310	$70 930
GOB						
Short-term consultancies	P32 000	P28 692	P32 000	P60 692	P27 938	P32 754

Finally, DWNP requested RSG funds to purchase two four-wheel-drive vehicles, one for use by the WRE on district visits and for field work by visiting consultants; the other for use by the recently appointed Gameskin Extension Officer working with village gameskin groups in Kweneng District. The request for the WRE's vehicle is accompanied by a request for funds to cover operation, maintenance and insurance costs in order to free him from dependence on CTO support.

ANALYSIS

The new WRE, in the post for barely one year appears to be doing this job effectively. The level of Central Government support to district-level wildlife planning activities has increased significantly during Year 2 of the RSG. Short-term technical assistance to DWNP also is becoming more focused on development of a coherent national program for both encouraging and regulating private-sector utilization of Botswana's wildlife. A coherent program is not likely to emerge in the very near future, because there are many issues and options to be sorted out in terms of GOB goals and economic, social and ecological feasibility. The primary issues still to be resolved within DWNP and MCI are the proper balance of wildlife preservation and utilization and the proper balance between public and private sector participation in wildlife utilization. The WRE argues articulately for the need to conserve wildlife as a resource for increasing rural incomes and employment. However, this view is not completely accepted by the senior staff of DWNP and MCI.

Among the options for wildlife utilization, there are two basic types. One is more efficient use of free-living wildlife populations, combined with population monitoring and harvest regulation. This type includes such options as establishment of cooperative hunting and processing activities among rural people already engaged in remote area hunting, training and extension programs for such people and improved access to markets for wildlife products, such as skins and meat. This type also includes licensing and regulation of large scale hunting-processing operations that involve animal capture and mobile abattoirs. All are actively under consideration through consultation and in some cases pilot project development (the Kweneng gameskin groups, for example). The other main option is management and use of controlled or captive wildlife populations, such as gemsbok domestication, ostrich, crocodile and jackal farming, buffalo and other wildlife ranching, and so on. All are being, or will be, actively investigated as options in Botswana, but no pilot projects have yet been undertaken. The WRE appears to give unprejudiced attention to both types of potential utilization and is using short-term technical assistance to help evaluate the feasibility of the options within each type. Study tours by DWNP staff to Zimbabwe and South Africa will be an important complement to technical assistance from outside experts.

The posting of a Gameskin Extension Officer to Kweneng is an important pilot for wildlife utilization extension activities. It is appropriate to provide a vehicle to this person to make sure he has the opportunity to do the job effectively. The work of this individual should be carefully monitored to ensure that lessons are learned before development of a nationwide cadre of wildlife extension specialists is undertaken. Furthermore, it is important to sort out options for wildlife use and develop a utilization policy and program before developing a new extension cadre.

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TABLE 21

GA 02: Wildlife Management and Development

Financial Projections for Year 3

	(1) Funds carried over from Year 2	(2) Funds needed for continuation or completion of ongoing activities	(3) Balance available for new Year 3 activities (col 1 - col 2)	(4) Funds needed for new Year 3 activities	(5) Allocation from RSG Year 3 funds (col 4 - col 3)	(6) Total planned expenditure in Year 3 (col 2 + col 4)
USAID (US dollars)						
Wildlife Resource Economist	$70 930	$70 930	-	-	-	$70 930
GOB (pula)						
Short-term technical assistance	P32 754	-	P32 754	P15 754	-	P15 754
Vehicles (2)	-	-	-	P17 000	-	P17 000
TOTAL	P32 754	-	P32 754	P32 754	-	P32 754

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It is also appropriate to provide a vehicle for the WRE and consultants, but it is inappropriate that RSG provide funds for operation, maintenance and insurance. Vehicle support is well within the capability of GOB's CTO, and the system of assigning a CTO-supported vehicle to a particular project is usually satisfactory.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

-- The Wildlife Resource Economist is working effectively as the DWNP wildlife planner; however, due to a one-year delay in recruitment, RSG should fund the position for only two years (Years 2 and 3).

-- The unspent balance of Year 2 funds for short-term technical assistance should be re-programed for Year 3 to allow both purchase of two four-wheel-drive vehicles and short-term technical assistance (see Table 21). The short-term technical assistance funds may be spent on study tours, short training courses or consultancies which contribute to development of a national program of wildlife utilization and conservation.

-- RSG funds should not be used to cover vehicle operation, maintenance and insurance costs.

-- It is recommended that MCI assign the two vehicles proposed for purchase with RSG funds to the Wildlife Resource Economist position in DWNP and to the Gameskin Extension Officer position in Kweneng during Year 3.