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BOTSWANA RURAL SECTOR STUDY

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PREFACE

Development Alternatives, Inc. (DAI), carried out the study on which this report is based between mid-March and mid-May 1979. The study resulted from discussions between representatives of the Agency for International Development (AID) and the Government of Botswana (GOB), on appropriate ways of defining a framework for AID assistance to rural development in Botswana. The report is being submitted to the GOB and USAID/Botswana in conjunction with a Project Identification Document (PID), which proposes an AID-financed Rural Development Sector Grant of \$3.78 million over a three-year period, commencing in the 1980 US fiscal year.

After one week of background reading and preparation in Washington, D.C., the study team arrived in Gaborone on March 24. The GOB's Ministry of Finance and Development Planning constituted an interministerial reference group to guide the study, and the team worked in close collaboration with the group. James Miller, formerly a District Officer (Development) in Botswana, worked with the team until the end of March. Subsequently, the team benefited greatly from the participation of John R. Wheeler, formerly of the Department of Town and Regional Planning in the Ministry of Local Government and Lands. Ralph F. Field and Carol Kerven, formerly associated with the National Migration Survey, also wrote useful working papers at the team's request. A draft version of this report was reviewed by USAID and the GOB Reference Group prior to the team's departure from Botswana on May 3.

A.H. Barclay, Jr., a member of DAI's permanent Washington staff, served as team leader and wrote Part I of this report. All members of the team contributed to Part II, which describes the activities proposed for the first year of the Rural Development Sector Grant. The supporting analyses which comprise Part III were written by individual authors. Peter F. Weisel and John R. Wheeler wrote Chapter Five, which examines planning and implementation capacities within the GOB. Hugh W. Snyder provided the analysis of manpower and training issues in Chapter Six, and Roger J. Poulin wrote Chapter Seven, which reviews the principal economic issues raised by the proposed grant. Richard L. Smith wrote Chapter Eight, which explores the sociocultural dimensions of development in the rural areas of Botswana.

The team is indebted to numerous individuals, both within central government and in the districts, for the insights, advice and information they provided during the course of the study. The GOB Reference Group has indica-

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ted its intention to reproduce this final version of the Rural Sector Study for distribution within Botswana. The team hopes that the document will stimulate further initiatives of the kind that the GOB is anxious to promote in the field of rural development.

A. H. Barclay, Jr.
Project Director

May 1979

TERMS OF REFERENCE

BOTSWANA RURAL SECTOR STUDY

Objectives

(A) To review the GOB policies and means of implementing those policies for rural development in Botswana. Particular emphasis should be placed on the policies intended to foster productive employment activities, though policies concerning the provision, operation and maintenance of basic services should also be considered. Secondly, while the whole of rural Botswana should be included, the focus should be on assisting the poorer members of the community and those in the smaller and more remote villages. Thirdly, the review should concentrate on decentralized central government institutions rather than the District Councils.

(B) To recommend a framework for possible USAID grant assistance to support GOB rural development activities, with particular emphasis on the three areas identified in (A) above.

Scope of Work

(A) Study existing programs and projects in relation to GOB policies as spelled out in NDP IV, the District Development Plans and proposals for NDP V.

(B) Examine the quantity and quality of development activities (especially those leading to productive employment) and basic services in the rural areas provided or facilitated by GOB, quasi-government bodies and private organizations.

(C) Provide a detailed description and analysis of the methods and processes used to implement rural development programs and projects.

(D) Recommend, in consultation with the GOB, a framework for USAID grant support for rural development (program guidelines, criteria for the selection of activities which might be funded under the program, program management procedures and so on), and prepare a Project Identification Document (PID).

(E) The team will be guided by and work under the general direction of a GOB Reference Group which shall include representatives from the Ministry of Finance and Development Planning and Ministry of Local Government and Lands.

SUMMARY OF RECOMMENDATIONS

This report presents a framework for proposed grant assistance from the Agency for International Development (AID) to the Government of Botswana (GOB). Recommended assistance would take the form of a Rural Development Sector Grant to cover a three-year period beginning in U.S. FY 1980.¹ The grant would be used to support an array of projects sharing common objectives, which are to improve productivity and generate employment in the rural areas of Botswana. The contents of this report, in condensed form, are incorporated in a Project Identification Document (PID), which is being submitted to USAID/ Botswana and the GOB.

Part I of this report reviews rural development policy and programs in Botswana, and examines the GOB's commitment to a rural development strategy focused on production and employment. Part II describes the program of grant assistance that has been proposed for the first year of the sector grant. Part III contains supporting analyses of planning and implementation capacities, manpower and training questions, economic feasibility issues and the sociocultural dimensions of rural development in Botswana.

The study team's recommendations may be summarized briefly as follows:

- That AID assist the Government of Botswana, over a three-year period commencing in U.S. FY 1980,

¹ The U.S. Government's fiscal year runs from October 1 to September 30, while Botswana's runs from April 1 to March 31.

with a grant of \$3.78 million for rural development activities;

- That a Rural Development Fund (RDF) be established under this grant, and administered by the GOB's Ministry of Finance and Development Planning (MFDP), to which AID would contribute \$700,000 in the first year, \$1,000,000 in the second year and \$1,300,000 in the third year;
- That a list of projects eligible for RDF support be agreed upon at the beginning of each year of the grant period, during a joint programming exercise involving GOB representatives and USAID/Botswana;
- That all projects proposed for inclusion under the RDF should first have been reviewed and approved by the GOB, in accordance with established planning procedures;
- That the GOB prepare an annual implementation plan prior to the joint programming exercise, which details funding requirements of each project on the RDF eligibility list;
- That the grant include provision for three person-years of long-term technical assistance by a Senior Industrial Officer (Rural) assigned to the Ministry of Commerce and Industry budgeted at \$100,000 per person-year);
- That short-term technical assistance be provided as requested and specified in the annual implementation plans (requirements have been estimated at 24 person-months in the first year and 12 person-months in each of the second and third years, costed at \$10,000 per person-month);
- That subject to approval of the PID by the GOB and AID/Washington, a Project Paper be prepared that incorporates the annual implementation plan for year one of the grant, anticipating the obligation of first-year funds during AID's FY 1980; and
- That the Director of USAID/Botswana be authorized to obligate funds at the beginning of each succeeding year, upon receipt and approval of the annual implementation plan.

The study team sought to reconcile the GOB's desire for flexibility in administering the proposed RDF with the

procedural requirements of the AID project approval system. An issue of particular concern was the fulfillment of statutory requirements of Section 611(a) of the United States Foreign Assistance Act, which specifies that adequate planning must precede the obligation of AID funds. The principal questions affecting the proposed grant relate to planning capabilities within the GOB. In order to assess these capabilities, the team examined the planning process at both central government and district levels, focusing on procedures for preparing project memoranda and obtaining project approval. The GOB system is rigorous and thoroughly tested: it has been utilized for a large portfolio of ongoing projects, many of which are supported by bilateral and multilateral donors.

For purposes of administering the proposed RDF, annual implementation plans are recommended as the mechanism through which funds may be obligated for each year of the grant period. Each annual plan would identify the activities that would require RDF funding during the coming year. For new projects being added to the eligibility list, detailed project memoranda would be included as evidence that adequate planning had taken place. For ongoing projects that had been supported under the RDF in the preceding year, funds would be obligated automatically on the basis of projected expenditures detailed in the annual implementation plan.

It is possible, indeed probable, that in any one year the requirements of certain projects will either exceed or fall below the amounts that were projected in the annual RDF implementation plan. To allow for this, it is useful to provide some latitude for reallocation of funds within the set of eligible projects. It is recommended that a ceiling of 15 percent be established, allowing the GOB to exceed the level for any one project (as stated in the

annual implementation plan) by this amount, at its own discretion. The approval of the Director of USAID/Botswana would be required for any reallocation involving expenditures more than 15 percent over budget on a single project in a particular year.

Table 1 in Chapter Four (p. 50) shows the estimated funding requirements of the projects proposed for inclusion under the RDF in the first year of the grant period. Estimates are also shown for the second and third years (including two projects likely to be added after year one): these are based on rough projections of growth or reduction in demand on the RDF. The right-hand column of the table summarizes actions that need to be taken prior to the preparation of the Project Paper, which is expected to take place in August/September 1979. For the most part, these entail either preparation or revision of project memoranda to fit the framework of the RDF. These responsibilities rest with the participating GOB ministries.

In fulfillment of AID requirements, an Initial Environmental Examination (IEE) has been submitted with the PID. The IEE concludes that no Environmental Assessment or Environmental Impact Statement is required for the proposed rural development sector grant. The study team and USAID/Botswana recommend that environmental review be undertaken on a year-by-year basis, in conjunction with the annual GOB/USAID programming exercise. Each annual implementation plan will incorporate project memoranda that indicate (for activities such as land use planning and small dam construction) how environmental considerations have been taken into account in the planning process. Further, it is recommended that an environmentalist be included on the Project Paper design team, so as to ensure conformance of RDF activities with AID's environmental guidelines.

USAID/Botswana also plans to utilize the services of an attorney from the REDSO/EA office of AID in Nairobi, to review and finalize the planning requirements for RDF activities. This assistance would ensure that the recommended arrangements for obligation of funds on the basis of annual implementation plans fully satisfy AID requirements. Since this report describes the proposed sector grant in considerable detail, it should be possible to obtain a legal opinion on those arrangements well in advance of the Project Paper. This would help to ensure smooth passage of the PP through the AID approval system.

PART I

RURAL DEVELOPMENT POLICY AND PROGRAMS IN BOTSWANA

CHAPTER ONE
RURAL DEVELOPMENT IN BOTSWANA: AN OVERVIEW

BACKGROUND

Although Botswana has experienced rapid growth during the past decade, by far the greatest expansion has been in the mining sector. Since diamond production began at the Orapa mine in 1970, this sector's share of GDP has grown to over 10 percent; it accounts for 60 percent of exports and over 30 percent of government revenues. The copper mining complex of Selebi-Phikwe has provided significant foreign exchange earnings, and a second diamond mine at Jwaneng will come on stream in 1982, which will eventually double diamond production. In terms of generating employment, however, mining has had a limited impact: in 1977, only 5,500 people held jobs in the domestic mining industry.¹

Prior to 1970 the mainstay of the Botswana economy was livestock, which accounted for most of the exports and was the basis for most economic activity in the country above the subsistence level. In recent years the volume of livestock production has remained stable, but the value of production and exports has increased steadily because of rising prices (primarily in the European Economic Community). At present, livestock accounts for only a slightly smaller percentage of GDP than mining, and 70 percent of value added in the agricultural sector. As in the case of mining, however, the livestock sector in Botswana has a relatively narrow base. The Rural Income Distribution Survey carried out in 1974/75 showed that

¹ Employment Survey, Report of Central Statistics Office, Ministry of Finance and Development Planning, Gaborone: Government Printer, August 1977. Nearly four times as many people from Botswana are employed in South African mines as in the domestic mining industry.

five percent of households in Botswana owned 50 percent of the cattle, while 45 percent of rural households owned no cattle at all.

Thus a situation exists in Botswana where commercial economic activity is concentrated in two sectors, and directly benefits only a small percentage of the total population. This puts Botswana in a precarious position, especially due to its dependence on foreign trade -- imports amounted to 65 percent of GDP in 1977 -- and it means that many Batswana¹ have not yet begun to participate in and benefit from the development process. While urbanization is increasing more rapidly than in most developing countries, approximately 85 percent of the population still reside in the ten rural districts of Botswana.

Concerted efforts to formulate a national policy on rural development originated with the publication of Government Paper No. 1 of 1972, Rural Development in Botswana, which set out the basic political principles that were to guide rural development. It explained that Botswana has a dual economic strategy:

- The securing of rapid and large returns to the nation from intensive capital investment in mining and other viable modern industries, mainly aimed at export markets; and
- The reinvestment of the proceeds of these investments in such a manner as to promote labor-intensive activities and improve services in the rural areas.

¹ A word in Setswana (the principal language of the country) used now to include all citizens of Botswana, whatever their ethnic identification.

Government Paper No. 2 of 1972, National Policy for Rural Development, responded to recommendations by consultants¹ and set out the GOB's strategies on live-stock and agricultural development, land development, commerce and industry and communications. It also stated the Government's commitment to strengthening district-level organizations and institutions.

The Third National Development Plan (1973-1978) placed a high priority on rural development. In response to a general awareness that the GOB had not achieved tangible results in the rural areas, the Accelerated Rural Development Programme (ARDP) was launched in late 1973. The ARDP concentrated exclusively upon the building of infrastructure, which was undertaken in 27 major villages and 195 smaller villages. The program extended well beyond its original target date, and finally ended on 31 March 1976, by which time more than P21 million² had been spent. The most significant ARDP outputs were:

Boreholes	138
Village water supplies	34
Primary school classrooms	489
Teachers' quarters	425
Health posts/clinics	72
Staff housing	178
Tarred major village roads	8

A generally recognized result of the ARDP was an increase in the capability and credibility of District Councils and their staff, with whom responsibility lay for

¹ Robert Chambers and David Feldman, National Policy for Rural Development, Gaborone: Government Printer, May 1972.

² One Pula (P1) is equivalent to US \$1.22.

implementation and management of the facilities that were constructed. The range and complexity of the councils' administrative and accounting functions grew rapidly under the ARDP. Since its conclusion, the buildup of social services and infrastructure has continued at a steady pace. However, a consultancy report in 1978 stressed the need for adequately maintaining the network of existing services, rather than carrying out further rapid expansion.¹

The evolution and implementation of a rural development strategy since 1973 have produced impressive achievements, reflected in improved roads, the provision of water and major advances in the education and health sectors. The underlying problems affecting rural employment and incomes have proved more complex, however. Awareness of these problems has grown, as the GOB has examined the causes and implications of rapid, ongoing rural-urban migration, and recognized the need to increase rural productivity in order to sustain the social services and infrastructure already in place. Consequently, in recent years increasing emphasis has been placed -- both by the GOB and external donors -- on production-oriented activities in the rural areas of the country.

Land utilization is a major area of concentration in this evolving strategy. The importance of conserving the land resources of Botswana has long been recognized, and the need to undertake adequate land use planning was endorsed in Government Paper No. 2 of 1972. These concerns, together with a desire to increase the productivity of the livestock industry, culminated in the announcement of the Tribal Grazing Land Policy (TGLP) in 1975. The goal of the TGLP is to achieve an optimal balance between land,

¹ E. B. Egner, District Development in Botswana, Report to the Development Co-operation Office of the Swedish Embassy in Gaborone, September 1978.

people and livestock. The main efforts to date have been the production of District Land Use Plans, which zone each district into three categories: commercial, communal and reserved.

In the long term, effective land use planning can be expected to lead to improved management practices benefiting both livestock and arable farming. The latter area is an obvious priority, given the uneven distribution of livestock and the fact that almost half the rural population owns no cattle at all. Crop production, particularly if integrated with small- to medium-scale rural industry, offers the greatest potential for increasing rural incomes.

During the NDP IV period (1976-1981), greater attention was given to the need to generate employment opportunities and substantially boost rural incomes. A major report on this subject was commissioned by the GOB and submitted in December 1978:¹ it set out recommendations on ways and means of stimulating increased economic activity in the rural areas of the country. The Government is at present formulating its response to this report, which will be published in the form of a "White Paper."

Preparation for the NDP V (1979-1985) is currently in progress. The emphasis on production from the preceding plan period is certain to be continued, with a major effort being made to plan and implement specific programs capable of reaching and involving the rural poor. Further detail is provided in Chapters Two and Four of this report.

¹ Michael Lipton, Employment and Labour use in Botswana (two volumes) prepared for the Ministry of Finance and Development Planning, Gaborone: Government Printer, December 1978.

DECENTRALIZATION AND RURAL DEVELOPMENT

The GOB has a long-standing commitment to decentralize its rural development efforts. This commitment has been pursued through:

- The buildup of District Councils' capacity to undertake their statutory functions;
- The devolution of responsibility for the planning of both land use and socioeconomic activities to the local level;
- The coordination and initiation of extension efforts at the local level; and
- Active encouragement to ministries to devolve responsibilities to their field staff, and to consult with districts on all development proposals.

District councils have a statutory responsibility to provide primary schools, basic health care facilities, domestic water supplies, non-gazetted roads and social and community development services. Since the introduction of the ARDP, councils have carried out substantial social service construction programs, spending about P2 million on primary school construction and P1 million on health in each of the last three years. Greater financial discretion over the spending of development funds is gradually being introduced to councils, although they remain dependent upon deficit grants from the central government for sources of recurrent expenditure. It is the GOB's intention to provide councils with the means to undertake their responsibilities for water and roads maintenance in the near future. Agreement has been reached with SIDA,¹ which already funds the primary school program, extend its

¹ Swedish International Development Agency.

support to councils through the District Development Support Sector Grant. The DDSS is designed to build up the councils' capacity through the provision of training, equipment and infrastructure.

District-level planning has encompassed two main types of activity. The first is the preparation of Land Use Plans for the TGLP, and the second is the preparation of comprehensive District Development Plans (DDPs) in association with NDP V. The former were prepared by the Land Boards with technical support from District Officers (Land) and the Land Use Planning Advisory Groups (LUPAGs), composed of central ministry technicians posted to the districts. All ten districts have now completed district-wide plans that zone all land into commercial, communal or reserved categories. Detailed planning for implementation is now being undertaken; thus far, commercial (ranching) areas have received the greatest attention.

Following the publication of NDP IV in 1976, each district prepared a District Development Plan for the period 1977-1982. These DDPs were comprehensive, in that they included all rural development activities to be carried out in each district. The novel feature of the plans was their division into two phases: phase one detailed the implementation of NDP IV, while the second phase looked beyond this and put forward priorities (based on each a district's assessment of its requirements) and proposals for inclusion in NDP V. The plans were prepared by District Officers (Development) in conjunction with the District Development Committee (DDC). They were then approved by the District Council before submission to the central government. Districts are also charged with responsibility for overseeing implementation of their plans, and have devised management and monitoring systems for this purpose.

Extension and non-formal education programs form an integral part of the DDPs. These are coordinated through the District Extension Team (a subcommittee of the DDC). National resources can also be called upon, such as the Non-formal Education Division of the Ministry of Education. During the preparation of the DDPs, an extensive consultation program was carried out with district residents, and the continuation of this dialogue is one of the most important functions of the extension team. For example, popular versions of annual district plans have been written in Setswana and circulated in several districts.

The DDPs include central ministry programs, and considerable efforts have been made to establish adequate center-district communications. Where ministries are represented by field staff, there are moves to devolve more responsibility to them, although this devolution rarely extends to policy decisions.

In conjunction with district-level decentralization, attempts have been made to extend the process to the village level. Village Development Committees (VDCs), elected by the village council (kgotla) every two years, are responsible for initiating village self-help projects. VDCs are often contacted for consultative purposes and are serviced by the village extension team, which is made up of village-level extension staff. In comparison with district-level institutions, however, they are still inexperienced and do not have direct access to external resources. Thus the decentralization process is far from complete. During the NDP V period, the role of village-level actors and institutions in rural development is likely to command greater attention from both central GOB ministries and the District Councils.

CHAPTER TWO
PROGRAMS, TARGETS AND CAPACITIES

RURAL EMPLOYMENT AS A POLICY FOCUS

A new National Development Plan, Botswana's fifth since independence in 1966, is currently being prepared. Productivity and employment opportunities in the rural areas are major concerns in the draft sectoral chapters that have been produced thus far. Added emphasis, and a sharper definition of policy, are anticipated in a forthcoming Government "White Paper," which will present the Government of Botswana (GOB) response to the Lipton Report of December 1978.

While the GOB is unlikely to accept its recommendations totally, the Lipton Report documented the magnitude of the existing problems of unemployment and low productivity; it also defines targets for creating new working opportunities over the next ten years. In order to meet the needs of an expanded labor force (while absorbing those who are currently without productive work), Lipton estimated that an additional 35 to 36,000 new jobs would have to be created each year to attain full employment by 1988. He argued that falling very far short of this goal could pose serious risks to the social and political stability of the country.

Dimensions of the Problem

It must be emphasized that the economic underdevelopment of Botswana's rural areas is not a recent discovery; nor are there many illusions about the difficulty of expanding the productive base while simultaneously maximizing employment opportunities. The present dilemma can be

traced to historical, ecological and sociological factors, whose cumulative effects have been far-reaching.¹ While 85 percent of the country's population resides outside the handful of urban centers, the very term "rural" tends to oversimplify their situation.

Many of the residential units found in villages or lands areas at any one time are actually partial households, with certain members dispersed to other sites. Patterns of shifting residence and circular migration reflect the strategies adopted for purposes of economic and social support, and in some cases (especially drought years) for survival. Because few households can rely exclusively on one resource (e.g., land for arable farming), most spread their risks and calculate marginal productivity in terms of labor input and the qualifications of members to exploit different resource areas.

The strength and density of rural-urban linkages confound any serious attempt to treat town and country as discrete sectors, in either a social or an economic sense. These linkages, and the marginal character of dryland farming in Botswana, have major implications for a strategy that seeks to stem (let alone reverse) the flow of migration by increasing the profitability of arable farming. Quantum gains in agricultural productivity -- not yet consistently achieved, even under research station conditions -- would be needed to generate sufficient income (at current and foreseeable price levels) for a household to depend exclusively on arable farming. In any case, such dependence would not be a viable option in years of low or poorly distributed rainfall; it would actually increase

¹ These factors are examined in greater depth in Part III of this report, Chapters Seven and Eight.

the household's vulnerability by concentrating rather than spreading its risks.

This does not mean that nothing can be done to improve productivity and augment rural incomes. There is scope for significantly reducing the country's food deficit, which affects rural producers (of whom fewer than 20 percent regularly grow enough food for their own needs) as well as urban consumers. Small surpluses, for which markets exist, can be generated over and above subsistence requirements on family farms. The potential for creating employment in small- to medium-scale rural industries, although limited, has barely been exploited.

GOB Resource Allocations

These opportunities to strengthen the rural economy depend on the commitment of resources to support specific programs. The pattern of resource allocations in Botswana -- both in the past, and in projections for the NDP V period -- has not favored production-oriented programs directed at the rural areas. The result has been the comparative stagnation of economic activity in these areas (aside from livestock production), at a time when social services and infrastructure were being generously supported and were rapidly expanding.

A major shift in resource allocation is unlikely, at least in the immediate future. During NDP V the rate of construction of health facilities is expected to slow; but the introduction of free primary education in 1980 will entail continued development expenditure, while increasing recurrent expenditure and manpower requirements. The precedents set during the Accelerated Rural Development Programme (ARDP) and the expectations generated by the provision of social services in the rural areas, are reflected in these ongoing commitments.

Other factors, some of which are beyond the control of policymakers also limit the GOB's capacity to invest heavily in rural development. The requirement to safeguard the security of Botswana has brought forward proposals for a new international airport, the takeover of the railway and expansion of the Botswana Defence Force and police -- all with massive implications for capital and recurrent expenditures. The continuing rapid growth of the urban areas has precluded the use of funds that might otherwise have been devoted to rural development. A recent outbreak of foot-and-mouth disease has led to further expenditures to protect the livestock sector.

These demands on the limited pool of GOB resources mean that it will be difficult in practice to mount a comprehensive attack on the underlying problem of rural employment. In its guidelines for the preparation of NDP V sectoral chapters, the Ministry of Finance and Development Planning (MFDP) has voiced concern over this issue. Projected growth in the development and recurrent budgets of the two ministries most directly concerned with production (Agriculture, and Commerce and Industry) is already far smaller than recommended in the Lipton Report, which lessens the chance of diversifying the economic base beyond the mainstays of cattle and diamonds. The MFDP argues:

If security expenditures grow faster than planned, the brunt of this should fall on social and physical infrastructure, and not on agriculture and commerce and industry. If Government revenues fall, the directly productive sectors should be protected from budget cuts. Otherwise an already fragile and vulnerable economy is going to become even more so over time.¹

¹ "NDP V: Sectoral Chapters," Savingram from MFDP to all Ministries, 12 January 1979, pp. 2.3.

Such protection is difficult to enforce, however, because production-oriented programs tend to evolve much more slowly, and carry less political weight (in the short run), than highly visible programs such as educational expansion and improved communications. Intense competition for scarce resources is a fact of life in preparations for NDP V, as it is in any national planning exercise. While productive activities are receiving greater attention than in the past, they do not yet command resources at a level that would promise rapid advances during the coming plan period. These considerations inject a cautionary note into any assessment of the GOB programs planned for NDP V.

TARGET AREAS DURING NDP V

The difficulties in mounting an effective, balanced rural development program are well understood, both within the GOB and among the donor community. In the productive sector, aside from livestock, expectations for the NDP V plan period are modest, especially when measured against the targets presented in the 1978 Lipton Report. There are four main thrusts to the rural development effort during NDP V:

- Improved social services and economic infrastructure;
- A viable livestock industry;
- Increased crop production; and
- Rural employment creation and industrialization.

Improved Social Services and Economic Infrastructure

The GOB's goal is not only to upgrade the quality of life in rural areas, but also to provide the services necessary for the population to remain in the rural areas

and undertake productive activities. To date the provision of social services has almost exclusively been restricted to recognized villages, with a notable bias to larger settlements. The biggest single area of expenditure has been primary road construction. Other infrastructure programs include the provision of domestic water, electricity and serviced industrial estates. (The latter two are restricted to "major" villages.)

During NDP V a major thrust of the rural development strategy was the development of major villages as centers of productive enterprise and higher order social services. Although a disproportionate expenditure per capita was made in these villages as compared to the smaller settlements, it still fell far below that spent in the urban areas. During NDP V, which has a major emphasis upon the encouragement of arable production, there may be shifts toward smaller settlements and cultivation (lands) areas.

Whatever the focus, the expansion of social services and infrastructure faces considerable constraints. District Councils, which are responsible (at least nominally) for the upkeep of these facilities, face increasing difficulties in maintaining them. Although the size of recurrent budgets will continue to grow, revenue will not keep pace, leading to greater reliance upon deficit grants. The acute lack of qualified staff to operate services, once construction has been completed, is perhaps the single biggest constraint on further growth of social services and economic infrastructure in the rural area.

A Viable Livestock Industry

The most critical part in this element of the rural development strategy is the implementation of the Tribal

Grazing Land Programme (TGLP), which was announced in 1975. This land tenure reform program is meant to provide cattle owners, large and small, with ways of increasing their incomes from livestock, while at the same time implementing measures to protect the land resource, much degraded in the cattle-populous eastern half of Botswana.

To date the implementation of the TGLP has involved a lengthy process of district-level land use planning. The first stage of planning was to zone each district's tribal land into three broad land use categories: commercial areas, to be devoted to ranching on a leasehold basis; communal areas; and reserved areas for wildlife and possible future commercial or communal grazing. Following this broad zoning, detailed planning has been undertaken, concentrating upon those areas zoned commercial.

Commercial zones have been identified in most districts, within which individual owners of large herds (often owners of existing boreholes in the area) or possibly groups will be encouraged to take out leases over tracts of grazing land. Leaseholders will be encouraged to fence and undertake improved management practices. The establishment of commercial ranches and the granting of exclusive leaseholder rights has radical implications for those who traditionally used this land, many of whom own no livestock. The latter must vacate the land and find new livelihoods elsewhere, because their traditional rights have been superseded. In response, it is proposed to retain certain areas within commercial zones as communal, for agricultural use by those displaced, and to provide essential social services.

The establishment of commercial ranches is considered the priority task, and to date there has been little attention to the majority of tribal lands that remain

communal. Activities have been restricted to the encouragement of farmers' groups, some dam construction and extension advice. However, during NDP V, it is expected that planning priorities will move away from the commercial zones toward the communal areas. Planning for these areas will be much more complex, having among other considerations the need to account for arable lands development, especially the management practices of farm families who own small numbers of stock and also grow food crops such as sorghum and maize.

Increased Crop Production

Arable production is intended to be the area of greatest emphasis during NDP V, in terms of direct impact on employment opportunities. The Ministry of Agriculture is in the process of formulating an Arable Lands Development Programme (ALDEP), which is to be implemented during the latter part of the plan period. While ALDEP's long-term goal is to achieve sizable gains in employment in the agricultural sector, the medium-term goal (applicable to NDP V) is attaining self-sufficiency in food production, with small surpluses being generated to earn cash for rural households. Even this goal appears to be extremely ambitious, given the level of resources programmed by MOA and the magnitude of the food production deficit.¹

The proposed ALDEP program is complex and multifaceted. Full implementation is not expected to begin until 1981, although planning work has been underway since late 1978. The current expectation is that a network of integrated rural development schemes will be established, based on major land (cultivation) areas, principally in the eastern part of the country. More than a dozen dis-

¹ See Chapter Seven for a fuller discussion and commentary on ALDEP objectives.

crete components have been identified: these range from soil conservation, dryland farming research and input supply schemes, to improvement of rural roads, provision of credit and further development of marketing and transport facilities. Development expenditure on ALDEP is projected at P15 million during NDP V, but this is only a first approximation, due to the preliminary nature of planning to date.

Current thinking on ALDEP "Targets" for 1985 includes the following objectives:

- Higher productivity for the 60 to 70,000 rural households that farm less than 20 hectares;
- An annual cash income per household of P250 to 300 (compared with P100 per month earned by a mine worker in South Africa, and the minimum urban wage of P40 per month);
- New employment amounting to 10 to 12,000 by 1985 (compared with Lipton's estimate of 35,000 additional jobs required per year); and
- An increase from current sorghum and maize production levels of about 70,000 metric tons to 150 to 200,000 MT.

Diversification of arable production will also be pursued through MOA projects assisting the development of horticulture, dairy production, poultry and forestry for commercial purposes. These projects are designed to increase smallholder incomes while simultaneously broadening the agricultural base. Many of these projects will be initiated by farmer groups, Village Development Committees and non-governmental organizations such as the Brigades; most will be small in scale and require modest investment. In all cases, impact will be localized and relatively small during the coming plan period. These activities should be seen as pilot efforts potentially leading to broader programs in the 1980s.

Rural Employment Creation and Industrialization

There is a consensus that the greatest proportion of employment opportunities in Botswana's rural areas lies in agriculture. Thus ALDEP efforts will aim at improving the attractiveness of self-employment in arable farming, where only a small minority of adult household members can be presently described as fully and productively occupied.

The main opportunities for off-farm employment are seen in types of small-scale industry that are linked directly or indirectly to increased productivity in agriculture. The prospect of decentralized, labor-intensive enterprise development offers several distinct advantages, as noted in the Lipton Report:

In rural areas, balanced development requires that farmers, plough-makers, millers, builders, etc. -- at first, mainly family firms -- provide markets for one another's increasing output, and supply each other with tools and materials. Botswana's long distances make this especially important, and give rural artisans good protection against imports.¹

Forward and backward linkages with arable farming, focusing on implements and inputs at one end, and crop processing (especially grain milling) at the other, will require strengthening through development and application of appropriate technologies.

To date the GOB has not developed a definitive policy for encouraging rural industrial development. Non-governmental organizations (notably the Brigades) have led the way in addressing this dimension of the employment problem. For the NDP V period, however, the Ministry of Commerce and Industry (MCI) is committed to launching a com-

¹ Michael Lipton, op. cit., p. xii.

prehensive program to promote rural industry. MCI's basic policy will be to assist new and existing rural industries on the basis of social profitability in the short run, and commercial profitability over the longer term. Social profitability has been defined in the following terms; contributing to employment generation, meeting basic needs in rural areas and expanding local ownership of business.

In the more remote areas of Botswana, significant opportunities are also seen for income generation in the management and utilization of wildlife. Development of this kind would directly benefit those members of the population -- Basarwa and others -- who enjoy least access to cash incomes, and who have little or no opportunity to participate in agriculture. The Department of Wildlife, which is situated within MCI, is currently sponsoring an aerial survey of wildlife populations in the sandveld areas of Western Botswana, on which future utilization schemes could be based. As yet, though, the Department has not formally committed itself to an accelerated wildlife utilization and management program.

PLANNING AND IMPLEMENTATION

Key GOB Ministries

Three central ministries have crucial roles in the planning and implementation of programs focused on rural production and employment: the Ministry of Local Government and Lands (MLGL), the Ministry of Agriculture (MOA) and the Ministry of Commerce and Industry (MCI). This section briefly describes their respective roles, and then explains how the GOB's internal project approval system and funding arrangements operate. A more extended discus-

sion of that system appears in Chapter Five of this report.

Local Government and Lands

The Macro Unit of the Ministry of Finance and Development Planning (MFDP) drew special attention to MCI and MOA in its analysis of resource allocations and their effect on a production strategy. In terms of the resource base in the rural areas, however, MLGL has an equally important role, since the utilization and management of land directly impinges on agricultural development, and thus also has implications for off-farm employment. To a considerable extent, the soundness of land use planning determines the long-term viability of production activities, especially under the delicate ecological conditions found in Botswana. In the communal areas, particularly, both grazing potential and soil fertility for arable purposes are influenced by the patterns of land utilization that are pursued. Any attempt to deal with employment and income questions must therefore incorporate an assessment of land resource potential, and must also take into account the decisionmaking processes that operate in allocations of land resources.

A description of MLGL's program for NDP V appears in the ministry's draft sectoral chapter of the Plan; it will not be repeated here. Two major areas of concentration, which this report examines in some depth, are land use planning (seen as an ongoing, long-term process) and the development of statutory authorities, namely Land Boards, in their capacity as adjudicators and allocators of land. These functions are important not only in the context of TGLP implementation, but also in laying the groundwork for arable production within the ALDEP framework. MLGL representatives, and members of the GOB Reference Group guiding

this study, urged that these two areas of concentration be included under the proposed AID grant to support rural development.

Land tenure and land utilization issues in the communal areas are the most complex of all the tasks facing MLGL. In terms of field-level staffing and technical capability, the ministry has identified an urgent need for both preservice and on-the-job training. The cadre of District Officers (Land) is presently staffed almost entirely by expatriate volunteers, most of whom remain in the country for only two years. Furthermore, Land Board members and staff possess few of the technical and administrative skills required for their positions of responsibility. These factors help to account for the comparative neglect of communal area land use planning, and for the fact that almost all Land Boards have serious backlogs of work that should normally be handled in a routine fashion. Significantly, though, MLGL has taken the lead in diagnosing these problems and in placing a high priority on their resolution during NDP V. This analysis was a key antecedent of both the Rural Sector Study and proposals for AID assistance to the GOB's rural development program.

Agriculture

The MOA program contains a broad array of projects encompassing research, extension, marketing, livestock development and a variety of other activities. The draft sectoral chapter, besides describing these projects, outlines the basic approach on which ALDEP is likely to be based. While central planning capabilities are well developed within MOA, and useful research is being conducted on several fronts, field-level implementation capacity has not kept pace, in terms of its direct impact on small arable producers.

Over the past two years, an effort has been made to stimulate self-help projects that support range management and arable farming, and the ALDEP planning process provides for extensive consultation between central planners and field officers. Both ALDEP and TGLP will add new dimensions to the work of MOA field staff: new skills are needed to assist farmer groups that are initiating projects of their own, and the boundary between research and extension may shift as on-farm field trials of various production packages are designed and carried out.

The ministry itself must begin internal preparation for the implementation of ALDEP, which must be versatile enough to fit different ecological zones and socioeconomic conditions. This preparation is as urgent as the planning of the various ALDEP components, if any real progress is to be made toward MOA's targets for the plan period. It will require much closer coordination of extension and research, and greater responsiveness at central ministry level to initiatives launched in the districts. While committed in principle to these changes, MOA has been cautious in carrying them out. The need for in-service training and retraining of MOA field staff is especially crucial, and requires greater attention at a policy level within the ministry.

Commerce and Industry

MCI begins with the briefest experience, the smallest endowment of skilled manpower and the least developed program of the three ministries. The Lipton Report framed a number of recommendations aimed at strengthening MCI's capacity: these focused on reducing (if not eliminating) the licensing and regulatory functions of the Commerce Division and shifting manpower and resources to the previously neglected Industry Division. MCI's response thus

far has been tentative and, in the case of licensing activities, basically defensive. With existing budgetary resources and manpower, it is difficult for the MCI to seize the initiative in translating Professor Lipton's recommendations into a detailed program. Policy guidance from the Cabinet is awaited in the form of a forthcoming "White Paper," of which a draft has been circulated. The resources (especially manpower) needed to define and prepare an accelerated rural industrial program, let alone execute it, are not currently available to the MCI.

Project Approval and Funding Mechanisms

To allocate and channel funds for project implementation, the GOB has established a multi-staged approval process at both the district and central levels of Government. Similar procedures are used both for subprojects, for which a "global" project memorandum exists, and for discrete "one-off" projects. Although the process varies between ministries and according to the type of project, the accompanying diagram sets out the steps that must be taken. LG 31, a project mechanism within the MLGL entitled "Implementation of Integrated Land Use Plans," is used in the accompanying diagram for illustrative purposes.

Once a project has been identified and formulated, either by district-level or central ministry headquarters staff, and has been accepted in principle, a project memorandum (PM) is prepared. The PM includes background information, describes the proposed activities and their timing, states what benefits are anticipated, and provides details of capital and recurrent funding needs.

When district initiatives are involved, the PM is submitted to a subcommittee of the District Development Committee (e.g., the Production Development Sub-committee)

and undertake productive activities. To date the provision of social services has almost exclusively been restricted to recognized villages, with a notable bias to larger settlements. The biggest single area of expenditure has been primary road construction. Other infrastructure programs include the provision of domestic water, electricity and serviced industrial estates. (The latter two are restricted to "major" villages.)

During NDP IV a major thrust of the rural development strategy was the development of major villages as centers of productive enterprise and higher order social services. Although a disproportionate expenditure per capita was made in these villages as compared to the smaller settlements, it still fell far below that spent in the urban areas. During NDP V, which has a major emphasis upon the encouragement of arable production, there may be shifts toward smaller settlements and cultivation (lands) areas.

Whatever the focus, the expansion of social services and infrastructure faces considerable constraints. District Councils, which are responsible (at least nominally) for the upkeep of these facilities, face increasing difficulties in maintaining them. Although the size of recurrent budgets will continue to grow, revenue will not keep pace, leading to greater reliance upon deficit grants. The acute lack of qualified staff to operate services, once construction has been completed, is perhaps the single biggest constraint on further growth of social services and economic infrastructure in the rural areas.

A Viable Livestock Industry

The most critical part in this element of the rural development strategy is the implementation of the Tribal

FIGURE 2

PROJECT APPROVAL AND FUNDING (LG31)

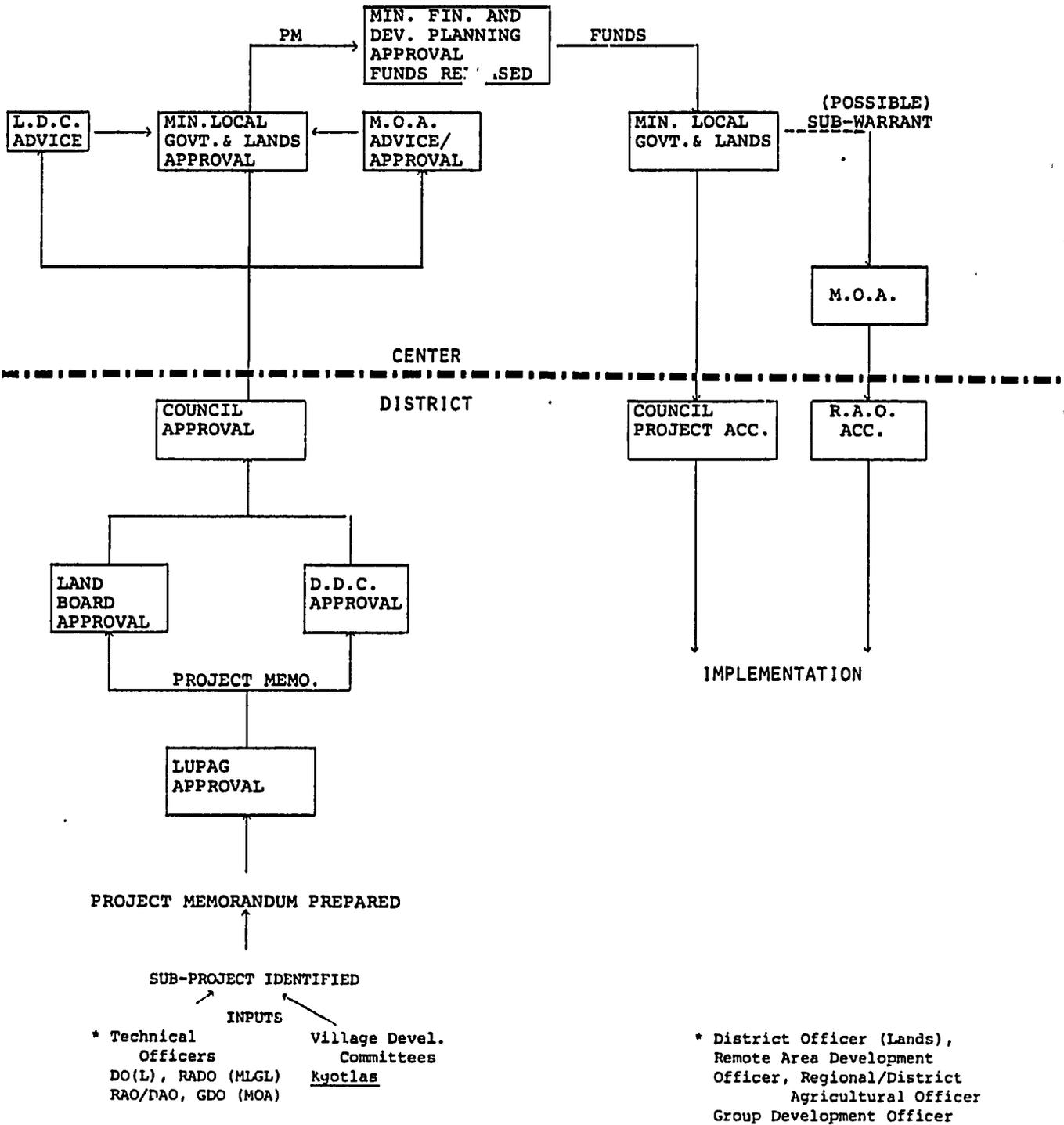


Figure 2 and the preceding description identify at least six decision points in the GOB project approval system. Their intended function is to improve the conceptual basis of projects, and ensure feasibility and accuracy in costing required inputs. The evidence is mixed, however, and examples can be found in which promising projects have been watered down or delayed interminably. This tends to discourage experimentation at the district level (and below), and casts doubt on the center's responsiveness to district initiatives.

The checks and balances built into this system guarantee a cautious approach to the expenditure of funds. Yet prolonged scrutiny of projects that are relatively small in scale, and are based on agreed principles, poses obvious risks. Solutions to the more intractable problems of rural development require a willingness to test and monitor a variety of approaches: the payoff from a small activity with a 50 percent "failure" rate (which implies 50 percent success) may be considerable.

These observations suggest that, far from being casually or inadequately planned, many projects that survive this lengthy approval process are actually overplanned. For example, the PM for the Village Area Development Programme, an experimental SIDA-assisted project in Kgalagadi District, went through 15 drafts before final approval was secured. Accelerated approval, however desirable, is only likely to occur as the districts become more experienced (and more precise) in defining the activities they wish to undertake. As yet there is little experience of this kind in the production sector: most of the discussions on this sector in the 1977/82 District Plans contained only general "shopping lists." During the next several years, however, more can be done, and the GOB anticipates both a higher quality and greater quantity of

production-oriented project proposals to originate in the districts.

CHAPTER THREE
FRAMEWORK FOR USAID RURAL DEVELOPMENT SUPPORT

RATIONALE AND APPROACH

The Rural Sector Study was undertaken to determine how AID might best support GOB efforts to increase production and employment opportunities in the rural areas. Existing and proposed efforts sharing this common goal cover a broad spectrum, and are logically interdependent. There has been a significant shift in emphasis over the past several years, with the recognition that the productive base in the country's ten districts must be strengthened. This is essential both to raise rural incomes and living standards, and to support and maintain already developed social services and infrastructure over the long term.

USIAD/Botswana has supported GOB programs related to production, particularly through the Ministry of Agriculture, during the decade of the 1970s. The majority of this assistance has been applied at the central government level. With greater attention now being given to strategies for directly assisting rural producers, the present study has explored the possibility of additional AID support to GOB rural development programs during the NDP V period (1979-1985).

The framework developed in the course of the study is intended to reflect the mutual interests of the GOB and USAID/Botswana. With broad agreement established between them on the goals, strategy and overall program content, a strong basis for collaboration already existed. An inter-ministerial Reference Group was formed to guide the Study Team. In principle, USAID was sympathetic to the Refer-

ence Group's desire for flexibility in allocating donor resources among rural development projects in a common sector. Central ministries interested in participating in a potential program of this kind were invited to prepare lists of "candidate" projects, and these formed the basis for the team's discussions and follow-up work in Gaborone and in the districts.

The concern with flexibility revolves around several factors:

- The need to identify and test new approaches, particularly towards overcoming constraints to arable production;
- A desire to stimulate initiatives in production-related activities within the framework of district planning;
- The recognition that, with meaningful decentralization, detailed "blueprints" cannot be written centrally for all activities likely to be developed over a period of several years; and
- The difficulty of precisely estimating demand from each individual project, especially when many of the activities are small in scale or in the preliminary planning stages.

Similar considerations have guided the preparation of a District Development Support Sector (DDSS) grant agreement between SIDA and the GOB, which is directed at strengthening the capacity of District Councils to plan, implement and manage social service and infrastructure projects. It is characterized by a sectoral approach, with a set of projects identified as qualifying for support under the grant. There is latitude for funds to be allocated as needs arise, and at the discretion of the GOB. Definition of criteria on which DDSS assistance is based, coupled with periodic reporting and evaluation procedures, provide the necessary "anchors" for a coherent yet innovative project.

The possibility of USAID assistance to rural development activities has been viewed by the GOB as complementary to the DDSS grant. A focus on production would naturally entail support to central ministry projects and personnel, rather than to the district councils, so that redundancy would be avoided. The evolving system of decentralized planning raises the possibility of coordinating production projects with other rural development activities in the districts, particularly those under District Council responsibility.

GUIDELINES FOR SELECTING PROJECTS

As a means of defining the framework for AID support, a set of guidelines has been developed to determine what activities would be eligible for initial funding under the proposed grant. At any one time, a finite list of projects would be covered under the "umbrella" funding mechanism. The guidelines will therefore provide a basis for agreement between the GOB and USAID on expansion of the list during the second and third years.

Most of the criteria are self-explanatory, and reflect a common set of concerns already shared by USAID and the GOB. In several instances, however, clarification is provided to show how AID's own approval requirements can be satisfied:

1. Productive activities that are assisted should be oriented to small producers, whether in the agricultural or rural industrial sectors.
2. The principal thrust of the activities -- particularly where land use planning is concerned -- should be on the communal areas (including traditional villages) where the vast majority of the rural population resides.

3. Social services, such as schools and health facilities, would not normally qualify; other sources of funding already exist, and these are a district's responsibility.
4. Capital costs of construction would be eligible on a limited basis, provided that a direct link exists with production: a ceiling of \$100,000 per project is recommended, in order to minimize the need for engineering studies that AID regulations would otherwise require.
5. The standard requirements of GOB project memoranda must be satisfied, demonstrating both economic and technical feasibility and sufficient implementation capacity.
6. Environmental criteria specifically pertaining to water development (borehole drilling or small dam construction) and land use must be fulfilled to the satisfaction of both USAID and the GOB.
7. Pilot efforts of a quasi-experimental nature are specifically encouraged, particularly for ALDEP-related initiatives addressing production constraints, and in the rural industry sector.
8. Projects should originate within the districts, or in the case of central government initiatives, be accepted by district-level authorities prior to implementation.
9. Recurrent costs would be covered by the GOB, representing the host country contribution, where governmental projects are concerned. Exceptions for non-governmental organizations seeking support under the fund would be considered on a case-by-case basis during joint GOB/USAID programming.
10. Where applicable, commitment of resources (financial, in-kind or labor contributions by beneficiaries should be obtained to improve prospects of sustainability.
11. Additional projects proposed for eligibility should complement those on the original list.

CREATING INCENTIVES FOR RURAL DEVELOPMENT

The criteria outlined above allow for considerable variety among activities that would qualify for funding. They are meant to build upon the strengths of the existing GOB planning and implementation system, and do not impose new or alien priorities upon that system. The intention is to provide incentives -- in the form of resources earmarked for rural development -- that will stimulate initiatives and add momentum to an ongoing process of decentralization.

Creating incentives in this case relates to the supply of resources (namely, donor funds) for which a potential demand is assumed to exist, in the form of ideas, proposals, or fully elaborated project memoranda. A major task in this study was to assess the level of such demand on the basis of available evidence: not surprisingly, the evidence was uneven, particularly when findings in different districts were compared. This suggests that the demand (i.e., sufficient projects) for funding cannot be taken for granted, and allowance must be made for the fact that the evolution of decentralized planning is still at a very early stage.

Implementation Capacities

In several districts, central ministry field officers argued that inexperience in planning and implementing production-oriented projects posed greater difficulties than scarcity of funds. They expressed doubt about the capacity at the district level to respond to additional incentives, unless certain critical problems were also addressed. These concerned the need for in-service training, and focused on the day-to-day job performance needs of central ministry field staff. Both MOA extension

staff (Agricultural Demonstrators and Supervisors) and the members and staff of Land Boards were known to lack certain skills that were fundamental to their evolving responsibilities.

As efforts are made to devolve certain key functions to the district level and below, the roles of central ministry staff have grown broader and more complex. In the case of small projects involving farmer groups, Agricultural Demonstrators are meant to carry out basic project identification and planning tasks.

Structural problems in the civil service also tend to reduce implementation capacity. These can be resolved, but further training and skill upgrading are not the solution. The central issue is the level of productivity, which is to some extent a function of the incentive system in which the civil service operates. Much more must be done to attract trained Botswana personnel to work in the rural areas, and to provide long-term career satisfaction for those who remain there.¹

In recognition of this trend, the Rural Sector Study Team analyzed various approaches to overcoming implementation bottlenecks. In the case of Land Boards, a project for training and infrastructural development had been placed at the top of the team's agenda by MLGL. This project, LG 36, is aimed at strengthening the capacity of Land Board members and technical staff to carry out a range of complex tasks crucial to land use planning. MLGL was anxious to identify a single source of funding for LG 36, but the criteria used in the study indicated a strong preference for the training component. The recommendations for inclusion of this project under the AID-supported Rural Development Fund are presented in Chapter Four.

¹ An extended analysis of such structural questions appears in Chapter Six.

The Role of Technical Assistance

In the case of both LG 36 and potential in-service training within the MOA,¹ short-term technical assistance appears necessary to complement the availability of funding. Personnel capable of conducting most of the training are already available within Botswana, either in the ministries or in training institutions; outside assistance is recommended for course design and development of appropriate curricula. As suggested in the analysis of manpower and training issues (Chapter Six), the course content must be developed around the "in-boxes" of participants, that is, around the details of their actual assignments. There is a wealth of material to draw on in the recent experience of the Land Boards and MOA field officers themselves.

In keeping with the flexibility built into the funding arrangements, technical assistance would be utilized as participating GOB ministries identified specific needs. With the exception of one long-term technician to assist the MCI's embryonic rural industry program, amounts of technical assistance to each ministry have not been finalized. The ministries have been encouraged to specify anticipated needs in the project memoranda to be prepared or revised for consideration at the Project Paper stage in AID's approval process.

Additional Ways of Strengthening the System

The recommendations for AID support to rural development have been tailored as closely as possible to the system of planning and implementation developed in Botswana

¹ No project memorandum has been submitted, but there may be a request in the second year of AID support.

during the 1970s. They reflect the confidence of AID and the donor community as a whole in the effectiveness of that system. The proposed arrangements support an array of projects within a common sector, enhancing a trend toward decentralization, which the study team endorses enthusiastically.

Nonetheless, it is obvious that no single donor project, however versatile, can resolve all of the problems encountered in the development process. Solutions ultimately depend on the way in which development strategies, programs and the capacity for implementation evolve within a particular country. These in turn largely determine how external resources will be utilized, and with what outcomes. AID support would contribute to the supply of such resources, and would utilize technical assistance on a modest scale to influence demand. There are indications, though, that the greatest potential to influence demand and make maximum use of the opportunities provided lies within the GOB system itself.

In this regard, there are critical questions revolving around the roles of institutions and officers serving at the district level, a subject now being investigated in depth in the Local Government Structure Commission. The Commission is due to report later in the year, after extensive interviews and consultations at all levels of government and in all ten districts. The relationships between the District Administration, District Councils, Land Boards and central ministry field officers are a key item on the Commission's agenda. The outcome will have major implications for rural development, since the responsibilities of each are likely to be reconstituted, or at least clarified.

The analysis of district-level planning and implementation in Chapter Five explores these issues, with particular attention to the roles of District Commissioners and District Officers (Development). The capacity to plan and carry out production-oriented projects appears to hinge on their roles as "plan managers" and "plan coordinators" respectively, for central ministry activities in the district. Under present circumstances, however, they have no explicit mandate for these roles. This is reflected in the fact that only a few districts (notably Ngamiland and Kgalagadi) have thus far generated significant proposals for production projects. DO(D)s in particular interpret their responsibilities in different ways, with some individuals devoting most of their time to assisting Council staff with planning and management of social service activities. The latter role overlaps with the duties of Council Planning Officers, as opposed to the broad division of labor (outlined in MLGL's draft District Planning Handbook), in which the DO(D) concentrates on central ministry production projects.

A division of responsibilities makes sense in terms of the need to enhance district-level initiatives in production. Such planning was weaker in the 1977-1982 District Plans than the sections on council-managed social services and infrastructure, but it is now universally agreed that sound production plans should be part and parcel of the district planning process.

Support from the center can also be used to good effect in developing and promoting district-level capacities. Regional planners from the Department of Town and Regional Planning in MLGL have made important contributions in several districts, including North East, Ngamiland, Kgalagadi and Ghanzi. Within the ministry itself, the District Plans Committee (DPC) is meant to play an

advocacy role on behalf of the districts, forwarding proposals contained in the district plans to the central ministries. MLGL has not yet taken full advantage of these opportunities, however, with the result that several districts have not benefited from such assistance. Regional planners and the DPC are potential stimuli that operate within the existing GOB system, but require clearer definition and a firmer commitment at the center; they hold considerable promise for accelerating the development process. As such, they appear to be key instruments for exploiting the opportunities created by the proposed AID rural development support.

PART II

THE PROPOSED FIRST-YEAR SECTOR GRANT PROGRAM

CHAPTER FOUR
PROPOSED AID RURAL DEVELOPMENT SECTOR GRANT

INTRODUCTION

The proposed AID Rural Development Sector Grant has two components: a Rural Development Fund, and technical assistance (long-term and short-term) to meet certain specified needs. The project will cover a three-year period, with the possibility of extension into a second phase pending the outcome of a joint evaluation involving USAID/Botswana and the GOB. The appropriate time for this evaluation would appear to be at the end of the second full year of project implementation.

THE RURAL DEVELOPMENT FUND

The unifying concept that underlies the proposed Rural Development Fund (RDF) is support to production-related activities benefiting the rural population of Botswana. The RDF is thus meant to encompass a common sector, within which three GOB ministries play major roles: the Ministry of Local Government and Lands (MLGL), the Ministry of Agriculture (MOA) and the Ministry of Commerce and Industry (MCI). The activities of these three ministries are complementary, and to a large extent interdependent: two obvious examples are the interrelationship of land use planning, grazing and arable production on the one hand and, on the other, the potential forward and backward linkages between rural industry and arable farming.

The RDF will serve as a source of funding for projects formulated and approved in accordance with estab-

lished GOB planning procedures. A list of projects eligible for support will be agreed upon between the GOB and USAID/Botswana. For purposes of administering the RDF, annual implementation plans are recommended as the mechanism through which funds may be obligated for each year of the grant period. Each annual plan will identify the activities that require RDF funding during the coming year. For new projects being added to the eligibility list, project memoranda will be included as evidence that adequate planning has taken place. For ongoing projects that have been supported under the RDF in the preceding year, funds will be obligated automatically on the basis of projected expenditures detailed in the annual implementation plan.

It is possible, indeed probable, that in any one year the requirements of certain projects will either exceed or fall below the amounts that were projected in the annual RDF implementation plan. To allow for this, it is useful to provide some latitude for reallocation of funds within the set of eligible projects. It is recommended that a ceiling of 15 percent be established, allowing the GOB to exceed the level for any one project (as stated in the annual implementation plan) by this amount, at its own discretion. The approval of the Director of USAID/Botswana would be required for any reallocation exceeding 15 percent on a single project in a particular year.

Table 1 shows the estimated funding requirements of the projects proposed for inclusion under the RDF in the first year of the grant period. Estimates are also shown for the second and third years (including two projects likely to be added after year one): these are based on rough projections of growth or reduction in demand on the RDF. AID contributions to the RDF would total \$700,000 in the first year, \$1,000,000 in the second year and

\$1,300,000 in the third year of the grant period. The right-hand column of the table summarizes actions that need to be taken prior to the preparation of the Project Paper, which is expected to take place in August/September 1979. For the most part, these entail either preparation or revision of project memoranda to fit the framework of the RDF.

Brief descriptions of the proposed first-year projects are presented below, and key issues requiring resolution are noted and discussed.

Table 1

RURAL DEVELOPMENT SECTOR GRANT: PROPOSED FUNDING SCHEDULE

RURAL DEVELOPMENT FUND: Estimated Requirements (\$)

Ministry	Project Title	NDP Number	Year 1	Year 2	Year 3	Actions Required to establish RDF Eligibility
MLGL	Land Use Plans	LG 31	100,000	150,000	200,000	PM required for each discrete Year 1 activity.
MLGL	Land Boards	LG 36	170,000	185,000	85,000	Revised PM detailing activities eligible for RDF.
MOA	Water Points	AG 7	50,000	--	--	MOA and Cornell University to finalize TOR.
MOA	ALDEP Pilots	AG 7	100,000	150,000	200,000	MOA should prepare PM; none exists at present.
MOA	Small Projects	AE 10	30,000*	100,000	125,000	Data on current year needed for RDF projection.
MOA	Horticulture	AE 11	129,000	--	140,000**	PM now being rewritten.
MOA	Afforestation	AE 15	30,000	40,000	50,000	PMs awaited from NGOs requesting funds.
MOA	Small Dams [†]	AG 09	--	125,000	150,000	Depends on findings of Water Points Survey.
MOA	On-Farm Field Trials [†]	AG 7	--	100,000	150,000	ALDEP team to consider; no PM exists now.
MCI	Wildlife Management	GA 02	50,000	75,000	100,000	Revised and scaled down PM required for year 1.
MCI	Rural Industry	CI 7	<u>50,000</u>	<u>75,000</u>	<u>100,000</u>	MCI must prepare PM; none exists now.
Subtotal, RDF			700,000	1,000,000	1,300,000	

TECHNICAL ASSISTANCE: Estimated Requirements (\$)

Long-Term: SIO (Rural), MCI	100,000	100,000	100,000	Terms of Reference for Technical Assistance to be prepared by participating ministries.
Short-Term: Various (MLGL, MOA, MCI) ^{††}	<u>240,000</u>	<u>120,000</u>	<u>120,000</u>	
Subtotal, Technical Assistance	340,000	220,000	220,000	

* It is assumed that AE 10 will be partially supported with Dutch aid funds during Year 1 of the RDF.

** Allowance has been made for inflation in estimating the costs of a second horticultural estate in Year 3, under AE 11.

† These two projects are included for illustrative purposes; the addition of projects in the second and third years will be determined by the GOB and USAID in the annual implementation plans.

†† Short-term technical assistance has been costed at \$10,000 per person-month.

MINISTRY OF LOCAL GOVERNMENT AND LANDS

Title: Implementation of Integrated Land Use Plans NDP No. LG 31

Objectives

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.

Expansion of water resource availability through borehole drilling, with attendant increases in the number of cattle grazed on limited land resources, as well as the need to develop and safeguard arable lands production, place a premium on the initiation of more appropriate communal management practices. LG 31 seeks to support investigation, planning and initial implementation of integrated land use development in the communal areas of Botswana.

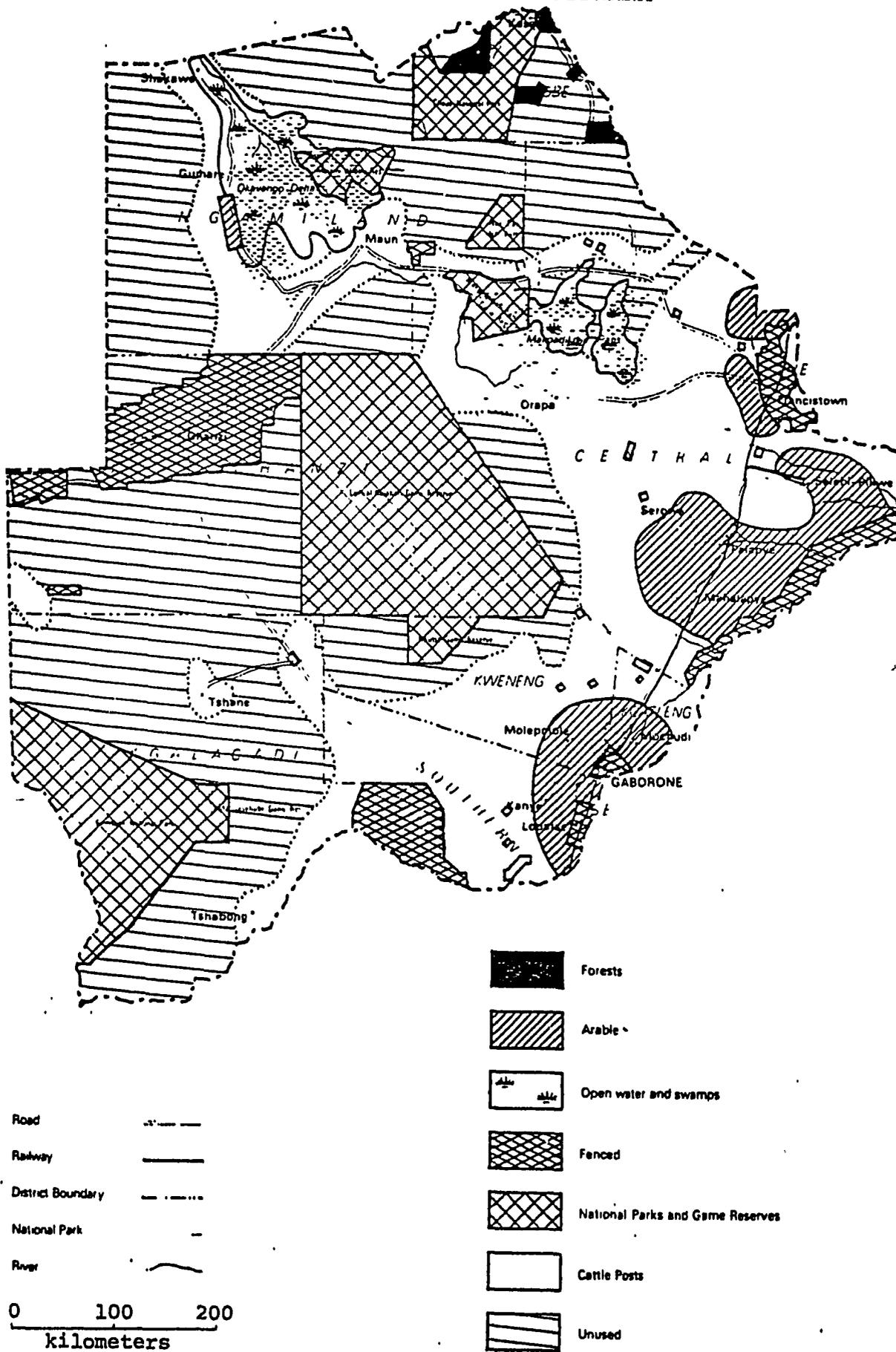
During the coming National Plan period, district-level land use planning will focus increasingly on the implementation of the Tribal Grazing Land Programme (TGLP) and the Arable Lands Development Programme (ALDEP) within communal areas. Both programs will require sensitive, detailed planning and implementation efforts that adopt differing approaches in response to a wide variety of historical, social and ecological circumstances.

Activities

LG 31 has been designed to provide assistance to districts in the development of productive activities and essential services to support such activities. The project is broad in scope, and will require support from several donors; the RDF will not be the sole funding mechanism. The use of RDF funds for LG 31 will allow

FIGURE 3

PRESENT LAND USE IN BOTSWANA



flexible and appropriate responses to district-level initiatives, thus establishing a key resource within the district planning process. Activities drawing upon LG 31 will be managed by district institutions and would have the approval of the Land Board, District Development Committee (DDC) and District Council.

Four areas of activity would be supported by this project:

- INVESTIGATION: to identify areas suitable for initiatives in integrated land use planning;
- DETAILED SURVEY AND PLANNING: to support the continuance of the process of data collection, analysis and plan formulation;
- IMPLEMENTATION: to provide limited, initial support for innovative activities not funded by other sources but important in establishing new resource management techniques; and
- TRAINING: to support the development of training methods and curricula for use in strengthening communal management institutions.

Despite the production of district-wide land use plans that zone each district into broad land use categories, there remain large gaps in the information available to district planners as to the resources and potentials within the communal areas. LG 31 would be one source of funds to allow investigatory work to be carried out, e.g., detailed population or livestock surveys, economic feasibility studies, sociological analyses, market potential studies. If justified, the funds could be used for the hire of consultants to carry out this initial work, as has happened (under different funding) for investigatory work in the provisionally zoned commercial areas.

In areas where adequate information exists, LG 31 support might be used for the production of up-to-date aerial

photography and maps, detailed soil analysis and provision of materials and technical equipment. It may be necessary to bring in specialized expertise to support the planning activities, for example to provide advice on the development of forestry in the area. "Mainstream" planning activities, however, will be undertaken by established district level staff.

As communal area planning proceeds, LG 31 also serves as one source of funding for the initial implementation of plans. Complementary funding sources for some of the activities likely to be undertaken already exist (including AE 10, LG 09 and AG 15, which is also known as SLOCA). However, LG 31 funds will have an important role to play in providing finance for developments and activities ineligible for other funding. Perhaps the prime example of this is the development of water sources outside of recognized villages. Emphasis will be on support to directly productive activities, rather than supportive infrastructure within established communal areas; assistance to groups and the development of new market areas will be given special attention.¹

¹ One category of communal area development has the potential to make wider demands upon LG 31 funds. This is the implementation of plans for communal areas that will be established alongside commercial ranching activities, and which will necessitate the provision of basic infrastructure and social services. It may often be the case that the number of residents present does not justify the provision of services under criteria normally applied to recognized settlements in more populous parts of the district. In such cases it would be appropriate for LG 31 to provide limited infrastructure alongside land development and other productive activities, provided such infrastructure is an integral part of a wider initiative and that there is a commitment from the district council to service these facilities (perhaps after an agreed period of support from LG 31). It is essential that sufficient land be set aside for future expansion, and that adequate management techniques be provided to ensure sustainable development for such new settlements.

LG 31 funds will also be available for training and educative activities. Efforts that attempt to upgrade productive activities in communal areas must stress the management of communally held resources. Improvements in management techniques and capability will only take place over a long period of time, through demonstration and education. The fund might be used to develop curricula, train extension staff posted to the area, or for running short courses for participants.

Current Status of Project

To date LG 31 has been funded from the Domestic Development Fund (DDF), and has been used for a wide variety of tasks associated with land development. These have included a pilot land registration scheme in the Baralong, Farms area, the demarcation of commercial ranch boundaries and materials for use by District Officers (Land). Plans for the development of specific communal areas have recently been prepared or proposed, which look to LG 31 for funding. In the Kgalagadi District, a land use plan has been prepared and awaits Government approval. In Central District, the concept of "communal service centers" is being developed to provide for those displaced by the allocation of commercial ranches. In the Kweneng, a project memorandum has been submitted proposing the development of water sources within communal areas associated with the district's Second Development Area.

Other districts are expected to put forward schemes for the development of particular communal areas. Kgatleng has identified "village catchment areas" within those parts of the district zoned primarily for group ranching areas. In North East District, the purchase of a freehold farm for group development has been proposed and awaits Government approval.

Rationale for Inclusion Under the Rural Development Fund .

It will be evident that LG 31 has been used to fund a wide range of activities, and that the volume of funds either requested or likely to be requested in the future is considerable. The Rural Development Fund (RDF) cannot and should not be used to fund all LG 31 projects. The following criteria will be used to judge whether a particular project is eligible for RDF funding:

- Activities in lands zoned as commercial would be eligible only if they explicitly addressed problems of the rural poor, e.g., service centers for displaced populations;
- The overriding emphasis must be upon the development of directly productive activities, including livestock, arable agriculture and off-farm employment;
- Projects are to be "integrated" in that they address a range of problems and potentials in a complementary fashion;
- District initiatives will be the prime origin of projects; they will be planned, implemented and managed by district institutions. There must be a commitment from the local political bodies to back and service these projects. In other words, LG 31 must not be a "parallel" funding mechanism; and
- Tangible commitment by participants and beneficiaries of projects should be obtained; this may be in the form of financial, in-kind or labor contributions.

District-level planning, with a few notable exceptions, has concentrated on the implementation of TGLP in the commercial zones. This concentration has led to comparative inattention to the traditional communal areas and has given rise to circumstances in the commercial areas that urgently require action. During the coming plan period, the imbalance will be rectified. Through the provision of appropriate funding, the districts will be encouraged to tackle the more difficult problems of the communal areas.

Estimated Funding Level

1980* (first year of RDF)

Matsheng Land Use Plan: 50 percent of total requested under LG 31	\$45,000
Mmalatswai, Central District, initial implementation (presumes approval of PM)	20,000
Kweneng Second Development Area Communal Scheme	20,000
Investigations and planning	<u>15,000</u>
	\$100,000

1981* (second year of RDF)

Matsheng Land Use Plan	50,000
Mmalatswai	30,000
Communal area development schemes	50,000
Investigations and planning	<u>20,000</u>
	\$150,000

1982 (third year of RDF) estimates \$200,000

* All items illustrative until GOB approval is given to specific project memoranda.

MINISTRY OF LOCAL GOVERNMENT AND LANDS

Title: Land Board Development

NDP No. LG 36

Objectives

This project is intended to strengthen the capacity of Tribal Land Boards to carry out their functions as:

- Allocators of tribal land, which constitutes 71 percent of Botswana's surface area;
- Implementing agencies for the Tribal Grazing Land Programme (TGLP), which calls for Land Boards to zone tribal land into communal, commercial and reserved areas; and
- Trustees and administrators (assisted by the Land Use Advisory Planning Advisory Group) of land matters at the local level.

Activities

Given the importance of land allocation and the role of Land Boards in that process, the fulfillment of LG 36 objectives has received high priority from MLGL. Of necessity, though, Land Board development will be a long-term proposition. The tasks assigned to the Land Boards are difficult enough, and the level of need great enough, to require multiple sources of support. In the context of the proposed RDF, certain key activities can be identified as the logical points of departure.

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 technical skills required in land allocation. Also, as land policy evolves through such programs as TGLP

and ALDEP, 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.

Five LG 36 activities, encompassing training, research and infrastructure, are described below. These would qualify for RDF support, and can be initiated promptly.

- Course development for training of Land Board members and staff to meet their specific current needs. A consultant will be called in for six months to build on the past work in this area by the Land Board Training Officer. He will assist the staff as well as in-country consultants from such local institutions as the Institute of Development Management, the Botswana Training Center and the Institute of Adult Education in developing new courses and new training materials. The consultant and Land Board training staff will visit the main Land Boards and representative sub-Land boards. In addition to preparing new courses and materials for them, the consultant will prepare a project memorandum outlining a training schedule for five years (only three of which would fall under the RDF).
- Regular training activities to increase the capacity of both members and staff of Land Boards (main and sub-Land Boards) to deal with the policy issues, administrative problems and technical requirements of TGLP and the upcoming Arable Lands Development Programme (ALDEP). This will include courses in the following areas: guidelines for TGLP allocations and adjudication procedures, land record procedures, office management and personnel supervision, accounting and revenue collection procedures and technical courses in survey and mapping techniques. In year one, all costs for conducting, evaluating and redesigning Land Board training courses will be covered under the RDF. In subsequent years, the RDF would support evaluation and redesign activities, but the GOB will be expected to absorb the cost of conducting the courses.

- In-country training of a new technical officer cadre that MLGL has proposed to establish. The training would cover the basics of surveying, map reading, sketching of land allocations and record-keeping. One technical officer would be assigned to each main Land Board, and Regional Land Officers (four) would supervise their work.
- The development of a research unit in MLGL to study land tenure and land use issues relevant to implementing current and future land policy. The unit would provide policy guidance to the Land Boards and to the Ministry as a whole. Funds could be used to support training or staff salaries of expatriates who might be recruited to start such a unit.
- Provision of needed capital items for Land Boards, especially the new Subordinate Land Boards. This would include such items as offices, vehicles, technical equipment and office materials.

Two additional activities deserve mention. While neither qualify under LG 36 and hence are not included in its activities, both have an important role to play in improving land policy and MLGL support of Land Boards. First there is the provision of a new Commissioner of Lands. This person will be in charge of overseeing the implementation of land policy and the management of land allocation and land use planning institutions. Second, there is the training of Batswana so they can replace expatriates in District Officer (Land) and District Officer (Development) positions. Both matters are of immediate concern to MLGL officials. While these activities do not fit under the RDF, USAID/Botswana has established mechanisms for providing assistance for such projects, and MLGL plans to pursue these matters directly with USAID.

Current Status of Project

With United Kingdom (ODM) funds, the first Land Board Development Project supported the provision of office space for the nine Tribal Land Boards established in 1970,

the 27 sub-Land Boards set up in 1973 and the three additional main Land Boards established (along with the TGLP) in 1975. LG 36 also provided for the building of housing for Land Board staff and for the purchase of vehicles and equipment needed to make land allocations. The ODM-financed project will be completed in March 1980. The total expenditure, as projected for NDP IV, was Pula 1,100,000. The addition of five new sub-Land Boards since 1975 means that all of the infrastructure needs targeted for the first Land Board Development Project have not been fulfilled. The ODM has indicated it would not continue funding infrastructure projects in this sector.

Within MLGL, the Permanent Secretary, Deputy Permanent Secretary and Assistant Secretary/Rural make policy for the Land Boards. At the day-to-day operational level, the Land Board Development Officer, the Land Board Training Officer and her assistant, and the Planning Officer/Lands oversee the development of Land Boards. Originally, these four officers were instructed to implement the February 1978 Interministerial Report on Land Board Operations, which recommended increased staff and training. In December 1978, however, the GOB Cabinet decided to postpone implementation of this report until after the Local Government Structure Commission submits its report in September 1979.

The proposal for Land Board training in the current financial year was not adequately funded by MLGL, due to a ceiling on recurrent costs and an unfulfilled expectation of donor funding. Requests for support from USAID and the Directorate of Personnel for several individual courses are likely to be successful, but these courses represent only a small fraction of the number needed. MLGL representatives stressed that a greatly accelerated effort will be required during NDP V.

The idea of establishing a research unit on land tenure, administration and use emerged in 1978, out of discussions between the Ministry of Agriculture and MLGL. MOA's Rural Sociology Unit had conducted a considerable amount of research on the impact of land policy, particularly TGLP. MOA expressed the hope that MLGL would begin its own research effort in land policy. Recently MLGL has proposed the establishment of a two- to three-person "Land Tenure Unit," to be headed by a rural sociologist. The details of such an effort are to be spelled out soon in a final project memorandum.

The appointment of a new Commissioner of Lands is moving ahead. The position was recently vacated, and the Directorate of Personnel has been informed. USAID/ Botswana has indicated its willingness to assist in recruitment for this position, with funding through an OPEX¹ arrangement. The DOP is aware of this situation and action is expected soon. The training of DO(D)s and DO(L)s has not yet been developed into a formal proposal for either DOP or USAID consideration. If the number to be trained is under three per year, USAID might be able to accommodate such a request under existing funding mechanisms.² If the GOB wished to train more people (say five to seven per year) with USAID support, a separate project would be required.

Rationale for Inclusion Under the Rural Development Fund

Land is a critical resource for all productive activities in rural Botswana. Its allocation through the

¹ OPEX means "operational expert."

² Principally the Southern Africa Academic Skills Training (SAAST).

Tribal Land Boards makes them institutions that are particularly crucial to rural economic development. The patterns of land use in Botswana are also intimately tied to the workings of the traditional social system; changes in land use made by Land Boards thus have considerable impact on the social system, as well as on economic activities.

Because of the importance of land matters, the Land Boards have become one of the major district-level government institutions, along with the District Administration, District Councils, and the Customary Courts. The staff of the Land Boards are members of the Unified Local Government Service, as are the staff of the District Councils. The Land Boards not only serve the people at the local level, but are composed of members chosen from the local community. Support of Land Boards is part of the larger effort to decentralize government, so that it can respond to the needs of different areas of the country.

The RDF has been designed as an instrument for servicing projects whose funding activities are relatively modest in scale. For this reason, complete RDF coverage of all activities proposed for LG 36 is not a viable option, and some selectivity must be exercised. There is a strong case for supporting training, a strengthened research capacity and staff development (for the technical officer cadre). These activities are urgent, they can be initiated relatively promptly, and they have not been adequately supported in the past. As for infrastructure, RDF support will be limited to those items without which the Land Boards cannot carry out their mandated tasks. Thus, technical and office equipment could be supported on a modest scale. Also, some provision for "topping-off" support on major capital items such as offices and vehicles would be appropriate, so long as a persuasive case is made showing how their absence blocks the Land Boards from conducting their business.

Estimated Funding Level

	<u>Year 1</u> <u>(US \$)</u>	<u>Year 2*</u> <u>(US \$)</u>	<u>Year 3*</u> <u>(US \$)</u>
Course development (exclu- sive of technical assist- ance)	10,000		
Regular training program	35,000	15,000	10,000
Technical officer train- ing program	25,000	25,000	25,000
Research Unit develop- ment		75,000	50,000
Infrastructure			
a. Funds for equipment	50,000	20,000	
b. Topping-off sup- port for major capital items	<u>50,000</u>	<u>50,000</u>	<u> </u>
TOTAL	\$170,000	\$185,000	\$85,000
Technical assistance (under course develop- ment above: six months in Year 1)	\$60,000		

* Totals for Years 2 and 3 are provisional.

MINISTRY OF AGRICULTURE

Title: Water Points Survey

NDP No. AG ??

Objectives

The Ministry of Agriculture intends to carry out a survey of small dams and boreholes in communal areas, which are used mainly for watering livestock. The survey will be designed to provide policy guidance for the planning and implementation of water development projects, which are essential to both the Tribal Grazing Land Programme (TLGP) and future efforts under an Arable Lands Development Programme (ALDEP). Scarcity of water in lands areas has been identified as a serious constraint to increased arable production, and considerable expansion of MOA capacity in small dam construction is planned for the NDP V period. As a prelude to this expansion, however, there is a need to assemble and analyze hard data on the management practices, socioeconomic impact and environmental consequences associated with different types of water points. This comparative analysis will help to define the direction and content of GOB programs to provide water in support of agricultural production activities.

Activities

The MOA has proposed that the survey team should consist of three specialists provided by the Ministry (a statistician, a civil engineer and a range ecologist), and three outside consultants (a rural sociologist, who would serve as project coordinator, an economist and a photo interpreter). The total level of effort will be approximately 22 person-months from the professional staff, with an additional 43 person-months by local non-professional staff (mainly enumerators).

The first stage, primarily involving photo interpretation, will establish the total numbers of different types of livestock watering facilities in the communal areas. Following this, a sample frame will be prepared, encompassing the following categories of water points:

- Small dams provided by Government and managed by district councils;
- Small dams provided by Government and managed by farmers' groups;
- Small dams provided by the Serowe Brigade Dam Building Unit and managed by farmers' groups;
- Boreholes drilled by Government and owned and operated by councils, on a fee basis for watering of livestock;
- Privately owned dams;
- Individually managed boreholes;
- Syndicated boreholes; and
- Hand-dug wells, riverine water points (in northeastern Botswana) and pans (in the water in part of the country).

The comparisons to be made will focus on three types of success measures: provision of watering facilities to those least able to pay for private facilities, effects on the range resources in the areas surrounding water points and cost-effectiveness in the provision of facilities. A set of hypotheses has already been formulated, and will be further refined for statistical testing. The MOA anticipates that other issues and conclusions, with a bearing on policy, will emerge in the course of the survey.

Current Status of Project

MOA representatives discussed the proposed survey with a visiting team from the International Agriculture

Program at Cornell University in January 1979. A draft outline of the survey was forwarded to Cornell in March as a basis for further discussion, and Cornell recently confirmed its interest in providing technicians (including the project coordinator) to assist with the survey.

USAID/Botswana has received indications from AID/Washington that a portion of the Cornell team's cost (technicians' salaries, benefits and international travel) could be met under the Rural Development Participation Project, in which Cornell is under contract to AID's Office of Rural Development and Development Administration. The MOA hopes that the study can commence before the start of the wet season in late CY 1979. If this should begin before approval of the proposed Rural Development Sector Grant, USAID/Botswana would attempt to find alternative sources to cover in-country costs, until funds from the RDF became available.

Rationale for Inclusion Under the Rural Development Fund

The significance of water scarcity as a constraint to arable production, coupled with an absence of reliable data on the quantity and quality of communal area water points or their impact, provides strong justification for the proposed survey. The draft outline indicated that the MOA was prepared to commit P45,187 out of its recurrent budget towards the costs of the survey, representing just under half of the projected total costs. (The cost of outside technical assistance was underestimated, however, but this would not affect the GOB contribution.)

The technical and environmental issues associated with small dam construction in communal areas are complex. The Rural Sector Study team concluded that an analysis of hard data -- possibly leading to modifications in siting

and design criteria and construction practices -- would be required before an expanded MOA small dam project (NDP V No. AG 09), conforming to AID's engineering and environmental impact criteria, could qualify for inclusion under the Rural Development Fund. The proposed water points survey is the logical means to undertake this assessment, and enhances the probability that a revised small dam project could be added to the list of RDF projects in the second or third year of the grant period.

Estimated Funding Level

The water points study itself is expected to be concluded within the first year of the grant period. In-country costs to be covered from the Rural Development Fund are estimated at \$50,000, of which \$20,000 would be used for the purchase of two four-wheel drive vehicles, and approximately \$12,500 would be needed to purchase equipment for photo interpretation and field surveys.

MINISTRY OF AGRICULTURE

Title: ALDEP Pilot Activities

NDP No. to be
assignedObjectives

The GOB has made a major commitment to the improvement of arable agriculture because of its major importance in providing employment and income to the rural poor. In the NDP V plan period (1979-1985), a framework is to be developed for a national Arable Lands Development Programme (ALDEP). With a view to attaining self-sufficiency in food production and generating higher -rural incomes, ALDEP design will attempt to make arable farming more efficient and less risk-prone. To achieve this, major efforts will be launched to diversify arable production and to provide the infrastructure (particularly water facilities in lands areas) needed to raise the incentives for increased production.

Activities

The ALDEP concept represents an attempt to synthesize a wide range of existing and proposed projects; it will not constitute a radical departure from the MOA program developed over the past several years. The MOA already has a sizeable portfolio of research projects and extension services, and has helped to establish projects and extension services, and has helped to establish a marketing system under the Botswana Agricultural Marketing Board (BAMB). These are likely to be key components of the ALDEP effort for the foreseeable future. It is recognized, however, that relatively little headway has yet been made in overcoming the critical constraints to increased production. A careful look at the conditions pertaining to different districts suggests that no single

"package" solution will be applicable to arable farming in Botswana. Rather, multiple solutions will have to be devised which are tailored both to areas of differing agro-economic potential, and to differing sociological and demographic conditions.

There is ample justification for generating efforts of a pilot nature at the district level and below, since it is at these levels that specific constraints tend to be best understood. One such effort is presently underway in Ngamiland District, which possesses a number of unique features arising from its extensive water resources. Other districts are being encouraged to emulate the Ngamiland initiative. Activities of relatively small scale, aimed at identifying solutions to key constraints could include:

- Pilot schemes designed to provide access to draft power, with monitoring of the effect on participants' productive capacity;
- Experimentation with alternative methods of supplying draft power (and possibly implements) to households in which women perform most or all of the productive tasks in arable farming;
- Activities focusing on the manufacture, sale, maintenance and repair of farm implements such as plows, planters, and cultivators;
- Training programs designed to upgrade the skills of agricultural extension staff already in service, with a concentration on group development work and project identification in support of project AE 10 (see pp. 77-79);
- Studies and related work on marketing opportunities and solutions to transport bottlenecks;
- Testing and evaluation of alternative grain storage technologies and systems; and
- Design of on-farm field trials in which small-scale producers would participate on a risk-sharing basis (possibly with a guarantee of receiving a given amount of sorghum, maize, etc., in the event of crop failure).

Responsibility for generating ideas and proposals would rest primarily with the Regional Agricultural Officer (RAO) and/or District Agricultural Officer (DAO), although the District Officer (Development) and other members of the district planning team would also have important roles to play. Central MOA staff in various divisions would help to answer specific questions and would assist in improving the technical quality of activities as required, prior to formal approval.

Current Status of Project

The concept of a broad program for arable agriculture has been central to the GOB planning process for the NDP V period. A core team consisting of an agricultural economist, an extension specialist and a rural sociologist was formed within the MOA in November 1978, and has prepared a series of brief papers addressing various issues and constraints which affect ALDEP planning. These papers have been circulated to RAOs and DAOs in the districts, soliciting comments and reactions. In most instances district-level staff have designated the Land Use Planning Advisory Group (LUPAG) as the body responsible for coordinating responses to the discussion papers. As a second dimension in what is intended to be a thorough process of consultation, the core ALDEP team has scheduled a visit to each district in order to discuss both the papers and more general issues with interested parties.

No decisions have yet been taken on the manner in which a comprehensive ALDEP program would be implemented, but the planning team has specifically encouraged the districts to formulate proposals for pilot activities that would lay the groundwork for the future. Ngamiland District's preliminary draft contains 21 subprojects: this is currently being discussed within the district, and will

eventually be incorporated into the Annual District Plan and forwarded to MOA and MLGL.

Rationale for Inclusion Under the Rural Development Fund

There is no formal project memorandum specifying how pre-ALDEP initiatives should be planned and presented. The Ngamiland proposals are largely spontaneous, and considerable technical revision may occur as a result of MOA inputs and assessment. However, this case was widely cited as evidence of a process which the GOB wishes to stimulate at the district level, and during its visit to Maun, the Rural Sector Study Team found a high level of commitment on the part of those who developed the proposals.

Support to activities of this kind fits very closely with the framework of the Rural Development Fund (RDF). While the activities themselves are likely to be small to medium in scale (only three of the suggested 21 subprojects in Ngamiland District were estimated to cost more than P25,000), they potentially represent the cutting edge of a more comprehensive ALDEP approach. In this sense, they are especially worthy of support during the proposed initial three-year period of the RDF, since substantive details and funding arrangements for a full-scale ALDEP effort are unlikely to be fully worked out during that time.

Estimated Funding Level

Until a project memorandum is prepared by MOA, it is difficult to establish the magnitude of activities or subprojects that might qualify under this funding mechanism. The Rural Sector Study used the following guidelines in attempting to project requirements under the RDF:

- The AE 10 (Small Projects) mechanism has an upper limit of P5,000, which suggests a lower limit for discrete subprojects within ALDEP pilot proposals;
- A reasonable upper limit per activity would appear to be about P15,000, based on the Ngamiland District preliminary outline;
- Certain activities within a district's ALDEP pilot proposal would be likely to qualify for funding from other sources (including but not limited to LG 31); and
- A realistic view of district perceptions and planning and implementation capacities suggests that initiatives of this kind will develop gradually over a period of several years (AE 10 provides an instructive example).

These considerations have led to projected allocations of \$100,000, \$150,000 and \$200,000 from the RDF during the first, second and third years, respectively.

MINISTRY OF AGRICULTURE

Title: Small Projects

NDP No. AE 10

Objecives

The purpose of this project is to overcome constraints to increased agricultural production at the village level. AE 10 has been designed to respond to village-level initiatives in undertaking small-scale agricultural infrastructure and production activities. It is also intended that the funds available under AE 10 will encourage MOA field personnel to seek out opportunities for small projects, and provide incentives for small farmers to join together and mobilize their own resources for such projects.

Activities

The types of activities that qualify for assistance under AE 10 include:

- Drift fences to separate grazing areas from crop production areas;
- Dip tanks for tick control;
- Poultry production for household and village consumption;
- Vegetable production for household and village consumption; and
- Woodlots designed for soil conservation purposes and for commercial production of firewood and building materials.

The maximum amount available under AE 10 for a single activity is P5,000. Activities are usually implemented and managed by farmer groups formed specifically for this purpose, which may later take on permanent status by being

registered with the MOA as Agricultural Management Associations. MOA field staff, assisted in some areas by Group Development Officers (GDO) working under the USAID-supported Range and Livestock (II) Project, work with Village Development Committees (VDCs) in helping farmers to organize themselves. Members of the group agree to contribute resources and labor to the activity that is undertaken.

Funds under AE 10 are used for matching grants that can total anywhere from 50 to 90 percent of the material costs. Before funds are made available, the farmer groups must obtain approval from the VDC, the Land Board, District Council and District Development Committee. The GDOs, ADs and DAOs assist the groups in this process. The funding decision is taken by the Regional Agricultural Officer (RAO) for projects requiring P2,000 or less and by the Director of Agricultural Field Services in MOA headquarters for projects requiring between P2,000 to P5,000.

Current Status of Project

This project has been operating for less than one year, having been launched about halfway through the GOB fiscal year beginning April 1978. Funds have been drawn from the Domestic Development Fund (DDF). The first year's allocation was P50,000, of which only P16,000 was actually spent. Of the 14 projects approved for funding, ten were drift fences, two were vegetable gardens and two were dip tanks. The vast majority were in the Southern District. The project was approved with only six months remaining in the fiscal year, and for all practical purposes the field staff had no more than three to four months to develop projects for funding in the first year. There is widespread agreement both in the MOA in Gaborone and among field staff that demand for funds during the current fiscal year could exceed P60,000 (\$75,000).

Rationale for Inclusion Under the Rural Development Fund

The MOA's project AE 10 fits well into the framework of the proposed Rural Development Fund, since it not only contributes to rural employment and income generation, but also leads to increased participation in development originating at the local level. There is a widespread expectation that fairly rapid growth will occur as the project mechanism becomes better known and understood. Group involvement in defining priorities at the local level will also have important implications for the emergent ALDEP program, to which the GOB is officially committed.

Estimated Funding Level

Based on discussions with MOA personnel in Gaborone and in the districts, and with planning officers in MFDP, demand for AE 10 funds in the 1980/81 GOB fiscal year (April to March) has been estimated at \$75,000. There is a possibility that donor funds from the Netherlands may be made available to the GOB for AE 10 through the 1980/81 fiscal year. If this occurs, USAID support for AE 10 would probably not have to exceed \$20,000 in the first year of the RDF. The GOB's FY 1980/81 would largely overlap with the anticipated first year of the Rural Development Fund. AE 10 requirements for the second and third years of the RDF can be very roughly estimated at \$100,000 and \$125,000, to allow for moderate growth. It is assumed that the RDF would cover all of these needs.

Prior to finalization of the AID Project Paper, the evidence of demand for AE 10 funds during the current (second) year of implementation should be reviewed to determine whether these projections appear to be justified.

MINISTRY OF AGRICULTURE

Title: Horticultural Development

NDP No. AE 11

Objectives

The objectives of this project are: (1) import substitution in urban areas and (2) rural income generation. Although reliable data on vegetable consumption in Botswana are lacking, a 1976 study estimated commercial consumption (excluding household gardens for home consumption) in that year to be about 12,000 tons. Vegetable imports have been in the vicinity of 10,000 tons in recent years, implying a domestic production level of about 2,000 tons. The MOA estimates that replacing imports totally with domestic produce would entail bringing 370 hectares into vegetable production, with an output valued at P 1.3 million.¹ Commercial production of vegetables in Botswana currently consists primarily of a private producer near Gaborone, a Botswana Development Corporation project near Mogobane in South East District, and Horticulture Brigades producing for the local market in Molepolole, Serowe and Mochudi.

Although it is GOB policy to encourage household vegetable production throughout the rural areas, this project aims at commercial production for the urban market. This requires a well organized production system that must assure quality control and timely delivery of produce to urban areas. For this reason, production will take place on properly watered and equipped horticulture estates, managed by cooperatives. For income distribution and employment generation purposes, these projects will be small producer-oriented; individual holdings on the

¹ Figures obtained from Keith Morriss, Senior Horticultural Officer, MOA.

estates will be limited to one hectare or less. Although the MOA Senior Horticultural Officer will play a key advisory role in the development of these estates, planning, implementation and management will be the responsibility of the people in the affected area.

Activities

In its present form, the project proposes to establish two horticulture estates: one at Mogobane and a second at Mathobudukwane in Kgatleng District. The latter estate may receive support from a Swedish private voluntary organization, although it is becoming increasingly doubtful that they can obtain the necessary funding. Each estate will consist initially of ten one-hectare plots. This is considered the minimum size required to justify the initial investment and overhead expenses. It is expected that individual producers will begin by cultivating 0.1 to 0.5 hectares and gradually expand to a full hectare. With one hectare under cultivation, the annual expected yield per holding would be 25 to 30 tons. If the market warrants, the estates can be increased to 20 hectares. The specific activities under the project will be: (1) organizing the vegetable producers into cooperatives and providing technical assistance for two years to help them get started; (2) developing the land and providing irrigation, agricultural equipment and other necessary facilities; and (3) establishing a credit fund to enable individual producers to cover their operating costs. At the end of four years it is anticipated that the two estates will be fully operational and financially self-sufficient. Production will be about 300 to 400 tons per year and, more important, a successful strategy of import substitution for vegetables will have been developed.

Current Status of Project

Although both estates could be ready for implementation in 1980, the GOB has not yet completed a project memorandum for donor consideration. A preliminary proposal has been prepared for the Mathobudukwane estate and a possible donor has been identified. Consultations are currently underway with farmers in the affected area and with the District Development Committee in Machudi. Most of the preparatory work on the Mogobane estate has been done, and the farmers are prepared to begin work as soon as the project is approved. The major technical issue related to Mogobane concerns the dam that is to provide the water for irrigation. The dam is expected to go dry this winter for the first time since its construction, due to a combination of low rainfall this year and accumulated siltage. Since reliable water is critical to the success of these estates, further studies are needed before implementation can get underway.

On a more general level there are serious economic issues related to commercial vegetable production in Botswana. At present, vegetables are imported from South Africa at very low prices. Domestically produced vegetables have been competitive at certain times of the year when the quality of South African produce is poor and prices are relatively high. Overall, however, it appears to be the consensus among prospective producers and outside experts that vegetables can be grown commercially only if at least partial protection against imports is introduced. The financial analysis for the Mathobudukwane estate shows the return to vegetable production under that scheme to be quite low (about P1 per person-day of labor during the first four years of the project). This raises the question of the advisability of allocating scarce re-

sources, especially managerial expertise, to undertakings of this kind.

A second issue requiring further study relates to marketing. In order for domestic producers to replace imports, the MOA has determined that it will be necessary to establish a wholesale market in Gaborone to purchase the produce and distribute it to retailers. It has been proposed that such a market be made part of the Horticulture Estate project. Present plans are to hire a consultant to do a feasibility study and design the market. If this market and import controls prove to be critical elements of a vegetable import substitution program in Botswana, this implies that a careful determination of the costs, benefits and long-term viability of a domestic vegetable industry is needed before a major Government commitment is made in this direction. The option of developing only the two estates without the Gaborone market should be considered on the grounds that they would be experimental and would not commit the Government to proceeding with a full-fledged import substitution program should this prove to be premature.

Rationale for Inclusion Under the Rural Development Fund

This project is aimed at small producers, will be managed by district-based cooperatives and can serve as a pilot for a larger horticulture effort whose purpose would be to reduce dependency on outside foodstuffs. It will generate employment and improve the incomes of rural farmers.

Estimated Funding Level

<u>Staff Costs</u> , horticulturalist/manager IVS and counterpart Cooperative Manager	\$15,000
<u>Housing</u> for IVS volunteer and counterpart	25,000

<u>Two-ton truck and two years of operating costs</u>	20,000
<u>Site development and implements</u>	40,000
<u>Credit and initial stock (consumables)</u>	<u>20,000</u>
TOTAL	\$120,000

This funding level is for the Mogabane estate. An additional \$140,000 may be required for the Mathobudukwane estate if Swedish assistance does not materialize. It is expected that one estate will start in 1980 and the other in 1981.

MINISTRY OF AGRICULTURE

Title: Rural Afforestation

NDP No. AE 15

Objectives

Botswana faces a serious problem of deforestation due largely to a rapidly increasing demand for firewood. Over-utilization of wood resources has led to increasingly scarce and high-cost firewood for the poor, compounded by rain and wind erosion and declining soil productivity.

Most forestry development in Botswana has been undertaken on an experimental basis by the MOA and by the Brigades. Efforts have been small in scale, although the Kweneng Rural Development Association has recently started a major planting program in the Molepolole area. The objective of the Rural Afforestation project is to expand on these early initiatives in order to:

- Increase commercial production of wood products, primarily poles and firewood; and
- Promote resource conservation and provide amenities for rural villages.

Activities

As presently planned, activities under this project will fall into four categories:

- Non-governmental organization (Brigades) production projects. These would extend over a period of three to four years, leading to the development of multi-purpose plantations capable of providing wood both for household consumption and commerce. The Brigades will have full responsibility for planting, managing and harvesting these woodlots. Major efforts along these lines have been initiated by KRDA in Molepolole and the Serowe Brigade.

- Small projects at the village level. Matching grants will be made available to farmers' groups who wish to develop woodlots. This activity was originally included under AE 10 (see above), but it was found that most woodlot projects would exceed the AE 10 limit of P5,000 per activity. The expedited funding approval process developed for AE 10 would also be applied to this activity.
- Village-level amenity and soil conservation projects. Initiatives are expected to come from Village Development Committees, District Councils and District Conservation Committees, and rural schools. Technical and planting assistance will be provided under contract by the NGOs who have ongoing forestry projects. Where NGOs with proper expertise do not exist, assistance will be provided by the Forestry Unit of MOA.
- MOA activities. These will be limited to experimental plots and nurseries in support of NGO and private efforts.

The key precondition which will be required for the first three categories is a clear willingness and ability to manage the woodlots effectively.

Current Status of Project

As noted previously, there is no Project Memorandum for AE 15. As part of the project design process, NGOs have been requested to estimate their requirements over the next three to five years. Their proposals will be available for inclusion in the Project Paper. Estimates of likely levels of activity will also be required for (1) village-level conservation oriented projects, and (2) small production projects organized by farmers' groups. The requirements of the second category of activities are particularly difficult to predict at this time. The key determinant is the degree of interest of the agricultural field staff who have primary responsibility for organizing farmers' groups for woodlot management.

Rationale for Inclusion Under the Rural Development Fund

Afforestation beneficially affects the rural poor in a number of ways. The development of locally available renewable energy sources is not only desirable in terms of conservation, but it obviates a major requirement for cash outlays for firewood and building materials from distant forests. Rapidly growing exotic and domestic species may also provide employment opportunities and income which can easily fit into the communal pattern of resource utilization encountered in much of Botswana.

Estimated Funding Requirements

In the absence of a Project Memorandum, \$30,000 is tentatively allocated for the first year of the RDF. This would be sufficient to finance four or five small production and/or conservation projects. Only very rough estimates for years two and three can be made at this time: \$50,000 and \$60,000, respectively. Should a major Brigade project (\$80,000-100,000) be developed and proposed for funding, these estimates can be revised accordingly.

MINISTRY OF COMMERCE AND INDUSTRY

Title: Wildlife Management and
Utilization

NDP No. GA 02

Objectives

Among the activities undertaken during the implementation of the Tribal Grazing Land Policy (TGLP) has been the classification of much of Botswana into Wildlife Management Areas. Most of the areas so zoned are of little immediate value for livestock or arable agriculture, due to either lack of water or the presence of tsetse flies. The objectives of the GOB are to assess the ecological viability and economic soundness of various wildlife utilization schemes, and then to develop 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.

The countrywide Animal and Range Assessment Project is due to be completed by the end of CY 1979. Information about the numbers and locations of wildlife will then be available to wildlife utilization planners; currently no accurate estimates of the economic returns to wildlife management and utilization can be made.

The Department of Wildlife, National Parks and Tourism is not now capable of planning or implementing wildlife utilization schemes. Professional staff of the Department are spread thin, and efforts to bring in long-term senior professional expatriates have not been

successful. High quality field staff are difficult to maintain since housing, transportation and general support to officers in the Parks and Wildlife Management Areas are poorly developed.

Activities

The development and implementation of wildlife utilization schemes will not proceed rapidly. A measured and phased approach will go far to achieving economically, socially and ecologically sound programs.

In the first year of the proposed AID rural sector grant, assistance would be provided for approximately eight person-months of short-term assistance. Short-term consultants provided from abroad or from locally available individuals with experience in Botswana would assist the planning staff of the Department in the following fields:

- Assessment of wildlife utilization potential, including selection of species and areas for pilot schemes.
- Analysis of local food requirements as well as markets and transportation networks for meat and hides, both in Africa and abroad. Possibilities for local processing (e.g., tanning) would also be considered, as well as employment potential for hunters, processors and handi-craft specialists.
- Development of socially sound and appropriate methods whereby local populations would benefit directly from wildlife utilization. This work would probably require considerable consultation with citizens in remote areas.
- Estimates of manpower and training requirements for utilization programs.

Current Status of Project

The Department of Wildlife, National Parks and Tourism of the Ministry of Commerce and Industry has under-

taken a number of activities which will lead to improved wildlife utilization. As part of the Village Area Development Programme (VADP), a wildlife biologist is investigating the wildlife utilization potential of Western Botswana. The Irish Tourist Board has prepared a proposal for wildlife tourism. The GOB is currently undertaking an extensive countrywide animal and range assessment project, which will serve as a vital basis for the development of wildlife utilization schemes. The GOB has expressed the intention to implement schemes of this kind during the NDP V period, but firm policy direction in this area has not been given by MCI.

Rationale for Inclusion Under the Rural Development Fund

Wildlife constitutes a major resource utilized by many Batswana to satisfy food requirements and to provide hides and other material for use and sale. The extension of cattle ranching into hitherto little utilized areas, as well as the establishment of Wildlife Management Areas, has begun to raise questions about the opportunity cost of maintaining wildlife populations in large reserved areas. Evidence from East Africa indicates that the appropriate utilization of wildlife by rural people can contribute to their well-being in a way which is far less destructive of semi-arid environments than is cattle ranching. In order for wildlife utilization to become a sustainable activity contributing to employment and income generation in rural Botswana, management principles must be developed and adopted. The proposed services to be provided through the Rural Development Fund will enable the GOB to build upon current wildlife survey activities, and to develop a strategy for appropriate utilization which will be beneficial to the rural poor.

Estimated Funding Level (Year One)

Material support for studies and assessments by short-term specialists (RDF)	\$50,000
Short-term technical assistance (eight person-months)	\$80,000

The Ministry of Finance and Development Planning will have to approve a project memorandum detailing the proposed first year of activity prior to the finalization of the AID Project Paper. A draft project memorandum entitled Wildlife Management Development (NDP No. GA 02) has been submitted to MFDP and is currently under review. The Rural Sector Survey Team concluded that services made available through the RDF could assist greatly in bringing this project to the level of a fully developed design which could qualify for separate donor support. A second or third year of limited support from RDF might be used to initiate MCI activities which would develop information for subsequent implementation. The financial requirements of a fully elaborated GA 02, however, are likely to be greater than RDF funds alone could support.

MINISTRY OF COMMERCE AND INDUSTRY

Title: Rural Industry Activities

NDP No. CI ??

Objectives

The Ministry of Commerce and Industry (MCI) is committed to developing a broadly based program for promoting and assisting rural industries during the NDP V plan period. In tandem with efforts to increase income-generating opportunities in arable agriculture, there is an urgent need to generate off-farm employment in Botswana. In the rural areas, where the bulk of these opportunities must be created, the greatest potential appears to lie in strengthened linkages between industry and agriculture, where both operate on a small to medium scale. The production, repair and maintenance of farm implements is one such area of potential, while the processing of farm output (e.g., sorghum milling or tanning of hides and skins) is another.

The magnitude of the required effort was stressed in a major report to the GOB, prepared by Professor Michael Lipton in December 1978.¹ Lipton estimated that at least 35,000 new work opportunities would need to be created annually to achieve full employment in Botswana by 1988. While the MCI would be expected to play a pivotal role in meeting this objective, the ministry itself has had minimal impact thus far on the development of productive enterprises outside of Botswana's urban centers. During the NDP V plan period, therefore, the MCI will be faced with the task of launching an almost entirely new program.

¹ Michael Lipton, op. cit.

Activities

In a memorandum to the Rural Development Committee in July 1978, the MCI explained that the first two stages in its proposed program would entail placing a cadre of Rural Industrial Officers (RIOs) in the field and undertaking a series of sector and market surveys. The first RIO was recruited and assigned to Serowe in Central District in mid-1978, but the MCI has not yet staffed the other 11 posts of the 12 projected in the memorandum.

The RIO/Serowe has carried out some informal, unstructured investigations to identify practicing and potential artisans. The Rural Industries Innovation Centre (RIIC), a non-governmental organization based at Kanye, has carried out an informal sector survey in five villages in Southern District. The results identified service functions that the RIIC could perform (planning of short courses for artisans, assistance in locating raw material suppliers and additional markets, etc.) in support of new existing and potential rural entrepreneurs. The RIIC survey was carried out as a pilot effort, independently of the MCI. Members of village extension teams, especially community development staff, proved to be a valuable resource in this exercise. It offers a number of useful lessons for developing a low-cost methodology that draws on the knowledge base that already exists in rural communities regarding production possibilities and constraints.

More thorough and systematic inquiries of this kind are needed to provide a basis for a long-term program of industrial development. Quantitative assessment of various options (including product choice, scale of production, capital/labor ratios, levels of investment, size and

location of markets) will be needed as ideas are generated from field surveys and related work undertaken by RIOs. These specialized inputs are likely to require a higher level of expertise than the RIOs themselves can provide, and the MCI will need to draw on short-term specialists from outside Botswana for certain assignments of this kind.

Current Status of Project

The MCI has approached UNIDO for assistance in mounting the proposed industrial surveys on a national level. Although the Ministry hopes to begin them during CY 1979, no firm commitment for donor funding has been received. A group of six to eight RIOs is now expected to arrive later in the year, but the MCI has no funds in its budget to support them. Their terms of reference are broad and may be overly ambitious, particularly for expatriate volunteers undertaking a new assignment in a developing country.

Both the GOB Reference Group and the MCI asked the USAID/DAI Rural Sector Study Team to consider assisting the fledgling rural industry program. Since no approved project memorandum exists, the team's work was exploratory in nature, with a focus on defining activities that would be appropriate and feasible in the first phase of a long-term program.

Rationale for Inclusion Under the Rural Development Fund

While the present situation is far from encouraging, the need to increase opportunities for off-farm rural employment is not in dispute. By placing a cadre of RIOs in the field and undertaking the proposed surveys, the MCI can take two of the logical first steps towards establish-

ing a capability to promote and assist rural industrial development. There is no momentum to the MCI program, and virtually no experience to build upon: this poses a high risk of failure, especially if the new RIOs receive neither direction nor logistical support. If provided with adequate guidance and backstopping from within MCI, they represent a valuable resource with which to begin a substantive program.

These considerations have influenced the proposal for supporting rural industry activities under the RDF, with complementary technical assistance. As explained in greater detail below, the Rural Sector Study Team concluded that a full-time experienced Senior Industrial Officer (Rural) must be recruited and placed within the MCI to direct and coordinate the work of the RIOs. This is an established post which the Ministry has been unable to fill, though it is formally committed to do so.

In relation to the RDF itself, eligibility of a rural industry program within MCI will depend on preparation and approval of a project memorandum that specifies the activities proposed for at least the first year, together with anticipated resource needs. It would not be feasible to place the entire rural industry program under a fund such as the RDF, which is designed to cater to relatively small-scale activities. Nonetheless, a case can potentially be made for RDF support which bears directly on the capacity of the SIO (Rural) and RIOs to execute their tasks.

Estimated Funding Level

A provisional figure of \$50,000 has been assigned to the rural industry activities that are expected to be proposed for support under the Rural Development Fund in the

first year of the AID project. Eligibility for inclusion under the RDF is contingent on GOB approval of a detailed project memorandum, which the MCI has not yet prepared.

One major priority should be an intensive in-country training program for the new cadre of RIOs, possibly in addition to the training provided by the organizations providing volunteers for these posts. The Rural Industries Innovation Centre at Kanye is one possible site for this, with program costs potentially paid out of RDF funds. Other items that might be proposed for the first year include workshops and short courses for rural producers such as tanners and metalsmiths, and field expenses incurred in informal sector surveys. Vehicles for the SIO (Rural) or the RIOs themselves (in the latter case, possibly motorcycles) are another possibility. In the study team's view, construction of housing or offices would not be appropriate items for RDF support at the present level of MCI effort in rural industrial development.

A wider range of activities is likely to be proposed in subsequent years if project identification work proceeds as envisaged during the first year. A new project memorandum would probably need to be prepared, detailing requirements for the second and third years: for the moment, these are very roughly estimated at \$75,000 and \$100,000, respectively.

SECOND- AND THIRD-YEAR RDF ACTIVITIES

The Rural Sector Study Team worked on a collaborative basis with the GOB Reference Group in laying the groundwork for the RDF, and in defining guidelines for the selection of activities to be supported. The content of the first year's program has been described in some detail, in anticipation of the first annual implementation plan. In the second and third years it is virtually certain that additional projects will be proposed for RDF support. Most of these possibilities are still at an early stage in the planning process; some have not progressed beyond the initial discussion stage.

For MLGL, utilization of the RDF beyond Year 1 will continue through the mechanisms of LG 31 and LG 36. Both of these projects are broad and long-term in nature. Individual project memoranda can be submitted for LG 31 as ideas take shape in the districts, following the Matsheng model. GOB activities under LG 36 will extend beyond the initial three-year duration of the RDF. (Some may continue to be supported by the RDF if a second AID grant follows the first.) Thus the two MLGL projects, with their focus on land resources in the communal areas, will benefit from RDF support throughout the period of the AID Rural Development Sector Grant.

Within MOA, one strong prospect for inclusion under the RDF in Years 2 and 3 is the Small Dams Project (NDP No. AG 09). This project is aimed at providing outlying land areas with water that is needed by people and draft animals during the early part of the plowing season, as well as for watering herds in areas that currently cannot be grazed for lack of reliable water sources. A thumbnail sketch from MOA's draft sectoral chapter for NDP V is reproduced below:

AG 09 SMALL DAM BUILDING

The provision of adequate watering points for cattle is a major priority. In those areas of Eastern Botswana where underground water is difficult to obtain, there is a need for small earth dams and haffirs to be built, to enable full use to be made of the natural range through proper grazing control.

The small dam building project has been in operation from 1973, and by 1976 there were four construction units and one fencing and concrete unit fully operational. During 1976 and 1977 the construction units were working within the radius of 100 km from Gaborone, their home base. Early in 1978, two of the four units were sent further north, one to work close to Serowe and the other to work on the eastern side of Central District. A third unit has now constructed several dams and haffirs around Molepolole and is in the process of penetrating more into the Kalahari area. The fourth unit is presently employed in the Southern District and is expected to move south of Kanye.

From the location of the present construction units, it can be seen that they only serve a strip in the eastern part of the country. Other parts like Ngamiland and the western part of the country do not receive any service. To make the whole program more effective and to make the effects of development felt in a greater part of the rural areas, the project will be continued and expanded during the plan period. Four new units will be established in addition to the existing ones. These will serve those areas not yet touched. Fresh machinery, auxiliary equipment and extra manpower will be provided.

Several issues need to be addressed before AG 09 enters its expansion phase. First, the technical and environmental issues related to dam design need to be resolved. Second, ways must be found to ensure proper maintenance by farmers and herders after the dams have been built. Assuming these problems can be resolved in the Water Points Study scheduled for Year 1, the Small Dams Project could be included during the second and third years of the RDF. Its capital costs are likely to be in

the range of \$250,000 per year; some of these, at least, might qualify for RDF funding.

As ALDEP planning proceeds, a number of specific needs are expected to arise over and above those described in the ALDEP Pilot Activities Project. The most significant of these is a study of the traditional and improved farming systems in various parts of the country. Much more needs to be learned about why existing farming systems are used, why most farm households are not self-sufficient in food grains, and why improved practices recommended for the last 20 years have not been more widely adopted. MOA has recognized this need and plans to carry out such studies as a joint effort of the Extension and Research Services. Although the details of the studies have not been spelled out, it is likely that at least one and perhaps two experienced farm management experts will be required to oversee the study. Other costs will be associated with monitoring of farm-level practices and data processing. Based on the experience of similar studies in other countries, the total cost of such a study over three years might approach \$500,000. A portion of these costs might be met through the RDF.

Other needs that are likely to arise in connection with ALDEP are short-term consultancies and studies on such subjects as food marketing, rural credit, cash crop production and food grain processing. In addition, various types of small production projects with income-generating potential could qualify for RDF support. These would include fisheries, poultry and pilot small-scale manufacturing projects directly linked to arable production.

MCI activities are extremely difficult to project beyond Year 1, although the utilization of RDF resources and

complementary technical assistance should serve to generate a number of specific projects that can be developed further in the second and third years. Until definitive project memoranda are submitted and approved, funds for the rural industry program and wildlife management and utilization should be budgeted on a year-by-year basis through the annual RDF implementation plans.

TECHNICAL ASSISTANCE COMPONENT

To support activities that will be carried out under the Rural Development Fund, technical assistance will be made available to the Government of Botswana (GOB). This will consist of one long-term position in the Industry Division of the Ministry of Commerce and Industry (MCI), and provision for short-term consulting services which can be used as needs are identified by the participating GOB ministries.

Long-Term Technical Assistance

An experienced rural industry specialist will undertake a three-year assignment in the Industry Division of MCI, as a Senior Industrial Officer (Rural). In the new MCI organizational chart prepared in April 1979, four Senior Industrial Officer (SIO) posts have been established. Only one of these is currently filled, however, and the officer concerned does not have specific responsibility for rural industries. MCI's commitment to staff the SIO (Rural) post dates back to January 1978, when the outlines of a rural industrialization program were discussed at the Fifth National Development Conference. Special attention was given to the role of Rural Industrial Officers (RIOs) that the MCI proposed to recruit, and whose work would need direction and coordination from the

center. To date MCI has placed only one RIO in the field (at Serowe in Central District) but, by the end of CY 1979, six to eight additional RIOs (principally Peace Corps volunteers) are expected to be posted to the rural areas.

The study team's recommendation that a long-term technician be provided to assist MCI with rural industrial development is based on several factors:

- The urgent need to increase income-generating employment opportunities in the rural areas, a need which is the basis for GOB's stated commitment to a broad program of rural industrial development in the NDP V period;
- MCI's lack of experience to date in formulating and implementing a program for promoting and assisting rural industries;
- The scarcity of appropriately trained senior technicians within MCI, reflected in a long-standing vacancy in the SIO (Rural) post, despite its obvious importance and priority; and
- The need to lend direction and substantive guidance to the new cadre of RIOs, whose contributions to an emerging MCI program are otherwise likely to be underutilized.

The term of service of the SIO (Rural) would coincide with the initial three-year duration of the AID-supported Rural Development Fund. Exploratory studies and project identification work during the first year, as spelled out in the project description, will lead into a series of specific activities that could be supported under the RDF in the second and third years. The technician will also coordinate short-term technical assistance to MCI's rural industry program as needs are identified in specific areas, e.g., marketing, product design and selection, management training.

Total costs for three person-years by the SIO (Rural) have been established at \$300,000 in accordance with cur-

rent AID/Washington projections of long-term technical assistance costs.

Short-term Technical Assistance

Funds will also be made available for the provision of approximately 48 person-months of short-term technical assistance over a three-year period. Costs have been estimated at \$10,000 per person-month, with projected requirements highest in the first year (50 percent of the total, costed at \$240,000).

In keeping with the rationale underlying the Rural Development Fund, specific short-term assistance needs will be identified as activities proceed. The participating GOB ministries are likely to require a wide range of specialized consulting services: in some instances, individuals with relevant skills and experience may be available locally, while in others USAID/Botswana may be asked to assist in locating them.

Wherever possible, participating GOB ministries should spell out anticipated first-year needs for such assistance in the project memoranda that will be finalized before the preparation of AID's Project Paper. The study team's recommendations, highlighted in earlier sections of this report, focus on the following priority areas:

- Training in land registration procedures and record systems;
- Design for in-service training of Land Board members and technical and administrative staff;
- Planning and design for in-service training of MOA field staff, including extension staff (Agricultural Demonstrators), supervisors and District Agricultural Officers;
- Expertise in designing and conducting on-farm field trials of alternative technologies and production packages;

- Assessment of alternative cropping arrangements, offtake levels and marketing opportunities associated with potential wildlife utilization schemes; and
- Marketing studies and quantitative economic analysis of proposed rural industry activities arising from the field surveys conducted by RIOs and other MCI staff.

In each case, short-term assistance would be used to complement production-oriented activities that utilize RDF resources.

PART III

SUPPORTING ANALYSES

CHAPTER FIVE
RURAL DEVELOPMENT PLANNING AND IMPLEMENTATION:
AN ASSESSMENT

INTRODUCTION

This chapter describes and analyzes rural development planning and implementation in Botswana. The first part discusses the planning system, its present structure and capacity, and its future prospects. This is followed by an analysis of selected important aspects of rural development implementation: development strategy and its role, the organization and administration of rural development activities, personnel availability and incentives, the importance of local participation, and the probability that development activities will become self-sustaining.

While what follows addresses planning and implementation issues separately, it is important to stress that the two overlap: in effect, they should be viewed as a single process. To some extent it is necessary to define (i.e., plan) development activities prior to their implementation. What needs to be avoided is overplanning or "blueprinting" what is to be done and so not providing the flexibility to modify and redefine activities as more is learned during the implementation process. In reality project implementation should be a continuous process of planning and replanning. In reading the following sections this important interrelationship should be kept in mind.

**THE PLANNING SYSTEM:
ITS PRESENT STRUCTURE AND FUTURE PROSPECTS**

The Government of Botswana has begun the process over the past several years of decentralizing responsibility to district authorities for local-level development planning and plan implementation. This strategy deviates from the previous approach of "top-down" planning, in which central ministries devised most of the plans and programs that were to be implemented in the rural areas.

Several key concepts underline a decentralized planning strategy. Because the process of rural development must take place in varied environments -- physical, social and economic -- it requires a detailed knowledge of each diverse situation and of the potential of each area. Because of this diversity, it is necessary to create structures at the local level capable of both identifying problems and needs, and specifying the means for their solution. A first step is to develop this capability at the district level. This process is inevitably slow and arduous, as the necessary personnel are trained and gain experience, and as the various institutional relationships evolve.

Related to these ideas are several additional concepts: the value of integrating activities in a given locality, the need for greater degree of local participation if development activities are to have an impact, and the notion that greater responsibility must be passed from Gaborone downward in order to affect this process. The concept of integration involves the recognition that a return to certain investments, for instance crop production projects, will result only if concurrent investments are made in complementary activities, such as transport and marketing facilities. Thus a necessary condition for farmers to respond to new crop production technologies is reliable transport and markets.

Finally, local participation in planning and managing development activities involves bringing rural residents into the process as real participants to play a role in tailoring ideas to fit local conditions, to be actors in experimenting with new technologies, and to influence decisions concerning the implementation of development projects. Such participation is thought by many to be a necessary condition for achieving any reasonable degree of development impact, and for creating the necessary conditions for sustaining the activity over the long run.

This process of decentralization has made some significant progress in Botswana. At the same time, much remains to be done. Various dimensions of this process are discussed in the following sections.

The District Planning Framework

An understanding of the present organization of district planning process, functions, institutions, and staff is necessary in order to assess its capacity and recommend approaches to strengthen it.

The District Planning Process

The District Development Plan (DDP) is the strategic document for all rural development planning and programming to be carried out in a district. Its scope is comprehensive and includes those functions and activities that are the responsibility of District Councils, Land Boards and the Central Government. Its prime functions is to define goals and strategies pertinent to that particular district and to form the basis for coordinated development across sectors and executive responsibilities. DDPs are prepared by district staff and coordinated through the DDC, with District Council approval being

given to the final Plan. Through consultation with residents, assessment of local problems, resources and potential, and local political inputs, district planners attempt to create a plan that is relevant and sensitive to local needs and circumstances.

The relationship between the DDP and national planning is significant. The DDP has two phases: phase 1 covers the period of an existing National Development Plan and sets out the detailed implementation for that period; phase 2 extends beyond the current NDP and puts forward priorities and programs that a district wishes to see in the next NDP. Thus district planning can have a direct input into the allocation of national resources, which remains the prerogative of the Ministry of Finance and Development Planning (MFDP).

All districts also operate a monitoring system that enables regular checks to be made on the progress of implementation. Reports are made to the DDC and corrective action requested and taken where necessary.

The District Land Use Plan (DLUP) was prepared as the first stage of the Tribal Grazing Land Program and is the responsibility of the Land Board operating with technical guidance of the Land Use Planning Advisory Group (LUPAG). The Land Use Plan zones the tribal land of the district into three broad land use/tenure categories: areas to be devoted to leased "commercial" ranching; communal areas where existing tenure will remain; and areas reserved for wildlife, forestry, mining and possible future commercial or communal uses. On completion the DLUP was submitted to Government and Cabinet for comment and informal endorsement, before being approved by the District Council. Land Boards and LUPAGs are now engaged in detailed planning,

with the implementation of the TGLP starting in most districts with the demarcation, adjudication and allocation of commercial ranches.

The DDP and DLUP are complementary. The land use implications of the latter are taken into account in the DDP, and TGLP activities form an integral part of the Annual Plan. The district LUPAG will also work with the preparation and implementation of the Arable Lands Development Programme.

Functions and Institutions

The District Council is the local elected body. It has statutory responsibility for the provision of primary education, primary health care, domestic water supplies, the construction and maintenance of non-gazetted roads and the social and community development program. The council is accountable to the Ministry of Local Government and Lands (MLGL), through which its development grants are channeled. Recurrent expenditures are met partially from locally raised revenues, but all councils rely upon the central government for deficit grants. The council is responsible for the planning and implementation of its duties, submits annual programs to MLGL for approval and the release of funds. Councils suffer from an acute shortage of skilled manpower. The Council Secretary is responsible for administration of the council staff. Each council has a Council Planning Officer whose main duties are to prepare development programs.

The Land Board is the statutory land-allocating authority and holds tribal land in trust for the community at large. Working through subordinate Land Boards, it allocates all land for grazing, arable, residential and commercial use. The main Land Board grants leases under

common law, allocates borehole drilling rights and is responsible for the planning and implementation of the TGLP. Although the Land Boards are not subordinate to the council, the latter has the right to give policy directives to the Land Board on land issues. The responsibilities and activities of the Land Board are intimately connected with wider socioeconomic planning carried on within both the district council and other district institutions. The Land Board is provided with technical advice by the LUPAG and the District Officer (Land).

The District Development Committee was set up as an advisory body, under the chairmanship of the District Commissioner, to coordinate central and local government departments at the district level, together with council, Land Board and Tribal Administration representatives. The DDC is responsible for the preparation of the DDP and its subsequent implementation. This new responsibility has provided a focus for the DDC, but it should be noted that DDCs do not have an implementation function and do not control the expenditure of funds. The nature of administration in Botswana creates the necessity for a strong coordinating body to be present at the district level. But the DDC as it functions at present does not have this strength, relying as it does upon persuasion. The DDC operates a variety of sub-committees, which differ from district to district. All districts have extension teams that plan and coordinate extension and non-formal education programs, as well as district consultation exercises. These sub-committees tend to be working groups, where informal but effective coordination and information exchange often take place.

Central Government Department Heads are such civil servants as the regional/district agricultural, veterinary, water, medical and education officers. They report

to the head of their department in Gaborone, where they obtain their staff and funds and receive policy direction for the district programs for which they are responsible, although the degree of delegation varies between ministries. The coordination of their functions between departments and the Council and Land Board is achieved through the DDC.

Staffing

At present there are three cadres of staff established at the district level with district planning responsibilities.¹ They are the posts of District Officer (Development), District Officer (Land), and Council Planning Officer. The DO(D) and DO(L) are officers of the District Administration and report directly to the District Commissioner. The CPO is a council officer, and reports to the Council Secretary. These three officers, of all district staff, have the most direct involvement with and responsibility for overall district planning matters. In practice, however, their planning responsibilities and actual planning activities are ill-defined relative to their other tasks, and their overall work programs, including planning work, vary greatly from district to district.

DOD(D). This most encompassing and central of the three posts is, perhaps, also the most amorphous. The (DOD) serves as the secretary to the District Development Committee, and as such provides administrative services and is charged with following up DDC directives and inquiries to central district government departments.

¹ This description is largely based on Steve Lawry, Regional Planning for Western Botswana, Final Report of the Regional Planning Consultant to the Village Area Development Programme, November 1978.

Other than the DO(D)'s role as DDC secretary, the DO(D) post is not well defined. The activities of DO(D)s over the years have often been determined by personal interest, as opposed to firm direction from the DDC or the center. The District Commissioners, as immediate supervisors of the DO(D)s, have generally chosen not to provide much guidance or supervision. This rather ad hoc situation with respect to tasks changed somewhat during NDP V District Plan preparation, when DO(D)s were charged with coordinating plan preparation and, in many instances, actually wrote the final drafts of the plans themselves. The plan exercise has given birth to new responsibilities for DO(D)s in the area of plan management and monitoring, and promises to give the post more coherence. The DO(D)s' position with respect to preparing plans other than the DDP and Annual Plans is not clear; most do not have direct responsibility for preparing such planning documents as project memoranda. Their major responsibilities at present center upon development administration and coordination. Many DO(D)s become involved in a wide range of activities largely unrelated to development planning and administration, and this is a major constraint to proper job performance.

DO(L). This post was created in 1975 in direct response to the need for district-based personnel to plan for and help implement the Tribal Grazing Land Programme. DO(L)s were charged with preparing District Land Use Plans, which outlined the district's strategy for the development of commercial livestock ranches, communal areas, and other land uses. DO(L)s undertook to collect much of the field data necessary for plan preparation; much of the technical fieldwork was taken over by the sandveld survey personnel (where they existed), who are based in regional offices of the Ministry of Agriculture. DO(L)s eventually guided completed land use plans through the review and approval process at district and central levels.

Since completion of overall district land use plans, DO(L)s have been involved in a variety of other TGLP-related activities such as: detailed planning of commercial areas, assessment of TGLP ranch applications, planning for service centers and trek routes, advising Land Boards on TGLP policy matters (e.g., leases, adjudication, non-stockholders in communal areas) and, to a lesser extent, preparing plans or projects for communal areas. The DO(L) is usually secretary to the district Land Use Planning Advisory Group (LUPAG). He is a member of the DDC, and advises the district generally on land development matters. Beyond planning for TGLP, the DO(L)'s position lacks definition. Little thought has been given to the future agenda of this cadre, though the interministerial Land Development Committee has recently begun to consider the proper function and role of the DO(L) and his relationship to other district and central planning and technical staff.

Council Planning Officer. The CPO is responsible for broad district planning matters, usually at the level of detailed project preparation and plan management. The CPO prepares memoranda for council health, education, water and road projects, as well as for village activities supported by MLGL projects LG 09 and LG 17. In addition, he prepares the district council's annual plan. The CPO acts as a liaison between council departments and between the council and central government agencies. His job requires a certain amount of administrative work, often centered on following up on quarterly reports on development projects. He should assist the Council Treasurer in getting recurrent budget estimates, and projecting revenue and fee collection. In general, he has a stronger orientation toward detailed project planning and administration than do the DO(D) and DO(L).

In addition to these positions, there is the District Plans Committee (DPC) at the central level. This committee is an interministerial body that was set up in March 1977 to provide a central reference and coordinating function for the preparation of district plans. Since its inception, the DPC's terms of reference have expanded considerably, to encompass all matters concerned with the preparation and implementation of district plans. In broad terms the DPC acts within central government on behalf of the districts on a variety of matters.

Capacity for Effective Local-Level Planning

The preceding description indicates that a district-level structure has been defined and, by and large, put in place throughout the country over the past several years. The responsibilities of several of the key planning positions are still ill defined and posts have remained unfilled. In general, neither DC nor the MLGL have provided strong guidance and supervision to DO(D)s. Like others involved in the planning process, they have often been diverted to activities that are only peripherally related to development planning and implementation, and frequently pursue work that coincides with their particular interests. These problems, which focus on the responsibility of and relationships between staff and institutions at the district, are related to other constraints which are evident in the present state of decentralized planning. Several of these are discussed below.

- The concepts that underpin the approach to decentralization imply an overall rural development strategy. They reflect a recognition of the diversity found throughout Botswana, and the need for local activities to take account of this diversity; they reflect the need to examine a range of constraints to development in each district, and define activities that are complementary (as opposed to focusing on the solution to one particular problem, which would not be an

adequate incentive to rural change); and they reflect the need for local-level involvement if development activities are to have an impact. While these concepts are clearly understood and enunciated by some within Government, they are far from universally accepted, and their influence on development strategy and program development is neither well understood nor appreciated.

- For the elements of this RD strategy to be incorporated in district planning, not only must authority and responsibility be clearly defined, but also (a) the dimensions of this strategy must be understood and accepted, and (b) those involved in the planning process must have a high level of capability. The development of that capability is a long process; it involves training district staff over an extended period -- with a central focus on field training -- and experience over time in producing a variety of district planning documents (from district plans to development projects that focus on specific activities).
- District Development Plans have been prepared for all districts, as have Annual Plans for 1979/80, and all districts are operating a monitoring system. These represent a considerable achievement on the part of district planners. One of the underlying premises of the DDP model is that districts, through their planning activities, could influence the allocation of resources at the national level between and within sectors. NDP V is under preparation and it remains to be seen whether district "thinking" achieves any real penetration of national planning considerations.
- A key issue in development planning involves the allocation of scarce inputs into the development process. It is not possible to pursue unlimited social service and production-oriented programs simultaneously over long periods of time. The capacity constraint (e.g., staff, finance) implicit in carrying out high levels of investment is well known; what is less evident are hard choices about where (in what types of programs) investment will result in the highest social and economic benefit.
- An assessment of the most recently completed district plans reveals considerable variability in planning capability. This variability is to be expected. For example, there is a wide range

of abilities in carrying out approaches to data collection and analysis in order to understand local environmental, social and economic constraints to development and in incorporating this knowledge into proposed projects. Likewise, district officers show distinct differences in their ability to bring local residents into a dialogue concerning their problems and needs, and to involve them in the planning process. The skill to do this work effectively is, admittedly, only acquired over time and with experience. The most effective work of this sort carried out to date has involved using the kgotla (described in Chapter Eight) and Village Development Committees as vehicles for local participation.

The critical question before the GOB in relation to these issues concerns the initiatives it must take to enhance district planning capacity.

Future Prospects: Initiatives Needed in District Planning

The proposed AID project, with its Rural Development Fund complemented by selected technical assistance, has as one of its objectives the provision of incentives to district-level development initiatives. It makes funds available to production-related activities that address a variety of local needs and are designed to have a direct impact on a wide range of rural residents. Whether these incentives are taken up or not depends upon the capacity of districts to recognize potentials, plan for their exploitation, and then implement appropriate projects. Government initiative will be needed to enhance this process.

- An increased commitment to district planning, which is advocated in the rural development strategy, is required from both the political and administrative elements of government. If the center cannot respond to the different circumstances and priorities of district planning, then local initiatives will soon cease. For the foreseeable future, sectoral resource allocations will remain the prerogative of the center; however allocations must be flexible and respon-

sive to what will increasingly be interdependent, cross-sector programs that districts wish to implement.

- District planning and implementation capacities require improvement. One immediate step would be to allocate a greater share of qualified manpower to the districts. This matter is to be addressed in NDP V, but will not likely be resolved. Increases in personnel should be supported by on-the-job training for planners to provide them with the necessary skills to tackle the widening issues confronting local planning.
- Clearer mandates and job descriptions for those operating at the district level are needed. Relationships, areas of responsibility and incentives all require clarification. (It is hoped that the Local Government Structure Commission will provide clear guidance on this.)
- A higher quality and wider range of data must be generated at the local level; assistance and guidance from the center are needed in this effort.
- The administrative boundaries employed by central ministries should be harmonized with district boundaries, and wherever possible consolidated.

--- The present high level of transfers, both between districts and the center and among districts, is particularly disruptive. Rural development will continue to suffer until the GOB develops a personnel management system that arranges transfers in a planned and coordinated way.

An explicit commitment is needed from the GOB to increase the level of discretionary funds available as district planning and implementation capacities grow. It is only with control over resource allocations that the rationale behind the district planning process can come to full fruition.

RURAL DEVELOPMENT IMPLEMENTATION

While planning rural development activities is not independent of project implementation (indeed, planning and replanning is a continuous process throughout implementation), there are several issues specific to implementation that need to be addressed. Some are discussed elsewhere in this report: economic policies that affect the success of development activities, demographic and ecological factors, various dimensions of the social system, and the existence and effectiveness of economic and social support infrastructure. The issues considered here include:

- Development strategy and its effect on development impact;
- The organization and administration of rural development activities;
- Personnel availability and incentives;
- Local-level participation as it influences project success; and
- The probability that development efforts will become self-sustaining.

Development Strategy

Rural development expenditure over the past decade in Botswana has focused upon providing a wide range of social services. There has been a stark lack of parallel investment in directly productive activities. What the emphasis should and will be in the future affects the nature and extent of development impact on the rural population, and it is at the heart of the GOB's development strategy; this question has yet to receive a definitive answer.

There are several important considerations involved in defining a rational development strategy. GOB policy papers and various program evaluations repeatedly point

out that provision of upfront social services in such areas as education, health, and roads, creates an immediate demand for these services to be supported and sustained. The current debate has generally revolved around whether projected recurrent government revenues and personnel will be adequate, and the conclusion is that both face critical constraints. An additional dimension to this issue is the ability of or prospects for a local population to support important social services. An income/production strategy argues that communities must develop a self-sustaining income base so that they can help provide for these services. Implicit in this thrust is the assumption that, as local organizational and financial capabilities are developed, the local population will be able to both identify and support the services most needed.

Such an assumption does not imply that health, nutrition and education services are unnecessary. The operative questions concern timing, priorities and choices regarding the appropriate level and quality of provision. Experience elsewhere indicates that success in rural development programs correlates highly with the willingness of local residents to commit resources, which is frequently affected negatively by the upfront provision of social services.¹ Strong dependency relationships are often developed, with local residents looking toward the government to provide and maintain services. Building local financial and organizational capabilities, together with fostering the perception that communities can find solutions to their own problems, can decrease that depen-

¹ Elliott R. Morss, John K. Hatch, Donald R. Mickelwait and Charles F. Sweet, Strategies for Small Farmer Development (two volumes), Boulder, Colo.: Westview Press, 1976.

dence and improve the chances that development benefits will become self-sustaining.

These considerations are at the core of decisions facing the GOB. There are indications that the government is pressing for a greater production/income strategy focus. These include initial efforts to design ALDEP as an income-generating program that will reach large numbers of rural residents, although any substantial investment under ALDEP is some distance off. The projected increase in the shares of the development and recurrent budgets for the Ministries of Commerce and Industry, and Agriculture, during NDP V, give cause for concern. Agriculture, for example, is up from 11.9 percent (in NDP IV) to 12.6 percent, far less than recommended by the Lipton Report and others concerned with substantially increasing and broadening the productive base of the economy.

Organization and Administration of Rural Development

The organizational structure and administrative arrangements under which rural development activities are managed can be critical to the implementation process, i.e., they can act as critical constraints to or facilitators of project implementation. A number of concerns are important, including:

- The particular organizational arrangements chosen. Rural development activities can be managed through traditional line ministries as in Botswana, through regional or district (sub-national) governments, through an integrated development entity set up either within the government or as a quasi-government authority, or through a special project unit that is largely autonomous. Each has different implications for project implementation.
- The allocation of decisionmaking authority with regard to such matters as hiring/firing of project staff, disbursement of funds, type and tim-

ing of project activities, allocation of staff and other resources and altering project strategy/design. Such concerns extend to logistics and procurement issues, including the timing and appropriateness of staff, equipment, materials and funds.

Organizational Arrangements

In Botswana, rural development activities are implemented either through central government line ministries or through local authorities, i.e., the district administration, District Councils and Land Boards. All play central roles in planning and managing rural development resources.

The overwhelming proportion of development funds is channeled through central ministries. Principal ministries include Local Government and Lands (which also has considerable control over local authorities), Agriculture, Works and Communications, Mineral Resources and Water Affairs, Health, Education, and to a lesser extent, Commerce and Industry. Each has a staff posted at the regional/district level, though there are significant variations throughout the country, and by ministry, with regard to the capability and adequacy of staff as well as the level of responsibility. Again the greatest single constraint to carrying out an ever-increasing level of rural development activities is probably personnel. In the seven districts visited by the Survey Team, approximately 20 percent of the field staff posts were vacant, illustrating the magnitude of the problem.

In every instance line ministry officers are responsible to their seniors within a given ministry; they have no official responsibility to other ministry or local government officials at a given administrative level. Thus, District Agricultural Officers are not responsible

"horizontally" to District Commissioners or Council Secretaries, although they may be involved in any number of common district development projects. Finally, the funds for ministry-implemented projects are disbursed almost exclusively from the center, with certain exceptions.

In addition to the line ministries, the local authorities play a major role. District Councils implement a variety of projects, largely related to social services and infrastructure. Though council members are elected and so are responsible to the local population, their secretary and technical staff are provided through, and postings determined by, the MLGL/ULGS. Locally generated revenues constitute only a small proportion of total council funding; all development funds and large deficit grants are provided from the central government. The district administration consists of a District Commissioner and his staff, plus officers dealing with planning, administration and lands. All are responsible to the MLGL. Finally, the Land Boards are composed of members nominated by district councils, MLGL, and tribal authorities, and their administrative staff are appointed by the MLGL/ULGS.

This structure has several overriding implications for rural development project implementation:

- Because central ministry and local authority staff are responsible "vertically" to officers above them within their organizations, there is the potential for a collapse of coordination of local-level activities. This problem was considered when District Commissioners and Council Secretaries were made co-managers of district plans. In discussions with various district officers, this dual allocation of authority was described as largely cosmetic; the coordination problem is real and is hindering local project implementation in a number of districts.

- A related problem is the effect of financial control being held at the center, rather than having funding responsibility devolved to local district officers. Exceptions are the relatively minor amounts of discretionary funds made available to councils through such projects as LG 09 and LG 17, and to Regional Agricultural Officers through AE 10. To the extent that the center continues to exert principal fiscal control, the leverage and authority of local officials to effectively encourage and coordinate development activities are reduced.
- A positive effect of this organizational and management structure involves the probability of activities becoming self-sustaining. The GOB has consciously avoided the model followed in many countries of large-scale area development projects organized around semi-autonomous project management units. It argues that, for development activities to be sustained, they must be built into the existing organizational structure, in the case of Botswana, the line ministry and the local authority structure. As the capacity of that structure increases, its ability to manage development activities effectively will likewise increase.

Allocation of Decisionmaking Authority

The preceding discussion notes that staffing and funding decisions -- relating to hiring and firing staff and disbursement of funds -- are made centrally for the most part, resulting in a lack of leverage for local officers in project management. A related issue is the timeliness of receiving funds. District Council officers repeatedly pointed out to the Rural Sector Study Team that serious implementation problems arise from the current funding disbursement procedures. Warrants for development funds are issued to councils on a quarterly basis; each quarter the council must submit its estimates for the ensuing period. Monies are deposited in project accounts, upon which councils can draw. The time lag between submitting estimates and receiving funds is often great, causing frequent work slowdowns or stoppages. This proce-

ture of disbursing funds quarterly is a modification of the previous policy of allocating tranches on an annual basis; the change was made allegedly because of council mismanagement of funds. The net effect on project implementation appears to be negative and, in the case of some councils, critical.

The control of the center also extends to decisions concerning the allocation of staff and other resources, the type and timing of project activities, and altering specific project strategy or design. The single most critical effect of central decisionmaking is the reduced flexibility in the implementation process. In effect, it reduces the latitude for local officials to adjust resource use or project approaches to accommodate the needs and demands of particular local physical, social and economic environments.

Personnel Availability and Incentives

The availability of and incentives for personnel are questions central to the implementation of rural development activities. That a manpower shortage is continually identified as an overriding constraint to maintaining the current level of development activity, to say nothing of increasing levels, indicates its importance. Chapter Six discusses the nature of the constraints in detail. The intent here is to introduce certain issues related to the problem, and to note how they impact on project implementation.

The Relationship Between Manpower Supply and Demand

The manpower shortage is normally characterized as a gap between supply and demand. Studies indicate that the present demand far exceeds the supply of available skilled

personnel, and that demand is increasing faster than projections of future supply. The projections for NDP V clearly show this to be the case, and argue that an increase in the numbers of expatriates is needed and desirable to help fill the gap in the public sector.

This macro analysis is, however, an oversimplification of the problem. A more complete understanding requires a look at current inefficiencies, characterized by problems of underutilization, wastage, duplication and the existence or lack of incentives.

Inefficiencies in the System

Examples abound of underutilization of personnel in the public sector. This situation is due in part to poor matching of individual skills with job requirements; it is also a consequence of poorly delineated job responsibilities. This lack of clarity leads to disinterest and apathy on the part of many government staff. There is also the question of the distribution of staff between headquarters and the field. Background papers for NDP V note this problem, remarking that central ministries are top heavy in relation to the relative responsibilities assigned to the center and field.

A second problem has been described as wastage in the use of staff. It revolves around excessive movement and transfers of staff, resulting in disruption in the continuity of government work. There is evidence of duplication of responsibilities and functions. As new programs are introduced, additional cadres of personnel are created to carry them out. In many instances existing officers could assume the work, i.e., existing extension staff could assume broadened extension functions.

The Issue of Incentives

Within the central government civil services, as well as the ULGS, there are a number of schemes of service that define such things as grades, salary levels, methods of promotion and transfer policy. There have been recent efforts by the Department of Personnel to streamline these schemes in order to make the terms of service more attractive. For example, within the administrative cadre the clerical, executive and administrative subdivisions have been combined into a single system in order to reduce the importance of paper qualifications needed to enter at a given subdivision level. Further, the disincentives resulting from differences in the retirement/pension systems of the central government service and the ULGS are being addressed. Increasing pressure is being applied to make the system comparable, thus increasing the attractiveness of ULGS service and making lateral transfers between the two services possible.

These efforts notwithstanding, a number of disincentives relating to promotion, pay and personnel transfer policies remain. These issues are defined and solutions suggested in Chapter Six.

Local-Level Participation as It Influences Project Success

The claim is not new that a high degree of local-level participation or involvement is a necessary condition for rural development project success. It is more difficult to define who the participants should be, what the elements of participation are, and how the concept becomes operational.

The notion revolves around the idea that development is a process of participants defining and finding solu-

tions to their problems, i.e., that the process itself is by definition one of a high degree of involvement. This concept precludes imposing a development strategy that focuses on prescribing what is best for others, or prescribing resources that would presumably accomplish the desired development. Thus the participants become the individuals whose well-being is the focus of improvement.

The elements of participation and how to make it operational are more difficult. One approach is to characterize participation as having two elements: (1) local-level involvement in decisionmaking with regard to planning and implementation of initiatives intended to improve well-being; and (2) the commitment of resources -- time, labor, material, cash -- to that process. Operationally, this means that the intended beneficiaries of development activities participate (through an ongoing dialogue with government staff or project staff) from the initial project/program planning stage. They would be involved in tailoring the ideas concerning the best use of resources to achieve goals that they themselves defined. They would also be primary decisionmakers throughout the implementation of project activities, helping to define how and in what way a project should be redirected or modified. Finally, it would mean that they would make a major resource commitment to the development process. Outside resources would only be used as a catalyst to overcome bottlenecks with which a local population could not deal.

This approach is seldom found. Lip-service is often paid to the concept of participation, but project beneficiaries are seldom brought into the decisionmaking process in any real way. Likewise, while self-help contributions are frequently required, these seldom are based on an assessment of the capability of a local population to commit its own resources. This is understandable. It is

normally a long process to find mechanisms through which villagers can become part of the decisionmaking process (Through local-level organizations? What type? How?). While local residents are normally given credit for making rational production decisions in the context of their own environment, central planners most often feel that, with their well-tuned analytical and technical skills, they can best define what rural residents need.

Experience does not argue well for the success of this latter approach. While evolving effective means of local-level participation is more difficult than simply delivering resources to rural areas (in the form of perceived appropriate technological packages or infrastructure), it has been shown to be a necessary condition for local-level behavioral change -- and to the self-sustaining dimension of rural development.

In the context of rural development in Botswana, local-level participation has a mixed record, but the direction appears to be positive. Historically, tribal social institutions inspired participation. Self-help was carried out within tribes and villages and a wide variety of decisions were made through a process of consensus. With the imposition by the Government of a set of administrative institutions -- District Councils, Land Boards -- along with an effort to deliver social services to the rural areas, the traditional system has been substantially modified, though not completely replaced. (The kgotla, for instance, remains a useful mechanism for local participation.) Probably the most telling indicator of the change is the development of an attitude among many rural residents that the government will and should provide services to the villages.

There are indications that the GOB recognizes this difficulty and is taking measures to reverse the trend. For example, the MOA recently fielded Group Development Officers, whose mandate is to begin an effective dialogue with villagers and help develop participatory group agricultural activity. Further, the district planning exercise, though still young, is a decided step toward developing local participation in development planning. But much remains to be done. Some still feel that the process of involvement is one of "informing" villagers rather than learning from them. The absence of adaptive field-testing of new agricultural technologies is striking (implying a low priority on learning from villagers what initiatives are most appropriate). There is still little acceptance on the part of many officials that Botswana is characterized by great diversity from one locality to another, and that development initiatives must be tailored to these differences.

Sustainability of Development Efforts

The importance of rural development activities becoming self-sustaining cannot be overemphasized. The influence of several factors has been noted: the development strategies used, the organizational structure chosen for rural development project implementation, and the degree of local-level participation.

There are two aspects to activities becoming self-sustaining. On one hand, a support structure is needed to sustain development efforts: an administrative system that can deliver needed materials, equipment and staff (e.g., extension services) and an economic structure that can provide input supply and a market for outputs. On the other hand, there is the need for commitment on the part of villagers to the changes being introduced, such as new

agricultural practices. For activities to become self-sustaining, both issues must be addressed.

The development strategy of the government appears to be shifting from one that has focused almost exclusively on the provision of social services to one that increasingly recognizes the need for directly productive projects. But this change in focus is only now becoming evident, and few investment resources have yet been channeled into production activities. It is only with the promotion of the productive sector that a local-level capability can be built that can support and sustain both social service and production activities.

The organizational structure through which the GOB has chosen to implement its rural development activities -- while exhibiting a number of problems with regard to project implementation -- has been pursued, among other reasons, in order to maximize the self-sustaining dimension of rural development efforts. It is rightly argued that, unless the process of rural development management is incorporated into and developed along with the structures that exist, there is only a low probability that activities will be sustained over the long run.

Finally, local-level participation is an essential element in perpetuating behavioral change -- whether the change is related to agricultural technology, land use patterns, the use of education facilities, or health related issues. The GOB is aware of the importance of this element, and is moving in the direction of promoting a greater degree of local participation of villagers in rural development programs.

CHAPTER SIX MANPOWER AND TRAINING ISSUES

INTRODUCTION

There has already been a great deal written on the problems of manpower in Botswana. The approach taken here has been to listen to the various ways that officials at different levels of government have defined and talked about "the manpower constraint," in order to understand the problem from the inside. The first section of this chapter looks at two ways of analyzing the manpower problem, and finds that a traditional supply/demand type of analysis presents the GOB with very difficult policy choices -- heavy investment in education, which takes a long time to produce results, hiring expatriates, or restricting government services, which are now expanding to meet rising expectations and natural population growth.

The productivity approach, which is directed at correcting inefficiencies in the government personnel system, such as underutilization of personnel, wastage and duplication, provides more accessible policy options. It is recommended that the GOB undertake a full assessment of its personnel system, and a list is provided of useful areas of inquiry. The leadership of the Directorate of Personnel (DOP) will be critical to any such effort. The DOP has a better chance of effecting productivity gains if it acts in a service role, cooperating with the line agencies, than in a watchdog role as a kind of personnel policeman.

Sections two and three focus on the possibilities and limits of investment in education and training as ways of easing specific aspects of Botswana's manpower problem,

stressing the limitations. The final section reviews the implications of the proposed Rural Development Fund for staff increases and training demands.

In the rural villages of Botswana and in the councils of central government ministries in Gaborone, Botswana take pride in their ability to build a consensus on the substance of decisions and on the principles underlying them. Often such a consensus is the result of deliberations that extend over a long period of time and involve a wide range of those who may be affected by a particular decision. Discussions between DAI and government officials of different ministries and at different levels of government confirmed that there seems to be just such a consensus regarding the major obstacle to future development: manpower, not financial shortages, is the major constraint on social and economic development. This perspective is reflected in the recent statement by the Ministry of Finance and Development Planning (MFDP):

Preliminary work indicates that certainly over NDP V (National Development Plan V), and probably beyond, the shortage of skilled manpower will be the most binding constraint on the growth of Government activities and economic activities in general. (Anticipated diamond revenues in the later years of the plan remove the worst financial constraints.)¹

In addition to its mineral resources, Botswana has access to a considerable amount of foreign donor funds, which have further eased the "financial constraint."

During the past five years, the government has committed itself to using its scarce manpower resources for improving its planning capacity at both the central

¹ Ministry of Finance and Development Planning, "Draft Macro Economic Outline, NDP V" (mimeo), Gaborone: Government Printer, September 1978, p.1.

government and district levels. As noted in Chapter Five of this report, the government has had success in this effort. There is now an institutional structure for district planning and a process by which central government responds to these plans. In 1977, the first five-year district plans were completed, and annual revisions are regularly drawn up. With planning capacity constantly improving, government officials now see the manpower constraint mainly in terms of how it obstructs the implementation of fundable projects. Ministries may have projects that have funding and are worthy of support, but they do not have the people needed to implement such projects.

While there is agreement that development is hampered by a manpower constraint, further investigation into specific manpower problems that most plague the government's administrative machinery shows that this term is not used for a single, agreed-upon phenomenon. Rather, it is a shorthand way of referring to a range of different manpower-related problems. These problems can be subsumed under two broad categories: the excess of demand for skilled manpower over its supply, and the inefficiencies in using manpower.

THE "GAP" APPROACH: MANPOWER DEMAND EXCEEDS SUPPLY

Initially, most assessments of the manpower problem focus on the supply of educated manpower and the demand for it in the government and in the wider society. The argument is that there simply are not enough people available with the requisite skills to carry out the government's development program. One explanation is that the education system does not supply nearly enough trained people for either government or the private sector. For example, in a 1976 study that preceded one of their educa-

tion projects in Botswana, the World Bank estimated Botswana's 1978 demand for Form III leavers (junior high school level) at 14,550, for those completing secondary school at 4,190 and for university graduates at 1,450. The output of the education system and the number of those already in the labor market at these levels were insufficient to meet the demand; the shortfalls for these three categories were estimated at 3,580, 890 and 970, respectively. Hence, the amount of shortfall (as a percentage of total demand) for each of these three categories was 24.6, 21.2, and 66.9, percent respectively. The government has made a major investment in primary and secondary education in an effort to reduce the extent of these shortfalls, but current projections do not suggest significant supply increases anytime soon.

On the demand side, the growth of demand for skilled manpower in government has further widened the gap. What has been behind this growth? Donor-funded projects, high beef prices in Europe, and mineral revenues have permitted the government to expand the range of its activities. In the years 1972 to 1977, the central government grew at an annual rate of 11 percent and the local government at an annual rate of 26 percent. This growth has been the result of (1) an increased number of areas where central government action has been deemed necessary, and (2) a desire to see that the level of government services to the districts was substantially increased. At the local level this has meant the expansion of health, water, school and road facilities services. To oversee the planning, programming and implementation of these government initiatives, often supported by foreign donors, government has expanded the size of its various cadres.

A consequence of expanding the range of government activities when there is no corresponding increase in the

number of talented people entering government service is that skilled manpower becomes too thinly spread out. Instead of a depth of well-qualified Batswana in a few key areas of government activity, expansion leaves far fewer skilled people in each of a larger number of new government enterprises. If the educational system cannot supply government with the people it needs, then government must meet its needs in other ways.

One way Botswana has reacted is to hire expatriates. But continued reliance on such outside manpower could pose some difficult dilemmas. Since expatriates often occupy important positions in the government, a decision to end this practice suddenly could result in putting inexperienced local staff in charge, with resulting inefficiencies. On the other hand, if expatriates become too firm a fixture, they may block the way for ambitious Batswana officials and become a political issue whose only resolution might be a complete and rapid withdrawal of all expatriates.

Given that the meaning of "the manpower constraint" here is a gap between the number of skilled people needed and those supplied, what policy remedies are available? One policy is to increase the supply by investing in education. Botswana is doing that. However, to increase the output of the educational system, more facilities and more teachers must be provided. This means a second investment in facilities for teachers' colleges and for their staff. The Ministry of Education is advocating such investments in NDP V. The counter-argument is that such investments, heavy in manpower and recurrent costs, will drain off funds needed for productive activities, which furnish employment. The Draft Macro Economic Outline for NDP V, the reactions to this draft from various ministries, and MFDP's responses indicate that this issue is getting a spirited hearing at present.

A second policy remedy is to upgrade the skills of those already in government service. Here the training expense is substituted for the cost of investing in the formal education system. However, there are "manpower" costs to this strategy. The employer/supervisor must be prepared to forego the services of a trainee for the length of his absence. Also, training requires facilities and trainers. Getting well-qualified training staff can be even more difficult than finding good teachers for the primary and secondary schools. Moreover, if training is not well organized and relevant to the job tasks of the trainee, it can be a waste of time, money and effort.¹

A third possibility, from the demand side this time, is to restrain the growth of the government service. This is an exceptionally difficult task. As people receive more and better services from government, their expectations make it politically difficult to cut back on those services. As population grows, the demand for services also increases, along with the demand for an expanded civil service to provide those services. It is easy enough to put a new service on the government platter but, once there, it is almost impossible to remove it.

If it is not possible to cut back services in the governmental sector, what else can be done? One answer would be to set priorities about future growth and to slow down the rate of growth of those future activities with the most severe manpower implications. The Ministry of Finance and Development Planning (MFDP), through its manpower budget ceilings, favors such a policy. However, as the MFDP is discovering, each Ministry argues that the

¹ David A. Watson Report on a Study of Local Government and District Administration Training, Gaborone: Government Printer, June 1978, p. 17.

ceilings ought not to apply to it, and the competition between ministries is substantial. Ministries like Education and Works and Communications, which have important political constituencies (teachers and contract builders), and which have a full agenda of projects on the docket, seem to have an edge on ministries such as Agriculture and Commerce and Industry.¹

To summarize, to consider the manpower constraint in strictly supply-demand terms is to pose the difficult policy questions it leads to. On the one hand, a restriction in growth of the government sector is difficult politically, for it would result in a direct reduction in social services people want more of. On the other hand, it is not economically feasible to expand the formal education sector to make up the entire gap between demand and supply. While in-service training achieves its results more quickly and with less expenditure of resources and manpower than the formal education sector, it too is expensive and, if inadequately planned, wasteful. The use of expatriates is a limited solution, since independent nations are wary of entrusting their affairs to foreigners and under constant political pressure to replace expatriates with their own citizens. This type of approach leaves government with a rather unsatisfactory set of alternatives. However, this problem can also be dealt with using the productivity approach, which offers a more manageable array of policy choices.

¹ Ministry of Finance and Development Planning, "A Review of Comments on the Draft Macro Outline" (mimeo), Gaborone, Republic of Botswana, November 17, 1978, p. 4.

THE PRODUCTIVITY APPROACH

Initial discussions with GOB officials about the manpower shortage were dominated by talk of the lack of enough skilled people to do everything for Botswana's needed development. However, a different view of the problem emerged when government officials discussed their day-to-day administrative problems. These discussions were directed at various kinds of inefficiencies in government operations, which lowered its level of performance. The emphasis was not so much on the supply and demand of manpower as it was on the productivity of government. Underlying these discussions was the implication that remedying these inefficiencies was one way of producing more manpower without having to increase supply. Obtaining more output from the same number of staff performs the same function as adding new people to an inefficient structure. Moreover, what is gained from bringing in new staff and putting them in an inefficient system, or from training in-service staff if they are returned to such a system? Giving attention to issues of productivity can be an important way of both "producing" manpower and "saving" it. The inefficiencies described by GOB officials can be classified under three general categories: underutilization, wastage and duplication.

Underutilization

One frequently mentioned problem was the inadequacy of job descriptions. Staff do not have a clear idea about what they are responsible for and to whom they are responsible. As a result they are unsure of what they should do. Supervisors have no guidelines and so do not know what to demand of those working for them. The result is that staff often lapse into boredom and apathy. One example was given of how a new university graduate came into

a government department with no clear job description. Little guidance was provided by the supervisor, and after a while this person resorted to reading paperbacks and magazines to pass the time of day. Such examples make government's cries for more university graduates sound rather hollow.

Another aspect of underutilization is the way newly recruited staff from the university are assigned. Many of these university graduates have had their tuition paid by the government and are "bonded" to the government. That is, upon graduation they are required to serve in the government to "repay" their education. The Directorate of Personnel is responsible for assigning these graduates to various divisions and ministries of the government, and assignments are usually made at the time students enter the university. Consequently, they may have little to do with interests developed at the university, and may result in trying to put square pegs into round holes. Such mismatches between interest skills and jobs is another sure way of burying good talent; it leads to boredom and apathy, just as lack of supervision and guidance does.

Finally, there may be a systematic underutilization that comes from having too many staff in the headquarters and too few in the field. This is often the consequence of a career incentive structure that makes positions at the center a requisite for future promotion; staying too long in the field thus becomes a detriment to one's career.

Wastage

Government staff in the field indicated that tremendous waste was caused by the frequency and number of transfers, promotions and staff turnover. At one loca-

tion, the District Agricultural Officer was new and had spent only one year in his previous post; the District Commissioner was the third one for this district in a year, and he had spent only one year in his previous post. The Watson Report indicated that this pattern holds for the entire country. For example, over a two-year period, five districts had two District Commissioners and four other districts had three; the turnover pattern for District Council Secretaries was exactly the same.¹ The situation in the central ministries is often similar. The Ministry of Local Government and Lands, among others, has experienced the same pattern of multiple chains of transfers and promotions during the past year.

The turbulence caused by this movement of personnel is considerable and results in a lack of continuity in the direction of public business, both at the center and in the field. Just as a person comes to know what his job entails and how the organization around him operates, that person is transferred or promoted. There is a double cost here: a new person must be trained to fill the vacant post, and the one transferred must learn a whole new set of job responsibilities.

There are several explanations for this phenomenon. First, transfers are made because an official is considered particularly capable and is promoted to a position of higher responsibility. This often happens when there is a shortage of skilled people and a large number of authorized but unfilled positions at the top of the Public Ser-

¹ David A. Watson, op. cit., pp. 78 and 80.

vice.¹ This is the case in Botswana where government estimates indicated that approximately one-third of the top level (i.e., A-level) positions are vacant.² Obviously an expansion in the number of authorized positions, without a corresponding increase in people to fill them, will aggravate this problem.

Second, transfers are made when an official is found unsuitable for his assigned post. This is often the case when the job descriptions are unclear or vague, or when the system for job performance evaluation is lax. In either case, the lack of match between the job and the person is behind the transfer.

A third explanation may be that political criteria, rather than administrative competency (either good or bad), are the reason for certain kinds of transfers. Certain positions may experience turnover as political decisionmakers see the need.

Finally, high turnover exists because of the number of expatriates in government service. Volunteer and contract expatriates hold important posts in both the center and the field. They occupy pivotal jobs (in fact, if not in name) in the MFDP and in planning units in major mini-

¹ In Botswana, central government staff are known collectively as the Public Service. Local government officials are part of the Unified Local Government Service, which is in the Ministry of Local Government and Lands. Primary school teachers are members of the Unified Teaching Service.

² The MFDP "Draft Macro Economic Outline," NDP V (p. 13) estimates that March 1980 vacancies in A-level positions will number 820. The 1979-80 Establishment Register of April 1979 (p. 125) lists 2,497 positions in this category.

stries, and make up the majority of those in district administration planning posts such as District Officer (Development) and District Officer (Land). Terms of service are usually two years. Again, there is the difficulty in obtaining continuity in the conduct of planning and implementation of development programs.

This problem of turnover is a serious waster of skilled manpower, and everyone seems to recognize its seriousness. There is dissatisfaction, even some disgust, with the situation as it stands now. It is an area where government can produce more output from existing manpower without a large investment in formal education or training.

Duplication

There appears to be a tendency to produce a cadre for every new function or program that the government wishes to undertake. This suggests there is inflexibility in altering the functions of previously established cadres to meet new demands. For example, the community development cadre is having difficulty breaking away from its original approach and adapting to new approaches for locally initiated change. According to David Watson:

Many CD (workers) appear to be unsure as to what they should do.... The VDC (Village Development Committee) and physical self-help projects become by default natural foci of work.... Their job as generalist field worker is too vague and unfocused. It covers a broad range of activity without any clear priorities. Each aspect of the job is ill-defined....¹

¹ David Watson, op. cit., pp. 29-30.

While the central CD staff remain committed to their traditional tasks, the VDCs and self-help projects, a range of new activities are being initiated that require field staff at the local level. Watson has pointed out that CD headquarters staff have paid little attention to either MOA's development of Group Development Officers cadre or MCI's establishment of Rural Industrial Officers. Interestingly enough, CD field staff have been reacting to new opportunities. The Rural Industries Innovation Centre in Kanye received help from CD workers in its five-village survey of rural industry potential; and Watson indicated that some experienced CD workers had transferred to the Business Extension Programme of MCI.¹

This suggests that there is some flexibility at the field level. Support for and recognition of these new directions at the central ministry level and in the formal CD training program at BAC (Botswana Agricultural College) could provide a useful model for avoiding the loss of manpower that duplication of function can cause.

Another approach to problems of duplication has been to establish District and Village Extension Teams. The idea was not only to avoid duplication, but also to produce a more "integrated" approach to extension activities in health, education and agriculture in a particular area. These extension teams have only recently been formed, so their difficulties may be overcome in time. For now these difficulties seem formidable. For example, the extension team is made up of field staff from different jurisdictions, local government and central government. Second, central ministry field staff receive their policy direction from their home office in Gaborone. The field staff are expected to implement central ministry policy. At

1 Ibid.

the district or village level, there is no mechanism for integrating overlapping or conflicting activities of field staff from different ministries. While the extension group may meet and travel together on occasion, it has yet to become a real working group. Until the extension teams have some independent resources for their work together and a common program from which all participants can achieve gains that will be prized by their ministry supervisors, they are unlikely to make much headway in solving problems of duplication.

As a final note, it appears that the district extension teams in the remote areas of Botswana report more genuine cooperation than those in the populous areas. The barriers between local government and central ministry field staff seem to break down more easily in such circumstances.

There is one additional issue that affects the productivity of the government service: the structural relationship between the field staff of various central ministries and their relationship to various district level institutions, i.e., the District Administration, the District Council and the Land Boards.

The term "structural" refers to patterned relationships between officials at two levels of government. The two levels are the central government and their field staffs and district-controlled institutions. There is always a certain natural tension between these levels, for each represents a different, but legitimate, perspective on what government policy should be and how it should be made and implemented. District institutions exist to represent the special concerns of those who live within their boundaries. They seek to temper and adjust national policies to fit local conditions. Central administrative institutions and their field staff are responsible for

carrying out policies that benefit a group larger than a single district. They may have to make decisions that favor one district over another or that treat all districts the same. An individual district may legitimately question either type of decision, but it is the responsibility of the central administration to act for some larger, often national, good.

In Botswana there has been a conscious decision to promote district-level planning and implementation of development activities. Chapter Five discusses the evolution of this process in fuller detail. The growth of the responsibilities of district institutions, especially the District Councils, has caused them to seek more authority over the resources to carry out these responsibilities. E. B. Egner expresses this point of view when he decries the lack of actual control of resources accorded the District Council: "...over 90 percent of all District Development Plan projects are the province of non-political central government technical officers."¹ The issue of the relative role of central administration personnel and district officials in initiating and overseeing development activities is high on the agenda of the Local Government Structure Commission, whose report is due in September 1979. Arguments revolve around whether district-level leadership and oversight of development activities should rest with the District Commissioner, as formal representative of the central government or with the District Council, a local political institution.

A sharp conflict between district and central government authorities would have serious implications for productivity in government service. Competition for skilled

¹ E. B. Egner, op. cit., p. 39.

manpower, further differences in current terms of service between ULGS and central government (e.g., the differences in pension systems) and duplication of training facilities might result. This would be detrimental to both. While it is not possible to predict or control how this issue will be resolved, attempts to correct the problem of duplication would have to take into account when changes are made in the relationship between central government and the districts.

Conclusion and Recommendation

There is no doubt that there is a shortage of skilled manpower in Botswana. But failure to move the analysis of this constraint from a supply-demand approach to a productivity one will present government with a set of very difficult and costly policy choices. The productivity approach has several advantages. First, it rests on a description of what is actually happening in the government service as seen by those working in it. The problems of underutilization, wastage and duplication are all familiar to those working in government. What is needed is a thorough and complete review and analysis of these "facts" of administration. Second, the productivity approach provides policy choices of a less drastic nature. Improving government's productive capacity does not involve the large capital expense and long lead-time required by investing in the educational system. Moreover, the government has complete authority to act on its own behalf. No new grants of authority are needed; the only prerequisite is the political will and commitment to take action. Such a commitment is only likely when government explicitly makes the connection between issues of productivity and the problems posed by "the manpower constraint."

While various government officials have seen parts of the productivity side of the manpower constraint, no one has yet assembled them into a unified picture of government service (the Public Service and ULGS). This suggests that the recently created Interministerial Committee on Productivity and the Civil Service is a logical group to survey this issue and present recommendations for action by central and local government. However, a key agency in any implementation of recommendations on the civil service is the Directorate of Personnel, and its leadership is skeptical of such an approach.

A DIFFERENT DIAGNOSIS OF THE PROBLEM

The Director of Personnel does not believe a study of productivity, even a comprehensive one, would be useful and evidenced little interest in the Interministerial Commission on Productivity in the Civil Service. He has not attended their meetings and expects nothing of value to result from the effort.

On the supply-demand approach, the Director felt the manpower budget exercise would have little effect until government made some hard choices about priorities so that scarce manpower could be channeled where it was most needed. This report would support that position, as would the MFDP, which characterized the situation this way:

Everyone seems to agree that skilled manpower should be used more efficiently by reallocating it to higher priority activities and by increasing its productivity, but everyone also doubts that this can be done in practice.¹

¹ Ministry of Finance and Development Planning, "A Review of Comments on the Draft Macro Outline," op. cit., p. 11.

With regard to issues of productivity, the Director argued that the scarcity of skilled personnel has meant a lack of supervisory personnel to monitor performance efficiently. The Directorate of Personnel's role in solving this problem would be to strengthen its management services unit so that the DOP would become the government's watchdog in ensuring that workers were productive. Implicit in this approach is the assumption that government workers' productivity would improve if government would control workers more closely. This differs with the view expressed here that there are systemic problems in the recruitment, promotion, pay, transfer and organization of civil servants. While monitoring of individual workers' productivity has its place, it is not a substitute for action to correct systemic problems. This is a major difference between the approach of the DOP and the one advocated here.

There is another major difference. The DOP's role as watchdog of ministry personnel and their productivity is in conflict with ministry desires to handle more, not less, of their own personnel matters. Several ministries expressed unhappiness at the length of time it takes to get decisions from the DOP and the lack of understanding DOP has shown for ministry needs. Line ministries are charged with answering for results in their areas of responsibility. They feel that they, and not the DOP, should oversee the productivity of their own staff. The same is true for training matters. For example, MLGL has indicated it wants greater autonomy in allocating training funds than it now has with DOP control of over its training.

The DOP has a legitimate role in ensuring that the GOB civil service has a uniform set of standards and procedures. However, it can expect line ministries to resist DOP efforts to intervene in matters such as personnel

supervision, which touch on their direct responsibilities. The DOP is more likely to have influence in the ministries if it provides a service than if it acts as a policeman. Ministries are concerned about inefficiencies in the use of their personnel. If the DOP were able to offer a planning or research service to ministries to assist them in solving these inefficiencies, its help would probably be most welcome. If, on the other hand, the DOP wants to become the personnel policeman, then substantial resistance could be expected.

The Director of Personnel has indicated his desire to have several manpower planners on his staff so that he would not always have to be responding to "emergencies." If this developed into a service-oriented staff, it could become a group with potential to improve government performance significantly by cooperating with line ministries.

Recommendations

1. The GOB should conduct a review of staffing in the Directorate of Personnel, to assess the most effective strategy for establishing a personnel planning and research capacity there.
2. The GOB should focus more attention and resources on the Interministerial Commission on Productivity in the Civil Service. Once the Local Government Structure Commission has concluded its work, the Productivity Commission should be revived. This would require obtaining a commitment from the Directorate of Personnel, as well as top operational officials in the central ministries, to give this subject their full attention. This is a critical element, for without such a commitment from each of these groups, attempts to implement policy in this area will be fruitless.
3. Any future GOB commission charged with the task of looking at productivity in government service should address a broad set of problems:

Recruitment Issues

- How does the Directorate of Personnel recruit personnel of different educational levels (JC, GCE, university graduates), and how does it allocate these scarce manpower resources to various ministries? How is policy about these matters made and by whom?
- Is it really necessary to assign "bonded" university students to departments early in their studies? What are its ill effects in terms of assigning new personnel to areas they are not interested in and do not have the skills for? What is the extent of the problem?
- What impact has the use of manpower budget ceilings had on recruitment patterns and allocations to ministries?
- What sort of balance is there between the number of people assigned to the ULGS (local government) and to central government? Is ULGS getting its fair share of staff, given its increased responsibilities? Are there particular activities in each government service that received more personnel than others?

Promotion, Pay and Transfer Policies

- People are more productive when they can see the possibility for movement from where they are to a more important and responsible position. In the various cadres (professional, technical, administrative) of ULGS and central government, are there defined career paths for people to follow? What barriers exist that cut off routes for advancement? For example, District Council Secretaries have already reached the top of the ULGS system and, except for transfers to other districts, they have no place to go. To move to the central government, such a person would have to transfer from one personnel and pension system to another. Also there is no assurance that such a person's expertise in district-level affairs would be well used. Surely the waste of hard-won experience and skills is just as much a part of the manpower problem as the low number of university graduates. Is this problem recognized, and if so, what is being done about it? Are there other examples like the District Council Secretary, where barriers exist to the advancement and better utilization of skilled manpower?

- Pay scales are constructed to provide incentives to personnel to increase their productivity. Do pay scales match responsibility levels and job tasks? If not, are personnel overpaid or underpaid and to what effect? Are people lost to the private sector due to inadequate pay provisions? If so, what is happening and why? In some cases, too generous a compensation policy can cause the government to lose good people. Some feel that experienced central government employees have taken advantage of a rule permitting them to retire at 45 and have gone to private enterprise or to supervision of livestock interests. Does this happen often and if so, what can be done to keep experienced people in government?
- Transfer policies apply to those who have done well and are moving up and those who have not worked out in a position. What is the incidence of each type of transfer? What is the cause of the kind of chain reaction of personnel musical chairs that occurs when one person is promoted? Are the patterns of movement particular to different kinds of positions, i.e., what is behind the high degree of mobility of DAOs? What impact do transfers have on the continuity of district-level planning and implementation? What is the impact on central government institutions of this kind of constant movement of personnel? Do rules such as the one ULGS has for the expected length of stay in post (three years) have an impact on the transfer problem?

Cadre Formation, Evaluation and Rationalization

- To what extent is there duplication among the various groups involved in rural development? Can the CD cadre formally take on new functions, such as doing a rural industries survey or acting as Group Development Officers?
- What are the procedures used to evaluate whether a new cadre should be established and how can duplication of function be avoided? For example, can departments such as Department of Town and Regional Planning, Department of Surveys and Lands and the MOA's Technical Division of Land Utilization combine to provide personnel and/or training for Land Boards or must a new cadre be created to do this?

- Is there a job analysis program of extension functions being carried out just as there is now a job analysis being prepared in the Directorate of Personnel?

Expatriate Positions and Localization

- How is the pace of localization proceeding? In what areas is it lagging and why? In what areas can the GOB expect to have to rely on expatriate labor for some time into the future? What are the costs and benefits of such a long-term dependence?

Personnel Supervision and Management Issues

- Is the Directorate of Personnel, with its current staffing level, able to perform all of its many functions adequately (e.g., recruitment, compensation policy, promotion and transfer procedures, establishment of new positions, and training of staff both in Botswana and outside of the country)? In what ways might some of these functions be devolved to individual ministries? How might the Directorate of Personnel be strengthened (increased staff, organizational restructuring) so it might better carry out its functions?
- With regard to DOP's training responsibilities, is there any room for devolving control over training funds to individual ministries? Could individual ministries come to DOP with an annual training plan for approval and then have operational control of training activities and funds that plan is approved?
- At all levels of government, there is dissatisfaction with the state of personnel supervision. This dissatisfaction is not just with the monitoring function of the supervisory role, but with its motivation and on-the-job training aspects as well. What is the extent of this problem, what seems to be the main causes of it, and what can be done to remedy it?

Local Government Structure Issues

- Once the Local Government Structure Commission has issued its report and government has acted on it, an analysis of the implications of any

changes in the current relationships between central government and district institutions should be made. Of special importance would be the degree of mobility between personnel systems and the extent to which there should be shared or separate training facilities and programs.

An Information System for Aggregate Data on all GOB Personnel

- Currently there is no reliable way of obtaining data on personnel patterns. For example, there is no easy way of knowing the number of transfers of, say, DAOs in a certain time period or the turnover of central ministry field staff in Botswana's more remote districts. As the Watson Report pointed out, personnel records are kept on individuals and hence difficult to use for aggregate data analysis; moreover, these records are not always up-to-date.¹ A government official familiar with the Directorate of Personnel system noted that the situation has not changed since Watson completed his report. Since patterns in personnel use are to be used as guides to policy, this matter deserves urgent attention.
- The GOB personnel system at the central (including the industrial class) and field levels is relatively small in size, amounting to something over 20,000 people according to the 1977 GOB Employment Survey. However, between 1972 and 1977 the size of the system doubled. It has become just complex enough to warrant a thorough review of its operations and the effect of personnel policies, which have evolved as the system expanded. One observer remarked that the management of the personnel system had always been considered a function that could be carried out using common sense. But if Botswana is to make productivity gains in its government service, this will have to change. If Botswana can better utilize the manpower it already has, it will have made a partial contribution to the easing of its manpower constraint.

¹ David A. Watson, op. cit., p. 3.

THE SUPPLY OF PRE-SERVICE MANPOWER AND GOVERNMENT DEMANDS
FOR MANPOWER

Before turning to issues of training for government personnel involved in rural development, it is important to look at the system of formal education (primary, secondary and post-secondary), and how it is meeting government manpower needs and what the major constraints are to meeting those needs. These issues were touched upon briefly in the discussion of the supply-demand gap. They will be dealt with in more depth here as a prelude to assessing the size of the task that faces the training institutions in Botswana. The educational system has a seven-year primary cycle, and a two-step secondary school system; the first step lasts three years and the second two years. Figure 4 (p. 168) shows the structure of the educational system in Botswana. Figure 5, done by the World Bank in 1976 (p. 169), shows the extent of stratification in 1974: 70 percent of primary age children were in primary school, 13 percent of secondary age children were in secondary school, and less than 1 percent of university age men and women were in universities. While actual figures have changed some since 1974, the basic patterns have not.

The cut-off points in the educational system are (1) completion of primary school (completion of Standard 7); (2) completion of the first stage of secondary school and acquisition of the JC (Junior Certificate); (3) completion of the second stage of secondary school and the receipt of the Cambridge Overseas Schools Certificate (COSC); and (4) obtaining a university degree. The Ministry of Education's projected enrollments are shown in Table 2.

TABLE 2

PROJECTED BOTSWANA EDUCATION SYSTEM ENROLLMENTS, 1977-85

Year	Standard 7	All Primary School Total	JC Exam		COSC Exam		First Year of University
			Form 3	Form 5	All Secondary School Total		
1977	12,790	137,290	2,566	857	10,219		
1978	15,800	151,900	2,660	1,070	11,270		180
1979	21,800	165,600	2,700	1,260	12,550		200
1980	22,300	183,900	3,170	1,290	13,920		220
1981	27,500	198,100	3,660	1,530	14,770		240
1982	26,100	207,200	3,770	1,530	15,280		
1983	23,400	218,900	3,770	1,530	16,070		
1984	29,800	235,300	4,140	1,530	17,230		
1985	31,300	247,600	4,520	1,530	18,410		
Average Annual Growth Rate		7.5%			7.5%		10%

Source: NDP V 1979-85, Ministry of Education, Draft Keynote Paper.

In its "Draft Macro Economic Outline, NDP V,"¹ the Ministry of Finance and Development Planning (MFDP) indicated that, in the years 1979-1986, the increase in supply of degree and diploma (post-secondary) "from University College, Botswana, from degree level courses overseas, from teacher training colleges and from other third level training institutions" would be 2,338. This total, according to the memo, would be distributed as follows:

Teaching	1,070
Central Government	619
Private, parastatal and Local Government	534
Not in formal sector	<u>115</u>
Total Increase in Supply of Degree and Diploma Manpower, 1979-1986	2,338

¹ MFDP, op. cit., p. 4.

The Draft Macro Economic Outline further commented on the gap between supply and demand:¹

The total numbers of degree and diploma manpower available...are very much lower than the total demand from various sectors of the economy. Indeed, central government alone has as of today (September 1978) over 900 'A' group vacancies (roughly equivalent to the diploma and degree group), which it would like filled and at least 100 new posts that it wants to create, whereas the total increase for central government is likely to be no more than 500 for the entire NDP V period. The situation in the private and parastatal sectors and in local government is at least as bad.

Understandably enough, the dominant theme of the rest of the Draft Macro Economic Outline is the manner in which the scarce supply of manpower that is available will be allocated among different sectors of the economy. For example, the discussion of secondary school level manpower is completely in terms of how much the growth of this level of manpower for central government will have to be reduced. Assuming no scheme for National Service and no takeover of the Rhodesian-controlled railway, the supply of Cambridge-level manpower (secondary school leavers) would only permit an average growth rate per year of 7.6 percent for the period 1979-86, as opposed to the past rate of about ten percent. If a railway takeover and a National Service Scheme are included, then the growth rate is reduced to between 5.0 and 6.0 percent per year average growth rate. This would be nearly one-half of the past rate.

¹ "Draft Macro Economic Outline, NDP V," op. cit. p. 11.

One way to increase the supply of skilled manpower is to invest in the expansion of the formal education sector, but this in itself is a manpower-intensive enterprise, since the only way to expand enrollments at primary and secondary schools is to train more teachers. The expansion of enrollments in teacher colleges then drains off scarce manpower needed for other areas of the economy. The responses of several ministries to the Draft Macro Economic Outline indicated some distress at the extent of the drain on manpower coming from the education sector.

Another problem is that, even when enrollments go up, quality may not. A manpower study by the Ministry of Overseas Development in 1978 stated the problem as follows:

The rapid expansion of secondary school enrolments during the 1970s has not resulted in an equivalent increase in the number of potential university entrants because of a declining pass rate in the Cambridge Overseas Schools Certificate exam.¹

The development of both the quality and quantity of educated manpower by expansion of the formal education sector is a long-term process. It should not be expected to serve as a "quick fix" for the current manpower constraint.

Next, there is the matter of training activities in Botswana. Along with increases in productivity in government service and expansion of educational output, training makes a contribution to easing the manpower constraint by increasing the skill level of those in government.

¹ Ministry of Overseas Development, Botswana Manpower Review, London (mimeo), January 1979, p. 6.

Training for Rural Development

There is no single training facility for all rural development staff in Botswana. The agricultural extension and health staff are trained at the Botswana Agricultural College (BAC) and some go to the Swaziland campus of the University of Botswana/Swaziland (UBS). Community development workers are given diploma training (two years) at BAC. Vocational/technical training oriented toward rural activities takes place in Brigades, which take primary school leavers and train them. Brigades can undertake training, form a production unit or do both. District Administration officials and Land Boards may receive training from staff in the Ministry of Local Government and Lands. General courses in administration, clerical/secretarial and accountancy at lower and middle levels are provided by the Botswana Training Center (BTC), while higher-level management training is provided by the Institute of Development Management (IDM) in Gaborone.

A rough outline of the various clienteles, types of training, and training institutes is presented here.

Clientele	Pre-Service	In-Service		
		Technical	Admin/Clerical	Managerial
Agricultural Workers	BAC UBS	Rural Training Centres		
Rural Vocational/Technical	Brigades	Bridec (Brigade Development Centre)	Bridec	
Community Development Workers	BAC	MLGL Division of Social and Community Development		
Land Board Staff		MLGL/ULGS	BTC	IDM
District Council Staff		ULGS	BTC	IDM
District Admin Staff [DO(d)s and DO(L)s]		MLGL-DTRP/DLS		

Other Important Training Institutions and Their Functions

- IAE (Institute for Adult Education): A part of university faculty of education. IAE can assist in design of training programs and in training the trainers.
- BEC (Botswana Extension College): BEC runs radio extension courses for JC and GCE, but its main importance is materials development and media (radio) facilities.
- NCVT (National Center for Vocational Training): NCVT focuses on vocational technical skills with little rural market. Most training is aimed at passing the British "City and Guild" tests.

A review of the overall trends in training for rural development reveals that:

(1) Pre-service training for such specialties as health care, agriculture and community development is conducted in institutes that cater specifically to those who wish to enter that field. As a result, these fields do not have to compete with other ministries to receive university and secondary school leavers; they have their own preempted educational stream to draw from. MLGL does not have such an option and has argued strongly for its own training facility.

(2) The institutions that provide administrative, financial, and managerial training are not large enough to cope with the demand for their services. One result is that the competition for places in accountancy courses at BTC is quite heavy, and frequently it is the district-level staff (ULGS) who are denied access to BTC training courses or are informed too late to make application for their courses.¹

¹ David A. Watson, op. cit., pp. 38-42.

One of the reasons institutions such as IDM and BTC cannot expand to meet the demand for training is the difficulty they have in retaining staff. At BTC, for example, only 15 of 32 senior lecturer, lecturer and instructor posts were filled in 1978. At BTC it is difficult to keep staff because those who can teach accounting or management skills often have the option of much better paying positions elsewhere. The result is that training institutions have come to rely heavily on younger staff and expatriates. BTC has tried to get government departments to second staff to them so that they might be trained as trainers, but the response has not been heartening. In one instance, a government department refused to second a staff member for this purpose while complaining that BTC could not seem to train enough people for their department. It is hard to take such complaints seriously when the seconding of one person would have led to the training of many others.

(3) Finally, training for rural and district-level development requires courses that are tailored to meet the specific job tasks of those being trained. There is interest on the part of the training institutions; they do understand the problem. At BTC one instructor was using, as part of his course, the accounting forms his trainees filled out on the job. People at IDM have expressed an interest in making their project management courses more subject specific. The problem is that tailoring courses is a time-consuming and difficult task. Donor assistance can make a difference here by freeing up time so that instructors can tailor material to the tasks their trainees are asked to do every day.

The manpower constraint cannot be removed solely by expanding training facilities. Indeed, given staffing difficulties, expansion of such facilities has a natural

limit. Training is just one of several policies that can help increase government productivity. However, if training were more systematically planned by the DOP, and line ministries were able to draw up annual training plans and strategies, training could become more effective. Only rudimentary forward planning of training is done in the DOP, and a committee set up to coordinate training efforts last year has not yet been reestablished, following the appointment of a new Director of Personnel in February of 1979. There is plenty of room for improving the productivity of training efforts.

Manpower and Training Implications of the Rural Development Fund

The Rural Development Fund is based on the premise that small, experimental projects, sensitive to regional differences, are the ones most likely to discover viable, productive enterprises in rural areas. RDF projects, such as ALDEP pilots, horticulture or rural afforestation, are designed to avoid using much manpower. Of course, if any of the RDF projects become productive enough to be expanded to large areas of the country, then officials would have to spell out the manpower implications. For example, wildlife utilization efforts, if successful, could lead to a new cadre of field workers; or the horticulture estates could become popular and require considerable extension assistance. As for training, it is from the conduct of the projects themselves that ministries hope to develop training procedures to expand the projects to a wider public.

The activities supported in the RDF under LG 31 and LG 36 stand out as exceptions: they are both umbrella projects themselves rather than small, experimental efforts. Both are intended to support land allocation and

land use planning at the district level by assisting local institutions such as the Land Boards, the Land Use Planning Advisory Group and the District Development Committee.

LG 36 shows how these projects come to have manpower implications and training needs. MLGL is proposing to establish technical officer posts for each of the 12 Main Land Boards in Botswana, to be supervised by four regional technical officers. MLGL must either find trained staff to fill these positions, train existing staff, or bring in expatriates. LG 36 also provides for training for both Land Board members and staff so that they can understand the technical, legal and administrative issues that their work entails. Such training may involve outside consultants, local training institutions and skilled technical people in the MLGL. Finally, LG 36 provides for the development of a research unit on land tenure questions. This would require two to three new staff and training funds. The total number of new staff does not sound like much: 16 technical officers and two or three researchers. But one way to see it in perspective is to realize that USAID is spending seven million dollars over five years to increase BAC's capacity to produce forty more agricultural certificate and diploma graduates each year.

The Rural Development Fund, then, is designed to assist small experimental projects with a low demand for manpower or training. If any of these projects grow into a regional or national program, then the Government of Botswana will want to monitor carefully the manpower and training aspects of that growth. The MLGL projects are different; they are already established national programs. They do have important manpower and training components, and it is precisely these aspects of the projects that the Rural Development Fund seeks to support.

FINAL COMMENTS

It is not surprising that Botswana has a manpower constraint. It has only been independent for 13 years, and the educational structure left by the colonial authorities was totally inadequate for a new nation. The strong desire to build the infrastructure necessary to progress, coupled with a considerable abundance of foreign donor funds, led to an expansion of government staff to implement the needed development activities. The infrastructure and productive base was low, and the expansion was sudden. Naturally enough, Botswana ran out of skilled manpower. There are no easy or quick solutions. In the long run, the educational system will catch up and produce enough skilled manpower. Indeed, the problems of unemployment among primary school leavers are just now being recognized, and Michael Lipton's projections show that productive activities must be increased or the situation will worsen.

In the meantime, government can ease the pressure of the manpower shortage through training. It must also deal with productivity issues. The government must develop a set of incentives and career paths so that the best people are drawn to work for rural development. If government is not willing to provide substantial career and compensation rewards for those capable of leading the rural development effort in the field, then it must examine whether rural development really is a significant goal. The entire government personnel system in Botswana needs to be reviewed. There are ways of stretching scarce resources so that more is accomplished with the same number of people. The opportunities abound; what is needed is action.

Figure 4

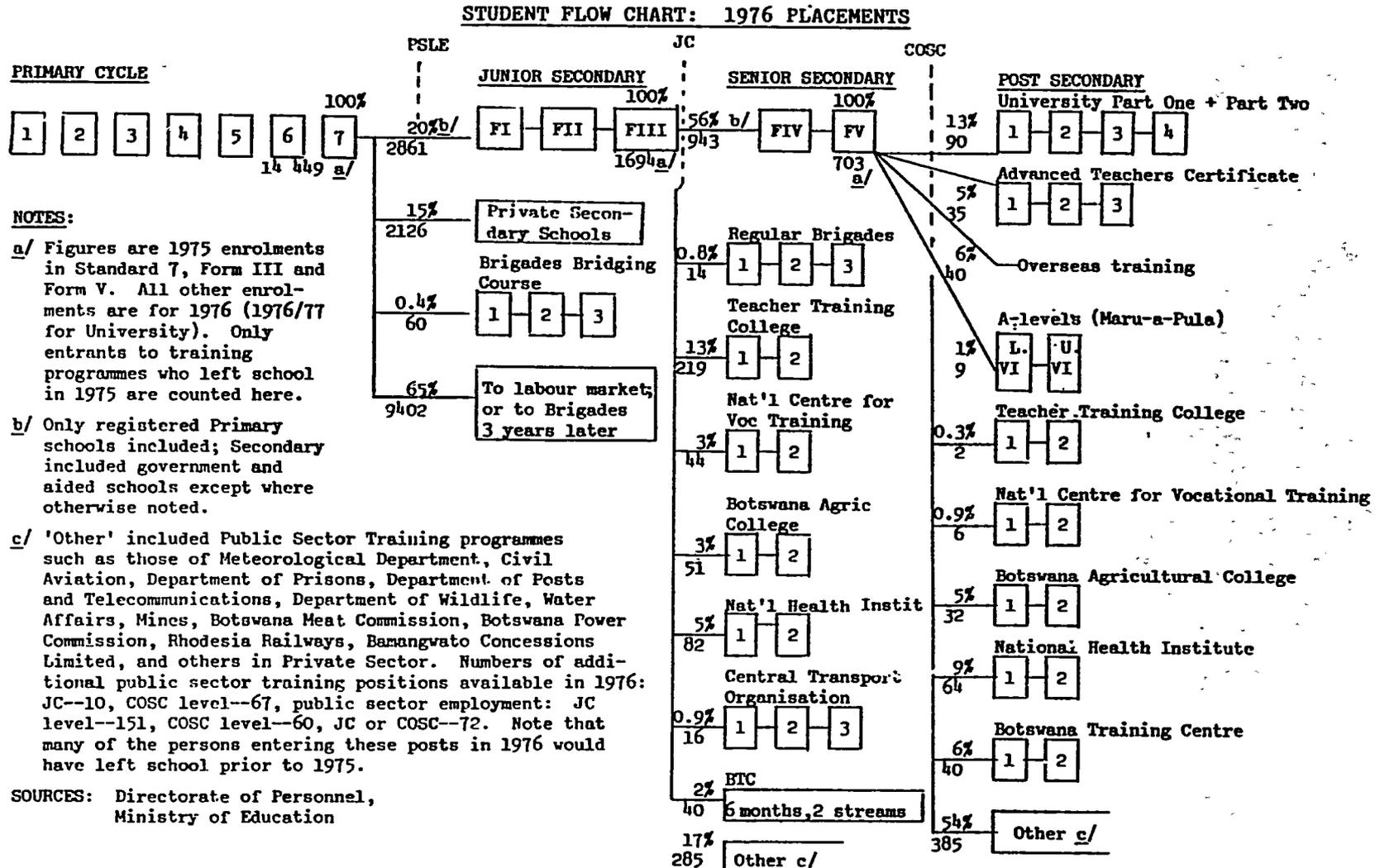
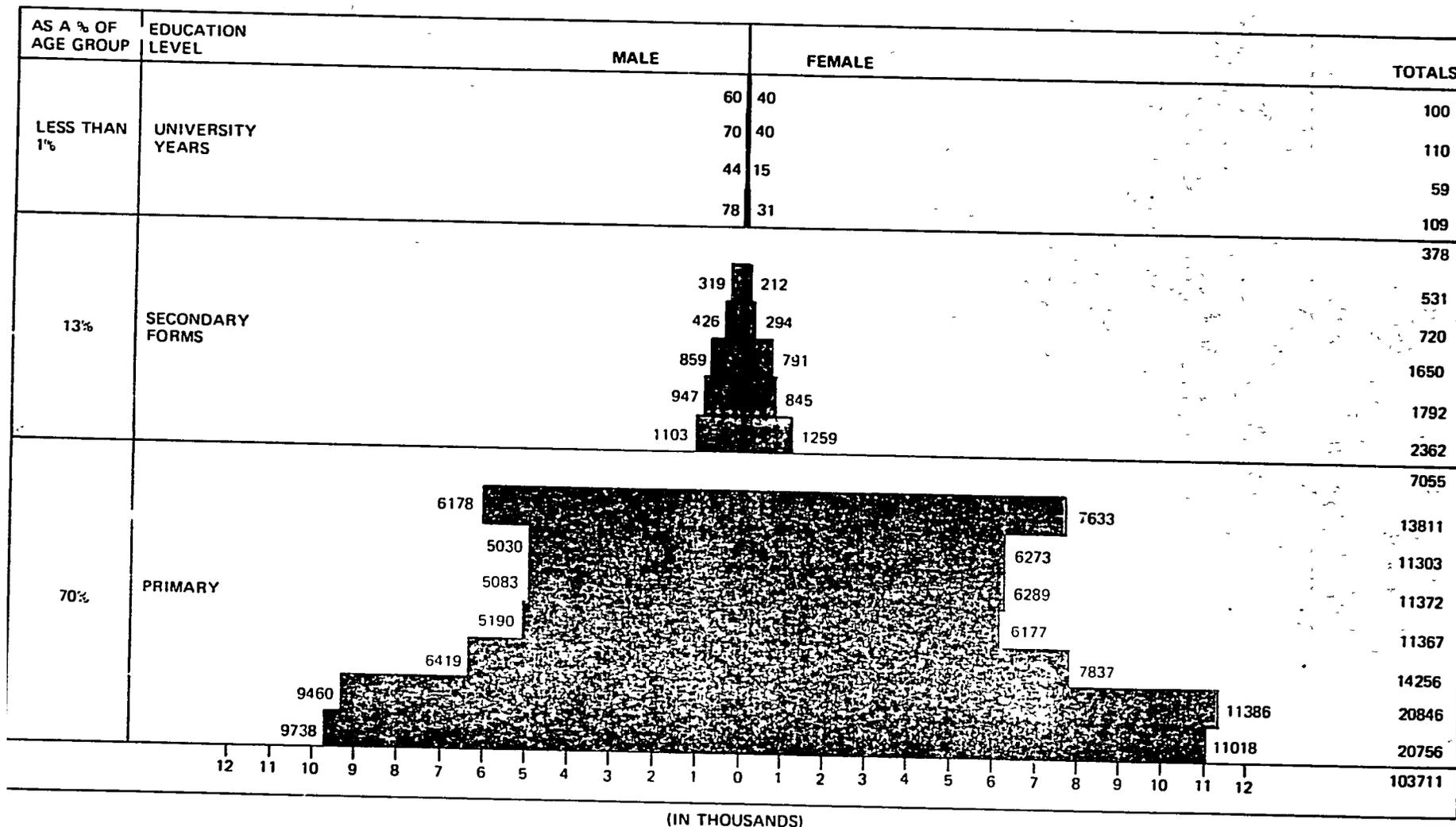


Figure 5

REPUBLIC OF BOTSWANA
EDUCATION PYRAMID - 1974



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CHAPTER SEVEN
ECONOMIC ANALYSIS

During the next 10 to 20 years, the GOB will need to give high priority attention to increasing productive capacity in rural areas. This is because:

- Botswana is a food deficit country, not only overall but in the rural areas where agriculture is a major economic activity;
- Low productivity in rural areas is leading to rural underemployment and, through out-migration, rising unemployment in urban areas; and
- A large proportion of Botswana, particularly the lower 60 percent of rural households, has not yet begun to participate in and benefit from the country's rapid economic growth.

DISCUSSION OF PROBLEM AREAS

Food Self-Sufficiency

There is no doubt that achieving food self-sufficiency in Botswana would have a major impact on the rural population. Although no one knows what the effective demand for foodgrains is in this country, the FAO estimate of 250 kilograms per person for a nutritionally adequate diet would imply a requirement of about 185,000 tons per year. This is consistent with available data, which indicate production levels of 70,000 to 90,000 tons during years of normal rainfall and annual imports approaching 100,000 tons of grain equivalent (mostly in the form of maize flour). Even if effective demand were slightly less than nutritional requirements, say 200 kilograms per person, achieving self-sufficiency could mean almost doubling production.

A closer look at the nature of the food deficits gives some idea of what might be appropriate targets and strategies over the next five to ten years. Of Botswana's population of 763,000, approximately 120,000 live in urban areas, another 150,000 are non-farming families living outside of urban areas, mostly in the major villages, and the remaining 493,000 are made up of 80,000 rural farming households. At the present time the food grain requirements of towns and major villages (approximately 67,500 tons assuming per capita consumption of 250 kg./year) are met almost entirely by imports and, as a group, the rural households have an additional deficit that can total 30,000 to 40,000 tons. Likely trends in population growth indicate that foodgrain requirements in 1987 will be as follows:

	<u>Population (000)</u>			<u>Foodgrain Requirements in 1987 (tons)</u>
	<u>1978</u>	<u>1987</u>	<u>Growth Rate</u>	
Towns	120	285	9%	71,000
Major Villages	150	200	3%	50,000
Rural Areas	<u>493</u>	<u>550</u>	<u>1%</u>	<u>138,250</u>
	763	1,035	3%	259,250

Starting from a production level of 80,000 tons in 1978 (assuming average rainfall), production would have to grow by 5.6 percent per year to eliminate the foodgrain deficit in rural areas by 1987. If the deficits in major villages and urban areas are added, the required growth rate becomes 9 percent and 12.5 percent, respectively.

Achieving national food self-sufficiency is an ambitious goal, and the serious pursuit of it implies major increases in production and incomes in rural areas. It is also clear that Botswana is unlikely to become self-sufficient in the foreseeable future. A 5.6 percent growth rate in food production, sustained over ten years,

has rarely been achieved by countries with semi-arid climates, and a nine percent growth rate would seem to be out of the question. This would indicate that the GOB should aim for an ambitious but perhaps attainable six percent growth rate in foodgrain production and concentrate on improving marketing channels in rural areas and between rural areas and major villages.

Employment Generation

As is the case in most other developing countries, the unemployment problem in Botswana stems from very low levels of productivity in rural areas and an insufficient number of employment opportunities for those migrating into urban areas. The problem is particularly acute at this time for Botswana, because several important sources of employment during the last decade or more have leveled off and some are beginning to decline. According to the recently published Lipton Report, the estimated breakdown of employment in 1978 was as follows:¹

Formal sector, non-farm	64,500
Informal urban sector	12,000
Informal rural sector	17,500
Non-freehold crop production	35,000
Non-freehold livestock production	60,000
Freehold farms	6,500
Hunting and gathering	<u>5,600</u>
Total in Botswana	201,100

(Including migrant laborers in South Africa)	261,100
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In very general terms, Lipton estimates the Botswana labor force to be almost 365,000, implying an unemployment level of over 100,000. Although it is difficult to dis-

¹ Michael Lipton, op. cit., Vol. I, p. 18.

cern from Lipton's analysis exactly where the unemployment is located, some estimates are possible. Demographic data show that population growth in urban areas is 13 percent a year, while growth in formal sector employment is less than nine percent. This implies a very rapid growth rate in urban unemployment and underemployment. In the rural areas Lipton estimates that total employment in the crop and livestock sectors is about 95,000. Assuming conservatively that 160,000 persons are available for agricultural work (i.e., two per farm household) and have no alternative means of employment, rural underemployment can be estimated at 40 percent.

Looking at the future, employment opportunities will have to grow by 11,000 to 12,000 per year to keep up with the increase in the labor force. This would not permit any reduction in the level of unemployment estimated by Lipton. Of the sectors shown in the preceding table, employment in freehold farms, hunting and gathering and perhaps livestock are not likely to increase, while employment in South Africa can be expected to decline, perhaps by as much as 5,000 jobs per year. The key sectors, therefore, are the urban formal and informal sectors, the crop production sector and rural non-farm employment. If urban employment is projected to grow by nine percent per year (7,000 new jobs), this leaves a minimum of 4,000 jobs to be provided in the crop and rural off-farm employment sectors, i.e., a 7.65 percent annual increase in employment for these two sectors. The problem is obviously much more serious when the expected decline in migrant labor employment is taken into account, and becomes close to unmanageable if an attempt is made to eliminate the existing unemployment level of 100,000.

Lipton's policy proposals for creating the necessary jobs fall into two categories:

- Keep wage rates down in the formal sector while increasing productivity in agriculture; and
- Reallocate investment outlays to sectors where the cost per job created is lowest.

This is a long-term process. What is likely to happen in the medium-term is that, as labor surpluses continue to increase in urban areas, unemployment will grow, and urban incomes will drop relative to rural incomes, thereby inducing increasing numbers of laborers to remain in rural areas. Although this may reduce the rate of rural-urban migration, it does little to increase the incomes of the large majority of Botswana currently living at close to subsistence levels. In the long run, if unemployment is to be lowered to acceptable levels and income disparities reduced, productivity in agriculture will have to increase significantly.

The Rural Poor

The Rural Income Distribution Survey carried out in 1974/75 found wide income disparities between rural households. The most glaring differences related to livestock ownership. Fifty percent of the national herd was owned by the five percent of households that had herds of more than 50 animals; 45 percent of the households owned no cattle and another 15 percent owned seven or less.¹ Perhaps a more telling statistic is that 32 percent of animals delivered to the Botswana Meat Commission slaughterhouse in 1977 came from freehold farms. These largely white-owned farms comprise a miniscule percentage of rural households.

¹ Government of Botswana, Ministry of Finance and Development Planning, Rural Income Distribution Survey, Gaborone: Government Printer, 1975, p. 111.

For purposes of rural development strategy formulation in Botswana, the rural poor can be defined as that 60 percent of rural households who cultivate less than four hectares of land and own fewer than eight head of cattle. This group is characterized as:¹

- Heavily dependent on outside sources of draft power;
- Employing no outside labor;
- Producing 1,000 kg. of foodgrains on four hectares (many, in fact, farm much less than this) compared to minimum household needs of 1,500 kg.;
- Often lacking a male head (one study found that over 30 percent of rural households, i.e., one-half of the group categorized here as the "rural poor," were headed by women).²

Another way of characterizing the rural poor is by source of income. The following table shows the most important sources of income for rural households at the lower income levels.³

¹ Hoyt Alverson, Memorandum to the ALDEP Working Group, September 12, 1978.

² Carol A. Bond, Women's Involvement in Agriculture in Botswana, Report in conjunction with the ODM Extension Advisory Team, Gaborone: Government Printer, November 1974; p. 57.

³ Rural Income Distribution Survey, op. cit.

	Households Categorized By Per Capita Income	
	<u>Bottom 10 Percent</u>	<u>Bottom 15 to 50 Percent</u>
Household income (1974/75)	P161.40	P430.00
Percentage Breakdown:		
Crops	6%	9%
Livestock	5%	7%
Employment	15%	36%
Gathering	18%	8%
Migrant labor	21%	14%

At the time of the survey the minimum household income level considered adequate to meet basic needs was about P600. In effect, the poor majority in rural areas are:

- Considerably below subsistence-level food producers;
- Dependent on employment, gathering and migrant labor earnings for much of their income;
- Most susceptible to severe hardship during periods of food scarcity and high prices; and
- Most often deprived of male labor for farmwork.

It is quite likely that this group of farmers will not benefit greatly from programs to increase production in rural areas unless special efforts are made to address their specific needs. The major constraints to increased production in these households are generally considered to be lack of draft power and resources to purchase farm implements, land without adequate water during the plowing period, and scarce labor. Although progress is likely to be slower and more difficult with these farmers than with the larger, more progressive ones, the impact will be more immediate in terms of broad-based development and is likely to be stronger over the long run. These families

have very few employment opportunities, all of them at a low level of productivity. It is likely that much of the underemployment Lipton found in rural areas is within this group of households, so that successful programs to increase their productivity will directly alleviate a large portion of the rural employment gap. Similarly, since these same households also account for most of the food deficit in rural areas, increasing their on-farm productivity is the most effective way of addressing that particular problem where the need is greatest.

Conclusion

The preceding discussion demonstrates that there are compelling reasons for the GOB to assign high priority to achieving increased productive capacity in rural areas, especially at the small farmer level. In the absence of such increases, income disparities will widen, urban unemployment will grow, and the productive base for continued growth and development after the country's major mineral resources have been exploited will not have been established.

Achieving widespread increases in rural production, however, will not be an easy task. At the national level there are serious constraints related to the size of the domestic market and competition from imports; and at the producer level special efforts will be required to:

- Make expanded production activities financially remunerative in the context of existing production systems; and
- Reach those households that currently have the highest levels of unemployment and the lowest incomes. The economic constraints to be overcome are discussed in the next two sections.

MACRO-ECONOMIC CONSTRAINTS
TO INCREASING PRODUCTION IN RURAL AREAS

The major productive activities being pursued for income and employment generation in rural areas, more or less in order of importance, are:

- Foodgrain production;
- Livestock production;
- Other agricultural production; and
- Rural industries and trades.

Foodgrains Production

The earlier discussion of the foodgrain deficit showed that there is a sufficiently large domestic market for sorghum and maize to absorb sustained rapid increases in production over the next 10 to 20 years. Government programs to increase crop production have been underway for some time. A package of high-yielding practices was developed in the early 1960s and introduced on a limited scale under the Pupil Farmer Scheme. This program was terminated in the early 1970s in favor of a more broad-based extension program, which has had very little impact. During the past year the GOB has assigned high priority to increasing crop production through the Arable Lands Development Programme (ALDEP). ALDEP production and farmer income targets have been set for 1985 and 2000, and interventions are being designed to address all of the major constraints to increased production.

At the macro-economic level, the most important constraint to achieving the production increases sought by ALDEP is low-priced imports from South Africa. The policy of the Botswana Agricultural Market Board (BAMB) is to set producer prices at the maximum level that permits it to

compete with imports without incurring losses. BAMB's producer prices and purchases of maize and sorghum since 1975 have been:

<u>Crop Year</u>	<u>Maize</u>		<u>Sorghum</u>	
	<u>Price (P/ton)</u>	<u>Purchases (tons)</u>	<u>Price (P/ton)</u>	<u>Purchases (tons)</u>
1975/76	50.00	440	67.14	150
1976/77	55.00	2,379	63.57	138
1977/78	73.57	9,561	80.71	5
1978/79	115.70	6,947	128.57	399

During years of good rainfall BAMB prices are in line with private market prices, but in years of low rainfall farmers can obtain considerably higher prices by selling to private traders. The consensus is that, although BAMB is providing a useful service as a purchaser of surplus foodgrain production in certain easily accessible parts of the country, its producer price is not high enough to induce significant increases in production. This raises a range of issues related to price policy and subsidies. The key questions are: (1) are the social benefits to increased foodgrain production (lower urban migration, reduced dependence on outside sources of food) higher than the economic benefits based on free market prices; and (2) can an infant industry case be made for subsidizing higher yielding technologies now, in anticipation of their becoming economic later? If the answer to these two questions is yes, then it is imperative for the government to formulate appropriate price support and subsidy policies as soon as possible. Otherwise the ALDEP crop production targets will not be achieved.

Setting price and subsidy policies requires, among other things, careful study of costs of production, avail-

able new technologies and price elasticities of supply. A useful first look at some of these issues was taken by Martin Eakes.¹ His findings confirm that subsidies are in fact needed if domestic production is to replace imports in the foreseeable future, and he makes a persuasive case on welfare grounds for selective subsidies of inputs, rather than across-the-board producer price subsidies. However, his analysis does not specify the magnitude of subsidies required, nor how long they should be in effect. This needs to be estimated with as much accuracy as possible to assure that the desired objectives are achieved at minimum cost in terms of both Government outlays and consumer welfare.

Aside from the question of South African competition, there are issues related to the marketing of domestically produced grains. BAMB's experience has shown that transport costs from producing areas to major consuming centers can amount to 25 to 50 percent of the producer price. If commercial foodgrain production is to take place on a large scale, it is essential that farmers be able to market their crops in a timely manner and at reasonable cost. Once high-yielding technologies are successfully introduced at the farm level, marketing considerations determine whether or not the increased productivity is translated into marketable surpluses for urban areas.

Furthermore, if domestic production is to meet a substantial portion of the commercial market, milling capacity must be greatly increased and dispersed. The feasibility issues related to a milling industry in Botswana have been explored in connection with several proposed

¹ Martin D. Eakes, Crop Pricing and Protection in Botswana: 1978, prepared for the Botswana Ministry of Agriculture, Gaborone: Government Printer, August 1978.

maize and sorghum milling projects. The findings will need to be generalized and made part of the country's food self-sufficiency program. Since substantial levels of commercial production are not likely to be reached for several years, however, these issues are not as urgent as those related to crop production.

Livestock Production

Although the livestock sector did not receive much attention in the Lipton report, it is an important determinant of future income and employment levels in rural areas. Livestock production accounts for about 70 percent of value added in agriculture and, according to Lipton, employs over 60,000 people (compared with 35,000 in the crop sector). Should this sector not contribute to increased employment and higher small producer incomes in the coming years, it will be extremely difficult for the crop production and off-farm employment sectors to make up the difference. In fact, although the national herd of three million cattle is close to maximum carrying capacity, livestock production can be increased substantially through increased productivity of existing herds. The key over the long run is improved range management. If present practices continue, production will not only level off but decline as the quality of the rangelands deteriorates. If, on the other hand, range resources are managed properly, it is technically possible for herd offtake to be increased substantially over the present level of six percent; the official GOB target is to reach 13 percent offtake by 1985.

A productivity increase of this magnitude requires basic changes in animal husbandry practices, including supplementary feeds, better health control and a meat production-oriented approach that includes better culling

practices and, in time, selective breeding. These are all elements of the GOB's livestock development program. The Tribal Grazing Land Policy is aimed at: (1) controlling overgrazing by limiting the number of watering points and encouraging the movement of herds from currently overstocked "communal" areas to newly created "commercial areas;" and (2) encouraging the formation of herds into optimal sizes from a livestock management standpoint. In addition, the GOB has an extensive animal health program as well as Livestock Advisory Centers (LACs) that provide extension advice in improved animal husbandry practices.

These improved practices, however, are more likely to be adopted by the five percent of herders who own 50 percent of the national herd than by the smaller, more traditional herders whose animals serve many purposes other than meat production, i.e., stores of wealth, milk production, prestige, security and draft power. While there will be increases in production, it is not likely to contribute much to employment generation or widespread increases in income. In fact, if increased meat production is pursued without sufficient regard for the traditional socioeconomic relationships that currently prevail in the livestock sector, the effect could well be increased unemployment and extreme hardship for rural households that are dependent on livestock either directly or indirectly for a significant portion of their incomes. The GOB does provide a number of services that are available to small herders (the LACs, the Livestock Marketing Cooperatives, and the Services to Livestock Owners in Communal Areas project), but in the past most of the benefits from these programs have accrued to the larger owners. As is often the case in other sectors, those aspects of livestock development that can most benefit large numbers of people are also the most difficult to implement. For this reason it is quite likely that Lipton's projection of reduced em-

ployment in the livestock sector will prove correct unless the government assigns highest priority to needs of the small herders.

On the demand side, Botswana faces some potentially serious constraints to increased output. In recent years the volume of exports has stabilized and earnings have increased only because of rising prices in the European Economic Community (EEC). Botswana has access to the EEC market because of special arrangements that existed when the United Kingdom became a member. This access is considered temporary, and when it is terminated, Botswana could have difficulty finding new markets. Most observers agree that it is in the country's interest to find new markets for its livestock products, even if it means accepting lower prices.

Other Agricultural Production

This category of productive activity includes vegetables, poultry, eggs and dairy products. At present most of the commercial markets for these products are supplied through imports. Replacing these imports with domestically produced goods is often highlighted in employment and income-generation programs. Although an import substitution effort would certainly create a substantial number of jobs, it is important to recall that total imports of these products amount to less than P6 million per year, a large portion of which could not be produced economically in Botswana. The total number of jobs that could be created would probably not be more than 2,000, although these are all income-elastic goods that are likely to experience rapid growth rates as per capita incomes in Botswana increase.

Aside from the limited size of the domestic market, bringing about import substitution is itself problematical. The difficulties are especially serious for poultry and dairy products. South Africa is an efficient producer in both industries. Preliminary attempts to produce for the urban market have shown that costs of production are much higher in Botswana than in South Africa, primarily because of feed costs; quality control, preservation and marketing require a level of technical and managerial expertise that local producers do not yet have. Attempts to produce vegetables commercially have been more successful, mainly in the major villages. Although production costs are higher, during certain times of the year local vegetables are of much higher quality than imported ones and prices compare favorably. GOB-supported efforts to supply the urban markets through horticultural estates are about to get underway, but the first experimental phase (the next three to four years) will produce less than 500 tons per year and will involve at most 40 households.

The major way for a large portion of the rural population to benefit from these sectors is through subsistence production. Households and farmer groups can be encouraged to start vegetable gardens and raise poultry. This type of production activity can be greatly expanded, and productivity can be increased through better cultural practices. Some programs have already started, and agricultural field staff are being provided with the funds and training to assist small farmers in these endeavors.

Rural Industries and Trade

According to the Rural Income Distribution Survey, this sector generated about P5.3 million of income in 1974/75, of which P2.9 was trade and commerce and another P1.9 was beer manufacturing.¹ This compared with

¹ Rural Income Distribution Survey, op. cit.

value added in agriculture of P60 million and remittances from workers in South Africa of P9 million. Although rural industry clearly does not generate much income or employment and cannot be expected to in the foreseeable future, it nonetheless plays a key role in the rural development process and needs to be encouraged from the outset. This is because of the forward and backward linkages related to increased agricultural production. On the one hand, increasing agricultural productivity requires a range of inputs that must be available in a timely manner and serviced when necessary. On the other hand, as incomes are earned, especially by the poorer households, demand for products that can be produced locally increases rapidly. Also, increased agricultural production creates opportunities for agro-industries that can have important employment implications. This process is not necessarily automatic, which means that inattention to rural industry can result in constraints that impede agricultural growth and/or result in fewer spread effects stemming from increased farm production and incomes.

The GOB is about to launch a national rural industrialization program. Present plans are to give priority attention to the following industries:

- Agricultural processing;
- Agricultural inputs;
- Construction and construction materials;
- Simple consumer goods; and
- Handicrafts.

This is the standard list of industries that usually make up a rural industrialization program. The present demand in each of these industries and likely growth under alternative assumptions regarding agricultural production have not been determined. Over the longer term rural in-

dustry planning should be done in the context of integrated regional planning in the Ministry of Local Government and Lands.

Conclusions

The major conclusion to be drawn from this section is that there are serious macro-economic constraints to increasing incomes and employment in rural areas. The greatest potential is in crop and livestock production because in the medium term these sectors have the largest markets and can therefore generate the most jobs. It is imperative, however, that the GOB:

- Determine as soon as possible what steps need to be taken at the national level to make foodgrain production profitable; and
- Assign high priority to increasing the productivity of small herders in a socially acceptable way and begin making a concerted effort toward that end.

These steps will not, of course, assure full employment, but without them, the more specific efforts related to the technical and farm-level aspects of agricultural and livestock production can have only limited results.

MICRO-ECONOMIC CONSTRAINTS TO INCREASING CROP PRODUCTION

Although a package of improved practices has been available for extension to farmers for the past 20 years, 90 percent of rural households continue to use traditional methods. If programs to increase food production are to succeed in Botswana, they must be based on a thorough understanding of existing farming systems and a realistic assessment of the economic feasibility and production potential of currently known higher-yielding practices.

The traditional farming system in Botswana has been referred to by some observers as "pre-farming" or "intensive gathering." It consists of:

- Broadcasting;
- Plowing with a team of six oxen that are raised for meat rather than draft purposes;
- Chasing away birds during the end of the growing season; and finally
- Harvesting by hand.

This system yields less than 300 kg. of sorghum and maize per hectare, which explains why most rural households are deficit food producers. For the lower 50 percent of rural households crop production accounts for less than 10 percent of total income earned. The main sources of income for these families are is off-farm employment within Botswana and migrant labor in South Africa. Male members are often away from home, and even when they remain in rural areas most of their time is devoted to livestock production, usually tending cattle belonging to others. Consequently, women provide 70 percent of the labor for crop production.¹

This extensive approach to farming is part of a broader production system that includes livestock raising, hunting and gathering, off-farm employment in major villages and cities, and migrant labor in South Africa. This system was developed over the years in response to environmental conditions in Botswana and changing economic opportunities. Socioeconomic studies of this system have found that, although some aspects of it are socially disruptive, the allocation of labor available to the rural household is optimal from the standpoint of maximizing economic returns and minimizing risks. (Chapter Eight

¹ Carol Bond, op. cit., p. 13

gives a more detailed explanation of the household resource allocation and control strategies that currently prevail in rural Botswana.)

The major immediate constraint to increased production seems to be access to draft power for timely planting. Related to this problem is the lack of water in the arable lands areas during the optimal plowing period, which is after the first rains. Studies have shown that farmers with direct access to animals and water plant earlier than other farmers and consistently obtain higher yields.

If adequate draft power were made available to most small farmers (at least four and preferably six oxen per household, using traditional plowing practices), this would presumably enable them to cultivate the six to eight hectares of foodgrains that would meet their subsistence needs. There is considerable doubt, however, that the cost of providing the draft power can be justified in terms of increased production. Would the benefiting households generate the resources necessary to pay for the draft power over the long run? This issue is complicated by the fact that draft power as an investment does not exist in Botswana. The oxen used for plowing are purchased and raised for their meat value. It has yet to be determined whether purchasing oxen primarily as draft power and only secondarily for meat is economic under traditional or even improved farming systems in Botswana. Perhaps for the time being, increasing the access of poorer farm households to draft power should be based on the traditional system of sharing cattle rather than on a government program to provide animals directly to farmers.

A second issue related to increasing production under traditional farming systems is whether other constraints,

particularly labor, would become a factor if the draft power constraint were overcome. For many farm households achieving food self-sufficiency means at least doubling production. Since this would certainly require additional labor inputs, particularly at harvest time, the willingness of the affected households to divert labor from other activities for purposes of food production needs to be determined. Answers to these questions can only come from carefully monitored studies of traditional farming systems.

In the long run there is no doubt that traditional farming practices described here will have to be made more productive if the food deficit is to be reduced significantly. The currently recommended package of improved practices includes:

- Winter plowing;
- Row planting (for which a planter is essential);
- Use of manure and, under certain circumstances, fertilizer;
- Use of improved seeds;
- Two weedings (for which a cultivator is highly desirable but not essential); and
- The use of insecticides.

These practices were extended to a select group of "pupil farmers" during the 1960s, and the results have been monitored over a period of several years. Professor Hoyt Alverson¹ presents data from a MOA farm manage-

¹ Hoyt Alverson, "Arable Agriculture in Botswana: The Contribution of Traditional Social Formations," undated, pp. 12-13. Dr. Alverson estimated maize revenues per holding at P9.30, which is not consistent with the maize yield and selling price shown elsewhere in the table. His estimate was revised to P12.00, which does not affect the conclusions of his analysis.

ment study,¹ which show the economic returns to the improved practices for an average group of ex-pupil farmers in 1975/76, an above average rainfall year. The relevant data are:

Mean area cultivated	19 ha.
Mean labor inputs per ha.	12 person-days
Cost per ha. of hired labor (25% of total labor inputs @ 55t/day)	P1.65
Capital depreciation over 10 yrs./ha. (excluding opportunity cost of oxen)	P3.60
Mean variable costs/ha.	<u>P.6.65</u>
Capital costs + variable costs + Labor costs/ha.	P11.80
<hr/>	
Mean yields/ha. Sorghum (national mean: 311)	341 kg.
Mean yields/ha. Maize (national mean: 281)	481 kg. 481 kg.
Total revenue/ha. (1/2 maize, 1/2 sorghum):	
170 kg. sorghum @ P6.00/90 kg. bag	P11.33
240 kg. maize @ P4.50/90 kg. bag	<u>P12.00</u> <u>P23.33</u>
Gross margin/ha.	P11.53
Net income per household P11.53 X 19 ha.	P219.00

When hired labor is deducted from total labor inputs, returns to household labor are P1.28 per person-day.

¹ R.A. Purcell and J. P. G. Webster, Agricultural Change in Botswana, Ministry of Agriculture, Gaborone: Government Printer, 1977.

With the minimum poverty line estimated at P600 in 1975/76, Alverson concludes from these data that the recommended practices do not permit rural households to meet all of their needs from crop production. Perhaps more relevant, however, is the question of whether the improved practices can be an economic part of a larger system that includes other sources of income. This depends primarily on how much additional labor the improved practices require and on the opportunity cost of that labor.

Looking only at livestock, for instance, the overall farm budgets of the pupil farmers in the Purcell and Webster study show returns per person-day of labor to be twice as high for livestock as for crops. Clearly the pupil farmer would not choose to increase crop production if it required shifting labor out of livestock. Most of the pupil farmers in the MOA survey had sizable herds (average herd size increased from 28 in 1971 to 60 in 1976), and derived substantially more income from livestock than from crops. This indicates that, although the improved practices are not sufficiently remunerative to justify full-time crop production, they can nonetheless be economically integrated into a larger system that includes livestock production and cash incomes earned from off-farm employment. However, a return of P1.28 per person-day clearly shows the presently available new technology to be marginal and not likely to provide an adequate technical base for a large scale foodgrain production program. A long-range effort to increase the productivity and profitability of improved practices adapted to Botswana needs to be initiated as soon as possible. Until this effort begins to yield concrete results, it may be necessary to introduce selected input subsidies if it can be determined that the costs of such subsidies can be kept commensurate with the resulting increases in production.

The various micro-economic constraints to increasing crop production come down to a question of opportunity costs of labor and capital. The traditional system is low in cost in terms of both labor and capital. To introduce changes into this system that will lead to self-sufficiency at the household level, it is necessary that the costs (including income foregone) of increasing food production be less than what it would cost the producer to purchase food to cover deficits that he typically has at present. ALDEP is based on the assumption that, with improved practices, it will be economic for a substantial number of farmers to shift labor and resources from other activities into crop production. Since most of the households with adequate livestock and assets to adopt the improved practices have not done so, this assumption is at best questionable.

Given that the retail purchase price of foodgrains is considerably higher than the produce sale price, the use of improved practices for commercial foodgrain production is even more difficult to justify than production for subsistence. This has direct implications for: (1) the ability of farmers to cover the costs of increasing crop production by selling some of those crops; and (2) the ability of ALDEP to stem urban migration. One ALDEP target is to achieve cash incomes of P300 per year.¹ This is estimated to be the level of rural household income necessary to induce workers to remain in rural areas. At a sale price of P7 per 90 kg. bag of sorghum, a rural household would have to produce about nine tons of foodgrains (6.75 tons of marketable surplus) to earn a net cash income of P300. This greatly exceeds the performance of even the most progressive pupil farmers.

¹ Draft NDP V, Agriculture Chapter, p. 3.

This, however, does not necessarily mean that increases in commercial crop production cannot be achieved with the existing technology. The MOA farm survey of pupil farmers showed that commercial crop production could be part of a larger system that included livestock production and off-farm employment. Without changing the technology greatly, it is quite likely that profitability could be increased significantly with the introduction of more cash crops. If the related goals of food self-sufficiency and rural employment generation were pursued in the context of a broad-based, integrated program to increase production in rural areas, the relevant targets could be stated in more realistic terms. Specifically, the goal of ALDEP could be stated as reducing food deficits in rural areas and increasing income earned from crops, in the context of a larger program to increase the productivity and incomes of rural households. These would be more useful goals for planning purposes than the present ones of achieving food self-sufficiency and stemming urban migration.

MEASURES NEEDED TO INCREASE PRODUCTION IN RURAL AREAS

Certain steps should be taken by the Government of Botswana to address some of the constraints to increased rural production that have been identified here.

Technical Research

Although not strictly an economic constraint, the lack of a technical base for increasing crop production is central to any rural development program in Botswana. The currently recommended improved technical package is, at best, only marginally economic in certain areas of the country and in terms of long-term objectives is unaccept-

ably low yielding (450 kg/ha). The first need is to refine the basic package so that it reflects growing conditions in differing regions of Botswana.

Some of this research is currently underway at Sebele and on selected farms in the area around Sebele. The Evaluation of Farming Systems and Agricultural Implements Project (EFSAIP) is studying the technical aspects of improved practices from a systems standpoint, and has developed much useful information on the technical reasons that certain aspects of the recommended package are not acceptable to farmers. More of this type of research is required in other parts of the country. Variations in the recommended package should be tested to determine production responses to different inputs. It is particularly important to compare results with recommended levels of fertilizer use, no fertilizer use and minimum levels that would be economic to farmers given the higher chance of complete crop failure due to lack of rain. Research is also needed in export crops. Groundnuts, sunflower seeds and beans are now grown in significant amounts, but more technical research is required to provide a basis for large increases in production should it become economic to do so.

Over the longer term, research must be aimed at making the package more productive. This is admittedly a long, difficult process, especially in a semi-arid country like Botswana. In fact, under present market conditions it is difficult to conceive of any truly high-yielding technology (over 1,000 kg/ha) that would be economic. Over time, however, relative prices of food crops, cash crops and livestock could change in such a way as to make large-scale commercial production of foodgrains in some parts of Botswana economic.

Micro-Economic Farming Systems Research

Rural production systems in Botswana are extremely complex. The widely varied sources of family income reflect economic realities, as well as the need to spread risks in a precarious environment. The particular mix of economic activities varies with such factors as proximity to towns, availability of land, availability of livestock and adequacy of available technical packages for crop production. It is important to understand the underlying reasons for these different systems in order to design alternative, productivity-increasing systems that are socially and economically feasible. This does not mean that attempts to increase production have to wait until all aspects of traditional systems are completely documented, but rather that programs to increase the productivity of large numbers of small farmers are more likely to be successful if the basic elements of existing systems are understood.

At the same time, micro-economic studies related to possible improved practices are also needed. In Botswana this is particularly important for animal traction, because there is, as yet, very little information on the economic feasibility of investing in animals primarily for draft power instead of meat production. Eventually, Botswana farmers will have to abandon the practice of using four to eight oxen to pull one plow.

However, this entails not only investing in draft oxen, but also keeping them well fed and watered during the plowing period, when feed and water are scarce and expensive. So far little experimentation has been undertaken along these lines.

Other aspects of the package of improved practices that also need careful study include: labor requirements by month and by activity, returns to various elements of the package, and reasons for nonacceptance of certain practices. (At times the reasons are inadequate training, but sometimes a practice is simply not considered to be worth the effort, e.g., in the IFPP farm trials farmers tended to neglect the recommended second weeding.) Since cash crops are considered more remunerative on a per hectare basis than foodgrains, the study should also look specifically at the costs and returns of introducing them into the improved farm systems. The overall objective of the study would be to develop a good understanding of the many socioeconomic variables that are involved in introducing a high-yielding crop production system that includes many different uses of labor and sources of income.

At present only the Integrated Farming Pilot Project (IFPP) in southern Botswana is doing any systematic field-testing of improved practices. This project is introducing the recommended improved package, including fertilizer on farmers' fields and closely monitoring the results not only on production, but also costs of inputs, labor requirements and net changes in income. IFPP thus complements EFSaip, which concentrates on the effects of recommended practices on actual yields at the farm level.

Although IFPP is testing only one package of practices and is working in only one small area of the country, it is yielding useful information on why farmers do not adopt recommended practices. As in the case of EFSaip, IFPP has found that recommended practices developed on research stations can rarely be adopted in toto at the farm level. Not surprisingly, the reason is more often shortcomings in the practices than bad judgment on the part of

the farmer. The research at IFPP has also shown the importance and difficulty of introducing a set of changes at the same time. Adopting some elements of a new package of practices, while rejecting others, can often have negative effects on yields and farmer incomes.

In the future the type of research done at IFPP should be expanded to cover variations of the basic package, and extended to different parts of the country. This should be carried out as a joint exercise by the extension and research services of the MOA. Also the studies should be carried out under the supervision of experienced farm management researchers.

Extension agents are not likely to be sufficiently research- and evaluation-oriented to come up with findings on which generalized conclusions can be based. Ideally, the research would be carried out by a multidisciplinary team consisting of an agricultural economist, rural sociologist and a production agronomist. If local expertise is not available for such a study, which is quite likely in view of the serious manpower shortages in the MOA, an expatriate team will be needed. One member of the team would be a senior researcher and the other two could be graduate students. If Cornell University works out an arrangement to provide rural development-related services to the GOB, this would be a good mechanism for conducting the study. The draft NDP V Agriculture Chapter includes a project called "Farm Trials of Improved Practices," which has the same objectives as those proposed here. It is recommended that the ALDEP team prepare a Project Memorandum for this activity as soon as possible for possible funding under the USAID Rural Development Fund.

Agricultural Inputs and Farm-Level Infrastructure

The major inputs needed to increase production are draft power, a planter that works, a cultivator and improved seeds. The required farm-level infrastructure consists primarily of fences and water development, both dams and boreholes. From the standpoint of the farmer, the main economic issue related to inputs is whether the increased production justifies the cost of the inputs. As noted earlier, Eakes' study of crop pricing and subsidies found that it does not. Part of the problem, of course, is that most inputs are technically deficient and need to be improved. This is currently being undertaken at Sebele under EFSaip and other projects. Even where the inputs work well, however, the returns appear to be marginal. This is especially true of animal traction. There is little evidence that farmers in Botswana are prepared to invest in animals for draft power.

In his report, Eakes recommended a special study related to subsidies for plowing. This is a good suggestion and is especially pertinent to the needs of the majority of farmers who do not own sufficient animals to meet their plowing requirements. The two most likely possibilities are subsidies for the purchase of draft animals or a plowing allowance to help defray the costs of hiring draft power during the peak plowing period. The former approach raises the issue of whether subsidies should be limited to donkeys since draft oxen continue to be primarily an investment in meat production. The GOB must also decide whether and how to subsidize plows, planters, cultivators and fertilizers. In making these decisions it is important to assess as accurately as possible the size of the subsidy needed, the cost to the government, the likely impact on production, and who will benefit. Subsidies for inputs that replace labor, benefit largely the richer

farmer, or have proven highly uneconomic in the past should be provided only in exceptional circumstances and on a small scale.

Fences, dams and boreholes are already subsidized through existing GOB projects, some of which will be included in the Rural Development Fund. Farmers contribute funds and labor for the construction of fences and dams and assume all maintenance costs. Most boreholes, on the other hand, are constructed and maintained by District Councils.

There is no doubt that on-farm infrastructure investments are essential to increased crop production. This is particularly true of water, which is critical not only to timely planting, but also to the more efficient use of draft animals. The key issue is the cost of developing water sources solely for purposes of increased crop production. This needs to be studied as part of the farm systems research on the economics of animal traction.

Marketing Constraints

Assuming commercial crop production becomes potentially economic in Botswana, marketing constraints could become the major obstacle to increased production. The infrastructure, roads, warehouses and depots must be adequate to move products to markets. Also, price support policies must be designed to provide adequate production incentives on the one hand and not overvalue the products on the other.

During the early stages of ALDEP, it will be necessary for the GOB to bring in a crop marketing consultant to define more precisely the marketing constraints and recommend appropriate policies and programs. As noted earlier, if domestically produced cereals are to replace

imports, milling capacity will need to be established at key locations throughout the country. More feasibility work is required in connection with these mills.

Rural Industry

The basic premise that must underlie any rural industrialization program in Botswana is that this sector has very little direct employment generation potential in the short to medium term. The main justification for a rural industry program is that growth and modernization in the major sectors, agriculture and livestock, require ancillary goods and services. A secondary justification is to retain as many of the benefits of agricultural growth in rural areas as possible. This is done by locating processing industries in rural areas and by producing consumer goods locally whenever it is economically feasible to do so. Within these limited objectives, the most important measures that the GOB can take at this time are to: (1) quantify the scope for rural production in different industries; (2) identify the constraints to rural industrialization (infrastructure, credit, technical expertise, a marketing network for inputs and outputs); and (3) conduct feasibility studies for medium-size undertakings, especially milling, tanning and oilseed processing. The experience of the Brigades is an extremely important source of firsthand information for much of this work. The Senior Rural Industry Officer to be provided under the RDF should have the prime responsibility for seeing that these tasks are properly and expeditiously carried out.

CONCLUSIONS

The main point to come out of the analysis is that there are serious economic constraints to achieving food

self-sufficiency and increased rural employment over the next 10 to 20 years. With the existing price structure and known crop production technologies, a maximum realistic target would be a five to six percent annual growth in the agricultural sector. Under the circumstances the government should not become too wedded to 20-year production and income targets. Many structural changes could occur in the intervening period, and they would enable the GOB to achieve its rural development objectives in ways that cannot be predicted at this time.

One distinct possibility is that Botswana's present preferential access to the EEC market will be terminated. This would lead to a drop in livestock prices relative to crop prices, and a consequent shift of labor from livestock to crop production. At the same time future technical and farm systems research efforts could identify more productive mixed farming systems. This is likely if adaptive field trials are greatly expanded and the extension service receives appropriate training. It is also possible that, as job opportunities in urban areas become increasingly scarce and lower-paying relative to rural incomes, production of export crops could become a significant source of cash income. Finally, the prospects for small producers in rural areas will be greatly enhanced if sound range management practices are successfully introduced, and if government programs to increase livestock productivity give proper emphasis to small herders and opportunities for mixed farming.

Given this wide range of possible developments, it is important that rural development planning be based on an accurate appreciation of the macro-economic constraints to increased production in the different rural productive sectors, and ways in which they can change over time. The government has not yet begun to approach rural development

planning in this way, and consequently there is not a workable strategy for achieving broad-based production increases in rural areas. Instead of a largely arbitrary set of production, income and employment targets for each production sector and a series of programs intended to achieve these targets, the government should develop a strategy based on a thorough analysis of how equitable production increases can be achieved in rural areas. This would involve looking at foodgrains, export crops, livestock and off-farm employment in an integrated way before setting priorities and targets. Programs would then be formulated that are feasible from a macro-economic standpoint and are also a logical extension of the stated policy objectives of the government. Those programs that appear to be most urgently needed, based on an analysis of the economic constraints to rural development, have already been discussed.

The range of constraints to increased production in rural areas is large, and many different types of programs will need to be undertaken simultaneously. Within this context the Rural Development Fund fills two distinct needs. First the RDF will finance directly productive activities that will have immediate income- and employment-generating effects. These include vegetable production projects, woodlot projects, fence construction to divide grazing and croplands, and limited rural industry projects, as noted in the body of this report. Perhaps the major impact of the RDF, however, will be the increased capacity to initiate and implement development projects at the local level, a capacity which is an essential prerequisite to any broad-based, self-sustaining rural development program.

CHAPTER EIGHT
RURAL DEVELOPMENT AND SOCIAL CHANGE IN BOTSWANA

INTRODUCTION

The history of Botswana's people speaks of numerous and complex population migrations. Linguistically and socially distinct peoples have been displaced by invading and competing groups and have, in turn, invaded the territories of others. The relations of dominance and subservience, patronage and clientage, built up during this time are still being resolved into an equitable and unified nation of Botswana. An attempt by today's observer to contrast the present and the modern with the past and the traditional must founder on the rocks of dynamic historical processes of warfare, resource competition, social change, adoption of new technologies and the building of a new nation.

For example, current popular generalizations about Botswana's major and dominant ethnic group, the Tswana, are based largely on Professor Isaac Schapera's excellent research, which was begun in 1929.¹ Before this work was initiated, the Tswana² had already had as much as

¹ Among Professor Schapera's numerous works are: A Handbook of Tswana Law and Custom, London: Oxford University Press, 1952; Married Life in an African Tribe, New York: Sheridan House, 1941; Migrant Labor and Tribal Life, London: Oxford University Press, 1947; Tribal Innovators: Tswana Chiefs and Social Change, 1795-1940, London: Athlone Press, 1970; The Tswana, London: International African Institute, 1953; and The Ethnic Composition of Tswana Tribes, London: London School of Economics and Political Science, 1952.

² As many as two-thirds of the Tswana live in what is now South Africa and have never been associated geographically with Botswana proper.

200 years of contact with white settlers driving up from the south, who not only attempted to dominate them politically and economically, but also brought missionaries who went far to change prevailing attitudes and social practices with regard to polygamy, age-grading and the frequency of warfare. National efforts since independence to develop a strong and modern economy have had great impact on land utilization, settlement patterns and popular involvement in the evaluation and adoption of new practices.

This chapter discusses the rural Batswana, whatever their specific tribal identity as Tswana, Kalanga, Kgalagadi, Sarwa, Herero or Yei.¹ The focus is not on distinctions, but on a process of development among rural people sharing social forms and environments, which can be addressed effectively through national policy. Generalizations are made with the caveat that they will be more true in some areas than in others, and may not be true at all with regard to the most marginal and remote groups (Sarwa, usually known as Bushmen).

THE RURAL ENVIRONMENT

Botswana is about the size of France and Belgium, with a population of about 760,000. A passing visit to the rural areas would reveal a great many similarities between distant areas. People tend to live in population clusters that can be quite large; the land is most useful

¹ "Tribe" is an inexact word that implies discrete sociocultural entities. Many historical and linguistic similarities are found among Botswana's tribes, however, leading to the commonly held belief that the Kgalagadi are a subtribe of the Tswana. In The Ethnic Composition of Tswana Tribes, Schapera disposes of this belief, pointing out that the Tswana and the Kgalagadi belong to the same linguistic family (Sotho), but are historically distinct. The Kgalagadi are no more Tswana than the English are German.

for extensive grazing of cattle, the relative importance of which increases from east to west as conditions become more arid; arable agriculture is practiced extensively and has its greatest importance in the eastern part of the country. Population concentrations are highest in the eastern districts where, for example, North East District has 31,000 people in 5,300 square kilometers, in contrast to Kgalagadi, with only 20,000 people in 110,110 square kilometers. Throughout the country, but especially in the east, there are fewer young men (20 to 40 years of age) than would be expected, because many are employed at wage labor in the mines or farms of South Africa.

It is ironic that, while similarities are so apparent, the focus of national development must be on differences and variation. Yet this is not surprising, for the environment of all Botswana -- not just the Kalahari Desert -- is rigorous. The range of possibilities for its sustained utilization at higher levels of population and economic activity is by no means broad, and this fact magnifies the importance of differences of adaptation, albeit within a narrow spectrum.

Livestock

Livestock-raising constitutes the predominant mode of land use in the economically productive parts of Botswana.¹ Small stock are found browsing near human settlements, while cattle are usually found further away and either remain at cattle posts or are driven back and forth from settlements that are also watering posts.

¹ Much of the semi-arid land of Botswana is rich in plant and animal life. Given a harsh environment, ecological diversity and productivity is high, but not on a commercially sustainable basis with current management practices. Chapter Four discusses wildlife management needs.

Although the land of Botswana supports more than three million cattle, it does not do so with the same efficiency in all areas or in different years. There are a number of elements of uncertainty that rural people must deal with if they rely upon cattle.

In any discussion with rural people, especially in cattle areas, a question directed at their perceived needs for economic betterment is likely to be answered by a shout of acclamation: "WATER!" Where there is no water a borehole or dam is needed; where there is water, a more dispersed pattern of water sources is desired. The need is real, for in areas where there are rainfed pans or hand-dug wells, cattle may die in one bad year when the rains do not come at the times, in the places and in the quantities desired. Even if cattle do survive a harsh dry winter, they may not be strong enough to work effectively during the plowing season, which follows soon after the first rains.

Good rainfall years since 1972 (until 1978/79) and the drilling of more boreholes and construction of more dams have had the effect of greatly expanding herd sizes. This raises questions about the sustainability of development based upon the provision of water for grazing. Overgrazing around water points has become a serious problem, not only because of the immediate and obvious environmental degradation, but because of the apparent inability of the more nutritive grasses to compete and maintain themselves under conditions of overutilization. Overgrazed areas may not be able to regenerate the conditions that existed before.

Current evidence seems to indicate that the environment of many parts of Botswana may be overextended in terms of continuing to support large numbers of domestic herd animals. Added to this difficulty are range fires

(frequently set by hunters wishing to attract game to the new green shoots that come up after the first rains) and the presence in some areas of hoof-and-mouth disease, as well as the problems created by distant markets.

The institution of a Tribal Grazing Land Policy, with its prohibitions against indiscriminate creation of water points, stems from the desire of the government to avoid ecological and economic disaster. A sustainable future for large-scale cattle production will depend on local populations developing management principles capable of addressing both the opportunity for new markets and the new technological ability to destroy the veld.

Arable Agriculture

Agricultural activities on arable land form an extremely important element in utilization of the rural environment. Most production is to provide subsistence with sorghum and millet, beans, pulses and maize. To say that agricultural production is important is not to say that it is intensively practiced. With current technology of mixed seed and broadcast sowing, followed by plowing and haphazard weeding, productivity is not high. The semi-arid environment of Botswana, with its uncertain and spotty distribution of rain and its relatively poor soils, could nonetheless produce at a much higher level, but only with an increase in labor inputs and technological sophistication. An arable lands farmer may have high hopes for the few hectares planted after the first rains, which guarantee both seed germination and adequate water for cattle, but he or she is likely to have a number of other economic options open, and will not rely upon the uncertainties of the rains or the chance that the crop might be destroyed by wandering cattle.

There is a linkage between cattle, water and arable agriculture production that is not well understood in Botswana. It appears that few analysts of the rural situation have asked themselves why farmers plow with an excessive number of cattle (six to eight). It may well be that, since the first plowing follows immediately upon the end of the dry season, which greatly weakens cattle, a large number both provides adequate power and safeguards the animals' health. A better understanding of this equation will have to be developed before the Arable Lands Development Programme can be implemented effectively on a large scale for, as Hoyt Alverson has pointed out in several papers for the Institute of Development Management, the grazing lands requirements for plow animals may be impractically large if the teams are kept at their present size.

Villages

Villages are an integral part of the rural environment, beyond the simple sense of providing housing for rural families. The village itself is a resource: for the sale of beer brewed at home, as a locus around which dispersed relatives continue to exchange goods and services, as a health and education center, as a focus for decisions about resource utilization and as a point (where postal facilities exist) for the receipt of cash remittances from relatives.

MAINTENANCE STRATEGIES

These three elements of the rural environment, cattle posts, lands and villages, form the basic features around which rural society is organized. However, it would not be accurate to attribute to each identifiable rural vil-

lage a cattle area and a lands area. The relative importance of any of these elements, as well as non-rural wage labor, differs from place to place. It is the combination and relative importance of each that will give each locality its distinctiveness within the narrow range that has been discussed.

While all aspects of rural life in Botswana have undergone a great deal of change, a major and driving force of change is the commercialization of relationships that had previously been based on the need for social integration. Wage labor and the presence of increased opportunities for market exchange of cattle and goods have had a great and growing impact on the social forms that existed at the early part of the 20th century, or even at the time of independence in 1966. The commercialization of social relations will be dealt with later, but first it is necessary to set the stage, by describing how rural society in much of Botswana tends to be organized for subsistence and household maintenance, in the absence of overwhelming market forces. The subsistence-based social relationships that underpin rural income strategies form the basis of this organization.

Consensus Reckoning

Rural society in Botswana has never been egalitarian; the most striking evidence of this is the existence of paramount chiefs and subchiefs of the various tribes, and the existence of clear social divisions of serving classes, recent immigrants, "commoners" and the kindred of the chief. Further divisions among the Tswana, Kgalagadi and Kalanga include age-grading and the creation of kin-based wards in villages. Yet the apparent distinctions within rural society were maintained within a system of decision-making through consensus, which was based upon a major feature of rural social organization: consultation.

Beginning at the level of the extended family led by the eldest male, rising to the small village or ward kgotla¹ and finally culminating in the kgotla of the paramount chief, there is both a place and an institution to handle any significant issue publicly, and at the most appropriate level for the continued smooth functioning of society. While the kgotla is the place where headmen and chiefs adjudicate issues and discipline violators of community rules, it is also a place where any adult can stand up and offer his or her views.

Any discussion of the structure of rural society in Botswana must emphasize the fact that the political system within the tribes is based more on consensus-reckoning than on formal pleas and decisionmaking by the elite. The style and function of the meetings at the kgotla are to achieve understanding within the community, and agreement about both decisions and the principles upon which they are based. Random or arbitrary decisions are not tolerated for long under such a system, and the age or noble lineage that qualifies someone for the position of headman or chief will not in and of itself save an arrogant, inarticulate, or grossly unfair leader from the displeasure of the rest of the community.

Decisions are reached only after an intricate ballet of consultation and accommodation, through a process that is as comprehensive as it is interminable. Individual access to resources such as arable land or grazing land used to be sought, awarded or challenged in just such a public gathering. Not all rural people had equal access

¹ The kgotla is at once a place, an institution and the people who participate. They may deal with specific issues of customary law or general issues of community discussion, or they may serve as simple information dissemination devices for government agencies.

to resources, or an equal ability to use the resources available to them, but the consensual decisionmaking process went far to ensure that all people shared to some extent in the benefits derived from communal resources. In years past the wealthy made tributes to the chief and these were utilized by him to care for those who had fallen on hard times; he was expected to do this and his success in so doing was certainly a legitimate subject of debate before him in his kgotla. The system served well in a non-commercial economy to manage resources and distribute benefits.

Since independence, and as part of the nation-building process, the resource management aspect of the system has been transferred to Tribal Land Boards, which now are responsible for the allocation of land. The distribution of benefits to the individual member of the tribe has become a consideration for district politicians and administrators. These are no longer issues over which the chief or his headmen have much control. Nonetheless the consultative process and its slow but reasonably sure way of arriving at a consensus for action are still strong and well understood. Thus the first element in the maintenance strategy of the rural areas is the existence of an institutionalized system for problem-solving and conflict resolution. This system is likely to become more, rather than less, important during the implementation of development plans in rural Botswana. The last section of this chapter will expand upon the implications of the consultative mechanism for development planning.

Household Structure

A second element in the maintenance strategy is the structure of rural households. A previous section described the main features of the rural environment: graz-

ing lands, arable lands and villages. The rural household is particularly adapted to the systematic and coordinated utilization of each.

An idealized situation in Botswana is one in which the household has three residences: cattle post, land and village. Depending upon the time of the year, various household members could be expected to be residing at one or another of the houses. Young men and boys would be expected to spend much time at the cattle post; women would reside at the lands during much of the crop season, weeding, scaring birds and harvesting; and the male head would alternate from house to house lending assistance, doing heavy work and generally overseeing the overall economic operations of the household. Men, women and young children would reside in the village during the winter months, when the elder males would attend kgotla meetings and fortify social obligations. In a subsistence economy, the exchange of goods and services is on a small scale and frequently involves a sort of "hidden agenda," which is to create socially understood bonds of mutual support. This is one of the major activities that involved men during their time in ward and village meetings. In a delicate and unpredictable environment, this kind of exchange becomes formalized, and the casual observer may not see the economic significance of such institutions as bogadi (bride wealth) or mafisa (cattle lending). Control of resources and distribution of production were managed by people within the village networks so that cattle, arable agriculture and village social relations comprised a quite sophisticated range of adaptive strategies depending upon household size, status and mutual obligations with others in the community.

Although the household may not be segmented into three residential settings with a composition that changes

month by month, and even if it consists of but one village residence, it must develop a strategy based upon exploitation of the three major elements of the environment. The major resource of the household is the labor it can provide for herding, for arable production and for the activities (both economic and social) that are localized in the village. A man's attendance and contributions to the kgotla are based not only on his age and status as household head, but on the ability of his wife and sons to deal with the day-to-day management of economic activity.

In the presence of only the three major elements of the environment that have been discussed, the resource control and household strategy of rural people served to maintain security within an ecologically stringent and unpredictable environment. The social activities in the villages served to order and distribute the products of the economy, if not the control of productive resources, and made for a very efficient subsistence system. It has been said by individuals promoting development activities in rural areas that the Tswana, for example, are not good agriculturalists, nor are they sufficiently concerned with the quality rather than the quantity of their cattle. It could be said more accurately that, given the multiple elements of the rural strategy, no single item should receive more time, attention and scarce labor input than it could reasonably justify for the maintenance of the extended family and its obligations.

Before turning to what happens to a subsistence economy when relationships become based on cash, it is worth noting that the environmental impact of the subsistence economy is considerably less for the same size of human population than for a commercial economy. Wealth is relative to what is available for exchange, and is limited by the ability to manage it in socially acceptable ways.

Ownership of more than 75 head of cattle in the subsistence context is difficult, because of the need for people to herd and water them, and the distribution of management responsibility through mafisa is limited by trust and kinship.

COMMERCIALIZATION OF SOCIAL RELATIONS

The discussion has proceeded so far treating rural dwellers as living within a closed system. Of course they do not, and the recent history of Botswana consists of an ever-increasing influence on rural life exerted by the institutions and opportunities of the non-rural environment.

Wage Labor in South Africa

At about the turn of the century the economic pull of South Africa began to be felt in hitherto remote parts of the then Bechuanaland Protectorate. The need for laborers in their mines brought South African labor recruiters across the border to seek the young and the unskilled in Molepolole, Mochudi, Serowe and other large villages.

The opportunity to earn cash in the mines drew younger men, who previously had been relied upon to free the older men for the maintenance of mutually supportive bonds within the community. Given the segmented household structure of the Batswana, wage labor could easily be seen as another element in guaranteeing the overall survival of the group. The young man of 18 or 20 would go to the mines and return some part of his cash earnings to his parents, brothers and sisters, thus enhancing their security and enlarging the range of economic options that the household could exploit.

To a certain extent, wage labor in the mines and elsewhere in South Africa can be seen as an important opportunity for a young man to enhance his own wealth through saving and ultimately purchasing cattle. Many mine laborers do steadily build up their herds, which are cared for by relatives, and then are able to return to settle in their home village with a much more secure economic future than might otherwise have been possible.

Yet the fabric of social relations has not been able to withstand the constant loss of the young labor force to South Africa. An indication of the scale of wage labor outside of Botswana is that as much as 50 percent of household income in Botswana is derived from remittances. In some parts of the country, 40 to 50 percent of the economically active males are on contract to the mines for periods ranging up to one year. Many others have begun to seek educational and employment opportunities in the larger towns of Botswana.

Role Changes

Reconsidering the idealized rural household and how it fits into the real Botswana world, the most striking feature noted by observers is the increasing incidence of female-headed households. Up to 40 percent of rural households in some areas have no adult male present to undertake social obligations, oversee the care of cattle, do the plowing or contribute to the maintenance of a cohesive family life. The migrant laborer may return home to provide assistance with plowing at the beginning of the agricultural year, but his labor is not available for much more of that year. Economic activities that would have been undertaken by the youth and young men in the past are now either not performed or performed by the older men, women and boys. Time and effort that were expended by the

elders in managing community life, and cementing obligations of economically meaningful reciprocity, are now used in herding and in agriculture. For both agriculture and cattle-raising, there are labor deficits.

With the decrease in the importance of social obligations and reciprocity, there is a decreasing incidence of cooperative labor and mutual assistance, which is both caused and exacerbated by the shortage of young male laborers. As this trend continues, and as the rural household evolves, more individualistic economic strategies can be expected to take the place of what has existed.

Economic Growth and Expansion

The modern economy of Botswana is changing much that has been previously described. Cattle, which once were exchanged within a relatively circumscribed area and for essentially non-commercial purposes, are now trekked or trucked to the large abattoir at Lobatse, where a reasonable price is guaranteed. A market has been developed in Europe for Botswana beef, and this market has rapidly become a major rationale for the development of ever larger herds by those who can afford the initial costs of boreholes and fences.

The money available from the new markets, and the technology it buys, have led to the development of parts of the eastern sandveld region of the Kalahari through the introduction of boreholes. The effective control of as much as 25 square miles of surrounding grazing land by the owner of one borehole (placed at least five miles from the next) was one of the catalysts for the Tribal Grazing Land Policy, which froze borehole development until an adequate period of consultation and planning could take

place. Much of the district- and village-level planning activities are now attempting to address this issue and the proposed Rural Development Fund would assist them through support to LG 31 (see Chapter Four).

The rural economy, at least as far as cattle-raising is concerned, is no longer based upon subsistence and the need to cement social ties for future needs. Cattle are a commodity for which there is a known price and known benefit.

Not only is there a market for cattle, but there is a growing wage labor market, not only in South Africa but in the mines of Botswana and in the new growing towns and commercial centers. Money is available to those who either control resources or have adequate education to become employed.

A number of changes can be expected because of the developing market economy, assuming no changes in present trends:

- Rural labor previously performed by immediate kin or by those obligated through various social mechanisms will become increasingly based upon the labor of the nuclear family, or will become paid labor;¹
- Skewed control of resources, which already exists in the rural economy, will increasingly lead to the concentration of economic benefits in the hands of relatively few people.

Rural labor needs compete with the needs of urban areas and mines. The opportunity cost of staying at the

¹ Charles J. Erasmus, "Culture, Structure and Process: The Occurrence and Disappearance of Reciprocal Farm Labor," Southwestern Journal of Anthropology, 12:444-469, 1956.

cattle posts is apparent to many young men who leave to seek their fortune in the wage labor market. As the benefits of cattle-raising become more obviously monetary, and as the opportunities to buy consumer goods become greater; rural people -- especially the youth -- will be unlikely to settle for less than their migrating friends and brothers. Cash will take the place of all other forms of labor obligations.

As reported by Kooijman for the village of Bokaa in Kgatleng District,¹ one of the first areas to feel the full impact of a developing new economy, labor has become scarce. A family cannot count on its younger members to stay and assist with the management of cattle and agricultural activities; nor can its older members now expect to have the time to manage village affairs. Bokaa, like many other villages, has entered into a new economic system that means seeking new forms of societal integration. This process has brought about changes in the activities of the village, where small-scale economic activities such as beer-brewing and brickmaking have attained major importance in the strategy of households with few cattle -- the overwhelming majority. Such small services and industries have become an integral part of the lives of many village households, especially those with no adult male present.

The motivation for owning cattle has changed and no longer relates exclusively to security and prestige within a limited area. Luxuries, travel and education for sons and daughters can be bought with the cattle. Kin and tribe are likely to take less important positions in the considerations of those individuals who command the re-

¹ K. Kooijman, A Report on the Village of Bokaa, Botswana Extension College, 1978.

sources to raise more cattle, lease land or drill boreholes. What becomes important is a continuing flow of income, which can be used for purchases ranging from paying herders whose expectations are limited to their wages, to buying food, radios, paying school fees and so forth.

It is premature to bemoan the passing of rural society. What is happening is not the total destruction of the old system, but the beginning of an adaptive response to new conditions. The economic system, which was organized around principles of subsistence, security and status, has come under the pressure of new rationale: commerce, markets, specialization and money.

It is this new and still evolving system that will both influence and be influenced by new efforts to encourage development in the rural areas. The highly adaptive organization of rural households, and the consultative mechanisms already being used, provide opportunities for imaginative development planners to help build a new rural society. Only time will determine whether wage labor in South Africa will continue to make its contribution and exact its toll. The following section will address some of the more speculative questions of development in rural Botswana, in the hope of clarifying what are likely to become the major social issues of rural development.

MAJOR ISSUES IN RURAL DEVELOPMENT

Commercial and Communal Grazing

The utilization of resources in the rural areas is changing with the influence of new markets. Rural people have begun to emphasize one or another economic activity,

and the preferred and most remunerative activity by far is cattle raising.

The scale of cattle-raising and sale has increased in recent years to an extent that raises questions about land tenure and control of a deteriorating environment. The Tribal Grazing Land Programme and the efforts to implement controls on land use and institute planning mechanisms based upon proper consultation are initial attempts to deal with these issues.

In the past, every adult household head had a recognized right to use the commons to graze his cattle. The few individuals with large herds would naturally graze them as far from the villages as possible, where competition for grass would be less, while the "small men" would keep their cattle fairly close, where they could care for them and have them available for agricultural work.

With greatly improved market conditions, some "big men" or groups of cattlemen placed boreholes in parts of the veld that had not previously been used for cattle because of a lack of water. While they did not own the land, which remained tribal commons, they did own rights to the water. The economic power that allowed some to dig boreholes led to de facto changes in the customary land tenure situation. In an attempt to control the expansion of cattle and the individual control of land, the government placed a freeze on drilling and began the long task of developing rational and commonly accepted land use plans in all of Botswana.

One approach to the new economic realities has been to recognize the appropriateness of individual or group leaseholds for the more distant lands, developed through the provision of adequate water supplies. But the grant-

ing of individual or group leaseholds to tribal land has the effect of extinguishing the customary rights of the rest of the tribe, as well as those of hunters, gatherers and small agriculturalists who have hitherto used it. The legal and ethical questions raised by the granting of leaseholds are still being sorted out by the Councils and Land Boards. If the economic justification for granting leases is found strong enough (as it almost certainly will be in districts with potential commercial areas), it will be only after considerable consultation within the kgotlas. It is not clear whether individuals who attend these meetings realize they would be agreeing to extinguish their individual rights for the period of the lease. What is clear is that the marginal, remote area dwellers will lose some of their territory and might best be served through explicit efforts to absorb them into the larger productive economy, so that they will not have to carry the burden of economic development for others.

Another issue is raised in the communal areas, which are not to be leased. As populations of both cattle and people increase, and as cattle become an increasingly valuable commodity, more stock are being herded. Overgrazing around water points has become serious, as is damage to crops in the bordering lands areas. The Land Boards, with their national mandates and membership of elected officials, civil servants and representatives of the customary tribal authority, have the legal right but no operational mechanism for enforcement of stock limitations, or more productive and less destructive management practices.

The establishment of a system of resource control in the communal areas must take into account both communal rights to tribal land and the increasing individualization of economic activity. It is apparent at the central ministry level and at the level of the districts that the im-

perative for better management can only be met by and through the recognized consensus devices of rural society. A number of initial efforts, most notably in the Matsheng area of northern Kgalagadi, have been made in this direction, indicating that a careful process of education and discussion at the village level is far more likely to achieve effective management principles than is the imposition of controls. Each area, with its own historical, social and ecological conditions, will give rise to distinctive solutions. Botswana is far from writing its text on successful management of the commons, but valuable and productive starts have been made to feed technical information and criteria into the consensus process.

Arable Farming

Arable agriculture has long been treated almost as an afterthought by development agencies in Botswana. The range of opinion and contradictory advice on the subject among technicians and policymakers is itself worthy of study by specialists in development administration.

The debate over the importance of agriculture does not take place in the rural areas, where arable agriculture is the single most commonly pursued subsistence activity, although it contributes only about one-tenth of aggregate household income. Crop production is practiced on a commercial scale in the Barolong area and on some freehold farms; otherwise it is still largely a subsistence activity.

Agriculture is important, but with the technology generally available to the rural dweller living in a semi-arid and unpredictable environment, agriculture cannot be depended upon. One rule of thumb that has been mentioned

is that the farmer can depend on two years out of ten being total disasters and another two being near disasters. Despite this, the potential for agriculture to produce more -- and perhaps absorb much of the labor force that currently migrates seasonally to South Africa -- is worth developing. The future of agriculture is open and will be greatly influenced by the Arable Lands Development Programme (ALDEP). If it can be shown to be secure, productive and labor-absorbing, the social implications will require serious attention.

There is not much doubt that productive agriculture could hold many young men in the rural areas, and that this would go far toward contributing to the establishment of greater stability within a newly developing social system. Yet access to land is not available to just any young man who requests it; many who are unmarried and young feel constrained to work on their parents' lands using the subsistence technologies that the parents understand. There is a discontinuity between the generations in the ability to absorb and utilize technical information, and this is compounded to some extent by resource control on the part of the elders. ALDEP planners and perhaps the Land Boards will have to address this problem.

If those capable of absorbing and utilizing new dry-land farming technologies did have access to land, another issue would be raised. Arable agriculture is a time-consuming and labor-intensive activity. In terms of the household strategy for maintenance, exclusive reliance upon agricultural activities could be dangerous. Not only could a drought year leave a farmer with nothing to feed his family, but he and his wife would not have been pursuing the alternative economic strategies of cattle production, beer brewing and wage labor that are currently so important. Productive agriculture is also a cash-

intensive operation, which will require more family labor or more likely, hired wage laborers, whose rates will be influenced by alternative mine and urban work.

The role of women in agriculture in Botswana needs to be considered further.¹ The farming system in Botswana closely involves both sexes in the successful production of crops; thus the role of women in making decisions about technology adoption is significant. Extension systems that fail to account for the importance of women are not likely to be optimally effective.

Much is made of the issue of draft power, perhaps because current practices are projected into future development rather uncritically. Arable farming, practiced intensively, is a new economic strategy and not simply an improvement of the old system. The 6 to 12 oxen currently used for plowing are part of one economic strategy, but they need not be part of a new farming system. ALDEP must resolve the equation between a long dry season, and the use of numerous oxen. A few well-maintained animals should be able to do the required work, and people involved in intensive farming would probably benefit from having fewer and better animals. The problem of adequate draft power for small farmers may not be intractable.

Non-Farm Employment

As mentioned earlier, rural non-farm activities are an integral part of the household strategy within the current economic system. Viable economic alternatives to

¹ Virtually no substantive work has been done on this subject since the publication of Carol A. Bond's report, op. cit.

the few remunerative activities currently possible are likely to find considerable acceptance. Rural industry could fit into both the old maintenance strategies, or it could become the basis for new specializations.

Village Institutions

This chapter has emphasized the importance of the consensus-reckoning devices of consultation represented by the kgotla. Some evidence is available to indicate that Village Development Committees (VDCs), and even farmers' groups, are most successful when they have been formed or legitimized within the kgotla. Developers should be cautious, however, of treating the kgotla as a development institution; it is a social, political and judicial entity, but it probably will never serve as a vehicle of change. This is so because of its nearly all-inclusive membership criteria and its function as a stabilizing and essentially conservative force in the community. The kgotla is significant in legitimizing change, but should not be placed in the forefront of development programs. Voluntary associations like the VDCs or farmers' groups, which also operate on a consultative, consensus-reckoning basis, will continue to play the lead role in planning and implementing change. The significance of the kgotla should not blind planners to the very real importance of the voluntary associations with their great flexibility, membership of contributing parties and defined goals.

CONCLUSION

There is much to build upon in rural Botswana. The approaches outlined in this report will enable the government to:

- Build upon existing social forms, especially the consensus-reckoning devices illustrated so well by the kgotla;

- Develop economic activities within a community-approved context of management and resource control;
- Base development upon knowledge about an ongoing process of change; and
- Monitor projects and respond to the need for new methods and approaches in distinctive contexts.

Taken together, these methods enhance the probability of achieving socially sound and sustainable development in Botswana's rural areas.