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Annex A

BOTSWANA

A Report to the Congress on

DEVELOPMENT NEEDS and OPPORTUNITIES for COOPERATION in SOUTHERN AFRICA

United States Agency for International Development/March 1979

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BOTSWANA

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I. Summary and Recommendations

A. Overview

Botswana is a sparsely populated land-locked country the size of Texas with limited rainfall and generally poor soils. Except for the Limpopo River Catchment area, which is roughly within 150 miles of the eastern border, and the Okavango Delta in the north, the country's land surface is covered with sand and savannah grasses. This harsh terrain is appropriate for livestock which, along with abundant minerals (diamonds, copper, nickel, coal, possibly others), is the primary economic resource of the country.

Located in the center of the Southern Africa, Botswana has always been at the crossroads of political and economic developments in the region. The British granted Bechuanaland protectorate status in 1885 to secure their access to the north against German and Boer threats. After securing its Independence in 1966, by almost any conventional standard, Botswana now has the most liberal, democratic, interracial society in Southern Africa.

The population of Botswana was estimated to be 731,000 in 1977, of which approximately 53,000 work in South Africa. The population growth rate is a high 3.3% and although 6 of every 7 Botswana live in rural areas,

urbanization has been expanding at about 12% annually since Independence. The culture is unusally homogeneous for Africa and 7 of the 8 principal tribes are Tswana.

Botswana has enjoyed rapid economic growth since Independence averaging about 15% a year in real terms, although real growth has probably slowed to slightly under 4% annually from 1973-78. Growth has been centered in the mineral and livestock sectors and is due to increased production, favorable international price changes and the absence of major droughts. Per capita income is probably now over $500 but income is not equitably distributed. In 1974 about 45% of the rural households were below the country's poverty line ($1200) and 60-79% of the urban population was below a somewhat higher urban poverty line. Also a substantial portion of GDP (estimated at 41% in 1976/77) does not accrue to Botswana citizens but to mining companies, foreign-owned commerce, and expatriate manpower.

B. Constraints to Economic Growth and Development

Botswana's long-range development potential is constrained by its limited natural resource base and its vulnerability to regional economic and political circumstances. The country has probably already reached its optimum livestock carrying capacity and growth in the livestock subsector must depend on increased offtake

and improved range management and animal husbandry practices. The country's potential for crop production is limited by low rainfall and poor soils. Prospects for irrigated agriculture are not bright due to limited surface water except in the Okavango Delta where large-scale exploration would be costly and would require careful study to avoid ecological problems.

Mining prospects are exceptionally bright. It seems almost certain that additional economical deposits of diamonds, coal, copper, soda ash and other minerals will be developed and that the minerals sector will continue to provide the country with increased income.

Industrial and commercial expansion has been limited by a small domestic market (despite theoretical access to the large South African market via the Southern Africa Customs Union), the relatively high cost of Botswana labor due to skill limitations and high competitive wages in South Africa, an acute shortage of local entrepreneurs and managers, and limited supportive infrastructure (power, water, transport and telecommunications).

A dearth of middle and upper-level manpower, due largely to historical factors, is an overriding

constraint to development in all major sectors of the economy. Priority attention must be given to improvement of the country's formal education system starting with primary education and skill-training programs.

The country's physical infrastructure base has expanded rapidly in recent years and the populous eastern corridor will soon be well served by good trunk road, rail, air and telecommunications systems. Links to the rest of the country are still rudimentary, however, and roads to rural areas, even in the east, are often seasonally impassable limiting the movement of produce to markets.

Botswana's economy is quite vulnerable to forces beyond the direct control of the country's economic planners due to

- its landlocked location with limited access to ports
- the "open" nature of its economy
- its dependence on South Africa for transport, communications, tax revenues, wage employment, essential commodities and services, investment capital and energy,
- its susceptability to drought
- its dependence on expatriate manpower
- its location in strife-torn Southern Africa

surrounded by South Africa, Namibia and Zimbabwe.

C. Government Development Plan

The Botswana Government's development planning efforts are of a proven high quality. Basic long-term goals are: 1) rapid economic growth; 2) social justice; 3) economic independence; and 4) sustained development. The government's principal means of achieving these goals is to reinvest the returns from mining and other modern sector production activities (livestock and tourism) towards the provision of basic government services and the promotion of productive economic activities in rural areas.

D. Role of Donor finance about two-thirds of Botswana's growing development budget. The GOB has had little difficulty to date in obtaining necessary external assistance from a large number of western sources due to its reputation for quality planning and efficient management of aid funds. Botswana's capacity to implement new programs is limited by its manpower base, recurrent budget limitations, and its desire to balance public and private investment. However, the country should be able to absorb increasing levels of donor and private investment funds, possibly at a growth rate of 15%

annually (assuming a 10% inflation rate). Thus by 1982 approximately $80 million in annual donor and private investment flows could probably be absorbed efficiently.

E. Donor Strategy

Donor assistance to Botswana should be based on the principle of collaboration and should carefully follow the development policies established by the GOB. The donor strategy proposed herein centers on four primary objectives which are cross-cutting rather than sectoral in nature and which essentially mirror BOG priorities. These objectives and their various components are:

1) To maintain and expand the country's productive base
   - Mining: expand and diversify mineral production concentrating on the more remote regions of the country;
   - Livestock: improve range management, increase offtake relative to herd size, improve livestock transport and marketing infrastructure, increase extension capacity;
2) To decrease economic vulnerability and increase the country's economic resilience

- Transportation: gradual takeover of the Rhodesian Railway in Botswana; consideration of a rail-link to Namibia and Walvis Bay; upgrade the road to Ghanzi and Namibia;
- Economic Diversification: diversify markets for livestock and construct a beef canning plant/2nd abattoir in the north; encourage crop production, horticulture, dairying, poultry and small stock produciton; thoroughly explore limited potential for irrigated agriculture; careful development of opportunities for import-substitution industries and/or industries that might fund markets in Zimbabwe and Zambia;
- Preparing for Drought: Implementation of recommendations of the Stanford paper on drought preparedness and the recent Sympos ium on Drought;
- Labor Intensive Employment: see below;
- Manpower: Major effort to upgrade the quality of the formal education system starting at the primary level based on the recommendations of the recent Commission Report; complementary efforts to upgrade post-secondary training

institutions and provide practical and on-the-job training for middle level government officials; consider revised incomes/wage policies to attract skilled Botswana to work in-country;

- Energy: Identify and develop alternative sources of energy such as solar and wind-power which will reduce dependence on South African-supplied diesel fuel;
- Localized Tax Base: Improve domestic tax-collection procedures and consider new taxes, especially on livestock;
- Financial Institutions: Encourage domestic savings through strengthening domestic financial institutions (cooperatives, credit unions, housing finance institutions).

3) To promote development in rural areas and the provision of basic human needs throughout the country

- Livestock: increased emphasis on the formation of commercial associations and the development of group ranches; strengthen livestock cooperatives; thoroughly examine the implications of the Tribal Grazing Lands Policy (TGLP) on the traditional mafisa livestock distribution

system.

- Crop Production: Emphasize farming systems research and adaptive research on drought-resistant cereal varieties; improve markets, storage, rural roads, extension training and credit structure.
- Wildlife: Improve the capacity of Basarwa to raise their income and living standards without changing the basis of their economy and culture-wildlife.
- Rural Industries: Promote small rural industries and especially rural commerce and services.
- Transport: Expand rural road and farm-to-market road construction program in the Tuli Block and other areas of agricultural potential; strengthen road maintenance capacity of the Ministry of Works and District Councils.
- Rural Institutions: Strengthen District and village councils through training and improved personnel systems.
- Basic Services: Support government objectives such as universal primary education, a health post within 15 kilometers of all population clusters, and clean water in every village; strengthen the capacity of Self-Help Housing

Agencies (SHHAs) to administer expanded urban sites and services and squatter up-grading programs.

- Shelter and Urban Development: Strengthen the capacity of Self-Help Housing Agencies (SHHAs) to administer expanded sites and services and squatter up-grading programs; improve housing finance institutions; study the relationships between urban centers and major village and their hinterlands in order to establish a policy of urban capital allocation.
- Health and Nutrition: Up-grade training and supervision of basic health personnel such as Family Welfare Educators and Enrolled Nurses, marginally improve health planning capability, upgrade environmental health standards, and health standards, improve laboratory capacity, establish a community based mental health program and continue to study possibilities of linkages with traditional medicine.
- Integrated Rural Development: In the Okavango Delta support basic research on resource availabilities; international planning on the use of Okavango waters; improved transport, marketing and communications networks; flood-recession agriculture and small-scale

irrigation; tsetse eradication; and provision of basic services. In southern Botswana encourage the development of domestic industries and services to supply the needs of the new diamond complex and new town of Jwaneng. Similarly, in northern Botswana develop domestic industries and services to support the proposed cannery/abattoir and to stimulate the stagnant economy in the Francistown area.

4) To provide new productive employment opportunities

- Private Foreign Investment: Increase the scope of U.S. Government and other Investment Guarantee programs and expand efforts of Embassy commercial staffs to encourage foreign investment possibly in conjunction with policies to discourage new private investment in South AFrica and the "homelands."
- Domestic Private Investment: Improve incentives for labor-intensive small- scale industry and commerce; review GOB licensing and tender procedures to encourage local firms.
- Incomes Policy: Increased differentiation in wage policies to both ensure the availability of jobs for low cost unskilled and semi-

skilled labor and encourage Botswana with professional, management, and technical skills to return to Botswana from external jobs.

- Labor-intensive employment: Encourage labor-intensive programs in areas such as agriculture, industry, commerce, rural roads construction, conservation, reafforestation and small-scale mining.
- Skill Training: Support implementation of revised GOB technical and skill training programs and policies.
- Informal Sector: Encourage petty trading via modification of government licensing arrangements and increased availability of credit to traders.
- Population Policy: Support comprehensive maternal and child health services; review the impact of government policies from female education to social security to availability of contraceptives on family planning decision making.

In addition, because of Botswana's unique geographical location at the crossroads of the Southern Africa region, a number of possible donor-supported

regional development activities might include Botswana. These are discussed briefly in Seciton IX.

II. General Background

A. Physical Features

The Republic of Botswana is 582,000 sq.kms. in area, or nearly the size of Texas. It lies at the center of the Southern African Plateau at a mean altitude of 1,000 meters above sea level and is landlocked, being bounded by South Africa, Namibia, the Caprivi Strip, Zambia and Rhodesian.

More than two-thirds of Botswana's land surface is covered with sand (to an average depth of 300 feet), a large part of which is referred to as the Kgalagadi (Kalahari) Desert. Most of this area is covered with savannah grasses, much of which is low quality due to lack of rainfall and poor soils. Because of the harsh environment, the sweet varieties of grasses which do exist are highly susceptible to overgrazing resulting in severe denudation and bush encroachment. A major anomaly to the topographic pattern in the Kalahari is the Ghanzi Ridge which has high water availability and moderate quality soils. The Ridge extends 325 kms. from the Namibian border northeast through Ghanzi village to Kuke.

Except for a few springs, dams and pools, mainly in the east, the Okavango and Chobe drainage systems in the north constitute Botswana's only perennial surface water. The Okavango River rises in Angola and has a catchment area of 205,000 kms. The delta covers an area of about 16,000 kms^2 (about 3 percent of the total area of Botswana) of which about half is permanently flooded. The Okavango delta appears to have soils of low fertility and the area is infected with malaria, sleeping sickness and Tsetse Fly. The Okavango supports large numbers of animals and birds and comprises one of the finest wildlife areas in the world.

Northeast of the Okavango delta lies the Chobe River, a major tributary of the Zambezi which forms the northern border of Botswana. Belts of indigenous forest, dense bush, and irrigable soils are found in this region.

Only 5 percent of Botswana's surface area is considered suitable for arable agriculture. Almost all of it is found in the Limpopo River Catchment in the east, where over 80 percent of Botswana's population lives. All the rivers in the eastern catchment are ephemeral and flow only after intensive rain. However, they have deep sand beds which provide an important source of water for the region. There are a few dams on the rivers in the east, the largest ones being the

Gaborone Dam which supplies water to the capital and to Lobatse also supplied by the nearby Nuane Dam and the Shashe Dam, which presently supplies water to the township and mine at Selebi-Pikwe and will supply some water to Francistown by 1982.

Botswana's average annual rainfall of 18 inches is quite unevenly distributed, ranging from less than 10 inches in the southwest to more than 26 inches in the northeast. More than 90 percent of the rain falls between November and April. Analysis of annual rainfall from sixteen locations over eleven years shows a high variability of rainfall and indicates that Botswana is prone to recurrent droughts, which render even the eastern area sub-marginal for crops and a large part of the country sub-marginal for cattle raising.

B. Demography

The most recent comprehensive population census was taken in 1971. Since then there have been smaller, selective censuses. De jure population is estimated to be 731,000 in 1977. Approximately 53,000 of these are assumed to be living abroad (mostly working in South Africa).

Crude birth and death rates (excluding absentees) are estimated at 45.6 and 13.0, respectively, yielding a natural rate of increase of 3.3 percent per

annum. If this rate is maintained, population will double in approximately 21 years.

The population of Botswana is young -- 57.3 percent of the de facto population is below the age of twenty. The migrant labor absenteeship is concentrated among younger men between the ages of twenty and thirty-four. Of this group, around 35 percent are absent for extended periods. As a result, the de facto population age-sex pyramid has the truncated look of a nation just having gone through war -- sex ratios are as low as 60.6 men per 100 women in the twenty-five to thirty-nine age bracket.

In 1973, the economic dependency ratio in Botswana* was 1.0 as compared to 1.7 for Zambia and 2.2 for Morocco, countries the World Bank has chosen as reference countries for Botswana.

Census data show that in 1976, 17.8 percent of Botswana's population lived in modern townships, compared to only 4.1 percent in 1964. This change reflects, among other things, Botswana's rate of urban migration (11.9% during the 1971-75 period) which is one of the highest in Africa. Natural increase accounts for less than one third of urban growth.

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* The economic dependency ratio is the population age less than 15 and greater than or equal to 65 divided by the labor force age 15-64.

These estimates of urbanization are somewhat misleading in that they consider only modern sector centers as urban. However, Botswana has a number of sizeable traditional villages. In 1971, 27.5 percent of the population was found living in villages with a population greater than 1,000. Since many Botswana spend part of the year on either their lands or cattle posts, the number of people having residences in these larger villages is probably even higher. In 1971, a minimum of 45.3 percent of the population probably lived in either the modern towns or large villages. Finally, approximately 80 percent of the population lives in the eastern part of the country within 80 kms of the railroad.

The 1971 census counted 10,861 non-citizens residing in Botswana. Of these, 3,500 are employed, mainly in the modern sector, both in private business and in government. They also own some ranches and farms (as do a number of white Botswana citizens), primarily in Tuli and Ghanzi Blocks in the eastern and western parts of the country.

Approximately 800 expatriates are employed at present in professional, technical and managerial positions in government. Over 60 percent of the professional and technical positions in the private sector and over 58 percent of the administrative and managerial

positions in the private sector are held by expatriates. More than 20 percent of the professional and technical positions and 33 percent of the managerial positions in the central government are also held by expatriates. On the average, expatriate wages exceed those of citizens by more than a factor of five. These figures, as large as they are, nonetheless underestimate the importance of expatriates who hold most of the key positions in the economy and government bureaucracy.

C. Culture

There are eight principal tribes in Botswana. Seven of them are Tswana, one of the three divisions of the Sotho group of the Bantu family, and the eighth is Transvaal Ndeble. Almost all of these Batswana speak the same language. Relative to most other African countries, tribal divisions in Botswana are thought to be quite mild.

Outside of this basic tribal structure lie the Bushmen (or Sarwa), who are regarded as the aboriginal inhabitants of most of Southern Africa. Ethnically, culturally and linguistically they are quite distinct from the rest of the population of Botswana, of which they comprise only a small proportion (4 percent in 1971). Historically, they have been nomadic hunters and gatherers, living in the Kalahari and engaging in no

cattle raising or cropping. Recently, however, they have largely become wage laborers on ranches and farms, clients of cattle raising tribes, and some have settled in or near towns and villages primarily in the western region. Approximately 10,000 out of some 29,000 Bushmen in Botswana were still primarily nomadic in 1971.

Despite the relative homogeneity of Botswana's African population (apart from the Bushmen), tribal distinctions seem to have some political importance. This importance is undoubtedly partly due to the fact that each group has its own separate territory and thus remains fairly distinct geographically. Some have suggested that the major element of political importance derives from the overwhelming numerical superiority of the Ngwato tribe, which in 1971 had 200,000 people, or about one-third of the population of Botswana. Botswana's President Seretse Khama is a Ngwato and the overwhelming majority enjoyed by his party, the Botswana Democratic Party, is probably partially due to the numerical superiority of his tribe. The party which received the second largest number of votes in the last election (1974), the Botswana National Front, derives much of its support from one of the second largest tribes, the Ngwaketse. Given all this, it is nonetheless difficult to judge the impact these political manifestations of

tribal distinctions will have on Botswana's economic development.

Another dimension relates to the political power of traditional elites, particularly the chiefs and their headsmen. The chiefs have formal power in the second house of parliament, the House of Chiefs which advises the parliament on issues affecting the tribes, and on other issues. They have no veto power and individual chiefs have lost their traditional control over the allocation of land rights; however, in terms of implementing programs that need local cooperation, it is likely that they retain a good deal of influence.

D. Politics

By almost any conventional standard, Botswana has one of the most liberal, democratic, interracial societies in southern Africa. Having a parliamentary form of government, Botswana has held three elections in its history, all of which were contested by at least three parties.

Sir Seretse Khama, the President and a direct heir to the chieftainship of Botswana's largest tribe, seems almost universally popular in his country and has dominated its politics ever since independence.

The political and economic course run by his country over the twelve years since independence reflects

Khama's orientation toward a western leaning, essentially capitalist, multi-racial society. He appears to have a rather pragmatic approach, probably best illustrated by his handling of international relations toward his neighbors. He has vocally opposed the Smith and Vorster regimes and has agreed to grant asylum to political refugees. At the same time, Khama has stated that he would not allow his country to be used as a staging area by guerrillas and has maintained economic relations with both Rhodesia and South Africa in deference to Botswana's high degree of economic independence.

Although Khama and his Botswana Democratic Party are in clear command of the government, they are not without opposition. Four parties contested the 1969 and 1974 elections, with the opposition winning 7 out of 31 seats in 1969, but only 5 out of 32 in 1974. The differences between the opposition parties on the one hand and the Botswana Democratic Party on the other are ideological and tribal. There is some fear that if opposition seats diminish further in the 1979 elections Botswana will effectively lose its present status as one of Africa's few multi-party democracies.

Despite the overwhelming dominance of Khama"s party since independence, the existence of an opposition seems to have had some effect in the past and helps

create political uncertainty in the future. Prior to the 1974 election, the government engaged in what was known as the Accelerated Rural Development Program, which was essentially designed to transfer a relatively large amount of resources to the rural areas in a short period of time. The program was no doubt at least partly motivated by a desire to neutralize a political issue before the election. Recent establishment of diplomatic relations with the Peoples Republic of China and of a resident mission from the Soviet Union is probably also partly an attempt to defuse a potential opposition point.

As discussed below in more detail, the Government of Botswana places great emphasis on improving the standards of living of its total population by utilizing the proceeds of its primary growth sectors (minerals and livestock) to finance social services, diversify its economy, and provide employment opportunities. This commitment to equitable development is verbalized in government pronouncements and defined most carefully in government development plans. However, in spite of the government's clearly stated position, many political leaders are themselves wealthy ranchers or farmers and their self-interest is increasingly evident in central and district level decisions which affect the way major government programs such as the Tribal Grazing Land

Policy (TGLP) are implemented.

As a functioning democracy with a philosophy of non-racialism, Botswana has an excellent human rights record. The government holds no political prisoners, operates under the rule of law with an independent judiciary and has welcomed political refugees from neighboring countries despite the ever-present threat of economic retaliation.

E. Institutional Capacity

Compared to many other African countries, the Government of Botswana has a strong capacity to plan development programs and a limited but growing capacity to implement these programs effectively. The GOB has a disciplined, efficient but largely expatriate development planning organization located in the Ministry of Finance and Development Planning where it has access to top echelon decisionmakers -- the Ministry is headed by the Vice President. The development plan is a working document which describes the projects for which financing will be sought during theplan period and annual government budgets are closely tailored to the plan. The 5th Development Plan (forthcoming) will be based for the first time on 10 district plans which were prepared in 1977-78 in the districts and reflect a strong policy of expanding participation in the development process and therefore presumably the expressed needs of the district popula-

tions. Botswana's severe trained manpower shortage does limit the capacity of the government to carry out all the activities proposed in the development plan (e.g., the Ministry of Agriculture's implementation rate was only 60 percent of the projected levels during 1976-78). This is in part a reflection of a serious gap between the quality and numbers of central government planning personnel and staff responsible for project implementation located in the field. This manpower constraint may become even more evident if central level responsibilities are transferred to district authorities without commensurate allocations of service trained personnel to district posts.

The government 's administrative capacity to carry out its stated development objectives and projects is also limited by the country's vast size and the rudimentary transport and communication networks which leave western and northern Botswana seriously isolated.

F. Macro-Economic Situation and Trends

Botswana has enjoyed rapid economic growth since Independence. In ten years, its Gross Domestic Product (GDP) has expanded at a compound annual rate of almost 20 percent in nominal terms, probably 15 percent a year in real terms, reaching over $330 million in

1976/77. Growth has been centered in the mineral and livestock sectors due to increased production, favorable international price changes, and the absence of major droughts. Although real growth has probably slowed to slightly under 4% annually from 1973-78, the IBRD estimates that the economy will grow at approximately 10 percent annually through 1981* with continuing expansion of the leading sectors of mining ** and livestock.

The structure of the economy has changed dramatically from an agriculture base at Independence when agriculture's and mining's shares of GNP were 40 percent and one percent, respectively, to a projected 20 percent and 22 percent, respectively, by 1981. Trade, hotels and restaurants is a third major sector which will account for 18 percent of GNP by 1981.

Per capita income has increased rapidly to approximately $450 in 1976/77 and may now be over $500. However, the distribution of income is highly unequal among groups within both rural and urban areas although no more unequal than most East and Southern African countries. In 1974, about 45 percent of the rural

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* IBRD Economic Memorandum on Botswana, April 1978.

** A new diamond mine at Jwaneng in Southern Botswana will exploit what is reportedly one of the world's richest diamond pipes.

households were below the country's rural poverty line ($1200) and 60-70 percent of the urban population was below a somewhat higher urban poverty line. The poorest 10 percent of the rural households had incomes one-tenth of the richest 10 percent primarily because of the distribution of livestock ownership*. 45 percent of households in 1974 owned no cattle and 5 percent owned 50 percent of Botswana's national herd.** Botswana's high per capita income levels are somewhat misleading since a substantial portion of GDP (estimated at 41 percent in 1976/77) does not accrue to Botswana citizens.

Botswana's domestic savings rate has averaged 26 percent of GDP over 1974-76 and is projected to remain near this satisfactory level through 1981.

1. Balance of Payments

Botswana has enjoyed surpluses in its balance of payments in recent years and presently maintains foreign revenues equal to 4½ months of imports. Imports (especially for the new Jwaneng mine) are projected to grow more rapidly than exports until Jwaneng comes into production in 1982. External capital inflows will

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* Rural income data is based on The Rural Income Distribution Survey in Botswana 1974/75, Central Statistics Office, GOB, Gaborone.

** Although many households which do not own livestock receive income (often in kind) from herding livestock.

continue to more than offset the expected current account deficits through 1981 unless drought, disruption of the railway system or other such events occur.

Botswana's economy is becoming increasingly open and hence vulnerable to the perfidities of the international market and external political factors. Imports and exports were equal to 67 percent and 45 percent of GDP, respectively, in 1975. However, export markets are diverse - copper and nickel to primarily the U.S. and West Germany, diamonds to the U.K., and beef to the EEC.

2. Government Finance

The government sector is relatively large with total central and local expenditure roughly equivalent to 38 percent of GDP.* In recent years, with the exception of 1976/77, Botswana has enjoyed a very rapid growth in budgetary revenues. Total budgetary receipts have risen from P47 million in 1974 to an estimated P140 million in 1978/79, owing principally to revenue increases in various forms from the mining sector and increasing Customs Union (CU) receipts.

Meanwhile, recurrent expenditures have also increased sharply, by almost 150 percent between

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* There is some concern among GOB economic managers that public spending is too high relative to the generally stagnant private sector.

between 1974 and 1977, due to expansion of government administration, the recurrent costs resulting from an expanding development program and sharp increases in public service salaries. The GOB hopes to hold expansion of recurrent expenditure to 8-9% annually during the NDP V period. The share of wages in recurrent expenditure rose from 33 percent in 1973 to 48 percent in 1976.

Capital expenditure growth, largely through the Domestic Development Fund and donor grants, has increased from P30 million in 1974 to approximately P60 million in 1978 with the GOB providing an increasing proportion (now approximately 1/3) of the necessary funds.

In summary, the Botswana economy has grown spectacularly since Independence but has also become increasingly open and increasingly dependent upon the mineral and livestock sectors. The economy is vulnerable to fluctuations in international mineral prices, EEC import and animal health regulations for Botswana beef, regional political uncertainties, charges in Customs Union duties dictated by South Africa, and climatic fluctuations.

3. Government Policy

a. Exchange Rates and Prices

Until creation of the Pula and the

establishment of a Central Bank in 1976, Botswana belonged to the Rand monetary area. The Pula was revalued by 5 percent in May 1977 to counteract inflationary pressures from South Africa. A byproduct of this action, shortly after creation of the Pula, was to emphasize the country's independence from the South African Rand. However, exchange control is not envisaged as a major instrument of economic policy largely because of the country's ability to maintain a satisfactory balance of payments.

Price movements are still heavily influenced by monetary factors emanating from South Africa, including its recent high rate of inflation, since Botswana receives the vast preponderance of its imports from South AFrica and still belongs to the Southern African Customs Union ARea (SACUA). SACUA tariff levels are set primarily in response to the needs of highly industrialized South Africa and certainly encourage a degree of inappropriate factor pricing for the smaller, less-developed economies of the Area. However, the SACUA revenue-sharing formula which provides, in effect, a subsidy to Botswana, Lesotho and Swaziland, tends to compensate those countries generously for their lack of direct control over their own tariff schedules and the creation of import substitution industries.

b. Interest Rates and Credit

Creation of the Pula and a Central Bank has allowed Botswana to control its money supply, the operation of commercial banks, and domestic interest rates. Currently, the country's two commercial banks, both British subsidiaries, pay between 3.5 and 8.5 percent on deposits, depending upon maturity. The prime lending rate was 11 percent in mid-1977 while lending rates on personal loans run upward to 16.5 percent. The GOB has absorbed a great deal of the commercial banks' excess liquidity, previously transferred to sister banks in South Africa, through the issuance and sale of Treasury Bills. Credit to the agriculture sector is provided primarily by the National Development Bank (NDB). Nearly 50 percent of NDB loans in 1976 were directed towards the needs of small farmers (under P1,000) , although the geographical scope of NDB lending is largely limited to the more populous areas of the country and the NDB portfolio is still small.

c. Wages

Government wages and salary scales tend to set the pace for wage settlements throughout the economy. GOB income policy has tried to encourage additional employment by holding the line on minimum wages to closely reflect gains in productivity and to

limit the widening gap between urban and rural incomes. However, in recent years under pressure from civil servant associations, five-fold increases in South African mine wages and increasing inflation, the minimum government wage has increased from P0.80 in 1970 to P2.80 in 1978. These hefty across-the-board wage increases have absorbed a significant portion of increasing government revenues and the share of wages in current GOB expenditure has risen ominously from 33 percent in 1973/74 to 48 percent in 1976/77. Although politically popular, these increases in government wages have clearly had a detrimental effect on the feasibility of certain labor-intensive development programs. For example, the NORAD-supported rural road construction program has largely abandoned its planned emphasis on labor-intensive construction technology and has adopted a much more capital-intensive approach due to increasing wages.

III. Description of the Poor

A. Who are the Poor?

Although, as noted above, per capita income in Botswana is probably now over $500, this income is not equitably distributed and the majority of Batswana are "poor". In September 1976, 60-70 percent of the country's urban households had incomes below an urban

poverty line of P1,356 and 45 percent of rural households were below a slightly lower rural poverty line. Income distribution has almost certainly worsened since Independence due to the concentration of economic growth in the two leading sectors of minerals and livestock. Although Botswana has recently renegotiated its share of copper-nickel matte earnings upward and has obtained an extremely favorable agreement with deBeers on the new Jwaneng diamond mine, 41 percent of the country's GDP in 1976/77 accrued to non-Botswana citizens, mostly in the minerals sector. High non-citizen incomes are also attributable to the heavy use of expatriates in jobs which require higher education. In 1972, 80 percent and 50 percent of degree holders and senior secondary school graduates, respectively, in Botswana were expatriates. Growth in the livestock sector has also been concentrated on a number of large modern ranches. Freehold farmers who control 3 percent of the land and 14 percent of the national herd supplied 50 percent of the cattle slaughtered by the Botswana Meat Commission (BMC) in 1975. These farms, located in the Tuli Block in the northeast, the Molopo Farms near the southern border and the Ghanzi Block in the far west, are largely owned by white farmers (some of whom are Botswana citizens) and wealthy Batswana.

Data constraints make it difficult to define groups of poor within Botswana, to delineate the relative extent of their poverty, or to discuss meaningfully why they are poor. Nevertheless, some basic information is available from the 1974 Rural Income Distribution Survey (RIDS) and several micro-studies.

1. Rural Poverty

85 percent of the country's population is rural. The median rural household income was P630 in 1974. The poorest decile has an annual income less than P233 and the richest 10 percent have over P2,094 in income. The poorest 40 percent receive only 12 percent of rural income. Rural incomes are highly correlated with cattle ownership. According to RIDS about 5 percent of rural households own about 50 percent of cattle herd while about 45 percent own no cattle at all. These figures are somewhat misleading, however, since most rural households receive some income from livestock through the mafisa system by which owners place some of their livestock in the care of others. The herder is generally allowed to keep the first calf and has the right to the milk produced, the meat from carcasses and often the right to use cattle as draught animals. Increasingly, they also receive a cash wage.*

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* Farming and Herding in Botswana, Hjort and Ostberg, Swedish Agency for Research Cooperation with Developing Countries, pp. 28-29.

Poorer households are more likely to own small stock than cattle -- 70 percent do according to RIDS -- which they sometimes gradually convert to a small cattle herd. The median number of cattle owned by cattle-owning households is 16; however, one researcher* estimates that a herd of 40 is the minimum necessary for owners in western Botswana, at least, to have the maneuverability to manage their sales as truly commercial producers.

Cattle ownership is limited by access to land and water. Small holders invariably graze communal lands. Most larger owners, except the commercial ranchers on freehold land, have usually obtained tribal authority to sink boreholes on communal land in the Sandveld near the Kalahari and have had effective control over the land adjacent to the boreholes -- the "cattle post". There are approximately 4-7,000 boreholes in Botswana built and controlled by individuals or syndicates (groupings of the wealthier livestock owners). A moratorium on borehole construction has been issued pending the delineation of new government-controlled land tenure arrangements under the Tribal Grazing Land Program (TGLP). The TGLP is designed to encourage large cattle owners to transfer their stock to government-leased fenced ranches in the Sandveld and to encourage

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* Study of Western State Lands, Paul Devitt, 1977.

proper range management on these properties. This, in theory, should reduce the grazing pressure on the communal grazing areas in the more heavily populated east where attempts will be made to improve range management and animal husbandry through group ranching and other communal schemes. Unfortunately, due to the growth of the national herd, it now appears less likely that sufficient good land will be available in the Sandvelt to accommodate the number of livestock transfers which would be necessary to relieve grazing pressure in the east. Also, while ranch development has moved forward in the west, albeit haltingly, little progress has been made to date in forming communal associations or group ranches or to encourage improved range management in the east.

Although crop production does not rival livestock in importance in the hearts and minds of most rural Batswana, 75 percent of all rural families do plant in an average year. Principal crops are sorghum, maize, cowpeas and millet and the average farmer has access to approximately 4 hectares of land. Farmers cultivate the "lands" which are fields usually within 10-15 kilometers of their village homes and live at the "lands" during much of the cropping season. Income from crop production is hampered by low yields/acre and drought. Most farmers can count on less than adequate

rains for crop production one out of every three years. Research indicates that the time of planting is a critical factor in obtaining a decent harvest. This depends largely upon the availability of oxen for plowing and, again, non-livestock owning households are at a disadvantage since they must wait until others are finished to borrow or rent oxen which results in late planting and reduced yields. Approximately 62 percent of farmers with some livestock need to supplement their own cattle in order to plow and 40 percent own no cattle at all. Obviously, many other factors (soil fertility, rainfall, other cropping practices, availability of extension services and inputs, etc.) affect small farmer crop production, but it seems clear that inequitable livestock ownership tends to reinforce tendencies towards variable yields in crop production. In 1974 possibly 40 percent of Botswana's cereal crop was produced by only 16 percent of the country's farmers.

RIDS provides a rough breakdown of income sources for various segments of the rural population. As expected, the richest segment receives most of its income from livestock (64 percent) supplemented by trade (22 percent) and employment (9 percent). The poorest segment depends mostly on transfers from relatives (often miners in South Africa), gathering of

firewood and wild food, employment and farming. Livestock accounts for only an estimated 5 percent of their income. For the majority of rural households -- the 15 through 95 percentiles, or the intermediate group -- employment is the most important source of income (36 percent). This is often informal, casually arranged work on nearby farms, in stores, or on construction jobs. Within this intermediate group, transfers to the household and crops are more important the poorer the household and livestock and income from propoerty more important the richer the household. Rural Batswana apparently spread their risks across several income sources to take advantage of free land for crops and grazing, casual employment opportunities, high-wage mine employment for young men in South Africa and the urban areas (40 percent of men of productive age are away from the village) and basic village functions such as beer-brewing and weaving.

Some groupings of rural people in Botswana are especially poor. These groups, which sometimes overlap, include female heads of households, Basarwa or Bushmen, laborers on freehold farms, ranches and cattleposts, and people in the more remote western region of Botswana.

Women head a large percentage of rural households in Botswana since men often work for many

years in the South African mines or urban centers in Botswana. Many of these women do not have legalized partnership arrangements with absent men or, sometimes, have rejected the option of marriage. Nevertheless, most have families to support -- 80 percent of unmarried women under 25 have at least one child. Households headed by single women are generally worse off economically than those headed by men. Three-fourths of female-headed households have no cattle vs. one-third of male-headed households. Those with cattle have ¼ as many as men. Few female-headed households raise crops and those that do tend to have smaller fields than male-headed households.

The Basarwa comprise a loosely-knit ethnic grouping of between 15-50,000 hunters and gatherers -- known commonly as Bushmen -- who roamed Southern Africa for centuries preceding the southern migrations of the Bantu groups and who have largely resisted sedentarization and modernization. The Basarwa have traditionally lived in the Kalahari Desert and along the Chobe River (the River Bushmen) and, owning no livestock, have survived by gathering melons and other life-sustaining wild foods and by hunting the abundant game of the Kalahari with primitive weapons. In recent years, increasing numbers of Basarwa and mixed Basarwa-Bakhalaghadi

families have settled, at least seasonally, around the boreholes which have been pushed further into the Kalahari and around urban centers such as Ghanzi and Maun. They often work as herdsmen or manual laborers receiving minimal pay, often in kind. Although the Botswana Government is initiating programs to assist those Basarwa who wish to sedentarize and is willing, if not yet able, to protect them against labor abuse, the Basarwa probably remain the single poorest group in Botswana.

Laborers on freehold farms, ranches and cattleposts comprise another unusually poor rural group. RIDS estimated the median income in cash and in kind of households of freehold farm employees at P468. Recently prepared District Development Plans for western Botswana indicate that the incomes of freehold farm employees in those areas are among the lowest in rural Botswana.

A fourth and final groupoing of the poorest rural Batswana would include those living in the more remote area of Botswana -- the Khalaghadi, Ghanzi, Ngamiland and Chobe Districts. These rural areas have less agricultural potential, undependable rainfall, and are far from centers of supply and from markets. Due in part to rudimentary transport and telecommunications linkages to the rest of Botswana,

basic social and economic services (schools, health clinics, agricultural extension, banking services, etc.) are less available than in the more densely populated east. Prices for basic staples are often as much as 150 percent higher than in the east. Few qualified government officials can be recruited for government service in the west and north and transfer requests are extremely high for those that are recruited. The percentage of untrained primary teachers, for example, is nearly 50 percent in Ghanzi and Kgalaghadi Districts compared to 30 percent nationwide.

2. Urban Poverty

Little detailed information is available concerning the 60-70 percent of Botswana's urban population below the urban poverty line. Many of the poor are probably recent migrants who from 1971-75 moved to urban areas at a rate of 12 percent -- one of the world"s highest sustained rates of urbanization. Rural-urban migration is largely attributable to rural poverty and the expectation of more lucrative employment in the towns. Much of the initial post-Independence migration was to the new capital of Gaborone (population estimated at 32,629 in 1975) and two new mining towns at Selebi-Pikwe (20,572 in 1975) and Orape-Lethlhakane (2,000 in 1975). Employment generation in the urban areas has not

kept up with migration. Formal sector employment is projected to grow at only 6 percent per annum between 1976/77 to 1980/81 by which time 19 percent of the labor force will be employed in the formal sector. The central government is the largest formal sector employer (30 percent of employees). Interestingly, the second largest group comprises domestic servants (15 percent) who are often unmarried female heads of households. Informal employment is conservatively estimated to constitute more than 10 percent of employment in Botswana but is less pervasive than in many African countries wity longer urban histories. Unemployment rates for the peri-urban areas of Gaborone, Francistown and Selebi-Pikwe range from 15-18 percent for males and 35-48 percent for females.* Unemployment rates are, of course, closely linked to economic fluctuations and one can imagine that recent rates have been higher in Francistown due to the Rhodesian conflict and in Lobatse where the prime employer, the Botswana Meat Commission (BMC), has been operating at less than full capacity due to the foot-and-mouth disease epidemic. A major new source of employment will be the Jwaneng diamond mine and urban complex 100 kilometers northwest of Kanye, related growth in Kanye and

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* A Social and Economic Survey in Three Peri-Urban Areas in Botswana, Gaborone, Ministry of Finance and Development Planning, 1974, p. 42.

the Botswana Defense Force.

Many urban poor live in squatter housing in Gaborone (27 percent of the town's population), Lobatse (23 percent), Francistown (60 percent) and Selebi-Pikwe (40 percent). Squatter areas have been poorly serviced in the past. For example, Gaborone's major squatter area, Old Naledi, has only four standpipes to provide water to a population estimated as high as 10,000. The GOB has recently (1974) decided that government inaction in urban areas would not discourage the rural exodus and is now legitimizing existing squatter areas via squatter upgrading and relocation programs. Town Councils are also responsible for planning and servicing new site-and-services plots in Gaborone, Francistown, Selebi-Pikwe and Lobatse.

Although Government policy is clearly oriented towards rural development and preventing a widening of the gap between urban and rural living standards, urban growth is likely to continue at high rate and would be accelerated by any major reduction in the employment of Batswana in the mines of South Africa as is forecast.

Urban poverty is reflected in low wage/income levels and high costs of living. Inflationary pressures on basic food items affect the urban populace,

which grows little of its food needs, more than rural groups. For example, food prices increased 24 percent in 1977 due mainly to the removal of the South African subsidy on maize meal, the basic staple of Botswana's urban poor, and the cost of living for low-income urban households jumped 18 percent.

Schools, health services and other social and economic services are generally more readily available to the urban poor than to their rural counterparts.

IV. Constraints to Economic Growth and Development

A. Regional Setting

Basic geographic and historic factors have influenced the development of Botswana's economy to the present and will continue to do so. Development has been largely concentrated in the Limpopo Catchment Area where 80 percent of the population lives. This area has better soils and more regular rainfall than the rest of the country and is within easy distance of markets and centers of supply in South Africa and Rhodesia. The Kalahari Desert which comprises most of the rest of the country extends well into Namibia and has proven to be a formidable natural constraint to economic expansion in the west, the development of economic ties with Namibia and access to the Atlantic Ocean. The Okavango Delta in the northwest with its periodic and variable flooding has

provided a physical barrier to the development of economic ties with Angola and the more productive northeastern region of Namibia. The Caprivi Strip which juts brazenly between Botswana and southern Angola and Zambia has limited Botswana's economic relationships with the potentially complementary economy of Zambia to the north. In Botswana, as elsewhere in Africa, rivers have been used to demarcate colonial boundaries. While rivers often tend to unite peoples and economies, these boundaries have tended to inhibit the efficient planning and utilization of some of Southern Africa's major water resources. Political independence in Angola, Namibia and Zimbabwe should provide new opportunities for joint planning and exploitation of the waters of the Limpopo and Chobe Rivers and of the Okavango Basin.

B. Dependence on South Africa

Botswana's economy reflects its historical status as an appendage of the South African and (to a much lesser degree) Rhodesian economies. Botswana's resultant economic dependency on South Africa particularly is reflected in many ways.

1. Employment

Approximately 53,000 Batswana (15 percent of its potential labor force and 46 percent of its modern sector labor force) work in South Africa, primarily

in the mines. A five-fold increase in average mining wages over the past six years has made the lower incomes to be gained from agriculture in Botswana increasingly unattractive to young Batswana and has contributed to pressure on the GOB to raise minimum wages. Working in South Africa has become almost an initiation for energetic young Batswana and has certainly been a major factor in the deterioration of traditional family relationships in rural Botswana and the increasing number of relatively poor female-led households. Ironically, most of these Batsawana do not return to Botswana with skills that are readily applicable to the country's modern sector economic needs (with the exception of work in the Botswana mines).

2. Customs Union

Participation in the South African Customs Union Area (SACUA) has provided the country access to inexpensive food, industrial and consumer goods produced by cheap labor in South Africa and has unquestionably contributed to a higher standard of living than found in many other parts of Africa. However, Botswana has not been able to take advantage of the opportunity, in theory, to develop industries to supply the large customs area market due in part to a range of South African non-tarrif barriers.* Also, despite an infant industry clause in

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* Percy Selwyn, Industries in the Southern African Periphery, Institute of Development Studies, 1975

the SACUA Agreement, Botswana has had little success in promoting import substitution industries and, hence, increasing domestic modern sector employment. The tariff policies of SACUA which are geared to the needs of the developed industrial economy of South Africa rather than those of a labor-surplus developing economy have distorted factor pricing in Botswana. To compensate for this obvious distortion and Botswana's lack of direct sovereignty over trade and tariff policy Botswana receives a substantial subsidy in the form of revenues from the SACUA. Botswana's future relationship to SACUA will probably depend in part on the future economic status of an independent Namibia vis-a-vis South Africa and Botswana and potential economic complementarities between an independent Zimbabwe and Botswana.

3. Monetary Affairs

With the recent creation of a Central Bank and its own currency -- the Pula -- Botswana has considerably decreased South Africa's control over its monetary policy. Nevertheless, as noted above, inflationary pressures in Botswana are largely dependent upon South African price fluctuations since Botswana imports most of its essential commodities from the Republic.

4. Transportation and Communication

Like any landlocked country, Botswana is sub-

ject to the political and economic vicissitudes of its neighbors for critical access to the sea. However, Botswana's problems are even more severe than most since its access to ports and basic transport links are subject to possible disruptions in two strife-torn states, Rhodesia and South Africa.

Botswana is almost totally dependent on South African ports and South African and Rhodesian-controlled transportation systems (the sole exception by land is the road to Zambia via the Kazengula Ferry). The Rhodesia-managed railway carries 80 percent of the import and export traffic between South Africa and Botswana. The Gaborone airport, Botswana's largest, can receive aircraft no larger than 56,000 pounds or a 60 passenger Viscount, and most air freight and passengers must transit Jan Smuts Airport in Johannesburg. The sole exception, again, is via Zambia where Zambian Airways and Botswana Air carry out very limited service. Botswana has minimal aircraft maintenance capacity and Botswana airplanes receive their periodic mainteance in Johannesburg. International telecommunication service is also dependent upon South Africa. In fact, the country has practically no effective communication with other majority rule states in the region, a fact that severely handicaps sub-regional economic and trade cooperation.

The country's major external link is by land wire to South Africa which transmits calls to other countries. There is also a ground wire to Bulawayo, Rhodesia. High frequency radio transmissions provide the only service to Zambia.

5. Energy

75 percent of Botswana's power is steam-generated at Gaborone and Selebi-Pikwe by domestically-produced coal. Energy for BMC, the diamond mines, the country's 4-7,000 boreholes and remote towns is generated by diesel fuel which is imported via South Africa (and Namibia in the far west). Interruption of the supply of diesel fuel to Botswana would terminate borehole pumping within weeks and could lead to a major crisis in the livestock industry. Energy is very high cost and is another factor which seriously discourages foreign or domestic investment in import substitution industries.

6. Industry and Commerce

Although no hard data is available, it is clear that the bulk of large-scale industrial investment in Botswana is controlled by South Africans. Even small-scale industries and many of the country's commercial firms are owned and operated by South Africans. A goodly portion of the real estate on the Gaborone Shopping Mall is

owned by South African Indians. Unless Botswana is increasingly successful in diversifying its foreign investment patterns, the growth of the country's private industrial and commercial sectors will depend largely on South African external investment policies and the boyancy of the South African economy.

7. Education

Botswana's relationships to South Africa have historically affected the country's manpower base. Until the electoral triumph of South Africa's Nationalist Party in 1948 and the enunciation of its apartheid racial policies, the British had assumed that its Bechuanaland Protectorate would eventually be folded into the Republic of South Africa. Consequently, the U.K. made little effort to develop an education system to train the cadre which a soverign nation would require. Despite priority attention to the Education System, Botswana has yet to fully recover from this costly assumption as demonstrated by its continued heavy dependence on expatriate manpower, and the still limited number of secondary school graduates available and qualified for higher education.

C. Other External Factors

Botswana's fragile and vulnerable economy is also affected by several important external factors

which do not emmanate from South Africa.

1. Export Markets

Botswana has been successful in its policy to increasingly diversify its export markets. Most copper-nickel exports go to the United States for refining and are then re-exported to West Germany; diamonds go mainly to the U.K. and beef is exported principally to the EEC and South Africa. However, continued entry of Botswana beef into the highly profitable EEC market is dependent upon consistent British pressure on other EEC members and upon the EEC's interpretation of stringent animal health regulations -- interpretations often colored by political and economic interests as much as by technical sanitary assessments. Exports to the EEC were stopped in late 1977 following an outbreak of foot-and-mouth disease in northern Botswana. Continued or periodic closure of the EEC market would have a major impact on rural incomes and on future investment in the livestock industry.

2. Refugees

Approximately 13,000 refugees from Rhodesia, South Africa and Angola have obtained asylum in Botswana in the past 24 months and the flow has now increased to an alarming 6,000 per month, mostly from Rhodesia.

According to the UN, $27.8 million of Botswana Government resources have been required for the expansion of the country's defence establishment and for the recurrent costs of emergency projects.* While these refugees have acted as a magnet for increased donor assistance and most direct refugee-related costs have been covered by donors, the presence of the refugees and the proximity of fighting in Rhodesia have made potential private investors leary of new initiatives in northern Botswana and has led to some capital flight from the Francistown area. Prolonged fighting on Botswana's borders and a continuing influx of refugees could have increasingly negative repercussions on the growth of the Botswana economy, and would strain the government's limited administrative capacity.

3. South African Homelands

The "independence" of South African homelands such as Bophutatswana, which lies along part of Botswana's border with South Africa, may increasingly influence Botswana's economic prospects. New casinos in these homelands may draw South African gamblers and tourists away from the Holiday Inn Complex in Gaborone.

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* The Farah Report, March 1977, p. 24

In sum, an extraordinary series of external factors affect the Botswana economy. The brief discussion above is meant to provide a backdrop which is essential to an understanding of the internal constraints and overall prospects for growth and development of the most important sectors of the Botswana economy.

D. Sectoral Discussion

The discussion of sectoral constraints found below will follow a traditional format focusing first on the productive sectors of the economy (Agriculture, Mining, Industry and Commerce) and then on the Social and Physical Infrastructure needed to complement the productive secotrs. The discussion will not attempt to describe the sectors in detail but will center on the identification of constraints to growth and increased providisons of basic services.

Primary Sectors:

1. Agriculture

Prior to Independence, virtually the entire resident population depended on livestock and subsistence agriculture. Botswana's national economy now depends on agriculture less (35 percent of GDP in 1977 vs. 44 percent in 1967/68) due to growth of the mineral sector. However, 80 percent of the country's people still depend on agriculture for much of their income. Livestock which

contributes about 30 percent of GDP is more important to most Batswana than crop production (which contributes about 5-6 percent), however, recent evidence seems to indicate that most poor Batswana receive significant portions of their income from both sub-sectors and 73% of farmers engage in both cattle and arable farming. Also, certain smaller groups depend substantially on fishing, wildlife and forestry (wood gathering) for their ustenance and/or income. Livestock constitutes approximately 30-36 percent of export earnings and food comprises about 13 percent of Botswana's imports. Botswana's rural population is expected to increase by 40 percent over the next decade and the degree to which the country's rural population will participate in the growth of the Botswana economy will depend largely on improvements in the agriculture sector.

a) Livestock

The principal constraints to increased or even sustained livestock production in Botswana are limited grazing and water resources. The national herd is officially estimated at about 3 million cattle and 1 million sheep and goats, but unofficial cattle estimates run as high as 4 million head. The traditional livestock area of the country -- the east -- is heavily

overgrazed. Plans to move cattle west into the Sandveld may have overestimated the availability of uninhabited land available in the Kalahari (and possibly the availability of ground water and the recharge capacity of aquifers under the Kalahari) and underestimated the number of livestock which must be moved to significantly decrease grazing pressure in the east. Improved range management practices are urgently needed in all livestock areas as demonstrated by clearly visible desertification around boreholes, brush encroachment and the replacement of perennial grasses by less nutritious annuals. The Tribal Grazing Land Program (TGLP) is an ambitious pioneering effort to reallocate land and simultaneously increase livestock production while improving range management practices. Initial results are not heartening. Commercial ranches in the west leased for 50 years primarily to wealthy Batswana are being managed, some say, like "fenced cattleposts" with little initial improvement from traditional range management practices. Plans to develop group ranching schemes in the communal areas, inherently more difficult than establishing private ranches, have received less government and donor money, personnel time and policy-level attention than the commercial ranching schemes. Some government planners appear

to have given up on the possibilities of increasing small herder income under TGLP even without trying. The social effects of TGLP are yet unclear, but it is possible that the practice of mafisa (by which larger owners traditionally provide a source of milk, meat and the basis of an initial herd to poorer Batsawana) may become less pervasive if the large livestock owners are physically separated from the smaller herders. As in other livestock regions of Africa, Botswana's overgrazing problem may be temporarily resolved by traditional means -- drought -- but it is likely that drought, a periodic phenomenon in Botswana, would have a more devastating effect on small-holders than on wealthier cattle owners who would have the financial means to blunt the drought's effect on their herds. These key constraints to sustained livestock production -- limited grazing land and water resources -- require continued urgent government and donor attention.

A related constraint involves traditional animal husbandry as practiced by most Batswana to whom cattle represents status and an informal banking system or repository of wealth. National offtake rates are under 10 percent and probably closer to 6 percent among small-holders. Increased use of culling, herd management and other modern animal husbandry practices would increase

offtake towards the national goal of 13 percent. If Botswana retains access to the high-price EEC market (30 percent above world prices) opportunities for increased offtake should be favorable if also: (a) alternative means of rural savings can be offered to smallholders; (b) transport and market facilities are adequate; and (c) livestock extension and market information services are improved.

High-quality animal health protection is a sine qua non for continued access to the EEC market. The 1977 foot-and-mouth disease outbreak, which occurred despite extensive veterinary efforts, demonstrates the difficulty of adequately protecting the national herd. Since the outbreak the GOB, with donor assistance, has expanded its animal health network as a short-run response to the foot-and-mouth epidemic. However, over the long run, given the intransigence of the problem, various specialists have advised the GOB (a) to gradually increase its access to diversified international markets, such as the West African, Asian (Hong Kong) and Middle Eastern markets. Botswana can receive higher prices in these markets than in its present "residual" market - South Africa. They could also possibly provide outlets if the EEC -- which reviews the import of Botswana beef every 12 months and is under considerable continuing pressure from some EEC members to rescind Botswana's present

status -- would arbitrarily cut off Botswana's imports at some later date; and (b) to consider establishing a meat processing plant possibly in the north to produce canned beef -- the export of which foot-and-mouth disease is not a factor. A second abattoir or a meat processing plant in the north has been considered for several years and seems to be increasingly required to encourage greater offtake. The BMC is gradually nearing its maximum slaughter capacity of 294,000 carcasses annually at Botswana's present low level of offtake and under drought conditions would clearly be inadequate (if offtake rose to a minimum of 10 percent during a drought, at least 300,000 cattle would be slaughtered). Although the Lobatse abattoir could be expanded, the northern abattoir would have the additional advantages of (a) reducing rising transport costs for livestock from the north and (b) allow Botswana to export northern beef to certain countries despite the periodic presence of hoof-and-mouth.

Other livestock diseases -- anthrax, quarter eagle and rinderpest -- are apparently under control. A pilot tsetse eradication project in the Okavango should indicate the feasibility of a larger program which would allow for increased livestock production (and mixed farming) in the Okavango.

Most livestock in eastern Botswana are transported to the BMC at Lobatse via rail or truck. Cattle from the west and northwest are usually trekked directly to Lobatse or to the rail line. Although the IBRD has allocated funds to improve trek routes, use of these routes is sometimes resisted even despite potential death and weight losses valued at P45/head. Upgrading the major road links to Ghanzi and Maun would encourage more efficient trucking of cattle to markets and would encourage competition in livestock marketing. Presently, small-herders in the Ghanzi area and possibly other western areas are reduced to selling their animals to a small number of buyers at local auctions at less than competitive prices. An increasing number of livestock marketing cooperatives have been established in recent years and received 19 percent of BMC receipts in 1977. These young institutions which provide small-herders the best possible price for their cattle and which should be a means of encouraging increased offtake will require continuing support.

Based on limited analysis, the availability of livestock credit does not appear to be a significant constraint. Private credit is available to freehold farmers and IBRD funds have been loaned for the use

of TGLP commercial ranches. Both EEC and AID have provided monies which can be used for credit for smallherders. The more immediate problem is the stimulation of smallherder interest in communal or group ranching schemes, participation in livestock cooperatives and associations and the development of management capacity in those organizations.

The GOB has limited capacity to implement livestock and other agricultural programs as demonstrated by the MOA's 30 percent implementation rate during the 1973-76 period.* The Ministry still depends heavily on expatriates for carrying out both central government and field assignments, especially in the veterinary service. The country's extension agent-farmer ratio is reportedly a healthy 1:250 (with a goal of reducing the ratio to 1:200) but the ability of the extension staff to encourage improved animal husbandry and, especially, range management is debatable. Veterinary assistants (VA's) and extension agents are trained at the Botswana Agricultural College (BAC) in separate programs. Their field responsibilities may not be of equal importance, however, since VA's are concerned only with animal health while extension agents must have the capacity to advise on crop protection,

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* The MOA's implementation rate, which is also influenced by "over-planning", reached 60% during the 1976-78 period.

animal husbandry and range management. Under these circumstances, Botswana may wish to consider the option taken by several West African livestock-producing countries -- to establish a separate range management advisor cadre or to train ranch extension cadre or group development officers to carry out similar functions.

Botswana's small stock (500,000 sheep, 1.5 million goats) are largely owned by the poorer rural households and often provide their primary source of protein. Recent government efforts to improve small stock production should be encouraged with the proviso that they be designed so that they will not result in increasing the national herd and pressure on limited range resources.

Botswana also has the potential to be self-sufficient in poultry and milk production. The country now produces only 25 percent of its domestic poultry consumption and imports all of its powdered dry milk from South Africa and most of its fresh milk from Rhodesia and South Africa.

b. Crop Production

Approximately 70 percent of rural households in Botswana plant crops in an average year despite the uncertainty of adequate rainfall. Cereal crops, primarily sorghum, maize and millet, are grown primarily

in the east but are also planted deep in the Kalahari as far west as Tsabong, Hukuntsi and Khutse. With only a chance of obtaining a good harvest because of uncertain rainfall (from 200 mm/year in the southwest to 700 mm in the northeast), poor-quality seeds and infertile soils, farming is not often viewed as a primary occupation. Few or no modern cropping practices are utilized, and the resultant yields are largely dependent on the timeliness and extent of rainfall. Median yields are among the lowest in the world and have shown no indication of significant long-range improvement. Only 5-6 percent of Botswana is arable, and about 1.5 percent is under cultivation. Despite the discouraging discussion above, many researchers and the GOB feel that Botswana can become self-sufficient in cereal production (by 1986 says the GOB). Some believe that yields of primary crops (sorghum, maize and peas) can triple with improved farming practices and improved seeds. In good crop years, Botswana may even now be self-sufficient in cereals. Much of the country's preyent marketed crop is now produced on the country's 350 large freehold farms in the Tuli Block and the Molopo Farms, but much of this output is exported directly to South Africa or Rhodesia making production estimates difficult. Recent micro-studies have indicated

that crop production can provide a poor rural household with greater annual income than livestock. However, it remains to be seen whether income from crop production (only P126/year in 1973/74) or mixed farming will be competitive with wages offered in the South African or Botswana mines. The GOB is apparently about to embark on a major effort to increase food production and productive employment through an Arable Lands Program. Botswana must deal with several substantial constraints in its attempt to achieve cereal self-sufficiency.

Botswana's soils are of four major types ranging from pure sand in the central and southwestern areas to mixed loam and hardpan in the east. Existing soils surveys have been limited in area, employed varying technical procedures, and have been hard to use for basic nationwide planning. Even with reasonable soils, rainfall is the essential ingredient to successful dryland farming. Under present cropping techniques, rainfall is inadequate one of every three years in most areas of the country. Thus any arable crop program must rely on the development of a production package which is increasingly resistent to drought. A research developed crop package must seek to improve present agricultural practices which include broadcasting of seeds, sporadic

weeding and water conservation, limited use of high-cost fertilizer (less than $100,000 of chemical fertilizers were used in 1977), and planting dates which vary from early November to late December. Improved access to credit will also become important once a more profitable farming package is available to farmers.

Cereals prices, established by the Botswana Agricultural Marketing Board (BAMB), parallel South African prices which, since the recent termination of a maize subsidy, are near world prices and may be adequate to encourage increased production. BAMB has made good progress in stabilizing prices, reducing inter-seasonal fluctuations in crop prices and reducing the shipment-reshipment of grain stocks to RSA and back. BAMB has an adequate storage capacity for domestic production and emergency reserves (14,000 metric tons) but has less than adequate access to many food producing areas due to Botswana's incomplete transport network. Although a north-south primary road network in the Eastern Corridor is almost completely paved, most villages are still inaccessible to 2-wheel drive vehicles. The current rural roads construction program affects only a small proportion of the country's rural population and should be expanded, especially in areas where the

Arable Program will be focused.

One apparent constraint to increased crop production is labor. Approximately 30 percent of the country's manpower works in South Africa and many rural households are headed by women. Female heads of households have not traditionally owned or handled cattle and are often able to hire oxen teams for plowing only after prime planting time has elapsed. Inequitable livestock ownership -- 62 percent of rural households need to borrow at least some oxen for plowing -- has clear repercussions on the critical factor of seeding as soon as possible after the first rains and thus on the distribution of farming incomes. The GOB's new arable policy must carefully consider the varying inter-relationships between livestock ownership and cropping (and other sources of income and uses of labor among rural households) in the various regions of the country. Labor requirements might be reduced by increased use of farm implements such as the Mochudi toolbar and the moldboard plow.

Botswana appears to have only limited potential for irrigated agriculture. Research on the Okavango Delta indicates that large-scale efforts to exploit its abundant water resources would be costly and possibly eccologically risky. Floor recession

farming and small-scale irrigation have good potential in the limited areas where irrigable soils are found and can be initiated at little cost while more detailed studies of the Delta's ecology and economic prospects are carried forward preferably on a basin-wide scale in cooperation with Angola and an independent Namibia.

A detailed study has identified 17 sites for small-scale irrigation in Eastern Botswana -- approximately 2,500 acres in total. These sites are not contiguous, may not be economically feasible to exploit and several are located on white-owned freehold land in the Tuli Block.*

As in livestock, Botswana's dearth of trained manpower is a serious constraint to government efforts to improve crop production. Very few Batswana have degrees in agriculture subject matter. The Botswana Agriculture College (BAC) will be expanded, with AID assistance, to produce increased, but still probably inadequate, numbers of certificate and diplomate graduates to fill MOA staff positions over the next 5 years.

Agricultural education for farmers and students must also receive increased attention. The GOB

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* Reference. The Irrigation Potential of Soils Along the Main Rivers of Eastern Botswana, by A. J. B. Mitchell, Ministry of Overseas Development, 1976.

is presently reviewing the need for agricultural education courses in senior secondary and middle schools. Agricultural training in primary schools is limited to school gardens. There will be five farmer training centers in Botswana by 1980, but their cumulative effect over the years on increasing crop production is unclear.

Finally, given Botswana's extremely limited soil and water resources (as well as limited grazing land and forest resources), a major government conservation program seems essential. Government plans to develop institutions dealing separately with crop, livestock, wildlife and forestry-related conservation might more appropriately be incorporated into a more efficient single, coordinated, multi-purpose Resource Conservation program linked to existing district conservation committees.

Botswana has prospects of improving its production of horticulture crops. A commercially exploitable market exists in the 4 urban areas but 90 percent of the fruits and vegetables consumed in Botswana are imports (of often poor quality) from South Africa. Basic constraints to increased domestic production include the scarcity of low-priced water, lack of local technical and managerial expertise and the need to develop a domestic marketing network. Detailed plans for pilot horti-

culture production on smallholder estates have been developed by the GOB with volunteer (IVS) assistance.

Wildlife is a major national resource and is the basis of traditional hunting for meat and skins by rural populations. Hunting may represent as much as 10 percent of agricultural product. Efforts to encourage groups of rural poor such as the Basarwa to increase their economic returns from hunting (preparation of hides, handicrafts, etc.) are constrained by limited meaningful contact with the Basarwa and uncertainty over the size and movements of the wildlife population.

Small initial efforts are underway to supplement Botswana's limited natural forests (mostly in Chobe District) through commercial woodlots. A pilot timber concession has been let in Chobe to provide raw material for timber using industries such as furniture manufacture. Commercial woodlots could be used for similar purposes or for the provision of firewood to supply energy for growing urban populations. Constraints -- technical (few trees can grow in semi-arid Botswana without great care) and economic -- are severe but major efforts seem imperative if Botswana's limited natural tree population is to be protected from rapid extinction.

Approximately 500 metric tons of fish

are caught annually in Botswana, 80% in the 10,000 square kilometer Okavango River Delta. 80 percent of this catch is consumed locally by people who have no livestock and do little cropping. Potential for ecologically-sound exploitation of the fish resources of this isolated area by artisanal, and perhaps commercial fisheries, for local consumption or for shipment to urban areas has received little study. As a source of protein, fish may be of considerable importance. It is interesting to note the importance fish now plays in the diet of Sahelians, whose environment is similar to Botswana's.

2. Mining

Mining in Botswana is at least 700 years old. Abandoned gold, copper and iron mines have been discovered near Francistown where, in 1866, a German rediscovered gold leading to the establishment of the first gold mine worked by Europeans in Southern Africa - the Tati Concession. Many small gold, asbestos and manganese mines have been operated in various parts of the country and consideration should be given to exploiting some of these on a labor-intensive basis to provide needed employment, especially if Botswana employment decreases in the South African mines. The mineral sector is clearly the most dynamic force in Botswana's recent

economic surge and should continue to expand. Output was valued at P125 million in 1977 and may double by 1985. The sector now provides 57% of export revenues (U.S. 17.7% in 1966), 30% of government tax revenues but only 7% of formal sector employment. Mining generates most of the financial revenues which enable the GOB to carry forward its rural development and social service programs.

Briefly, major existing mines are:

Diamonds

-- Orapa and Letlhakane: Second largest kimber lite pipe in the world; in north central Botswana operated by deBeers; the GOB receives approximately 70% of company operating profits.

-- Jwaneng: Major new find 100 kilometers northwest of Kanye in southern Botswana; to be operated by deBeers; scheduled to open in 1982; will employ 1,000 to 1,500 workers; require new township for 5-10,000 people, power station, paved road from Kanye, water supply; estimated cost of $300 million; GOB has reportedly negotiated a very favorable settlement.

Copper-Nickel matte

-- Selebi-Pikwe: In east central Botswana built 1967-72 with new town, dam, electric power

station; $50 million sales in 1977 despite technical and managerial problems.

Coal

-- Moropule: In east-central Botswana; 300,000 tons/year now exploited for use at Selebi-Pikwe and by the Botswana Power Corp. in Gaborone at relatively high cost due to low level of production; extensive reserves.

a. Future Prospects

Prospects for the future exploitation of new mineral finds are excellent. Soda Ash/Salt are found in quantities of hundreds of millions of tons in the brines of Makgadikgadi Pan in northern Botswana. Exploitation seems technically feasible but potential investors have been discouraged by depressed market conditions and possibly by regional hostilities.

Coal: The country probably has 40 billion tons of coal reserves which can be washed to produce a low sulfur export quality steaming coal product. Unless treated, however, it is of lower quality than South African export coal and European coal and could only be used domestically. Exploitation of major reserves - thus far located near Kasane in the northeast, Letlhakeng in the south and Moropule - would require improved transport

linkages and vast amounts of water (if treated).

Copper: Additional copper deposits have been identified in Ngamiland. Although interest in these deposits is now limited by low copper prices, eventual exploitation would also depend on the availability of a rail line to Namibian ports.

Other Minerals: Limited exploration to date has indicated a moderate potential for major discoveries of manganese and asbestos. More speculative minerals include lead, zinc, platinum, chromite, fluorite, petroleum, natural gas, uranium, and iron ore.

b. Constraints to Further Mineral Exploitation

Apart from the quality of the minerals themselves, five major constraints face future mining development in Botswana: (1) transportation; (2) water; (3) lack of knowledge about existing deposits; (4) need to attract foreign investment; (5) shortage of manpower.

Transport: Development of the soda ash at Sua Pan, the copper deposits in Ngamiland and/or other minerals in western Botswana would require rail transportation to ocean ports. Although a rail spur could be extended west from the Rhodesian railroad to Sua Pan, most scenarios foresee construction of an east-west railway across the country to Gobabis in eastern Namibia

which would link Botswana to Walvis Bay. Upgrading of the existing north-south line might also eventually be required to carry minerals such as coal mined near this line.

Water: Exploitation of coal or copper deposits in northern Botswana would require fairly large quantities of water, possibly only available from the Okavango. Water for the Jwaneng diamond mine will be piped at high cost from boreholes 30 to 50 miles away. The high cost of water in Botswana makes the dream of treated coal exports doubtful.

Lack of Knowledge About Existing Deposits: Geological mapping is difficult in Botswana due in part to the Kalahari Sand cover. Even in comparatively well exposed eastern areas, the bedrock is sometimes largely concealed by superficial sand cover and the quality of the relatively extensive mapping in those areas (compared to the Kalahari area) is uneven. Although CIDA has recently completed a major aeromagnetic minerals survey - the results of which are not yet available - only 25% of Botswana's surface area has been well explored.

Need to Attract Foreign Investment: Botswana's democratic, multi-racial, free enterprise policies should make it ideally attractive to private

foreign investment. However, political disturbances in southern Africa and especially near northern Botswana have probably discouraged some major investors in recent years. Botswana has borrowed commercial funds to make a 20% direct investment in the equity of the Jwaneng diamond mine but cannot itself finance large-scale mining operations. It does plan, however, to support much smaller-scale labor-intensive mines for revenue-generation and/or for employment through a new small mines office.

Shortage of Manpower: The shortage of trained, skilled and experienced Botswana manpower at all levels of the mining industry necessitates the importation of extremely high-cost expatriate staff on a temporary basis.

3. Industry and Commerce

The manufacturing sector in Botswana is extremely small, highly concentrated and underdeveloped with little Botswana ownership and participation. The sector constitutes only about 5.3% of GDP. Of 85 licensed firms, two-thirds of the sector's capital formation is accounted for by three large enterprises - BMC, a brewery and a spinning/weaving factory. The industrial sector employs only 4,900 people. Most enterprises are centered around the production of textiles, leather

products, metal-making, brick-making, woodworking and furniture making. Most utilize high percentages of raw materials imported from South Africa (only about 20% of value added is local). BMC is the only significant enterprise with immediate export potential. Industrial linkages with mineral sector expansion have been disappointing and most consumer demand generated by Botswana's mineral-led economic expansion has been met by increases in consumer imports, mostly from South Africa rather than by domestic production.

Commercial trade, however, has grown twelve fold since independence. Wholesale, retail trade and financial services now account for 35% of GDP, up from 22% only a few years ago. Yet this sector employed only 6% of the country's labor force in 1975. Expatriates hold 46% of all small-business licenses and tend to dominate the non-traditional businesses such as banking, insurance and pharmacies. Botswana dominates the restaurant, hairdressing and fresh commerce businesses. Botswana businesses tend to be small and managed without the benefit of modern accounting principles and management techniques. Women operate a major portion, probably the majority of the Botswana-run businesses. Rural enterprises, all of which are small, are basically artisan type activities.

Value added in the construction industry has grown nine fold since 1968/69. Most firms are foreign-owned (all of the large ones) and are urban-based. There is a scarcity of efficient small builders in the rural areas.

a. Constraints to Development

The nature of the Botswana labor market critically effects the potential of the sector. The labor market is characterized by two overriding elements: the relative lack of skills of most of the labor force, and the close integration of Botswana's labor market with that of South Africa. The essential effect of these two factors is that labor costs in Botswana are not low. The development of Botswana's mining sector and the expansion of central government employment, combined with the apparent power of Botswana's civil servants and mine workers has reinforced, though not created, this basic condition and as noted earlier, the government has not been able to hold the line on large wage increases in recent years.

Market size is a second major constraint. The domestic market of only 750,000 people most with low incomes, is too small to support a wide range of possible import substitution industries. Of course, Botswana's

proximity to the well-developed and generally low-cost South African market makes import substitution extremely difficult under SACUA regulations. RSA non-tarrif barriers have made it difficult to penetrate the South African Customs Union (SACUA) market and except for beef exports, there seems to be little potential for Botswana to tap the EEC market under the Lome Convention.

In addition to the paucity of skilled labor, there is an acute shortage of local entrepreneurs and managers. Most Batswana look upon cattle raising or a job in the civil service as more secure and prestigious jobs than industrial or commercial enterprise. Returning miners "invest" mainly in consumer goods or cattle and seldom in manufacturing activities. Very few Batswana are trained in business-related skills.

Supportive infrastructure for industry and commerce such as power, transport, water and telecommunications is expensive in Botswana and often not available in rural areas. Botswana's industrial potential is also limited by its narrow resource base consisting largely of livestock and minerals. The country could probably carry out more processing of livestock by-products (hides, leather work, meat canning, possibly soap manufacture) and produce backward-linking articles (veterinary remedies, supplementary animal feeds, foundry

products, etc.). Forward-linkage mineral-related industries have had little potential to date. Except for diamond sorting, processing of diamonds and copper-nickel matte has not been necessary or feasible. Coal washing or gasification is prohibited by technical constraints. However, exploitation of soda ash may give rise to manufacturing items such as salt chemicals, glass and possibly fertilizer.

Botswana does have a comparative advantage in attracting tourism. Non-wildlife tourism, primarily attracted by the casino in Gaborone, has social ramifications the government is not anxious to foster. With the opening of new casinos in the homelands nearer South African population centers this trade may diminish/ Wildlife tourism has been designed to cater to small numbers of high-value tourists who are willing to pay handsomely for Botswana's remoteness. Infrastructure improvements (a better road to Maun, aerodrome betterments at Kansane and Maun) could help expand wildlife tourism especially when regional hostilities decrease.

The industrial sector is given low priority in the overall National Development Program and some experts feel the GOB has been slow to clearly define an overall set of development policies for the industrial

sector. The government has established some incentives for foreign private investment - comparatively low rates of company income tax, generous provision for capital write-off, unlimited repatriation of profits - and has tried to create a stable political and economic environment to attract investors. Nonetheless, foreign investment is hampered by the political unrest in neghboring countries. Also the government has not established incentives sufficiently attractive to compete successfully with the South African "homelands".

The availability of credit does not appear to have been a constraint to date. Commercial banks are extremely liquid and institutions designed to assist small businesses, such as the Botswana Enterprise Development Unit (BEDU), they say have more capital resources available than they can presently utilize.

4. Physical Infrastructure

Transportation Network

A country the size of Texas would require an extensive transport system to become fully integrated. Botswana's populous eastern corridor (80% of total population) is served by a railroad from Ramatlabama in the south to Francistown and the Phodesian border in the north (continuing to Bulawayo and beyond) and by a primary

road from Ramatlabama to Francistown to Kazungula on the Zambian border. Donor assistance has been obtained to completely pave the road by the early 1980's.* Bulk items (coal, copper-nickel matte, cattle, petroleum) are carried by rail, and road traffic volume is relatively light over the sparsely-populated countryside.

a. Roads

The country's primary road net in the east will soon be complete including paved east-west roads to major centers such as Kanye, Molepolole and Serowe off the north-south axis road. However, roads linking the eastern corridor to the country's western reaches (Ghanzi, Maun) are still rudimentary and seasonally impassable. Exploitation of the economic potential of the west (livestock, minerals, tourism) and the provision of basic social services in outlying villages are severely constrained by the poor quality of the roads (largely sand tracks) beyond the Limpopo Catchment area. An all-weather road to Ghanzi would also provide Botswana with a new and potentially vital access route to the sea. Completion of a nationwide network is made difficult by the long distance involved, low rates of traffic and, hence, marginal economic justification.

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* With the exception of a $6 million shortfall for the Nala-Kazangula road.

The Ministry of Works has operated four rural road construction units for several years but most rural areas are still inaccessible except by four-wheel drive vehicles. Farm-to-market roads are virtually non-existent and are strikingly absent in the agriculurally rich Tuli Block where farmers presently find it easier to market their produce directly into South Africa. Several recently prepared District Development Plans place road construction at the very top of their priority project lists.

Road maintenance has suffered from instability of key personnel in recent years and from inefficient use of maintenance equipment. The government's Central Transport Organization (CTO), plagued by lack of qualified Batswana mechanics, has often not been able to get vehicle availability rates higher than 50-60% despite considerable donor assistance. District Councils have responsibility for maintaining non-gazettled roads but lack maintenance facilities, funds and qualified manpower. It is not surprising, therefore, that many rural roads are in lamentable condition.

Manpower is a critical constraint in the transport sector. Botswana boasts only one qualified Batswana civil engineer and expatriates fill 60% of all

Ministry of Works staff positions. The Roads Branch has very limited design capacity and Rural Roads construction teams must include expatriate engineers and mechanics. The supply of lower and middle-level personnel should improve soon as a new Roads Training Center begins to graduate its first classes of trainees.

The government will soon begin an experimental labor-intensive rural road construction under the aegis of the Ministry of Local Government and Lands. Preliminary studies indicate, however, that labor-intensive construction techniques may well be more costly than more conventional procedures due to high minimum wage levels*. Nevertheless the experiment could provide experience in construction unit management and capital-labor tradeoffs that might be of critical importance should Botswana miners be sent home in large numbers from South Africa.

Local Botswana-owned construction firms are small and have difficulty competing with larger foreign-owned firms (mostly South African). Most suffer from technical and managerial weaknesses and successfully compete only for urban housing construction contracts.

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* Ref. Highway Maintenance Study, Vol. 2, Kampsax Intl. May 1978 and earlier studies by the MOW & NORAD.

b. Rail Transport

The Rhodesian-owned and operated railroad, often called "Botswana's lifeline," carries 80% of the export/import traffic between South Africa and Botswana. The GOB has announced plans to take over the railroad for reasons of security and, to a much lesser extent, prestige. After volumes of analysis, a British consulting team, TRANSMARX, is now drawing up an implementation plan for the takeover. The GOB argues that disruption in Rhodesia could paralize railroad operations at any time, but also that a new Zimbabwean government might not wish to continue to operate the railway at a loss. One study indicates that shifting this traffic to road transport would be more expensive than GOB takeover of the railway operations. Constraints to successful GOB operation of the rail line include: a) lack of manpower - between 1,500 and 1,900 Batswana would be required including large numbers with scarce technical skills. For example, 200 accountants would ideally be necessary in a country where scarcely a score now exist; b) questionable economic profitability and high recurrent costs - the railroad is probably now operating at a loss and is subsidized by Rhodesia. Any major decrease in traffic, including termination or reduction of Rhodesian

traffic, would increase line losses. The IBRD estimates that separate railroad management in Botswana and Rhodesia could increase operating costs by approximately 25%; c) security - a Botswana-run line would still depend on South African maintenance facilities and continued access through South Africa to ocean ports.

The GOB has also considered constructing a new rail spur to Sua Pan (174 kilometers) for the transport of soda ash deposits should an investor be found. And, if economic mineral deposits are located further west, as may be indicated by recent zero magnetic surveys, the government envisages extending this east-west line to Mamuno where it could then be linked to the Namibian railine at Gobabis. The obvious constraints to development of this new line, which could provide supplementary access to the sea, are similar to those that affect the north-south line -- manpower, capital, management capacity, and question of economic profitability. The latter may depend on how much transit traffic an independent Zimbabwe would want to send westward through Botswana and avoid South Africa.

c. Civil Aviation

A vast country with rudimentary road linkages such as Botswana requires a substantial civil

aviation capacity. The country's capacity is presently limited by manpower and airport size and quality. The dearth of Batswana with adequate science and mathematics skills is fully evident in the Department of Civil Aviation where all 23 positions are held by expatriates. The Gaborone airport can receive planes no larger than 56,000 pounds or a 60 passenger Viscount and was poorly constructed with little drainage capacity. A feasibility study for a new international airport has been completed, and the cost of the new facility is estimated at $25 - 30 million. Although a major drain on recurrent budget funds, the Government argues that the new airport is required for security reasons. The Government also hopes to improve aerodromes in Kasane and Maun which would improve tourist access to the northern region.

Since the profitability of Botswana Airways now largely depends on providing access to Zambia from South Africa, it is conceivable that Zimbabwean independence would hurt Botswana Airways since easier access could probably be available via Salisbury.

d. Telecommunications

Telecommunication services in Botswana are in serious short supply, both in terms of domestic service and international connections. The overall down-

time for the internal microwave system is 40% and the present zone-switching centers present a major bottleneck. Internationally, Botswana needs to either significantly upgrade its service to South Africa or to supplement existing land line circuits with microwave or ground satellite equipment. Communication with other majority rule (or soon to be) states in the region is practically non-existent. This is an important prerequisite for subregional cooperation on trade and economic matters.

Finally, as usual, there is an acute shortage of middle and upper-level technical and professional personnel. No Batswana are qualified to serve in technical capacities as engineers and none are in training. Installation capacity is also grossly inadequate and no Batswana, except the Director, serves in a capacity more than one step above a trainee.

e. Power

Coal-generated power stations at Selebi-Pikwe (60 mw) and Gaborone (20 mw) presently supply the eastern corridor's demand for electricity (although at very high prices). In the 1980's increases in demand would probably be met by a new 90 mw central generating plant at Morupule which could cost at least $85 million. The government hopes to reduce dependence on externally-

supplied diesel fuel in rural areas through an expanded system of transmission lines.

A particularly perplexing problem is provision of energy for widely scattered borehole pumps which now use diesel and which could be quickly affected by a cutoff in diesel fuel. Solar pumps and windmills show some promise as substitutes but only for the more shallow wells. Solar units are also being increasingly used for urban housing. Energy for the traditional rural secotr (60 and 70% for water heating) is largely provided by firewood. The continued uncontrolled destruction of indigenous woodlands poses a considerable threat not only to the environment but also to the incomes of rural wood gatherers. Rural solar water heating techniques, home-built fire boxes and other sources of alternative energy for rural areas are being explored but need greater emphasis.

5. Education and Human Resources

Qualified middle and upper-level manpower is an overriding constraint to development in all major sectors of the Botswana economy as noted above. This manpower constraint is largely due to historical factors. Until the electoral victory of the Afrikaner-based Nationalist Party in 1948, the British government had

assumed that its Bechuanaland Protectorate would eventually become an integral part of the Union of South AFrica and spent little to train Batswana to run a sovereign nation and an expanding economy. Prior to Independence only about 25% of the population was literate, only 43% and 2.6% of children were enrolled in primary and secondary schools, respectively, and only 35 Batswana living in Bechuanaland had B.A. degrees. Botswana has made excellent progress in increasing the quantity of education available since Independence. By 1977, 80% of primary-aged children were enrolled, 15,000 students were in secondary schools and about 800 Batswana were in University training. Nevertheless, expatriates still filled 80% of jobs requiring post-secondary education, 50% of those requiring secondary education and 20% of those requiring junior-high education. Also, the quality of education provided in Botswana's growing formal school system is suspect. 41% of primary school teachers in 1977 were not qualified to teach and 70% of secondary school teachers were non-citizens usually on short two-year contracts. The pass rate on the Cambridge secondary school leavers exam has jumped recently from about 1/2 to 2/3 but school leavers with essential science and math skills are extremely scarce -- only 23% of those

taking the Cambridge exam gained a credit in math in 1977. The government has recently begun to take a close look at the relevancy of school curricula, largely inherited from the British, for Botswana's development needs. A major study of the country's education system* was completed in 1977 and plans for implementation of the exciting revisions proposed by the study are now being formulated.**

a. Primary Education

The new education policy places primary emphasis on improving the quality and accessibility of primary education. Until 1976, district councils were responsible for primary schools and the central government had little control over the quality of teachers, facilities or teaching methods. There was a general concensus among educators that the primary schools did not adequately prepare pupils for secondary school nor did they prepare the large proportion of primary school leavers for the non-academic opportunities that would be open to them. The new policy will place emphasis on literacy in English and Setswana, a basic command of mathematics and a knowledge of science and social studies.

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* Report of the National Commission on Education, Gaborone, April 1977.

** National Policy on Education, Government Paper #1 of 1977, Gaborone, July 1977.

There will be more practical orientation to traditional school subjects but vocational subjects may not be taught in the primary schools. Universal access to high-quality primary education is a major objective. Basic constraints to achieving the government's goals in primary education must be dealt with by:

-- Increased and improved teacher training: the annual output of trained teachers must double by 1983.

-- Improved curricula: a new permanent Curriculum Development Unit has been established in the Ministry of Education.

-- More and better-equipped classrooms and related facilities: there is a growing shortage of classrooms (2000 in 1979 vs. 1575 in 1975) and most rural classrooms have little or no equipment and few teaching materials.

-- An improved career structure for teachers and close monitoring of teacher performance.

b. Secondary Education

The Education Commission recommended establishing new 3-year middle or junior-secondary schools and increasing senior-secondary training to three years. The middle schools would provide a greater degree of

vocational training to the large number of secondary-level school leavers than offered by secondary schools in the past. Due to the large number of teachers which would be required to staff the new middle schools, the GOB has had second thoughts about the speed of implementing the Commission's recommendations in this area and plans to recall the Commission early 1979. Constraints to achievement of government objectives for secondary schools must be dealt with by:

-- Reduced dependence on short-term expatriate teachers: the GOB hopes to expand the annual output of trained secondary teachers. Three new teacher-training colleges for intermediate teachers will be required as well as increased output of senior-secondary teachers from the university system.

-- Improved curricula including a new curriculum for the middle schools.

-- A new National Examinations Council.

-- Improvement in the standards of unaided secondary schools.

-- Greater involvement of schools in the local community and vice-versa and increased utilization of government supported education facilities

for community and non-formal education needs.

c. University Education

Although the National Education Commission Report did not deal directly with University-level training, the government is presently debating possible modifications in university objectives and programs. Student intake at the University College, Botswana, was less than planned in 1977/78 (114 vs. a planned 160) due to the disappointing number of Cambridge Exam passes. Qualified candidates for university training were especially rare for the science and math programs. The University has absorbed a large and increasing share of the recurrent and development budgets available to the Ministry of Education. The government is exploring ways to make university education more cost-effective and to utilize university facilties more broadly for community and national education needs.

d. Other Post-Secondary Education Institutions

National Centre for Vocational Training (NCVT) -- a recently established government technical training committee is reviewing national vocational training objectives and the future role of NCVT. Due in part to inadequate staff availabilities NCVT graduates

totaled only 55 in 1977/78 vs. 118 in 1974/75. A new German-financed Auto Mechanics School is planned and will be closely linked to NCVT.

Botswana Agricultural College (BAC) -- The BAC trains middle-level agriculture personnel. USAID will assist in the expansion of BAC facilities and training capacity to double the number of certificate graduates and to institute new diploma training programs in agriculture and animal health by 1982.

The Brigades are Botswana's best known vocational education program. They provide training in craft and mechanical skills primarily, and partially support themselves with goods the trainees produce. The growth of Brigade trainees, projected at 15% in NDP IV, has not progressed as rapidly as anticipated, but staff-trainee ratios and the quality of the trainees have been improved. Employment opportunities for Brigade trainees have not been excessively abundant in part becauae the brigades themselves tend to supply Botswana's rural market needs for technical skills that graduate trainees might offer as private entrepreneurs. GOB incentives for more labor-intensive industries may, however, provide more employment opportunities for Brigade graduates in the future.

e. Non-formal Education

There are a variety of non-formal education programs in Botswana managed by a myriad of government ministries and community organizations. Based on the Education Commission Report a new Non-Formal Education Unit is being established in the Ministry of Education. This unit will attempt to coordinate rather than control the various programs and will try to monitor and improve the quality of non-form education programs and teachers.

The Botswana Extension College has developed radio and correspondence courses which reportedly are studied by 4,000 people each year, primarily in rural areas. The college hopes to expand its faciltities and broaden its training portfolio with donor assistance over the next few years.

6. Shelter and Urban Development

Adequate shelter and access to water, sewage, and other basic services are important elements of the Botswana standard of living. Botswana's urban population is small (94,000 in 1975) but growing at a rapid pace of 12% per year. Since independence, a new capital and two new mining towns have been built and the urban population is now 14% of the total population.

Although 45% of the urban population is below the country's poverty line, employment opportunities and wage levels are high enough in urban areas to attract migrants from rural areas. Tribal villages such as Serowe, Kanya, Molepolole and Mochudi are not technically considered urban areas, although Serowe and Kanye each have about 40,000 inhabitants. Some of these traditional centers are in transition, are becoming more modern, and may soon require some modicum of urban planning.

No detailed data is available on the existing stock of housing or the magnitude of shelter needs country-wide. However, a severe urban housing shortage clearly exists. In 1975 the following proportions of urban populations lived in squatter housing: 27% Gaborone; 23% Lobatse; 60% Francistown; 40% Selebi-Pikewe. The government has only recently begun to develop housing programs for the urban poor. Self-help housing agencies (SHHAs) have been created and report to town councils, but SHHAs are woefully understaffed for the tasks they must deal with (5,000 new sites for self-help housing in Gaborone over the next three years and 4,000 sites in Francistown, Selebi-Pikwe and Lobatse). The SHHAs lack expertise in construction supervision, housing finance, community organization, and financial management.

Despite a GOB policy of no subsidization for urban development, housing programs carried out by the town councils have not been self-supporting and have received central government financial support. Low-cost housing has been financed in part by cross-subsidies from high-cost housing, but new housing programs with up to 70% low cost housing make this less feasible at present. The future of the self-help housing programs in particular will depend on the success of town councils in establishing rates which may be politically unpopular and in collecting fees assessed their residents. The SHHAs also need to develop a more efficient, adequately financed building materials loan program.

Most upper and middle income housing is built by the Botswana Housing Corporation (BHC). BHC has completed nearly 4,000 dwelling units but, due to high costs, BHC housing is accessible only to those in the top 30% of the urban income range. Even so, BHC has not maintained an adequate margin on its housing construction programs and will probably not be able to meet the housing needs of even the top 30% of families with the financial resources it has available.

Institutions for financing or re-financing privately constructed housing are weak and have not pro-

vided an effective means of channeling the substantial domestic savings of private individuals into the housing industry. A new government mortgage guarantee scheme operated through the Botswana Building Society may partially resolve the housing finance problem. As in all areas of the Botswana economy, trained manpower is again a constraint to the expansion of the BHC and domestic financial institutions.

In rural areas, the basic problem is water rather than shelter. A large proportion of the Batswana live in traditional villages, which are quite large by African standards (20-40,000 people). Their shelter usually consists of a mud rondavel with a thatch roof. Mud and thatch are cheap and, with good maintenance, these rondavels can last for 15 years. In some areas, modern building materials and techniques have been combined with traditional housing construction. Water in villages is usually supplied by boreholes with pumps fueled by diesel. Exceptional progress has been made in recent years in providing clean water to many rural villages and donor-supported water programs will gradually reach the smaller, more remote villages.

Water, always scarce in Botswana, is also a key factor in urban growth. Limited water supply has held back the growth of Lobatse, and Gaborone must care-

fully husband its supply from the Notwane River for future growth needs (suggestions to pipe water from Gaborone to the new Jwaneng diamond mine were recently rejected, for at least the first phase of development of Jwaneng). The quality of the borehole and groundwater supplies in some villages has been found wanting. There is a serious problem of groundwater pollution by pit latrines and significant levels of nitrates have been found in some villages.

As noted in the industry and commerce sector discussion, another constraint to adequate shelter and related services in Botswana is the small size and capacity of the local construction industry. Many Botswana construction and borehole drilling firms are small, ill-financed and poorly managed and cannot compete with larger South African firms. There is also a dearth of semi-skilled Botswana tradesmen and a portion of those who are well trained are attracted to work in South Africa by higher wages. No substantial building materials industry has been developed except for such items as concrete blocks, bricks, metal frames and trusses and paint mixing. The cost of RSA-supplied building materials have increased dramatically in recent years providing, perhaps, for more of an opportunity for the development of an import substitution construction material industry in Botswana.

7. Health, Nutrition and Population

Botswana is a relatively healthy country as indicated by its low mortality rate, 13.7 per 1,000, which is largely due to low infant mortality, estimated at 103 per 1,000 male and 91 per 1,000 female births. One major factor is probably the dry temperate climate in which over 80% of Botswana's population lives. Such common African tropical diseases as malaria, sleeping sickness and leprosy are thus confined to the northern part of the country which is sparsely populated. The major health problems in Botswana are respiratory diseases, including tuberculosis, and gastroenteric and venereal diseases. Mental health problems and alcoholism are increasing due to social change, urbanization, economic pressures and unemployment. Although little data is available bilharzia may be a growing problem in the more watered areas and around dam sites. Modernization has also led to increasing dental problems as diets include more refined carbohydrates and to diseases such as anthrax, silicosis, tetanus and brucellosis associated with, or aggravated by, particular occupations.

Nutritional status is relatively good although subtle signs of social malnutrition are beginning to develop among new urban dwellers. Clinical malnutrition such as kwashiokor or marasmus is rare,

but chronic undernourishment is more prevalent due largely to lack of total food.

About 40% of the people have access to piped water; however, high nitrate concentrations have been detected in many borehole and groundwater supplies and water supplies are sometimes contaminated. Lack of sanitary facilities in rural areas and limited health education are partially responsible for water contamination.

The population growth rate is estimated at about 3% annually. Family planning services are integrated with maternal and child health services with an objective of providing all citizens of reproductive age with knowledge of methods of family planning and associated services. Although no formal research has been carried out, it is likely that little change has occurred in the country's population growth rate since Independence.

GOB emphasis has been to establish a preventative/curative mix of health services and to extend them to rural areas. Health facilities are relatively abundent following an intensive program to construct health clinics and posts in recent years. Many of these facilities are not fully staffed with qualified personnel, however, and the remote rural areas are particularly hard to staff.

Apart from the more modern health care personnel, some 2,000 traditional healers continue to practice in Botswana and a significant portion of direct payments for health care by individuals around 42% is paid to traditional healers.

Constraints to Improved Health Care

With relatively adequate facilities provided by government and missions, the constraints to improved health status in Botswana are basically operational and financial in nature. They include:

-- limited numbers of adequately trained staff;

-- less than adequate supervision and technical support for the Family Welfare Educators - the most important and permanent members of the health team at the most peripheral level of the delivery system;

-- limited knowledge of proper health practices by citizens (poor environmental sanitation practices is a prime example) and apparent underutilization of health facilities (19.9 patients per day per facility); and

-- limited health and demographic planning capacity.

V. Progress and Commitment of Host Country to Date

A. Development Policy and Plans Since Independence

Basic GOB development objectives have remained essentially the same since the first post-independence plan was formulated for the 1968-72 period. The long-term goals as enunciated in NDP IV and earlier planning documents were: 1) rapid economic growth; 2) social justice; 3) economic independence; and 4) sustained development. The government's principal means of achieving these goals is to re-invest the returns from mining and other modern sector production activities (livestock and tourism) towards the provision of basic government services and the promotion of productive economic activities in rural areas.

B. Economic Performance Trends

As discussed in Section II(E), Botswana has experienced exceptional economic growth since independence in 1966 probably averaging 15% a year in real terms -- and had a GDP over $300 million in1976/77. Per capita income may now be over $500, but is quite unequally distributed. Productive assets are heavily concentrated in a relatively small group of Batswana entrepreneurs who own large numbers of livestock, operate commercial farms, own businesses and work in high level government positions. Revenues from exploitation of the country's mineral assets are shared by foreign investors and the Government of Botswana. There is little data to indicate whether asset ownership has become more equitable in recent years. Although access

to secondary and higher education is now more widespread, more government jobs are available and a Batswana middle class seems to be expanding gradually, asset distribution in rural areas, as primarily evidenced by livestock ownership, has probably not improved since independence and may be worsening.

Domestic Formal Sector employment grew by 30% between 1972-75 but from a small base and opportunities for increased equity via growing formal sector employment are still quite limited. The government projects that only 81,000 Batswana will have regular paid jobs in the modern sector by 1981.

C. Social Performance Trends

Although income distribution may have improved marginally, if at all, since independence, the government has made enormous strides in increasing citizen access to basic social services. Stated GOB objectives in this regard are exemplary. According to NDP IV, they include the following:

- All Batswana wherever they will and whatever their social background should have equal access to services that the government provides such as education, health care, and clean water supplies. These services should be comparable in quality to all citizens.
- Government efforts to stimulate economic activity whether by provision of infrastructure, by extension work, by manipulation of markets, etc., should be biased towards poorer groups and regions.
- People should be consulted and informed about the major proposals that affect them.

Although only limited information is available to indicate social performance trends in Botswana progress is evident as demonstrated by the following:

Education

- Primary school enrollments have increased by 74% since independence. Eighty percent of the relevant age group were in school in 1978 vs 43.8% in 1965.
- Secondary school enrollment has increased five-fold since independence. Thirteen percent of the relevant age group were in school in 1978 vs 2.67% in 1965.
- The pupil/teacher ratio has marginally improved since 1973 although the number of untrained teachers has increased.

Health

- Seventy new clinics and 177 new health posts have been constructed since independence and 78% of the total population now lives within 15 kilometers of a health facility.
-- Government has made significant progress towards the goals of providing safe water to all major villages by 1978/79; to all villages with population of more than 500 by 1980/81; and to all villages in Botswana by 1985/86 although these targest will not be achieved on schedule.

D. Differential Effects on Selected Groups

Until a second comprehensive Rural Income Distribution Survey (RIDS) is carried out, it will be extremely difficult to measure the degree of improvement in economic and social welfare

among groups of Batswana. However, the government has taken steps to improve the standards of living of the rural and urban poort in Botswana and has in some cases, initiated special programs to assist those groups who are especially poor.

The Rural Poor

As discussed above, government development strategy focuses on improving the lives of Botswana's largely rural population through the Tribal Grazing Lands Program (TGLP), the provision of rural infrastructure and social services, and arable land activities. Towards the end of 1973, the government launched an all-out effort to overcome bottlenecks in the provision of physical assets in the rural areas. This Accelerated Rural Development Program (ARDP) which continued through 1976 combined projects from various ministries to speed implementation and allowed District Councils increased authority for project management and implementation. The results of the ARDP are enumerated in the following table. The relative success of the ARDP has encouraged the central government to place greater emphasis on decentralized project design and implementation and to increase transfer of funds to District Councils through revenue sharing grants.

Accelerated Rural Development Programme
(Achievement)

Item	Units provided 1974/5-1975/6	Units provided 1972/3-1973/4
Primary school classrooms	489	44
Teachers' houses	425	68
Primary school stores	80	-
Health posts	42	-
Clinics	21	2
Maternity Wards	8	-
Nurses' houses	30	-
Council and Government staff houses	178	17
Village water supplies	31	11
Boreholes	190	57 (approx)
Dams	30	12
Livestock saleyards	6	-
Rural roads	133 km	30 km
Major village roads	76 km	0 km

Source: Rural Development Unit, Ministry of Finance and Development Planning

The Basarwa

In 1975 the Government launched a comprehensive Basarwa development program which covered survey of their situation, educational aspects, handicraft and marketing development and assistance for settlement schemes including provision of water and agricultural development. However, the level of effort has been limited and progress is defining an effective long-term strategy for assisting the Basarwa has been minimal.

Rural Female heads of households

No separate government program has been devised to deal with the problems of this especially poor group. However, since most of these women depend to some degree on crop production, the government's new Arable Lands program could well be a vehicle to assist this group.

Wage laborers on freehold farms, ranches and cattleposts

No program to address the needs of this especially poor group of Batswana has been initiated. Efforts to assist this group should probably focus initially on increased government capacity to enforce labor legislation in the freehold farm blocs and to improve the access of wage laborers in these areas to basic social services.

People in the western region on Botswana

Improved transportation and communication networks to the west and within the western region are essential first steps if the population in this remote region is to obtain parity in economic and social welfare with the rest of Botswana's citizens. The region's first public secondary school--the Matsha Community College--will soon be built at Kang to service both the Ghanzi and Khalaghadi districts. However, access to this multi-purpose school (which will include adult education and a new brigade program) and other planned facilities at Kang and the successful recruitment of qualified staff for those facilities will require upgrading of the roads within the region.

The Urban Poor

Efforts to imrpve the lot of Botswana's urban poor have centered on the provision of basic shelter needs through sites and services and slum improvement programs. Supplementary actions include the construction of schools, clinics and community centers where the urban poor live and, of course, efforts to increase both formal and informal employment opportunities.

VI. Host Country Development Plans

Botswana prepares 5-year development plans which are revised every three years. The plans are developed by a strong, largely expatriate, planning office within the Ministry of Finance and Development Planning under the direction of the Vice-President who is also Minister of Finance. Aside from defining basic government development objectives, the plans indicate ceilings for current expenditures and sectoral targets for development expenditures. The plans also provide an unusually definitive description of proposed public sector investment projects including project phasing and financing.

Since the country's fifth development plan (for 1979-85) is not yet finalized, we must rely on the fourth plan (NDP IV - for 1976-81) for this brief discussion. Overall government objectives are discussed in Section VIII of this paper and sectoral objectives are discussed in IV.

Commitment to stated objectives is substantiated in part through budgetary allocations. The government has clearly made good on its promise to increasingly utilize the proceeds from ths production sectors to finance basic social and physical infrastructure. Since 1973-74 recurrent expenditures on social services have risen at an annual rate of 60% reflecting rising government involvement in the provision of educational and health services. As a percentage of total recurrent expenditures, social service outlays have risen from 11% in 1970-71 to to 27% in 1977-78. General administrative costs as a portion

of the recurrent budget have fallen from 43% to 33% during the same period and economic services have been reduced from 38% to 30%. NDP IV projects a 9.7% overall growth rate in the recurrent budget. Priorities are reflected in the following line items which will receive more than a 9.7% increase in recurrent funds:

Roads: 15%

Botswana Enterprises Development Unit: 14%

Agriculture: 12%

Health: 12%

Electrical Engineering: 12%

Botswana Training Center: 10%

Civil Aviation: 10%

Surveys and Lands: 10%

Local Authority Grants: 10%

The government's development budget also clearly reflects stated development objectives. The development budget for 1976-81 was estimated at P150 million ($300 million) for the core public sector program -- a massive increase over the P63 million ($75.6 million) budget in NDP III. Priority sectors are:

Transport and Communications: 34% of the core budget

Agriculture and Rural Development: 23%

Urban Development: 16%

Education: 9%

VII. Role of Foreign Assistance in Development

A. Donor Assistance

Since Independence when it was totally dependent on donor largess, Botswana has made substantial progress in financing increasing proportions of its development budget requirements from domestic resources. Government revenues in excess of recurrent budget requirements are placed in a Domestic Development Fund (DDF). The DDF will grow from $9.3 million in 1976 to a projected $29.0 million in 1980, and approximately one-third of 4th Plan development expenditures will come from domestic resources with the remaining requirements (approximately $175 million during 1976-80) to be obtained from donors. Botswana has had little difficulty to date in obtaining necessary external assistance due to its reputation for quality planning and efficient management of aid funds. From 1969-75, $276 million was provided by DAC countries and $73 million from multilateral agencies. Approximately 60% of aid has been in grant form although the terms of donor assistance are gradually hardening in light of the country's improved economic status. Botswana's 3% debt service ratio, now among the lowest of non-oil LDC's, will increase by 1985 to a still manageable 6%.

Gross external capital requirements (including private sector mining investments) are expected to increase from an average of $60 million during 1974-76 to $90 million between 1977-81, of which approximately 45% is anticipated to be net private investment.

Donor assistance to date has been almost exclusively provided by a large number of western sources. Major donors have been Great Britain, Sweden, Norway, Germany, the World Bank, the European Economic Community, Canada, the UN family, and more recently the United States. Assistance from OPEC and Eastern Bloc sources has been negligible to date but may grow. With such a proliferation of willing donors and the availability of substantial donor resources, the GOB has been able to channel donors towards sectors and projects based on GOB rather than donor initiatives. The minimal program controls exercised by SIDA and NORAD over large sector programs (e.g., primary school and health clinic construction, rural roads, village water supplies) have made it difficult for more restrictive donors with smaller budgets to finance attractive basic human needs programs. Botswana seems to have obtained resources to finance its programs in all key sectors of its plan but may have increasing difficulty in obtaining funds in the future for basic infrastructure programs (transport, telecommunications, power) due to the narrow definition being drawn by all major donors on basic human needs strategies.

B. Absorptive Capacity

GOB absorptive capacity has been limited in certain sectors, especially agriculture where only 60% anticipated expenditure occurred during 1976-78, less by the absence of good projects than by the unavailability of trained manpower to implement programs in the rural sector. A more recent constraint to resource utilization -- Botswana's small construction industry -- has become apparent since the creation of Botswana Defense Force with its attendant need for physical facilities. Although government revenues are projected to grow steadily through the early 1980's, the GOB has carefully monitored the projected recurrent budget requirements for proposed new development projects and has sometimes turned down or scaled down new donor projects due to their recurrent budget implications. Increased donor assistance in manpower training and strengthening the domestic construction industry will tend to alleviate to some degree the absorptive capacity limitations noted above.

C. Donor Coordination

Although no formal coordinating mechanism for donor assistance exists for Botswana, representatives of donor agencies meet informally from time to time in Gaborone to keep each other abreast of new developments in their respective portfolios. Also, the UNDP publishes an annual compendium of donor assistance to Botswana. In light of increasing refugee and external-security problems in the country, the United Nations established a Special Assistance Program for Botswana in 1977 which, as of June 1978, had elicited approximately $47 million in contributions and pledges

from donors and private agencies.* There appears to be little apparent need for the creation of any more formal donor coordinating mechanism except in relation to possible project-specific multi-donor efforts (e.g., the railroad, development of the Okavango, etc.), and possibly if some sub-regional cooperative mechanism is started.

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* UN General Assembly, Assistance to Botswana, Report of the Secretary-General, July 7, 1978.

VIII. Proposed Donor Strategy

A. Overall Donor Strategy

Donor assistance to Botswana should be based on the principal of collaboration and should carefully follow the development policies established by the GOB. GOB planning is of a proven high quality. GOB development policy focuses on an equitable growth strategy and basic human needs and is unusually compatible with the philosophies of USAID and most donor organizations. Unlike many other countries, GOB planners are especially conscious of the country's limited absorptive capacity for donor assistance and are mindful of the need to carefully consider the recurrent as well as the capital costs of new programs and projects.

1. Long-Term Goals

Although Botswana's Fifth Development Plan for 1979-85 (NDP V) is not yet available, the basic long-term goals enunciated in NDP IV and earlier planning documents will almost certainly be retained. These are: 1) rapid economic growth; 2) social justice; 3) economic independence; and 4) sustained development. The government's principal means of achieving these goals is to re-invest the returns from mining and other modern sector production activities (livestock and tourism) towards the provision of basic government services and the promotion of productive economic activities in rural areas. In the past, government revenues have been allocated primarily to

education and other social services and to the development of basic physical infrastructure. NDP V may demonstrate an increased emphasis on the generation of productive employment opportunities with a marginal dimunition in the proportion of development budget funds allocated for infrastructure.

2. Basic Objectives

The strategy proposed below centers on four primary objectives which are cross-cutting rather than sectoral in nature. These objectives which essentially mirror GOB priorities are:

-- to maintain and expand the country's productive base;

-- to decrease economic vulnerability and to increase the country's economic resiliency;

-- to promote development in rural areas and the provision of basic human needs in both rural and urban areas; and

-- to provide new productive employment opportunities.

Activities which might be undertaken with donor assistance to meet these objectives are summarized briefly below. Some of these actions are multi-purpose in nature and thus fall under more than one primary heading.

(a) To maintain and expand the country's productive base. Minerals, livestock and tourism to a lesser degree are Botswana's key productive sectors.

(1) Minerals

Botswana should expand and diversify its mineral production to ensure the availability of increased levels of revenue through the end of the century. Continued development of mineral deposits will depend on increased exploration of mineral deposits in the more remote regions of the country since eastern Botswana has been reasonably well explored. This will require: 1) more detailed government-supported mapping of potential mineral areas, following transportation network in western Botswana - a new railroad spur or spurs, possibly to Namibia, to allow for exploitation of mineral finds; 3) the development of water resources required for mineral production and processing; 4) a marginal increase in the numbers of Batswana trained in mineral-realted specialties; and 5) promotion of mineral-related industries to increase Botswana's value - added from the mineral sector - forward linking industries such as diamond sorting, coal treatment or "washing", the production of silica, glass, and possibly fertilizer from soda ash deposits. Also backward-linking industries and support services to supply the needs of the mineral industry should be encouraged.

(2) Livestock

As discussed above, the eastern parts of Botswana and many of the new leasehold ranches in the west are heavily over-grazed and sustained livestock production will require major efforts to improve range management and animal

husbandry on both commercial and communal land and to increase offtake relative to herd size. In addition, donors should support efforts to:

-- improve livestock transport and marketing infrastructure. This might include road betterment in the west, establishment of a cannery/second abattoir in the north, improved trek routes, and strengthened livestock cooperatives;

-- increased government livestock extension capacity to promote improved range management, animal husbandry and animal health.

(3) Tourism

Botswana can almost certainly increase its revenues from tourism, especially once hostilities terminate in the region. Since the private sector has been willing in the past to finance tourist facilities and train necessary staff, the industry requires donor-supported government actions can be limited to improving the necessary transportation network (improved aerodromes at Kasane and Maun in the north, improved roads and possibly air facilities in the west).

(b) To decrease economic vulnerability and to increase the country's economic resiliency. As discussed more fully in Section IV.A, Botswana is economically vulnerable due to:

-- its landlocked location and limited access to ports;

-- the "open nature of its economy;

-- its dependence on South Africa for energy, transport, communication, tax revenues, wage employment, essential commodities and services, and investment capital;

-- its susceptibility to drought;

-- its extremely limited human resource base.

In considering actions to reduce Botswana's vulnerabilities and especially its dependencies on South Africa, it is essential that economic considerations be carefully weighed alongside the political considerations which might warrant a costly GOB/donor investment. Three prime questions that should be asked are:

-- Is the dependence necessarily bad? All nation-state economies, especially small ones, are dependent to some degree on external factors because of differences in comparative advantage. Also, as all economies grow to modernize, almost by definition, they become more interdependent with other nations.

-- Is the dependency a problem in the long-run or only because of short-term political problems in the region?

-- Is the proposed action to reduce a dependence or vulnerability the most cost-effective way of dealing with the particular problem? How malleable is the dependency relationship. Can the more

onerous aspects of a dependency relationship be reduced by actions that require only limited GOB and donor resources?

Since answers to these questions often require a substantial degree of analysis and careful consideration of political factors, SADAP will not attempt to provide prescriptions for reducing Botswana's vulnerabilities. We will simply try to suggest one or more possible ways of dealing with the more obvious vulnerabilities.

(1) Transportation

-- Take over of the Rhodesia Railroad in Botswana: The proposed takeover involves a particularly thorny set of issues which include GOB management and manpower capacity, the economic cost of a takeover, and dependency relationship with both Rhodesia/Zimbabwe and South Africa.

-- A rail link to Namibia and Walvis Bay: Although an obvious option to reduce dependence on South African ports, Botswana may soon have greater access to Mozambican ports via Zimbabwe which would probably be adequate for all but new mineral discoveries in the far western reaches of Botswana. Although the railroad is the cart rather than the horse in its relationship to mineral exploitation in western Botswana, feasibility studies and preliminary discussions with a new government in Namibia are almost certainly warranted as soon as possible. The manpower and management constraints noted above would of course be doubly severe if the GOB also attempted to build and

operate a second major railway in the country.

-- A road link to Namibia via Ghanzi: An upgraded all-weather road would provide a life-line to the sea via an independent Namibia which would be especially important should the international community place an embargo on trade with South Africa. It would encourage Botswana-Namibia economic ties and is also a sine qua non for developing the economic potential of western Botswana and providing basic social services in that isolated region.

(2) Economic Diversification

Botswana needs to diversify the markets for its productive sectors - livestock and minerals - and at the same time reduce its dependence on these two sectors by diversifying its economy. Efforts should focus on:

-- diversifying export markets for livestock and reducing the country's dependence on EEC health regulations. A beef canning plant/second abattoir seems a reasonable recommendation and all potential new markets for fresh beef (the Middle East, West and Central Africa)* should be thoroughly explored.

-- diversification within the agriculture sector: programs to encourage crop production, horticulture, dairying, poultry, forestry, small stock production should be supported. The country's apparently small potential for irrigated agriculture should be thoroughly explored. Pilot projects should be

*The United States is, of course, also a potential new market and it would behoove the USG to review the equity of its restrictions on beef imports from Botswana.

started wherever possible, although some failures should be expected. Possibilities for reducing the costs of imported fertilizers should be examined.

-- careful development of opportunities for import-substitution industries and/or industries that might find markets in Zimbawe and Zambia.

(3) Preparing for Drought

Botswana has not had a major national drought since independence although climatic records indicate that a major drought is long overdue. The government has commissioned two major studies* which sets out a coherent policy for planning for drought and a Symposium on Drought was recently held in Gaborone with papers presented by international specialists. Follow-up actions to establish a government drought policy and to implement actions that would minimize the reprecussions of a drought should be supported by donors.

(4) Labor-Intensive Employment

Large numbers of Botswana working in South Africa could be sent home for political reasons at any time at little cost to the South African Economy. A more likely scenario, however, is a gradual contraction in the South African market for external labor as its mining industry becomes more capital-intensive and pressure increases for greater employment of South African labor. Donors should

*Dealing with Drought and Livestock in Botswana, Stephen Stanford. Overseas Development Institute, London, May 1977. Also a study by CFTC.

assist Botswana to expand its efforts to develop productive labor-intensive employment opportunities. Potential areas for increased employment are discussed below in Section VIII.A.4.

(5) Manpower

Botswana probably depends more on expatriate manpower than any other country in Africa*. Despite the continuing scarcity of qualified Botswana professional, technical and managerial personnel, domestic and regional pressures are making the country's dependence on expatriates more and more politically intolerable. One can easily imagine that within 20 years the country's large expatriate manpower pool will be almost completely replaced by Botswana. To make the best of this inevitable situation, the GOB and donors must embark on a major accelerated across-the-board manpower training program based on up-to-date national manpower plans which do not presently exist. To ensure the availability of well-prepared candidates for professional and technical training, a massive effort must be made now to upgrade the quality of the formal education system-starting at the primary level in order to develop a solid foundation for higher levels of education. These efforts can be based on the recent far-reaching policy recommendations of the National Commission on Education. In addition, complementary actions should be taken to improve the quality of

*With the possible exceptions of Swaziland and Malawi.

post-secondary training institutions - the University College of Botswana, the Botswana Ag College, the National Vocational Training Center, teacher training colleges and similar institutions. High quality, practical in-country training programs must be developed, especially for middle-level administrative and financial staff of the District Councils and central government ministries.

Surprisingly, despite the dearth of skilled manpower in Botswana, many Batswana with skills (mechanics, accountants, carpenters) opt to work in South Africa due to higher wages. Botswana must carefully consider whether it should modify its present incomes/wage policies so that these Batswana will be attracted home by higher salaries.

(6) Energy

Botswana is well on its way to reducing its dependence on the outside world for energy because of its growing useof domestic coal for electricity. Nevertheless, the more remote towns and cillages and the country's 4-7,000 boreholes rely on imported diesel fuel. Donors should support expanded efforts to identify and develop alternative sources of energy such as solar and wind-power which are not dependent on South African import channels.

(7) Localized Tax Base

A disproportionate share of government revenues accrue from sources beyond Botswana's direct control -

the South African Customs Union. Like most growing economies, Botswana's government activities are using fewer revenues collected via indirect taxes such as customs taxes and a greater portion of revenues are obtained from direct taxation (e.g., personal and company income taxes). This trend should be encouraged but will require improved tax-collection procedures and possibly new taxes. One strong candidate would be a new tax on livestock which would encourage increased livestock offtake while reducing pressure on pastures and expanding the revenue base.

(8) Financial Institutions

Botswana recently took major steps to gain control over domestic financial institutions and monetary policy by establishing a central bank and creating a new domestic currency. Nevertheless, it is still largely dependent on foreign resources to finance the country's investment requirements and needs to encourage domestic savings. Donors should support local efforts to develop a group of strong financial institutions which can respond to Botswana's financial needs. These might include a stronger network of cooperatives and credit unions and strengthened housing-finance institutions.

B. To Promote Development in Rural Areas and the Provision of Basic Human Needs Throughout the Country

Six of every seven Batswana live in rural areas. Botswana's economic growth will bypass most of the nation unless it can be translated into rural prosperity. Rural development for the GOB has more to do with ensuring a fair distribution of the nation's social capital than with maximizing economic growth but in the long-run, the GOB feels that the only way to secure a rising rural standard of living is to give people the opportunity to become more productive. Efforts to stimulate rural development must, of course, take into account the rural resource base. Another key factor, however, in planning for rural development is the apparent propensity of many rural households to seek income from several varying sources - i.e., to spread their risks. The RIDS indicates that most households receive income from livestock, crop production, temporary local wage employment, migrant remittances, local industries such as beer brewing, and handicraft production. Government planners must understand the economic and social calculus that rural households employ before they begin to encourage those households to concentrate larger portions of their labor and financial resources on a single income source, such as arable agriculture, group ranching, or wage employment in rural

industries. Expanded rural sociological research is certainly required in conjunction with government and donor rural development efforts.

A series of actions might be undertaken or expanded with donor assistance to foster rural development in Botswana:

1. Small-Herder Livestock: There are discouraging signs that Botswana may not have the political will to focus even second priority, on small herder livestock, as part of TGLP despite the potential for increasing smallholder incomes as demonstrated elsewhere in Africa and the obvious linkages between smallholder livestock and possible increases in crop production by the rural poor. Increased emphasis should be placed on the formation of communal associations and the development of group ranches to ensure that TGLP small-herder objectives will be achieved. As noted above, major emphasis must be placed on improved knowledge and use of range management and animal husbandry technques, the development of market infrastructure and the strengthening of marketing cooperatives which ensure maximum financial returns to the small herders. The implications of TGLP on the traditional mafisa livestock distribution system should be thoroughly examined.

2. Crop Production: Initial emphasis should probably be placed on farming systems research and adaptive

research on drought-resistant cereal varieties. Development of a proven crop "package" will take time and packages might be initially tested in small regions of the country. Meanwhile, basic crop related infrastructure, such as markets, storage units, rural roads, training programs for extension agents and farmers, and a credit structure, can be strengthened. Small farmer irrigation can also be tried in limited areas.

3. Wildlife: The government's Remote Area Development activities have focused largely on the Basarwa and the potential for improving Basarwa standards of living and income levels without changing the basis of their economy and culture - wildlife. In theory, a better livelihood from harvesting wildlife in an environmentally sound manner and expanding earnings from value-added opportunities from the by-products is a realistic strategy for assisting Basarwa out of extreme poverty situations. These government efforts should be supported by donors.

4. Rural Industries: Despite its present vogue in development circles, rural industrialization is an exceedingly difficult propostion especially in a country with a limited degree or urban industrialization, high energy costs, few agricultural resources, and extremely limited transport access. Rural commerce and services might have more potential in Botswana than rural industries, especially in the more populous eastern region.

5. Transport: An expanded rural road and farm-to-market road construction program is almost certainly justified in the Tuli Block and in other areas of agricultural potential. Rather than focus simply on road construction, the GOB and donors may wish to develop program to develop transportation systems which would include emphases on bus systems, vehicle repair services, etc. Donor assistance is also required to strengthen the capacity of the MOW and the District Councils to maintain gazetted and ungazetted roads, respectively.

6. Rural Institutions: The GOB has begun to decentralize government responsibilities. District development plans were prepared for the first time in 1977/78. The Accelerated Rural Development Program in 1973-76 and similar programs have allowed district and local governments increasingly greater discretion over the use of central government transfers. However, these government entities have few well-trained personnel on their staffs and have limited planning and implementation capacity. District and local government (also city council) training programs of a practical nature, increased allocation of scarce qualified manpower to the District Councils, and incentives to encourage the periodic transfer of qualified staff between central and district level governments should be supported by donors. Continued support for the young rural cooperatives is also essential.

7. Basic Services: The government has significantly expanded the availability of basic services such as education, health services and clean water supply throughout Botswana since independence. As might be expected, these services are least available in less-populous, more remote villages in the west and north. Government objectives such as universal primary education, a health clinic within 15 kilometers of a population cluster and clean water in every village are ambitious but can be attained gradually with continuing donor support. Basic services in urban areas are more plentiful but must expand to serve the rapidly growing urban population.

8. Shelter and Urban Development: A variety of short and medium term problems have been created by Botswana's extremely rapid urban growth. Donor assistance in this sector should focus on the following problems:

There is need to strengthen local institutions which manage urban programs, especially the Self-Help Housing Agencies (SHHA's) responsible for sites and services and squatter upgrading programs. Housing finance institutions have not succeeded in mobilizing sufficient domestic savings to assist the government in reducing the housing shortages in urban areas and will require increased assistance. Linked with this need is the necessity for manpower training for all aspects of the sector. Finally, there is a need to

carefully review the relationship between the four towns, the so called major villages, and the hinterlands these centers serve, in order to establish a policy of urban capital allocation which will realistically help to ease population pressures on the towns and will promote balanced regional economic development.

9. Health and Nutrition: Health status in Botswana is among the best in Africa and the sector need not receive priority donor attention. However, modest donor assistance could be appropriately used to upgrade the training and supervision of basic health service personnel, such as Family Welfare Education and Enrolled Nurses, to marginally improve the sophistication of the Ministry of Health's planning capability, to improve environmental health standards, basic sanitation in villages and urban areas, provision/protection of clean water, etc., to improve bilharzia control as part of the MOH's communicable disease program, to expand laboratory capacity, to improve the "cold chain" for immunization programs, to establish a community based mental health program, and to continue to study possible linkages with traditional medicine.

10. Integrated Rural Development: Unlike many African countries, Botswana has not approached rural development on an area-specific integrated basis. Nor has it focused rural development efforts on growth poles or regional

economic centers except for the creation of the new mining towns at Orapa and Selebi-Pikwe. Sometimes, however, a regional focus is useful in order to concentrate coordinated resources on particularly promising areas. In this light, the GOB and donors may wish to develop new programs through existing institutions which would focus on three regions of Botswana:

a. The Okavango Delta: Principal program components might be basic research on resource availabilities, international planning of the use of Okavango waters; improved transport marketing and communications networks, flood-recession agriculture and small-scale irrigation, tsetse eradication; and provision of basic services.

b. Southern Botswana: A new town of 5,000 to 10,000 people will be built at Jwaneng in the next 5 to 10 years. The increased demand for construction and other basic services for Jwaneng should have strongly positive repurcussions on the economies of Kanye (40 miles to the southeast) and Lobatse (65 miles southeast). Special efforts should be made to encourage the development of domestic industries and services within the region to supply Jwaneng's needs. Takatokwane, Sekoma Pan, Letihakeng and Werda would also benefit from the economic dynamism engendered by Jwaneng if road links to those villages were improved.

c. Northern Botswana: A new town of Dukwe was originally to be built around a new northern abattoir. When the abattoir was shelved, Dukwe was developed as a refugee camp. If new recommendations for a cannery/abattoir in the north are accepted by the GOB, construction of the cannery with or without a new town would stimulate the stagnate economy of the northeastern region and would offer opportunities for the development of domestic industries and services similar to those discussed in the south near Jwaneng.

d. To Provide New Productive Employment Opportunities: The availability of productive employment is perhaps the most important factor in determining the participation of the masses in the benefits of a growing economy. Employment creation in Botswana has not grown commensurate with the country's GNP. Only about 17% of the country's potential labor force of 360,000 are formally in wage employment in Botswana and 15% is employed in South Africa. Unemployment is estimated at 15-18% for men and 35-48% for women. Approximately 33-36,000 new jobs annually will be required by 1988 to simply absorb the country's growing population. Repatriation of workers from South Africa could add another 35,000 Batswana to those looking for domestic jobs. The GOB response to the problems of employment has been to contract an internationally

recognized specialist who is carrying out research necessary to to provide the basis for a "white paper" which will spell out a new government policy on employment. That policy has not yet been enunciated but it is already clear that employment creation will be a major objective of NDP V. Donor assistance should be considered in the following areas:

(1) Private Foreign Investment: GOB policy already is to maintain a balance between private and public sector investment and certain actions might be taken with donor assistance to encourage private investment and hence job creation in Botswana.

The U.S. Government and other donors could increase the scope of Investment Guarantee programs such as OPIC and expand efforts of their Embassy Commercial staffs to encourage foreign investment in Botswana, possibly in conjunction with policies to discourage new private investment in South Africa and the "homelands". As noted above, the climate for foreign private investment is unusually good in Botswana. However, in the face of the recent challenges from the homelands and regional hostilities, the GOB may wish to consider sweetening its pot of investment incentives. Also, it is worth repeating that transport access and egress, reduced energy costs and manpower skills development would significantly expand absorptive capacity for foreign private investment.

(2) Domestic Private Investment: Domestic private investments are necessary in small-scale industries and commerce. The GOB is considering incentives for more labor-intensive investments. In order to support local firms in their competition with South African firms, the government is reviewing its licensing and tender procedures. One hopes that these procedures will be modified to allow for larger-scale participation by local firms in the construction of the Jwaneng complex.

(3) Incomes Policy: The GOB is also wrestling with the difficult issues concerning its incomes policies in the face of continuing pressures to raise minimum wages. Increased policy emphasis on labor-intensive technologies will probably require increased differentiation in wage policies to both ensure the availability of jobs for low-cost unskilled or semi-skilled labor and encourage Batswana with professional, managerial, and technical skills to return to Botswana from external jobs.

(4) Labor-Intensive Programs: SADAP sectoral analyses and other studies on Botswana have identified several areas where labor-intensive programs could be instituted. Efforts to increase productive employment should be concentrated on areas which are by their very nature labor-intensive. These would include increased emphasis on crop production (the proposed Arable Lands Program), small-scale industries and services in both urban and rural areas, and small-scale mining. Experiments

might also be carried out on labor-intensive, rural road construction, conservation, and reforestation activities.

(5) Skill Training: As discussed in Section IV, the GOB is in the process of reviewing its technical and skill training programs and policies. Given the country's dearth of skilled manpower donors should be prepared to provide substantial levels of assistance to the GOB once the policy review is completed and new government policies are known.

(6) Informal Sector: Botswana's urban centers have surprisingly small informal sectors possibly because the country has been so recently urbanized. Petty trading and other informal sector services might be encouraged by modification of government licensing arrangements and the increased availability of credit to traders.

(7) Population Policy: Over the long-term, productive employment can conceivably ve available for most Batswana, only if the country's high population growth rate is reduced. Family planning is accepted and promoted by the government and comprehensive maternal and child health services, comprising ante-natal care, post-natal care, and family planning, are given at all government health facilities with qualified staff. Population research throughout the world has identified the complex series of issues that revolve around a family's decision to have a child or not and has suggested actions that governments may take to discourage large families - varying

from modifications in policies on female education and social security to the availability of contraceptives. Increased demographic planning capacity and government attention to high population growth rates will almost certainly be an integral part of the GOB's new employment policy and should receive donor assistance as requested.

C. Modes of Donor Assistance

Botswana will have a continuing need for the principal elements of most donor assistance programs - capital, technical assistance and training. The GOB now provides about one-third of its development budget capital requirements and should be able to maintain this level of input in the foreseeable future. The country's demand for technical assistance should decline gradually over the next 10 to 15 years as more Batswana are trained and inevitable pressures for localization grow*. The demand for out-of-country training will probably grow in the near future as more qualified candidates emerge from Botswana's growing secondary and undergraduate education institutions. Although training in Africa is often more relevant to Borswana job requirements, fewer and fewer openings are available for non-nationals in African training institutions and the number of scholarships available for Batswana in developed countries will have to grow. Much more practical and on-the-job training for middle-level government staff should be carried out in Botswana.

*The demand for Peace Corps and other volunteers will probably decrease more than proportionately since they fill relatively unskilled slots.

Although most donor-assistance to Botswana has been project rather than sector or program-oriented, Scandinavian donors have successfully transferred funds to Botswana for major sectoral activities (construction of large numbers of primary schools, health clinics, rural roads, rural water supply systems) without requiring close monitoring of program implementation. The GOB has an excellent record of careful planning, financial management and conscientious utilization of donor resources and should be a prime candidate among African governments for large-scale sector assistance. Donors should consider providing sector assistance in the future for programs such as:

-- implementation of the recommendations of the National Comission on Education;

-- revenue-sharing grants on transfers to District Councils for rural development activities;

-- rural road construction and maintenance.

D. Levels of Assistance

Botswana's capacity to implement new programs is limited by its manpower base, recurrent budget limitations, and its desire to balance public and private investment. In 1977/78, the GOB felt it could absorb approximately P60 million ($72 million) in new programs. The GOB

provided approximately one-third of the necessary funds or 20 million pula. Donors and private investors provided the remaining 40 million pula ($48 million). A good portion of these financial resources were allocated to large capital infrastructure programs which are not as dependent on scarce manpower as technical assistance projects. If the infrastructure - technical assistance program mix remains roughly the same, the GOB should be able to absorb increasing levels of donor assistance. The increases would reflect inflation and increased absorptive capacity and might grow at 15% annually (assuming a 10% inflation rate). Thus, by 1982 approximately $80 million in donor assistance and private investment could probably be absorbed efficiently.

E. USAID's Role

The U.S. Agency for International Development should expand its assistance to Botswana in concert with the above recommendations. USAID assistance should be concentrated in areas where the U.S. has world-renowned expertise - crop production, livestock and other agriculture; formal and non-formal education and training; technology transfer, alternative energy, small-scale enterprise development; development administration, organization management, the development of local institutions; health

research and demographic planning. It should not ignore opportunities to work with other donors and other U.S. government agencies in providing assistance in sectors outside a basic human needs framework (mining, telecommunications, transportation, river basin (including Okavango) development, private foreign investment, etc.).

IX. Regional Development Strategy

Botswana is centrally located in southern Africa and has historically proved a vital link in the region's transport network. Bordered by Namibia and Zimbabwe, Botswana will almost certainly have opportunities to facilitate the economic development of new independent governments in those countries, while availing itself of opportunities to decrease its dependence on South Africa.

A limited number of possible donor-supported regional development activities might include Botswana, especially infrastructure and water utilization schemes. These potential activities are listed below by sector:

A. Transport and Telecommunications

-- Construction of a railroad linking Botswana to the Namibian rail system at Gobabis;

-- Upgrading the road between Eastern Botswana Ghanzi - Mamuno - Gobabis to all weather standards;

-- Paving the road link between Francistown and the Zimbabwean border near Ramokgwebana;

-- Development of a regional airline scheme to include Swaziland, Lesotho and possibly Malawi. Construction of costly international airports in each of these countries is an

extremely inefficient use of scarce financial resources. Coordination is urgently required, possibly through the leadership of ICAO, to investigate how these countries could curtail costs through acceptable form of regional association (e.g., a tiered scheme with one airport which could receive very large planes with linkages to improved, but smaller scale, airports in the other countries.

-- Expansion of railroad training facilities within east and southern Africa;

-- Data exchange with Lesotho and possibly Malawi on comparative experiences in labor-intensive road construction techniques.

-- Expand telecommunications links with Namibia, Zambia and Zimbabwe as part of a coordinated regional effort.

B. Water

-- The Okavango Basin. The Okavango Delta area in Botswana is fed by rivers which flow from a catchment area in southeastern Angola through Namibia's Caprivi Strip. The catchment area is at present very sparsely populated and land utilization is minimal. There apparently has been an informal arrangement in the past for

tripartite discussions should any of the three countries sharing the water system decide to develop the resource in any way. However, no formal legal agreement exists. Given the delicate state of the Okavango eco-system, it is particularly important that formal mechanisms be established between the three countries to ensure coordination in exploring the resources of the Okavango Basin.

-- Regional cooperation will also be essential to ensure the coordinated development of the Zambesi River System (of which the Chobe River in Botswana is a major tributary) and the Limpopo River System. A first step may be coordination required now to prevent the spread of the water weed Salvinia Molesta into the Delta.

-- Future urban water requirements for South-east Botswana must be taken from rivers which form a border with South Africa or have a considerable amount of their catchment area in South Africa (including Bophutatswana). Continued regional cooperation will be necessary.

C. Agriculture

-- Animal Health: Animal diseases are not constrained by national borders and recent outbreaks of foot-and-mouth disease in Botswana may have been generated by animals (probably buffalo) from Angola. Botswana will certainly want to strengthen cooperation with friendly

neighbors for animal health monitoring arrangements along common borders. Also, with the construction of a new vaccine laboratory in Gaborone, Botswana should become a regional center for research on hoff-and-mouth and other animal diseases. These facilities might be extremely useful to Namibia should it seek access to EEC beef markets following independence. Botswana will certainly utilize the proposed regional Tick Center in Malawi.

-- Agriculture Research: There would appear to be some potential for inter-change of agricultural research between Botswana and Namibia on matters of land crop and livestock production.

D. Minerals

-- Training: At present almost all Batswana trained in mineral-related subject matter are sent to Canada for an average of six years. A school of mines within the southern Africa region could serve the considerable manpower needs of Angola, Namibia, Zambia, Zimbabwe and Botswana.

E. Health

-- Tsetse eradication: Botswana has made some progress in pilot efforts to eradicate the glossing morsitans from the Okavango Delta. Although the fly belt is semi-isolated and chances for success seem good, some complementary actions may be required across the border

in the Captivi Strip and possibly Angola and Zambia to present reinfestation.

F. Education

-- University training: The UBLS (University of Botswana, Lesotho and Swaziland) was dissolved in 1975 and although Botswana and Swaziland still share university facilities (at least through 1981), there is little likelihood of increased cooperation on university education among southern African countries.

-- Management and vocational training: The BLS countries still usually respond positively to invitations to attend regional short-courses in management and skill training. The Institute of Development Management which operates in all three countries has survived the dissolution of the UBLS. Batswana occupy 40 places at the Swaziland College of Technology. Although it is unlikely that new regional training institutions will be acceptable in the region, national institutions may be built to sufficient sizes to accept a significant number of students from neighboring countries.

G. Trade

Botswana may become a member of the proposed East and Southern Africa Preferential Trade Area. However, the benefits from this largely symbolic relationship would

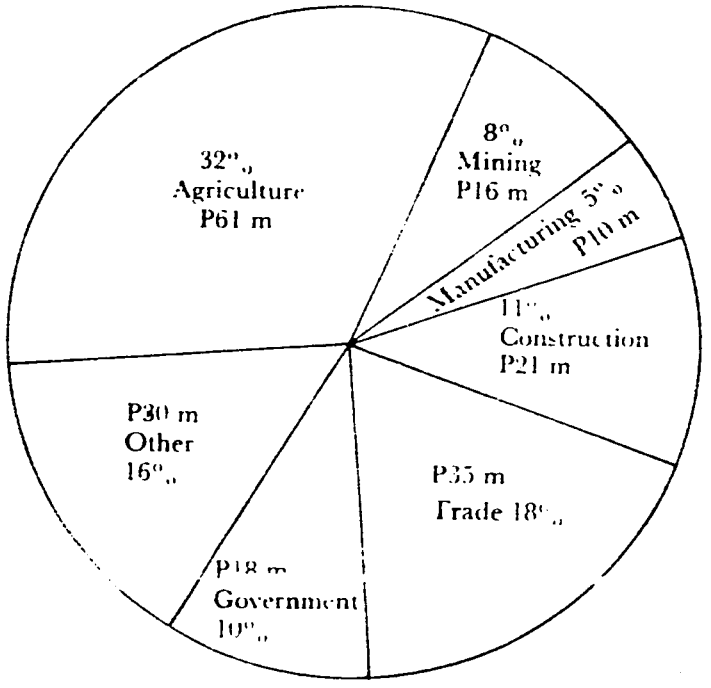
certainly not compete with those of SACUA. Botswana's continued participation in SACUA will probably depend on a) its continued access to international markets - e.g., an international economic boycott on South Africa would terminate SACUA's present access; and b) potential trade relationships with an independent Namibia and that country's status vis-a-vis SACUA.

Table 1 GROSS DOMESTIC PRODUCT (FACTOR COST) BY INDUSTRIAL ORIGIN
CURRENT PRICES, 1967/68 - 1975/76
(in millions of Pula)

	1967/68	1968/69	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76 1/
Agriculture and Forestry	18.3	23.2	22.9	29.0	34.2	51.1	70.1	54.7	70.2
Mining and Quarrying	0.7	0.2	1.1	3.2	11.2	13.0	15.9	13.2	14.3
Manufacturing	3.6	2.8	3.4	4.3	5.1	7.1	10.1	14.3	16.8
Electricity and Water	0.3	0.3	0.9	1.1	1.3	2.1	3.3	6.9	7.0
Construction	2.0	1.9	6.7	8.5	10.0	17.3	21.1	21.2	16.0
Wholesale and Retail Trade	2.4	3.0	4.5	5.5	6.5	13.5	21.6	26.0	34.6
Transport and Communication	2.4	3.4	2.5	3.2	3.8	4.7	5.3	5.5	7.6
Finance and Business Services	2.9	3.5	3.6	4.5	5.3	9.6	13.1	13.7	15.8
General Government	7.7	9.5	8.0	10.1	11.9	14.1	18.2	24.9	29.6
Miscellaneous Services	1.0	1.3	2.3	3.0	3.5	6.1	6.0	5.0	9.0
Gross Domestic Product (factor cost)	41.3	49.1	55.9	72.4	92.8	138.6	183.0	185.4	220.9
Indirect Taxes (net)	2.6	2.1	4.0	5.6	11.0	12.0	15.4	18.5	20.5
Gross Domestic Product (market prices)	43.9	51.2	59.9	78.0	103.8	150.6	198.4	203.9	241.4

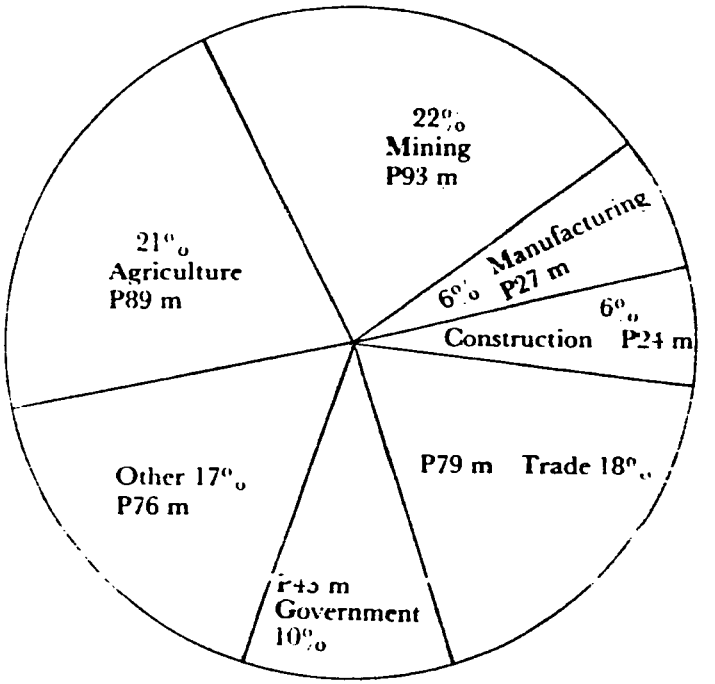
1/ Provisional. More recent Government estimates indicate that current price GDP in 1975/76 was significantly higher than that shown, reflecting especially higher sectoral GDP in mining and quarrying. These revisions have not been included because they are still preliminary.

Source: Central Statistical Office, Ministry of Finance and Mission estimates.



1973/74
(Actual)

Source: See Table A.2., NDP IV



1980/81
(Estimate at 1976/77 Prices)

Table 2. Botswana: Mineral Production and Value, 1973-77

	1973	1974	1975	1976	1977 Jan.-June
Diamonds					
Value (in thousands of pula)	23,229	30,135	29,583	33,829	23,330
Volume (in thousands of carats)	2,416	2,718	2,397	2,366	...
Unit value (pula/carat)	9.47	11.09	12.34	14.30	...
Semiprecious Stones					
Value (in thousands of pula)	22	30	21	14	...
Volume (in metric tons)	73	81	65	41	...
Unit value (pula/ton)	301.40	370.40	323.40	341.50	...
Copper-nickel matte					
Value (in thousands of pula)	--	7,857	22,185	51,546	17,538
Volume (in metric tons)	--	6,663	16,513	32,506	11,442
Unit value (pula/ton)	...	1,180	1,340	1,590	1,530
Coal					
Value (in thousands of pula)	99	242	641	1,719	1,077
Volume (in metric tons)	15,532	25,498	71,248	224,175	146,635
Unit value (pula/ton)	6.40	9.50	9.00	7.70	7.30
Memorandum Items					
Market prices, annual per cent change from preceding period					
Diamonds 1/	44.0	--	1.6	9.0	35.0 2/
Copper 3/	69.1	15.5	-39.8	13.4	-12.7
Nickel 4/	9.5	13.6	19.2	8.7	14.0

Sources: Data provided by the Botswana authorities and IMF staff estimates.

1 Dollar-denominated prices of rough diamonds, Central Selling Organization.
2 Through November 1977.
3 Electrolytic wire bars on the London Metal Exchange.
4 Electro-cathodes, average of daily quotations, Canada.

Table 3 Botswana: Cattle Production and Recorded Offtake, 1971-77

Year	Cattle population 1/ (end of year)	Slaughtered by BMC	Live exports	Total recorded offtake	Estimated total off take rate (In per ce
1971	2,159,000	167,180	250	167,430	10
1972	2,082,000	156,510	--	156,510	9
1973	2,276,000	209,647	239	209,886	12
1974	2,553,000	186,041	282	186,323	9
1975	...	188,440	102	188,542	8
1976	2,990,000	211,987	522	212,509	9
1977 (estimate)	...	215,000	--	215,000	...

Source: Data provided by the Botswana authorities.

1/ These estimates are subject to large and, over time, increasing statistical margins of error. For 1976, the margin of error for cattle population was over 500,000.

2/ Staff estimates based on the assumption that total recorded offtake was about 80 per cent of total offtake.

Table 4 Botswana: Crop Production, 1970/71-1975/76

	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76
Sorghum						
Production ('000 tons)	73.3	68.3	6.5	72.4	33.8	55.5
Area ('000 ha)	161.0	180.0	56.8	...	...	175.8
Yield (ton/ha)	0.5	0.4	0.1	...	...	0.3
Maize						
Production ('000 tons)	16.6	10.3	1.4	33.9	28.7	62.1
Area ('000 ha)	38.2	26.0	11.8	...	...	...
Yield (ton/ha)	0.4	0.4	0.1	...	...	...

Sources: Data provided by the Botswana authorities and IMF staff estimates.

Table 5: SUMMARY OF GOVERNMENT OPERATIONS
(in millions of Pula)

	1968/69	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77 1/	1980/81 2/
Recurrent revenue	7.65	11.42	12.42	17.98	28.63	41.50	63.34	79.49	69.30	168.0
Recurrent expenditure	-12.67	-14.01	-15.84	-19.42	-25.70	-27.50	-38.47	-49.46	-66.10	137.7
Current surplus or deficit (-)	-5.02	-2.59	-3.42	-1.44	2.93	14.00	24.87	30.01	3.20	30.3
Capital expenditure	-3.34	-4.90	-8.53	-12.25	-29.88	-30.35	-32.77	-35.44	-37.90	83.0
Overall deficit	-8.36	-7.49	-11.95	-13.69	-26.95	-16.35	-7.90	-5.43	-34.70	52.7
External financing	-8.86	10.10	8.15	12.45	27.99	24.52	18.96	25.57	36.93	42.0
Grants	8.49	9.79	0.59	0.66	0.21	0.68	4.49	13.20	18.83	
United Kingdom	(8.00)	(9.07)	(0.12)	(0.65)	(0.02)	(0.31)	(1.12)	(2.07)	(1.46)	
Other sources	(0.49)	(0.72)	(0.47)	(0.01)	(0.19)	(0.37)	(3.37)	(11.13)	(17.37)	
Loans Gross	0.37	0.31	7.56	11.79	27.78	23.84	14.47	12.37	18.10	
United Kingdom	(0.23)	(0.22)	(3.65)	5.18)	(3.30)	2.86)	(1.68)	(3.10)	(2.19)	
IDA and IBRD	(0.14)	(0.09)	(1.41)	3.15)	(8.70)	(5.70)	(4.47)	(1.96)	(4.59)	
USAID	(--)	(--)	(--)	(--)	(3.14)	(1.78)	(2.60)	(3.32)	(6.13)	
CIDA	(--)	(--)	(--)	(3.03)	(10.37)	(5.29)	(1.62)	(2.47)	(1.28)	
SIDA	(--)	(--)	(--)	(0.28)	(0.48)	(1.66)	(2.72)	(0.17)	(0.29)	
Other	(--)	(--)	(2.50)	(0.15)	(1.79)	(6.55)	(1.18)	(1.35)	(3.62)	
Domestic financing	0.5[illegible]	1.62	1.13	0.21	0.70	0.69	0.66	0.96	1.22	10
Barclays Bank	0.13	--	0.50	--	--	0.02	--	--	--	
Standard Bank	0.22	--	0.50	--	0.44	0.30	0.62	0.87	1.08	
De Beers Prospecting Botswana (Pty)	--	1.56	--	--	--	--	--	0.01	--	
Other	0.22	0.06	0.13	0.21	0.26	0.37	0.04	0.08	0.14	
Change in Treasury balances (-increase)	-1.07	-4.23	2.67	1.03	-1.74	-8.86	-11.72	-21.10	-3.40	

1/ Provisional

2/ Min of Finance and Development Planning Estimates

Source: Annual Statements of Accounts for 1968/69 to 1975/76; Estimates of Recurrent Expenditure for the Year 1976/77; Financial Statement, Tables and Estimates of Recurrent for the Year 1977/78: Estimates of Revenue and Expenditure for the Development Fund, 1977/78

Table 8 PUBLIC CAPITAL EXPENDITURE, 1968/69-1976/77
(in millions of Pula)

Ministry	1968/69	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77[1]
Agriculture	0.31	0.48	0.31	0.43	0.[illegible]9	0.52	1.71	1.26	1.80
Commerce and Industry 2/	0.06	0.18	0.08	0.06	0.08	0.27	0.44	0.43	0.67
Mineral Resources	0.39	0.75	0.56	0.86	0.93	1.11	2.81	3.55	3.81
Finance and Development Planning	0.01	0.45	2.05	6.29	23.67	16.43	4.97	3.58	5.09
(of which Shashe)	(--)	(--)	(1.50)	(5.79)	(23.59)	(16.00)	(4.84)	(1.47)	(—)
Education	0.26	0.17	0.57	0.29	1.01	1.69	2.55	3.66	3.31
Health, Labor, and Home 3/ Affairs	0.16	0.14	0.12	0.15	0.35	0.22	0.60	0.65	0.65
Local Government and Lands	0.09	0.07	0.36	0.26	0.84	4.13	8.88	10.56	6.77
Works and Communications	2.06	2.66	4.39	3.86	2.28	5.81	10.63	11.27	15.18
Office of the President	--	--	0.09	0.05	0.13	0.09	0.23	0.48	0.62
Total	3.34	4.90	8.53	12.25	29.88	30.27	32.82	35.44	37.90

1/ Provisional.

2/ Previously the Ministry of Trade and Industry.

3/ Includes current Ministries of Health and Home Affairs, which were previously combined.

Source: Ministry of Finance and Development Planning.

TABLE 9

CORE DEVELOPMENT EXPENDITURE GUIDELINES
1976/77 - 1980/81
(millions of 76/77 Pula)
BY MINISTRY

		#	%
1.	Agriculture	24.1	9.6
2.	Commerce and Industry	4.5	1.8
3.	Mineral Resources and Water Development	16.0	6.4
4.	Education	39.8	15.9
5.	Health	14.0	5.5
6.	Works and Communication		
	Roads, Airfields, Railways	67.3	26.9
	Postal & Telecommunication	11.9	4.8
	Buildings, Central Transport Organization	6.4	2.6
7.	Local Government and Land's		
	Urban Development	40.0	16.0
	Rural Development	12.1	4.8
8.	Home Affairs	1.8	.7
9.	Finance and Development Planning	3.6	1.4
10.	Office of The President	8.5	3.4
	TOTAL	250.0	99.8

Source: Botswana Authorities

Table 10 BALANCE OF PAYMENTS, 1973-76

(Million Pula at Current Prices)

	1973	1974	1975	1976 1/
Exports of goods	63.7	81.5	105.1	153.2
Imports of goods	94.7	125.4	159.3	181.4
Balance of trade	-31.0	-43.9	-54.2	-28.2
Non-factor services (net)	-4.7	-3.5	-4.0	-3.5
Factor services (net)	-26.0	-12.6	-38.0	-45.0
Transfers (net)	14.3	33.6	33.3	29.8
Current balance	-47.4	-26.4	-62.9	-46.9
Private long-term capital	36.7	30.3	68.0 2/	18.6 2/
Official long-term capital	25.1	23.0	23.3	25.3
Short-term capital (including errors and omissions)	-0.1	-7.0	-4.0	10.0
Overall balance (- = surplus)	14.3	-19.9	-24.4	-7.0

1/ Provisional. Since the Mission was in the field, the Bank of Botswana has reclassified and revised its balance of payments. Due to the provisional nature of these statistics and continuing work on the new classification, the Mission decided not to change its data at the present time.

2/ Includes shareholder loans to offset operational losses of copper/nickel mine.

Source: IMF Staff estimates.

Table 11 RECORDED FOREIGN TRADE, 1971-76
(in millions of Pula)

	1971	1972	1973	1974	1975	1976 1/
Exports, mainly f.o.b.						
Meat and meat products	16.4	18.6	30.8	31.9	36.4	43.0
Diamonds	5.3	19.5	20.0	30.1	32.1	37.5
Copper/nickel	-	-	-	8.2	22.0	51.8
Hides, skins and live animals	0.6	0.8	1.7	1.7	1.6	3.3
Textiles	-	-	1.5	1.6	2.5	6.1
Other goods	7.7	5.8	5.0	8.0	10.5	11.5
Total Exports	30.0	44.7	59.0	81.5	105.1	153.2
Imports, c.i.f. plus customs, sales and excise taxes						
Food products and live animals		8.1	12.9	14.4	18.8	24.5
Beverages and tobacco		3.1	4.7	6.1	9.4	10.2
Mineral fuels		3.8	6.2	13.7	16.7	19.2
Chemicals		2.9	5.1	5.9	7.1	9.2
Vehicles		11.2	16.2	18.0	19.6	20.2
Non-electrical machinery		)	17.5	9.7	11.7	13.9
Electrical machinery		)22.4	6.3	4.7	5.0	6.9
Metals and metal products		)	11.4	10.1	15.8	13.2
Paper and paper products		)29.6	2.4	3.4	4.5	4.0
Textiles		)	8.4	11.4	13.7	17.9
Other manufactures			9.6	12.3	16.9	17.9
Other goods n.i.e.		2.8	10.8	15.6	20.1	24.2
Total Imports	62.0	83.9	115.5	125.4	159.3	181.4
Balance of recorded trade	-32.1	-39.1	-52.5	-43.9	-54.2	-28.2

1/ Provisional

Source: Central Statistical Office and Ministry of Finance and Development Planning.

Table 12

BOTSWANA: DESTINATION OF EXPORTS, 1970-74

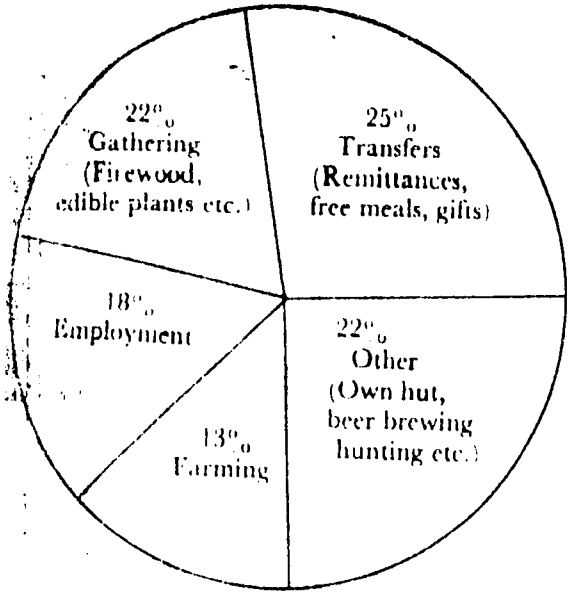
(in millions of rand)

	1970	1971	1972	1973	1974	1970	1971	% 1972	1973	1974
Botswana Meat Commission (net sales)										
South Africa	4.5	4.9	5.1	4.6	23.6	37.5	32.7	25.6	14.7	68.8
Other Africa	1.9	3.1	2.5	4.1	3.6	15.8	20.7	12.6	13.1	10.5
United Kingdom	4.8	4.9	10.2	20.0	5.6	140.0	32.7	51.2	64.1	16.3
Other Countries	0.8	2.1	2.1	2.5	1.5	6.7	14.0	10.5	8.0	4.3
Total	12.0	15.0	19.9	31.2	34.3	100	100	100		
Which:										
Beef Carcasses (net sales)										
South Africa	3.2	3.3	3.8	3.5	11.5	72.7	6.6	77.5	92.1	100
Other Africa	1.2	1.7	1.1	0.3	--	27.3	3.4	22.4	7.9	
Total	4.4	5.0	4.9	3.8	11.5					
Boneless Beef (net sales)										
South Africa	0.4	0.6	0.4	0.6	7.9	7.1	8.4	5.4	2.6	44.1
Other Africa	0.3	0.8	1.0	3.2	3.2	5.3	11.2	13.5	13.9	17.9
United Kingdom	4.5	4.0	4.6	17.6	5.4	80.0	56.3	62.1	76.5	30.2
Other countries	0.4	1.7	1.4	1.5	1.4	7.1	23.9	18.9	6.5	7.8
Total	5.6	7.1	7.4	23.0	17.9	100	100	100	100	100
Diamond Sales (f.o.b. value)										
United Kingdom	—	2.7	18.7	23.2	30.1					
Copper/Nickel Matte										
United States[1/]	--	—	--	--	8.3					
Unspecified Residual	3.8	12.2	6.2	9.2	9.0					
Total Recorded Exports										
South Africa	4.5	4.9	5.1	4.6	30.8	28.4	16.3	11.4	7.2	37.7
Other Africa	1.9	3.1	2.5	4.1	3.4	12.0	10.3	5.6	5.4	4.2
United Kingdom	4.8	7.6	28.9	42.1	35.5	30.4	25.4	64.5	66.1	43.4
Other Countries	0.8	2.1	2.1	2.5	12.0	5.0	7.0	4.7	3.9	14.7
Unspecified Residual	3.8	12.2	6.2	9.2	9.0	24.0	40.8	13.8	14.4	11
Total	15.8	29.9	44.8	63.6	81.7	100	100	100	100	100

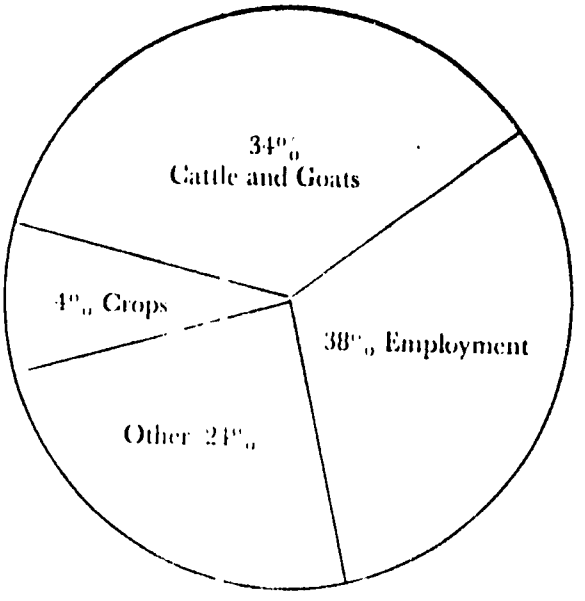
1/ The matte is processed in the United States and then is sold in Germany.

Source: IMF

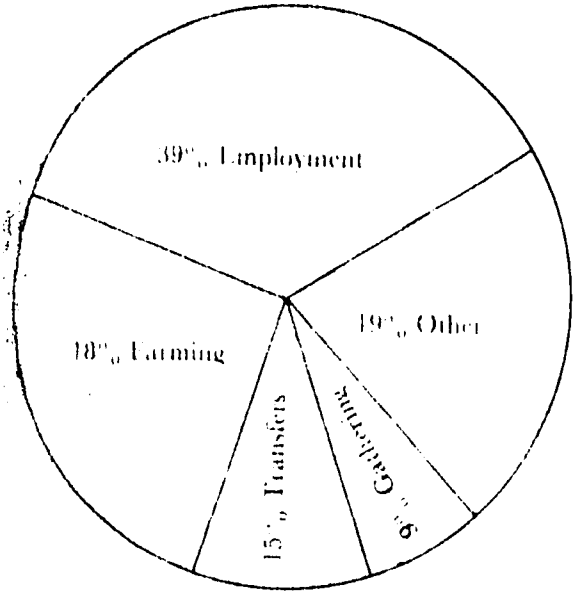
Figure 2. : Income (by source) for Rural Households



Poorest Households (lowest 10%)
Average income: P160 p.a.
(70% in kind)

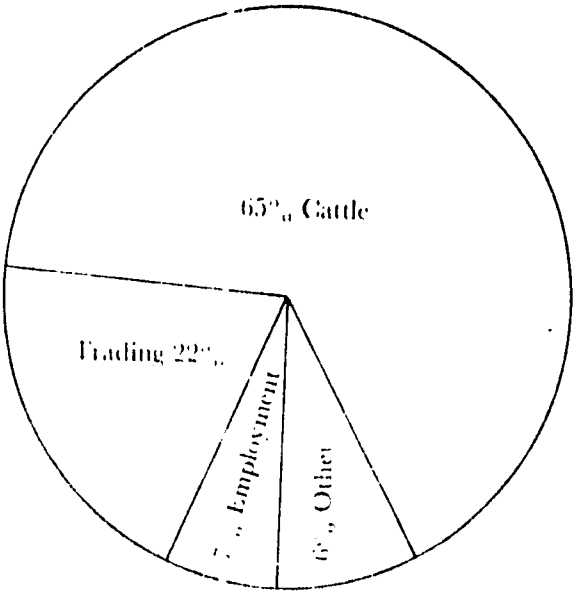


Upper Middle Income Households
(60-95 percentile)
Average income: P1 670 (40% in kind)



Lower Middle Income Households
(15-50 percentile)
Average income: P130 (50% in kind)

Source: NDP IV



The Richest Households (99,0-99,9)
Average Income: P9 140 p.a. (30% in kind)

TABLE 13

DISTRIBUTION OF CATTLE OWNED BY RURAL HOUSEHOLDS

No. of cattle owned per household	Estimated no. of rural households owning this no. of cattle	Accumulated % of all rural households	Accumulated % of cattle owning rural HHs	Thousands of cattle owned by all the HHs in the group	Accumulated % of all the cattle owned by these households
0	40 454	45.0%	-	0	0.0%
1	1 209	46.4%	2.5%	1	0.1%
2	2 217	48.9%	7.1%	4½	0.4%
3-4	5 120	54.6%	17.5%	18½	1.5%
5-7	4 874	60.0%	27.3%	29	3.4%
8-10	4 921	65.5%	37.3%	44	6.2%
11-15	5 541	71.6%	48.4%	72	10.9%
16-20	7 458	79.9%	63.5%	133½	19.4%
21-25	3 480	83.8%	70.5%	80	24.5%
26-30	3 082	87.2%	76.7%	85	30.0%
31-35	1 990	89.5%	80.9%	66½	34.2%
36-40	873	90.4%	82.5%	33½	36.4%
41-45	1 446	92.0%	85.5%	61	40.3%
46-50	448	92.5%	86.4%	22	41.7%
51-60	2 080	94.8%	90.5%	115½	49.1%
61-70	724	95.7%	92.2%	47½	52.1%
71-80	702	96.4%	93.5%	53	55.5%
81-100	758	97.2%	94.9%	68½	59.9%
101-125	696	98.1%	96.5%	77	64.9%
126-150	414	98.5%	97.3%	55½	68.4%
151-175	113	98.6%	97.5%	19	69.7%
176-200	188	98.9%	98.0%	36	72.0%
201-250	372	99.3%	98.7%	84	77.3%
251-300	116	99.4%	98.9%	31½	79.4%
301-400	181	99.6%	99.3%	68	83.1%
401-500	136	99.7%	99.5%	61	87.0%
501-750	142	99.9%	99.8%	89½	92.8%
751-1 000	46	99.96%	99.93%	40½	95.4%
1 001-1 500	15	99.98%	99.96%	16	96.4%
1 501+	22	100.0%	100.0%	56	100.0%
Total	89 818 (*)			1 557	

(*) Excluding freehold farm employees.

Source: Rural Income Distribution Survey (RIDS)

Table 14
Estimated Average Household Income for Each Town

Town	Average household size (person) (1)	PDL (P/month) (2)	Average earnings from employment per person 1975 (Pula/month) (3)	Average Citizen earnings from employment (Pula/person/month) Private Sector only (4)	Including Public Sector (5)	Citizen earnings per month adjusted to household employment income (Pula) (6)
Gaborone	5 (4.87)	112.56	150.39	105	111	149
Francistown	5 (4.83)	105.66	120.57	84	89	103
Selebi-Pikwe	5 (4.43)	111.69	135.17	95	100	129
Lobatse	5 (4.77)	105.50	116.18	81	86	95

Note* Figures in column (5) have been adjusted to give average monthly household income in column (6) by applying household "activity rates" observed in peri-urban areas for persons working in the modern part of town in June 1974 as follows:

Gaborone	1.34 employed persons/household
Francistown	1.16 employed persons/household
Selebi-Pikwe	1.29 employed persons/household
Lobatse	1.10 employed persons/household (estimated)

Source: Poverty Datum Line for Urban Areas of Botswana. (Gaborone: Ministry of Finance and Development Planning, December 1976), p. 11.

Table 15
Urban Population Growth in Botswana, 1971-1981

Town	Population 1971	Annual Rate of Growth 1971-75 %	Population 1975	Annual Rate of Growth 1975-81 %	Estimated Population in 1981	Population increase 1975-81
Gaborone	17,718	61.5	32,629	15	75,500	42,871
Francistown	18,613	5.7	23,221	6	32,950	9,729
Selebi-Phikwe	10,000 (est.)	19.7	20,572	8	32,650	12,078
Lobatse	11,936	5.6	14,830	5	19,870	5,040
Orapa/ Lethlhakane	1,200	13.6	2,000	15	4,630	2,630
Total	59,467	11.9 %	93,252	10.4 %	165,600	72,348

Notes:

(a) 1971 population figures are taken from the 1971 census, with the exception of Selebi-Phikwe, where the census failed to enumerate a large percentage of the population.

(b) 1975 population figures for Gaborone, Francistown and Lobatse are based on sample surveys conducted by the Central Statistics Office. Figures for Selebi-Phikwe are derived from the full census conducted there in 1975 by C.S.O.

Source: National Development Plan, 1976/31, p. 86.

Table 16
Formal Sector Employment 1973/74-1980/81

	1973/74 Citizen	1973/74 Non-citizen	1973/74 Total	1976/77 Total	1980/81 Total
Freehold Agriculture	4,776	316	5,092	5,300	6,100
Mining and Quarrying	2,674	336	3,010	4,530	5,310
Manufacturing	2,204	106	2,310	2,790	4,700
Electricty and Water	250	57	337	680	770
Construction	7,116	671	7,787	7,000	7,730
Trade, Hotels, Restaurants	6,534	340	6,874	7,500	8,400
Transport and Communications	963	192	1,155	1,590	1,800
Finance, Insurance, Real Estate	882	252	1,134	1,340	1,830
Community and Personal Services	2,759	366	3,125	3,570	4,400
Education[1]	2,729	621	3,350	4,860	6,160
Local Government	1,707	48	1,755	2,330	3,250
Central Government[2]	9,736	635	10,371	13,320	17,200
Sub-Total	42,330	3,940	46,300	54,810	67,650
Domestic Servants[3]	9,254	-	9,254	10,955	14,130
Total	51,584	3,940	55,554	65,765	81,780

Notes:
1. Teachers only.
2. Includes all Government activities.
3. All figures are estimates based on 1971 census assuming employment in this sector grows at the same rate as total formal sector employment.
4. Figures for 1973/74, 1976/77 etc. strictly relate to August 1973, August 1976, etc.
5. Differences between this table and data in other published sources are due to changes in sectoral definitions and, in some cases, to revised estimates being used.

Sources: Manpower and Employment in Botswana, Ministry of Finance and Development.

TABLE 17

EMPLOYMENT BY SECTOR, SKILL AND CITIZENSHIP

August 1975

	Professional & Technical		Administrat. & Managers		Skilled Workers		Unskilled Workers	
	No.	% Exp.	No.	% Exp.	No.	% Exp.	No.	% Exp.
AGRICULTURE	3	100.0	9	22.3	249	13.7	2924	.4
MINING AND QUARRYING	253	66.8	37	97.3	1170	29.2	2520	0
MANUFACTURING	69	72.5	55	56.4	765	6.5	2464	.3
ELECTRICITY AND WATER	40	95.0	16	90.0	292	14.8	306	.4
CONSTRUCTION	176	63.1	47	97.2	2473	11.3	4864	.4
COMMERCE	111	64.9	118	37.9	2348	6.9	4054	1.0
TRANSPORT & COMMUNICATION	53	94.4	16	92.5	339	54.0	1306	0
FINANCE	191	65.0	90	79.6	559	9.4	1182	0
COMMUNITY & SOCIAL SERVICES	235	29.0	55	84.2	1023	4.9	1419	7.0
SUBTOTAL	1111	60.5	443	58.5	9140	13.8	21059	.9
EDUCATION	4103	17.0	7		85	15.3	186	0
SUBTOTAL	5214	26.3	450	57.6	9225	9.1	21225	.8
CENTRAL GOVERNMENT	1585	22.2	1585	33.3	4522	2.4		
LOCAL GOVERNMENT	237	12.3	57	98.2	858	1.0	1531	.7
TOTAL	7036	24.9	633	47.8	14605	8.3	22756	.8

Source: Table 4, p. 5; August 1975 Employment Survey: Government of Botswana, Central Statistics Office

TABLE 18

SUPPLY AND DEMAND FOR
EDUCATED MANPOWER, 1972-1988

	FORM III[3/] Junior Secondary	FORM V Senior Secondary	DEGREE
1972[1/]			
Batswana	6,200	1,100	180
Expatriates	800	700	580
1978			
Required Stock	14,600	4,200	1,450
Supply	11,000	3,300	480
Balance	-3,600	-900	-970
1988			
Required Stock	24,200	7,700	2,410
Supply[2/]	22,300	11,700	2,160
Balance	-1,900	+4,000	-250

[1/] Existing manpower by "required" educational attainment.

[2/] Includes Batswana remaining from 1972.

[3/] Includes an allowance for output from programs equivalent to junior second. (e.g., Youth Brigades).

Source: World Bank

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