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Public Expenditure and Development in Botswana

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Eastern and Southern Africa Region

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CURRENCY EQUIVALENTS

Currency Unit	=	Pula (P)
US\$1.00	=	P 1.653 (June 2, 1986)
P 1.00	=	US\$0.605

ABBREVIATIONS

ARAP	-	Accelerated Rainfed Arable Program
ALDEP	-	Arable Land Development Program
BAMB	-	Botswana Agriculture Marketing Board
BDC	-	Botswana Development Corporation
BEDU	-	Botswana Enterprises Development Unit
BHC	-	Botswana Housing Corporation
BMC	-	Botswana Meat Commission
BPC	-	Botswana Power Corporation
FAP	-	Financial Assistance Policy
MFDP	-	Ministry of Finance and Development Planning
NDB	-	National Development Bank
NDP VI	-	Sixth National Development Plan
NEMIC	-	National Employment, Manpower and Income Council
NRZ	-	National Railway of Zimbabwe
PDSF	-	Public Debt Service Fund
RSA	-	Republic of South Africa
RSF	-	Revenue Stabilization Fund
SHHA	-	Self Help Housing Agency
SADCC	-	Southern African Development Coordination Conference
SACU	-	Southern Africa Customs Union
TGLP	-	Tribal Grazing Land Program
WUC	-	Water Utilities Corporation

Historical Exchange Rates

<u>April/March</u>	1979/80	1980/81	1981/82	1982/83	1984/85	1984/85	1985/86
P/US\$	0.805	0.771	0.872	1.071	1.119	1.462	1.897
US\$/P	1.243	1.297	1.150	0.936	0.894	0.702	0.532
<u>Calendar Year</u>	1979	1980	1981	1982	1983	1984	1985
P/US\$	0.815	0.777	0.837	1.030	1.097	1.298	1.903
US\$/P	1.228	1.287	1.200	0.979	0.912	0.779	0.530

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The mission to prepare this review was undertaken in September 1985. The report was prepared by Basil Kavalsky (CPD), Christopher Hall (EAI), Yahaya Doka (EAP), Christian Schiller (IMF) and Debabrata Sen (Consultant). Discussions with the Government on a previous version of this report were held in March 1986.

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PUBLIC EXPENDITURE AND DEVELOPMENT IN BOTSWANA

CHAPTER I: CONCLUSIONS AND RECOMMENDATIONS

1.1 In this report we examine Botswana's development strategy for the next five to ten years and attempt to evaluate the Public Expenditure Program in the light of that strategy. In order to cope with the increasing pressures associated with income disparities and high population growth, in the short and medium term Botswana must work to expand the capabilities of existing production activities. For the much longer run Botswana will need to continue laying the basis for industrialization and movement of the majority of its population into urban areas. This long-term issue is less one of industry/urban versus agriculture/rural than of the need to reduce reliance on traditional farm systems with their mix of dryland farming and cattle-owning supported by government transfers or remittances from wage-earners. Production and development patterns will increasingly comprise more large-scale cattle ranching, commercial farming in the limited irrigable areas and small- and medium-scale industry with an active services economy in the towns and cities.

1.2 There is a long road, however, between where the economy is and where it will be in the longer run. The issues are how best to facilitate the economy's evolution and what intermediate steps need to be taken to satisfy more short-term goals. The Government's strategy has been to force the pace of transition by stimulating the development of medium- and large-scale activities in agriculture and industry. With respect to cattle-raising, which involves technologies which are familiar, the effort has met with some success. For industry and commercial arable agriculture, however, the picture is mixed. The Government has largely resisted the pressure, to which many other African countries have succumbed, to create state-owned enterprises. The alternative, however, has been to rely on expatriate ownership or management of these enterprises. At the same time the traditional economy has been sustained by transfers from family members working in the modern sector or from Government which constitute a major portion of the disposable income of many villagers.

1.3 It is this which lies at the heart of the dualism which critics of the policy claim is the most worrying feature of Botswana society. Yet this is only a part of the story. It neglects the substantial investments in human resources through the provision of education and health services; the expansion of infrastructure; the extent to which vulnerable sections of the population have been protected; and the still small, but discernible growth of a group of Botswana traders, artisans and small businessmen. There is still a long way to go, but relative to the starting point at independence, this is a remarkable achievement.

1.4 The public expenditure strategy builds on and extends these achievements. In agriculture NDP VI introduces ARAP which offers facilities for subsidized infrastructure to middle-size farmers with potential for commercial operations, and makes proposals for large irrigated farms in the north of the country. The power program centers on the installation of

the fourth unit of Morupule and associated transmission and distribution. The key program in the education sector is the adding of junior secondary to the basic education system along with modest expansion of upper secondary and the university. In the health sector the focus is on upgrading the major referral hospitals in Gaborone and Francistown. The Financial Assistance Program for industry will be moderately expanded. The transport program will be dominated by the takeover of the Botswana operations of Zimbabwe railways.

1.5 For the next five years at least, the resources flowing to the Government will exceed the amount which can be used efficiently. In that situation there has been a tendency to increase budgetary allocations to the transfer programs and to relax the attention paid to cost recovery. Many of these programs have moved beyond the point of protecting the poorest groups. The costs will be paid in the future when they imply foregoing high return investment activities. The discipline of the investment program has also been relaxed. Some investments - stretches of road, the Francistown hospital, the railway takeover, the sugar packing plant (a BDC project) - would perhaps not have been undertaken on the basis of purely economic considerations. With substantial amounts of money available, the political pressures on the expenditure program are inevitable, and perhaps we must give as much credit to the many instances where those pressures have been resisted as the few in which they have not.

1.6 Against this background, this report does not propose major shifts in direction or significant reallocations of expenditure. Given the comfortable budgetary picture over the coming years along with the severe constraints on skilled manpower, it is recommended, however, that special efforts be made to identify further self-liquidating projects (i.e., projects with little or no recurrent expenditure implications) or other expenditures which could be justified, particularly in the area of human resource development. In addition, there are a number of steps which the Government may wish to consider for improving the efficiency of public programs. The rationale for these proposals have been discussed in the various chapters of the report. The recommendations are summarized below.

a) The Planning Process

The process is a good one which goes much further than in most developing countries in its coverage of manpower and recurrent expenditure implications. There remain, however, some improvements to be made and a number of gaps which could be fairly easily remedied:

1. Ministries should be asked to evaluate and justify the recurrent expenditure implications of existing programs as is currently undertaken for new proposed investments. As a means of better integrating recurrent and capital budgeting, the Government might consider a selective introduction of program budgeting.
2. The ongoing or committed expenditures in the investment program should be separated out from the new activities.

3. Commitments of foreign assistance should be shown against the relevant projects.
4. Parastatal investment programs should be presented as memo items in the Plan with indications of financing sources. This should be done even when funding is not provided from the budget.

b) Financing Public Expenditure

While the overall fiscal outlook presents no problems over the next five years, the dependence of revenues on the diamond market, in particular, justifies the cautious approach of the authorities. Now is the time to lay the basis for a healthy fiscal situation in the longer term and reduce dependence on mineral royalties and trade taxes (the latter through the Customs Union). Thus:

1. Increased emphasis must be placed on cost recovery. In particular the Government should strengthen its attention given to:
 - a) Increased fees for health services, beginning with higher charges for food and private rooms.
 - b) Recovery of a larger share of university and technical training costs.
 - c) Institution of fees and loan programs for upper secondary students.
 - d) Reducing arrears on current housing rents and raising rents to economic levels.
2. New sources of raising revenues should be explored. A general sales tax at either retail or manufacturer/importer level has obvious potential, as does increased taxation of motor vehicles. The income tax system should be made more horizontally equitable or neutral in its treatment of agricultural incomes.
3. The system of revenue-sharing between the central government and local authorities should be reviewed. The arbitrariness should be reduced so as to provide an incentive for increased collections at the local levels. At the same time, some local taxes, e.g., the district income tax, seem to cost as much to collect as they generate in revenue, and could be merged into the national tax system.
4. Subsidy and public works schemes must be constantly re-evaluated to assess whether they remain necessary and efficient. Drought relief is a case where there is considerable risk of building in a permanent expectation of public assistance. The Government should ensure that a clear set of rules for when drought relief will be given or curtailed is communicated to relief recipients.

c) Development Strategy and Public Expenditure in Agriculture

The frustration with the absence of progress in arable agriculture is apparent in the new programs which are being proposed. The existing programs, even when their economic returns are doubtful, can be defended as being directed at the poor. This is not necessarily the case with the new programs (ARAP and irrigation development) which are targeted at the medium-sized and commercial producers. It will be important to ensure that these are developed on the basis of economic viability and that the subsidies which are being given are justified by the social benefits.

1. The various subsidy and support programs need to be examined in relation to each other so that rates of subsidy can be brought in line. Farmers should be encouraged to contribute towards the cost of these programs. Consideration should be given to merging some of these schemes to reduce overheads. The Government needs to decide on the major agriculture support programs which will be retained in the longer term and focus attention on these.
2. There is a need for a study to determine the causes of the underlying downward trend in food production (i.e., aside from the impact of drought) so that programs can be better designed.
3. As indicated above, action needs to be taken to determine what programs should be retained in the post-drought situation. Some aspects of the labor based relief programs seem to have the potential for yielding acceptable economic returns, and the possibility of making this a development program independent of the drought situation should be examined.
4. After the current study of irrigation potential has been completed, the Government should concentrate its investment and development efforts on limited areas so as to build up the experience and expertise necessary to bring irrigation to other areas of the country with identified potential.
5. The Tu. 1 Block offers relatively good soils, proximity to markets in South Africa and a supply of farmer/entrepreneurs willing to invest in irrigation development. An integrated project or a coordinated set of projects should be prepared to provide services which are now lacking and which inhibit development of this area (i.e., transport, power, marketing, communications).
6. Research programs would benefit from strengthening efforts to set priorities and coordinate ongoing activities with extension efforts. A major focus should be on identification and development of appropriate water retention techniques. In livestock research there is a need to develop programs to monitor the effect of continuous heavy grazing on the carrying

capacity and production of land under different management systems.

7. The remuneration of the extension field service should be reviewed and adjustments made as necessary to retain and recruit extension workers.
8. Fiscal incentives/disincentives should be examined with a view to encouraging farmers to adopt better livestock management practices and conservation of land resources.
9. Wildlife conservation efforts need to be strengthened through provision of adequate manpower and financial resources, upgrading technical and enforcement capabilities, and carrying out required scientific investigations. Wildlife utilization policies need to be structured within these conservation efforts to ensure survival of this national heritage.

d) Development Strategy and Public Expenditure in Manufacturing

Industrial development has proceeded at a steady pace in Botswana. It has required substantial intervention by the Government to attract expatriate investors or to sponsor new enterprises through its intermediary, the Botswana Development Corporation (BDC). The development of indigenous entrepreneurship has been slow. The Sixth Plan projects an acceleration in the rate of growth of industrial output and employment, which is only likely to be achieved through more expatriate or BDC investment. The longer-term gains to Botswana from attempting to force the pace of industrial growth in this way need careful evaluation. Some steps which might be considered are:

1. To extend access to the Financial Assistance Program to the small-scale service sector for activities such as repair shops and construction and for service activities which would promote tourism development. These are likely to prove an important nurturing ground for new entrepreneurs while providing essential economic services.
2. To intensify efforts at evaluation of economic returns to providing protection through prohibitive tariffs or quotas to new medium-scale projects. Even with a time limit on the protection, the implicit subsidy may be at unacceptable levels. This is particularly important for activities such as sugar packing where the quota will have to be maintained indefinitely for the plant to remain viable.
3. To continue ongoing efforts at export promotion and explore particularly the potentials of the regional markets. There may be some instances when Botswana might benefit through entering into agreements with neighbouring countries whereby Botswana might supply certain products in exchange for preferential access to its market for a limited period of time.

4. To determine how to encourage agro-industrial enterprises which would use livestock by-products and increased production of high value arable crops.

e) Developmental Strategy and Public Expenditure in Infrastructure

Infrastructure in Botswana is costly to build and maintain. The Government recognizes this and has attempted to reflect these costs to the consumers of the various services provided. This places producers in Botswana at a competitive disadvantage with producers in other countries, though this is substantially offset through the FAP. This is much more efficient than subsidizing infrastructure costs directly which would distort the pattern of demand and use. Over time, as the population becomes more urbanized and concentrated, the costs of providing services should come down. Some of the steps which need to be considered are:

1. Provide an explicit subsidy to the Botswana Power Corporation to cover the losses of providing power to BCL, Ltd., thus enabling the BPC to reduce the prices to other industrial, commercial and residential consumers, who must subsidize BCL at present.
2. Prepare a least cost expansion program for the power sector over the longer-term which should include the possibility of exporting surplus power to Botswana's neighbors as well as importing power from them as needed.
3. In preparation for bringing major villages under Water Utilities Corporation coverage, and as a means of reducing government subsidy, strengthen current pricing and cost recovery principles by curtailing incidence of arrears.
4. Prepare a master plan for national water supply and urban development to evaluate the sustainability of the current growth rate of Gaborone given the limited water availability, and the implications of this for decisions on the location of new investment.
5. As indicated above, the system of road user charges needs to be re-examined to provide for greater cost recovery.
6. The national transport plan has been prepared, but the decision on which roads to construct or upgrade in some cases seems to bear little relation to the economic potential as identified in the transport plan. Much of the point of preparing a master plan is as a line of defense against political pressures on decision-making. The Government needs to make a formal commitment to use the transport plan in this way.

7. Raise housing rents to economic levels which would cover construction costs and bring an adequate return to housing investments.
8. Ensure the land use regulatory framework governing new housing construction creates a suitable environment allowing private sector investment activity to meet housing demand of all types.

f) Development Strategy and Public Expenditure in Human Resources

Botswana's strategy is to develop its human resources at rates which differentiate among: first, basic education for the population at large; second, ensuring that there are jobs available for those secondary school graduates who do not proceed to university; and third, sustainable growth in graduates with higher professional and technical skills. The Government's willingness to use expatriates in the interim rather than skewing the system in order to employ more local staff and perhaps create substantial long-run problems for the country, is exemplary. Given the relatively comfortable budgetary situation at least in the short run, effort should be made to ensure that all educational establishments and other programs in human resources development have materials necessary and that teaching posts are filled to run efficiently and provide quality learning environments. The following are some additional approaches on which greater attention might be paid:

1. A much expanded program of adult education. There are many so-called industrial class employees who left school for economic reasons and may have the potential to move into higher skill categories given appropriate opportunities or inducements to them to upgrade their skills.
2. Lowering the costs of expatriate staff through more aggressive advertising and recruiting elsewhere in Africa, on the Asian sub-continent or in other lower cost markets.
3. Relaxing policies limiting certain positions to Ph.D candidates. Where positions remain unfilled for more than a year, permission should be given to the concerned agency to hire the best among the available candidates.

The rapid growth of the education sector implies an increasing burden on the recurrent budget. As indicated earlier, this means that it will be important to maintain adequate levels of cost recovery in the sector.

4. The current fee structure should be reviewed and consideration given to extending the loan program from university to upper secondary and increasing the recovery from university graduates from its current very low level of 5 percent of salary a year for 5 years.

Health and population activities are evolving impressively. There is a welcome recognition of the importance of population control for Botswana. As with education the longer-run cost implications of the expansion of the program require careful monitoring.

5. Carry out the planned study of fees in the health service sector with particular consideration being given to charges for food and higher rates for private rooms. The Government should monitor the fee structure on a periodic basis thereafter.
6. The construction plan for the new Francistown hospital should be rephased with new buildings put into service gradually over time to relieve congestion in the existing facility. The existing buildings have been well maintained and, once the overcrowding is relieved, can continue to be used.

CHAPTER II: THE DEVELOPMENT PERSPECTIVE

A. Botswana's Achievements to Date

2.1 Over the past ten years, Botswana has been the fastest growing economy in Africa (11 percent per annum). Per capita income was US\$110 in 1984, having risen from only US\$110 in 1970. During this time, the country has achieved impressive progress in standards of health and education. Of particular note is that the country has combined high growth with the maintenance of a democratic government. This has lent stability to the economic environment.

2.2 At independence in 1966, the situation did not appear promising. The prospects for Botswana's agricultural production were poor given the predominance of subsistence farming using traditional techniques and the low quality of agricultural soils. Botswana is drought-prone and even in normal rainfall years receives only minimal precipitation. There was practically no manufacturing activity and the country possessed very little physical infrastructure - transportation facilities outside the main rail and road links to South Africa were virtually non-existent (25 km of the 1,300 km road system were paved), only a relative few had access to a safe water supply, and except in isolated areas, fuelwood was the only source of energy. Of perhaps even greater importance was the lack of locally available skilled manpower to fill positions in Government or in private enterprise.

2.3 Under these circumstances, Botswana is fortunate that its mineral resources have served as a source of public income. Since independence, significant deposits of diamonds have been discovered and exploited commercially. The income derived from diamond exports has in large part enabled the Government to undertake investment in human resources and physical infrastructure, and there has been a substantial evolution of the Botswana economy. Primary education in Botswana is now almost universal with only those in the far reaches of the country not yet having access to schools. In health, an effective network of referral agencies, clinics and hospitals have been set up. Large investments in physical infrastructure have taken place so that roads linking the population centers and the most distant areas of the country have been built; power using indigenous coal as its source is available to residents of urban centers and to increasing numbers of the rural population as well; a large segment of the urban population and some village residents have access to piped water; and upgraded standards of housing are increasingly available to urban residents. While the importance of arable agriculture has diminished due to the substantial growth of the mining sector and lower agricultural output due to the drought, the cattle industry has developed into a relatively efficient and productive sector. In manufacturing there is increasing capacity in medium-scale production for the domestic market. In addition, an essential element to Botswana's achievements to date has been the good management of resources by the Government. The Government

planning mechanism has chosen projects and determined the mix of public investment carefully, and effective use has been made of expatriate manpower when local skills have not been available. And the public administrative system which has evolved is competent and honest and for twenty years has served under a stable democratic government.

B. The Outlook For Growth Over The Medium Term

2.4 Botswana's Sixth National Development Plan (NDP VI) covering the period 1985/86 - 1990/91 was adopted in September 1985. During the Plan period GDP growth is projected to reach about 4.8 percent per annum in real terms, as compared with a real growth rate of over 11 percent per annum achieved during the previous plan period (NDP V, 1979/80 - 1984/85). The drop in the economy's expected growth rate is a result of slower growth in production in the previously fast-growing mining sector (primarily in diamonds). The Plan document argues that by the end of the Plan period the economy's resource needs will begin to exceed surpluses previously generated by the mineral sector and that new sources of growth will need to be found.

2.5 The Plan projects the major contributions to growth to be in the areas of mining, manufacturing, commerce and government operations, together accounting for almost 75 percent of incremental growth. The sectoral breakdown of the Plan growth targets is shown in Table 2.1 below. The projected real annual growth rate for the mining sector is expected to drop from over 24 percent in NDP V to only 3.5 percent, reflecting the expectation that production in this sector has reached a plateau after the opening of the Jwaneng diamond mine. The Plan assumed that investment in the Sua Pan soda ash project would have commenced in 1985, but consideration of this investment is still taking place, and it is unclear when or if investment will go forward. Average annual growth in the sectors other than mining should increase from 4.7 percent per annum in NDP V to 5.3 percent during NDP VI. Of particular significance is the expansion of the non-meat processing part of the manufacturing sector which is projected at almost 10 percent per annum in real terms, fueled by real export growth of other manufactures at more than 14 percent per annum. Agriculture production is projected to increase by 6.5 percent, reflecting recovery from the drought, while water and electricity should grow by 7.2 percent, reflecting heavy investment in the early years of the Plan leading to higher production later.

2.6 The Plan is geared to attacking what is often referred to as the dualism of the Botswana economy. This dualism is characterized by a modern economy supporting 20 percent of the population through employment in government offices, factories, schools, hospitals, etc. and a rural economy in which 80 percent of the people live as they have for centuries through subsistence-level crop farming and cattle rearing. While this is often overstated in that substantial linkages between the sectors have evolved over time and significant income is transferred from the modern to the

Table 2.1: Annual Growth Targets of NDP VI

Sector	Shares in 1985 GDP (%)	NDP V Actual	NDP VI Projected
Agriculture	6.9	-4.1	6.5
Mining	31.3	24.5	3.5
Manufacturing	7.4	10.0	8.3
Water and Electricity	3.4	3.0	7.2
Construction	4.4	-2.3	3.5
Trade and Commerce	20.5	4.0	3.8
Transportation	2.8	16.0	5.0
Other Services	7.8	5.3	5.4
Government	15.5	10.4	5.1
Total GDP	100.0	11.2	4.8

Source: NDP VI, June 1985

traditional sector, there is indeed a wide divergence between incomes in the modern and traditional sectors. In relation to the total public sector expenditure program, direct expenditure to increase formal employment and raise rural incomes comprises only a relatively small proportion. Nevertheless, these programs are critical components of the Government's development strategy, and to a large degree dominate political and administrative attention. In view of this, the key strategic elements of the Plan are the expansion of formal sector employment on the one hand and the transfer of income and development of productive opportunities for the rural population.

C. Constraints to Growth

2.7 For most economies, a section with this heading would deal mainly with the inadequacy of financial resources. In Botswana financial constraints are far less critical, though they cannot be ignored. If revenues and expenditures grow according to the Plan, the budget will move into deficit in FY90. As illustrated below in more detail, the budgetary situation should actually be more comfortable over the Plan period though, in the longer term, concerns about movement toward budgetary deficits are valid. The situation is manageable, however, if the Government uses the current Plan period to institute the appropriate steps. The Government in the Plan has recognized that increased attention needs to be given to tax and cost recovery measures. This report, as well as the IMF tax study recently undertaken, provide specific recommendations in this regard.

2.8 The major constraint which Botswana faces is the supply of skilled manpower. There are shortages of skilled manpower at all levels, from technical and managerial personnel to lower level industrial skills. Botswana does not have a tradition of industrial labor, with the result that skill shortages are compounded by the low productivity of the industrial labor force. Botswana is also deficient in the number of local entrepreneurs who can invest in building up productive enterprises. The development of the medium- and large-scale industrial and commercial enterprises has depended on expatriates.

2.9 Botswana has made extremely skillful use of expatriate assistance over the years to deal with its manpower needs. Presently there are approximately 4,700 expatriates employed in the public and private sectors in the country as compared to a total modern sector labor force of 110,000. The predominant portion of the expatriates (approximate 70 percent) are in technical or managerial positions. Approximately 40 percent are employed by government (including education) with the remainder fairly evenly divided between the parastatals and the private sector. In 1984 expatriates formed 4.3 percent of the total modern sector labor force as compared to 7.8 percent (3500 expatriates, 45,000 total labor force) in 1975. Thus while the absolute number of expatriates has increased, the relative share of expatriates in the total labor force has diminished over the past decade. In previous Plans as well as in NDP VI there have been calls for even further localization of positions. While this is to be supported as a long-term goal through increased training activities, for the present complete localization of highly skilled positions is not realistic. With the present output level of 180 graduates a year from the University of Botswana, this will scarcely meet the growth in higher level positions let alone substitute for existing positions currently held by expatriates. As a practical matter NDP VI recognizes that in some areas, particularly in technical and managerial positions in the parastatals, the number of expatriate positions will actually have to increase further over the Plan period. This is discussed further in Chapter VII.

2.10 The other major constraints Botswana faces are the carrying capacity of the land and the availability and location of water resources. Evidence suggests that in some areas Botswana is close to the point at which further expansion of settlements and cattle grazing could result in serious environmental damage. It is in this context that population growth represents an important issue over the longer run. With population growth approaching 3.4 percent per annum over the coming years, population will double to 2 million within twenty years. Food availability either through domestic production or import will have to rise accordingly and allow increasing per capita consumption levels as incomes rise as well. The current cattle population (approximately 2.7 million) will most likely increase once again toward 3 million as the drought lessens.

2.11 The argument is often made that Botswana needs rapid population growth to overcome the constraint represented by the small size of its domestic market. Even with rapid population growth, however, the market will not be able to support an autarkic development strategy. Botswana

must be outward-looking in its development. At present the market is effectively much larger given the free access to the other markets within the Southern Africa Customs Union (SACU). This has been important for some products such as meat products and hides and skins. In the future the possibility of the regional market to the north might become equally important. This is discussed further in Chapter IV.

2.12 Botswana's large size means that physical infrastructure is important for development. Inevitably a dispersed population means that it is also expensive to supply power, transport, telecommunications, piped water, sanitation, and housing. At present it is clear that these still represent constraints. Power is costly, transportation is excellent where roads are paved but a problem in other areas, internal telephone services which are necessary for the strengthening of internal marketing are poor, and piped water and housing are often too expensive for a large segment of the population. This is discussed further in Chapter VI.

2.13 By comparison with many countries Botswana has managed to avoid some problems and has thus achieved some advantages in its development process. For example, prices are for the most part not distorted, though it must be noted that this is in relation to the price structure within the Republic of South Africa which is itself a highly protected economy both through trade barriers and subsidies given in various forms to industrial and agricultural producers. Given relative strength of the pula against the rand and controls on large-scale capital movements, interest rates in Botswana are maintained lower than in surrounding countries but represent positive real levels. To a large extent the exchange rate has been maintained at reasonable levels and adjusted in appropriate directions. Government administration is honest and generally efficient though there are instances of over-regulation.

D. A Scenario For Development Over the Medium and Long Term

2.14 There are major intangibles in projecting Botswana's longer-term outlook. First and foremost are the political and economic uncertainties facing its neighbors and the uncertain impact on Botswana. Second there is the outlook for Botswana's three major commodity exports: diamonds, copper and beef. From 1981 until very recently Botswana has had to stockpile a portion of its diamond production since the world-wide diamond industry is withholding supply in order to maintain price levels. Copper prices remain low, and Botswana as an otherwise efficient copper producer has had to subsidize the industry in order to maintain employment levels and keep it from failing. Third is the weather and the longer term implications of the severe, sustained drought of the recent past. Growth projections assume that Botswana's rainfall will return to normal and that production will return to pre-drought growth levels. With these caveats we have attempted to project Botswana's potential growth over the next ten years (see Table 2.2).

Table 2.2: Growth Projections, 1985 - 1995
(US\$ millions, current prices)

	<u>1985</u>	<u>1990</u>	<u>1995</u>
Exports of Goods & Services	880	1,570	2,290
of which: Diamonds	555	870	1,230
Beef	50	130	210
Copper/Nickel	60	100	150
Imports of Goods & Services	840	1,660	2,600
Current Account Balance			
as % of GDP	12.3%	1.9%	-2.0%
Debt Service Ratio	4.3%	7.2%	9.1%
Reserves as Months of Imports of Goods and Services	11	14	12
GDP Growth (% p.a.)		5.0	5.2
Per Capita Income (1985 US\$)	900	1,150	1,480

Source: World Bank estimates

2.15 To a large extent the success of Botswana's development strategy and the growth of its economy depends on the success of its exports, particularly diamonds. The balance of payments projection contained in Table 2.2 contains an assumption of export volume growth of between 4 and 5 percent per annum. Currently diamonds comprise approximately two-thirds of the country's total exports (for 1985 about US\$555 million out of total merchandise exports of US\$720). In projections of future export growth the share of diamonds moves toward approximately 70 percent of total. The international diamond market is continuing its recovery from the slump which began in 1981. In order to maintain acceptable price levels, the DeBeer's Central Selling Organization had until recently withheld diamonds from the international market, with Botswana retaining its gem-quality diamonds. The Plan had assumed that, barring a sharp rise in the value of the dollar or a new recession in the international economy (both events would adversely affect demand for diamonds), only by 1987 would demand have picked up to allow full sale of production. The unit values of diamond exports should also increase reflecting sales of the higher quality stones and further strengthening of the market.

2.16 The growth performance for the remainder of Botswana's exports depends on a number of factors. Copper prices remain low, with prospects for significant price increases only in the 1990s. Whether the country can continue exporting beef and beef products to the EEC depends both on successful control of animal disease and on whether the quota allocated to Botswana for such exports is at least maintained beyond Lomé III. Despite the uncertainty, however, Botswana is planning for expansion (e.g., construction of a new abattoir in Francistown). Exports of more non-traditional manufactured goods (e.g., textiles, domestic resource-based products) will take time to emerge, and Botswana's macroeconomic policy framework should ensure that it does not discourage investments which would lead to growth in this area.

2.17 Expectations are that Botswana's imports will grow in volume terms at about the same rate as exports, reflecting import elasticities with respect to income just slightly less than unity over the coming Plan period. Since this is a small drop in the historical elasticity, it highlights the importance of policies which encourage increased domestic food production, develop resource-based manufacturing, substitute coal for petroleum and increase the emphasis on labor intensive as opposed to import intensive investment.

2.18 Botswana's current account surplus is projected to decline steadily over the Plan period. Foreign reserves will be maintained at fairly high levels (an average of 13 months of imports of goods and services) through a combination of inflows of direct foreign investment and medium- and long-term borrowing. Botswana has a good credit standing in view of its large revenue from diamond sales, its relatively low debt service ratio (around 4.3 percent in 1985), its sizeable foreign exchange reserves and, probably most significantly, its record of good economic management. Raising the net financing involved in these projections should, therefore, be feasible. Under the projection presented in Table 2.2, net requirements over the Plan period will total approximately US\$600 million, of which just over 10 percent of this amount was already committed by the end of 1984. By the end of the Plan period, Botswana's debt service ratio should range between 7 and 8 percent.

2.19 There is nothing automatic about the achievement of these targets. While Botswana is in an enviable position regarding the flows from the mineral sector, The Government must still make sensible policy choices and administer policies and programs effectively at both the macro and sector levels if the planned growth outside the mineral sector and the social goals planned for NDP VI are to be attained. The succeeding chapters elaborate those choices. Given Botswana's past record there are strong grounds for believing that the potentials will indeed be achieved.

Chapter III: THE PUBLIC EXPENDITURE PROGRAM

A. Preparing the Plan

3.1 The macroeconomic projections underlying the plan were prepared by the Ministry of Finance and Development Planning using the Macro-Economic Model for Botswana (MEMBOT). MEMBOT is an input-output model for the real economy, with production and investment in cattle, other agriculture, mining, manufacturing (including BMC), water and electricity, and government as the leading sectors, or as exogenously determined variables. The other sectors, construction, commerce, transport, and other services, are endogenous functions of growth from the independent variables. The input-output coefficients used in the projections were prepared in 1976/77, and although some revisions in the coefficients have been attempted, they may not fully reflect Botswana's current stage of development. Another limitation is that the base data for the projections covering 1985/86 - 1990/91 are from the 1981/82 National Accounts. The macroeconomic projections include five budget scenarios which are discussed below. The base scenario, which was felt to represent a realistic outlook for the six year period 1985/86 - 1990/91, forms the basis for the overall expenditure ceilings.

3.2 The preparation of the Plan began with each ministry preparing sector policy papers. Through these papers, the ministries presented their views on policy issues and specific problems within their responsibilities. Discussions of the papers took place within the Economic Committee of the Cabinet, which is composed of the entire Cabinet, all Permanent Secretaries, the Governor of the Bank of Botswana and others, and within the guidelines for overall expenditure growth, determinations were made regarding the sectoral allocations of recurrent and development expenditure.

3.3 Once recurrent and capital expenditure ceilings were fixed, ministries were asked to propose priority activities within their allocated share of the development budget ceiling. Expenditures on low priority activities or those providing services for which demand is not necessarily related to population growth were maintained constant in real terms. Attempts were made to ensure that departments providing services to the general public grew by at least the Government's projections of population growth. High rates of growth in expenditure allocations were determined for: education, reflecting the efforts to improve basic education and overcome the constraints imposed on the economy by the lack of skilled manpower; grants to district and local councils, highlighting the weaknesses in the finances of local authorities but also the Government's efforts to encourage rural development; railway transportation, stemming from the takeover of the National Railway of Zimbabwe's operations in Botswana; health, largely due to the recurrent cost implications of the new hospital in Francistown and the upgrading of the hospital in Gaborone; and the Financial Assistance Program, reflecting the Government's increasing involvement in the development of productive sectors through subsidy programs. The recurrent cost implications of each project are explicitly

spelled out and the consistency of ministerial growth targets for recurrent expenditure and the recurrent cost implications of its investment program was checked.

Table 3.1: Allocation of Recurrent and Development Expenditure
(Rupee '000, 1985/86 prices)

	Recurrent Budget				Per annum growth %	Development Budget (excluding SLP)	
	1984/85 Expenditure	%	1990/91 Expenditure	%		Expenditure	%
Parliament	1,596	0	934	0	-8.5	450	0
President	44,079	13	53,220	11	3.2	9,990	6
Finance & Dev. Planning	16,033	5	18,829	4	2.7	3,300	2
Home Affairs	9,777	3	12,420	2	4.1	2,600	2
Agriculture	31,486	9	38,706	8	3.5	8,800	5
Education	74,749	22	139,039	28	10.9	33,000	20
Commerce & Industry	6,766	2	9,240	2	5.3	3,300	2
Local Gov't & Lands	53,118	16	85,848	17	8.3	22,000	13
Works & Communications	51,736	15	75,170	15	6.4	55,000	33
Mineral Resources & Water Affairs	16,470	5	18,923	4	2.3	16,500	10
Health	24,489	7	35,435	7	6.4	11,600	7
Justice	1,216	0	1,584	0	4.5	400	0
Attorney General	845	0	1,100	0	4.5	0	0
Auditor General	484	0	484	0	0.0	0	0
External Affairs	3,189	1	4,046	1	4.0	200	0
Total	338,794	100	504,160	100	6.8	168,850	100

Source: NDP VI

3.4 As for capital expenditure ministries were requested to enumerate the programs which would be necessary for the realization of their sector policies. The sector programs were presented in summary form in the thumb-nail sketch of each project, which contained a description of the project, its purpose and its costs in both recurrent and developmental expenditures. The ceilings for developmental expenditures were determined from the overall growth of recurrent expenditure and the historical relationship between recurrent and development expenditure. The ceilings which were set for capital expenditure, however, limit only those expenditure which have recurrent cost implications. Additional capital expenditures are permitted if a ministry can demonstrate that these will be self-liquidating. Ceilings for the self-liquidating project were derived from overall resource availabilities.

3.5 The system has many positive features. Most striking, it pays strong attention to the balance between recurrent and development expenditure. But there are also weaknesses. The balance between recurrent and development expenditure in the plan was derived from a simple regression of total recurrent expenditure and capital expenditure during recent years. First of all, it is not clear whether the historical relationships between recurrent and capital expenditure has been entirely adequate. A further complication is that the ratio for the past was calculated by comparing actual recurrent expenditure with total capital expenditure (i.e., including projects which had no recurrent cost implications, now called self-liquidating projects), but is applied, for the future, only to capital expenditure excluding self-liquidating projects. There are several ways of refining further the process of analyzing and allowing for recurrent budget implications of capital expenditures. One alternative approach would be to calculate first the recurrent expenditure growth for a zero-expansion investment program and then add the recurrent cost implications of new programs and projects. In addition the selective introduction of program budgeting might be worth considering. As part of the budget monitoring process, planning officers in the ministries should continuously assess the performance and adequacy of recurrent budget allocations to Government programs. Results of this monitoring would be useful inputs to future planning and budgeting.

3.6 Another important aspect of the Plan is how carefully manpower implications are spelled out. As explained below the availability and allocation of increased levels of skilled manpower for the Government was the primary constraint on allotted growth of recurrent expenditure. Total modern sector employment (including self-employment) is expected to increase by 5.7 percent per annum over the plan period, representing an average annual increase of 11,500 jobs as compared with the annual increase in the potential labor force of 21,000. Total employment at all levels of government (local, district and central) should increase more slowly than overall employment (5.3 percent compared with 5.7 percent). The expansion of established positions within the Central Government is projected to be just over six percent per annum while the expansion of in-post employment (i.e., including filling of existing vacancies) is to increase by 7 percent. This means that the Central Government's share in total employment will actually increase somewhat over the Plan period, though at the higher skill levels, this growth (5.1 percent) should be less than growth of available supply. Any higher growth than that planned would begin to crowd out the private and parastatal sectors. Most of the growth, however, will take place in the education sector where the number of employees (primarily teachers) will rise from just over 9000 to almost 16000. This increase represents over 70 percent of the total increase in Government employment. Much of the remainder of the growth will take place in the health sector.

3.7 Although the Plan is an important document for aid coordination, it does not indicate where external assistance has been committed for individual projects. It could be argued that it might be difficult if not impossible to show external financing sources for projects in the Plan since often donors do not "lock-in" their commitments until shortly before the project begins. For many projects, however, the donors are known, particularly for the early years of the plan, during the time of the Plan's

preparation. Technical assistance in particular seems to have been unevenly treated with only that assistance flowing through the development budget included in the Plan. Thus some donors have found that agreed programs were not included in the document. The Government may wish to consider making an indication of external assistance explicit in future Plans.

3.8 An important issue concerns the treatment of public enterprises. Their investment programs are rightly treated as within the area of decision-making of their Boards. Therefore, the investments of public enterprises are only reflected in the plan insofar as they are financed by borrowing from the Government (lending from the Public Debt Service Fund-/Revenue Stabilization Fund) or through the Government (on-lending of aid funds). Given the critical importance of the investment programs of the public enterprise sector and particularly as parastatals borrow more on the international capital markets, it would be useful to maintain on an ongoing basis a consolidated record of parastatal financial and investment activities and to summarize them in the plan document. It would also be useful to review periodically other issues common to public enterprises such as budgetary and financial relationships, taxation and dividend policies, and pricing issues.

3.9 The degree to which Plan proposals were disseminated and discussed within all levels of the Government is impressive. One would certainly expect a fair degree of consultation within the various ministerial offices in Gaborone, but this Plan was discussed at the District and Local levels as well. While one runs the risk of causing frustration at these levels if suggestions made in this context are not then taken into account, the benefits one gains through operational level feedback in the process far outweighs any possible disadvantages to such widespread consultation.

B. Public Expenditure as an Instrument of Public Policy

3.10 An unusually high proportion of monetized income passes through the public sector in Botswana. In recent years the primary source of this revenue has been mineral revenues, though Customs Union receipts remain a significant source as well (see Table 3.2). Other sources of income including sales and income taxes, dividends, interest, and external grants and financing are less important to the budget. Government revenue in terms of GDP in 1979/80 was 37 percent, while in 1984/85 government revenue represented an estimated 56 percent. The Government not only uses this income for purpose of public consumption and investment, but also as a transfer mechanism to affect the distribution of income and employment.

3.11 The striking feature of Botswana's revenue base is the narrow dependence on two major sources, i.e., revenue from the Customs Union and Mineral Revenue, with their combined share in total revenue averaging around 70 percent in recent years. Each Customs Union member collects duties on the imports which enter from outside the common area and also the excise tax on goods produced in that country. Each member country's share in the common revenue pool is calculated according to a negotiated formula which reflects its imports and domestic production subject to excise taxes relative to that of SACU as a whole. The share of Customs Union receipts

in total revenue has declined sharply in recent years, dropping from 38 percent in 1979/80 to 21 percent in 1984/85, while increasing in value over the same period from Pula 80 million to Pula 156 million, or an average 14 percent per annum. Mineral revenue comprises taxes on profits, royalties, income from mining leases and government's dividends from equity shares in mining companies. Revenue from the mineral sector increased almost five-fold between 1979/80 and 1984/85, reflecting the coming on stream of the Jwaneng mine, but also, more recently, the depreciation of the Pula, boosting mineral revenue in Pula terms. Other revenue includes profits of the Bank of Botswana, which handles the Government's financial assets, and interest income from lending to parastatals. Both revenue items have grown considerably in recent years, due to the Government's substantial accumulation of reserves and lending to parastatals. While external assistance to Botswana is substantial in per capita terms, as can be seen in the table below foreign grants and net external loans have not played a major role in financing government expenditure in recent years. However, only direct borrowings and cash grants are recorded in the budget; direct borrowings by parastatals, for example, are not considered part of the Government budget.

Table 3.2: Sources and Uses of Public Funds, 1979/80 - 1984/85
(in millions of Pula)

	<u>1979/80</u>	<u>1980/81</u>	<u>1981/82</u>	<u>1982/83</u>	<u>1983/84</u>	<u>1984/85</u>
Sources	<u>261.1</u>	<u>318.2</u>	<u>334.6</u>	<u>452.6</u>	<u>583.0</u>	<u>823.9</u>
Customs Union	80.2	102.0	104.3	114.3	156.8	155.8
Mineral Revenue	76.6	101.1	77.0	99.4	193.8	376.5
Other Revenue	55.4	66.4	101.7	132.8	164.2	219.0
Grants	36.9	37.8	39.8	47.2	48.2	39.3
External Financing (net)	12.0	10.9	11.8	58.9	20.0	33.3
Uses	<u>261.1</u>	<u>318.2</u>	<u>334.6</u>	<u>452.6</u>	<u>583.0</u>	<u>823.5</u>
Current Expenditure	122.0	166.8	200.0	227.3	272.0	344.6
of which:						
Wages & Salaries	56.3	80.9	91.7	101.4	109.2	144.0
Capital Expenditure	88.1	104.6	108.6	156.6	136.3	165.1
Net Lending	17.9	37.6	32.8	30.8	51.2	94.4
Domestic Reserves	33.1	9.2	-6.8	37.9	123.5	219.8

Source: Data provided by the Botswana authorities.

3.12 Recurrent expenditure levels as a percent of GDP are about average by comparison with other African countries. Recurrent expenditure as percent of GDP averaged around 22 percent in recent years, compared with an average of 20 percent for all African countries. Botswana has an efficient and productive public administration. Salary levels and growth are somewhat restricted by government policy, but permit a reasonable

living standard. Over the previous Plan period salaries rose only slightly in real terms, and in the future real salary levels are projected at constant levels. Non-monetary fringe benefits are kept to a minimum. On the other hand, expatriate staff allowances are high, something which has an important impact on the wage bill, given the relatively large number of expatriates working for the Government.

3.13 In recent years current transfers have been a high and growing portion of the recurrent budget, mainly on account of greater need for drought relief. Through various programs, the Government at present provides drought-related supplementary feeding to over 365,000 people. The Government provides supplementary rations to over 200,000 schoolchildren as well. In addition, as discussed in subsequent chapters, the low levels of cost recovery on social programs create an implicit transfer which must be compensated for with increased expenditure.

3.14 Capital expenditures omit some large public sector investment programs which are being implemented by parastatals, although they include lending for partial funding of most of these programs. Government lending to parastatals comprises on-lending of funds from donors and lending from the Public debt Service Fund/Revenue Stabilization Fund, which are financed by surpluses on past budgets. There are also capital transfer programs, which are critical determinants of the level of private investment in Botswana, e.g., programs like FAP for manufacturing investment, ALDEP and ARAP for agriculture. These are discussed in Chapters IV and V.

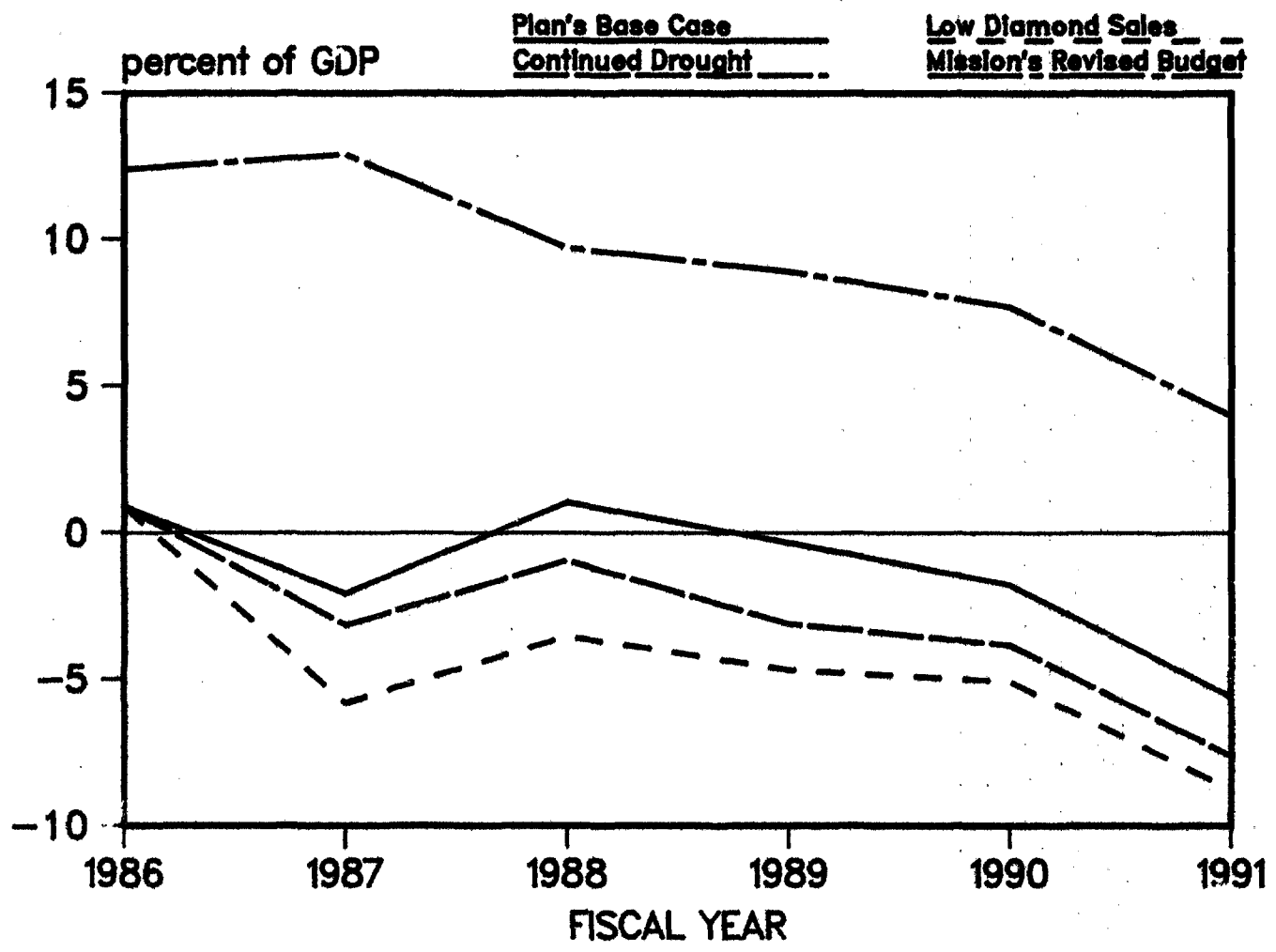
C. NDP VI: Financing and Expenditure Allocations

(i) Budget Scenarios

3.15 The Plan contains four budget scenarios, a base case and three alternative scenarios. The base case, which in terms of revenue is the most optimistic scenario in the Plan, forms the basis for NDP VI expenditure allocations. In the base case, the Plan provides for total expenditure including on-lent aid funds ranging from P 743 million, or 43 percent of GDP in 1985/86 to P 899 million, or 42 percent of GDP in 1990/91, with a substantial share, increasing over time to 64 percent of total expenditure in 1990/91, being allocated to recurrent expenditure. The base case and the alternative scenarios have several assumptions in common. The scenarios were projected in constant 1985/86 prices and assume unchanged tax rates throughout the Plan period; constant Pula-US dollar and Pula-Rand exchange rates of roughly US dollar-Rand 1.00 per Pula, a domestic inflation rate of 10 percent per annum, and a world inflation rate of 5 percent per annum. They differ with respect to drought relief expenditure, diamond exports, and foreign financing.

3.16 The base case assumes that (i) the current drought will end soon and that the Government can phase out the relief programs; (ii) Botswana can increase its diamond exports so that from 1987/88 on it can sell all its output on the world market; and (iii) drawing of foreign loans will be considerably above historic levels. In this case, the overall budget balance is projected to swing from a surplus of 1 percent of GDP in 1985/86 to a deficit of 6 percent of GDP in 1990/91 (see graph 3.1), reflecting approximately constant revenue collections, while expenditure (including

GRAPH 3.1
 Alternative Projections of the Budget Surplus/Deficit
 (as a percent of GDP)



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lending) is projected to expand at a rate of 3.8 percent, which is slightly below the growth rate of GDP. Assuming that around 30 percent of development expenditure will be financed from external sources, it follows that the Government will build up substantial reserves with the Central Bank during most of the plan period, but will have to start to draw down its deposits in 1990/91.

3.17 The alternative scenarios are, in a sense, designed to test whether policy actions, in particular new revenue measures, are needed under less favorable conditions than in the base case. The first alternative scenario is more pessimistic in terms of drought relief expenditure. It assumes that the current drought will persist and that due to the resultant effects on economic activity the Government has to continue to support the rural population through relief programs. Consequently, government expenditure would be higher and the deterioration in the financial situation of the Government more rapid relative to the base case, leading to a budget deficit of 7.5 percent in terms of GDP in 1990/91.

3.18 The second alternative scenario highlights the budgetary effects of a less favorable performance of the diamond sector. It differs from the base scenario in assuming that world demand does not expand sufficiently to absorb that portion of Botswana's diamond output which is currently stockpiled. Although this portion is low in terms of volume (about 2 percent), it is substantial in terms of value (up to 30 percent), reflecting the fact that most of the stockpiled diamonds are the highest quality stones. If Botswana has to continue to add to its stock of diamonds at the same rate as in the past, mineral revenue would reach only 70 percent of the collections in the base case, and the Government will suffer a sizable revenue loss. The Plan suggests that under these less favorable conditions, the Government might consider cutting expenditures, both recurrent and development. It demonstrates that if growth of recurrent expenditure were zero (compared to 6.8 percent growth in the base case), total expenditure would still be 22 percent above revenue by the end of NDP VI, compared with 15 percent in the base case, resulting in an overall budget deficit of about 9 percent of GDP in 1990/91.

3.19 Finally, the lower aid flow case assumes that less external aid funds than projected in the Plan's base case will be forthcoming, and that the gap would be filled by a smaller accumulation of balances with the Central Bank or a drawdown of balances accumulated in previous years. While this change in the pattern of financing will have no major impact on the overall financial position of the Government, it is likely to have important consequences for Botswana's balance of payments and monetary situation. If disbursements of external loans amount only to roughly 50 percent of the base case level, the plan projects that the overall balance of payments position would become negative towards the end of the plan period, compared with a surplus throughout the plan period in the base case and that the Government's recourse to domestic financing sources would reach the equivalent of 5 percent of GDP in 1990/91, compared with 2 percent of GDP in the base case.

3.20 In all budget scenarios, the financial situation of the Government is projected to deteriorate considerably during NDP VI, with the overall balance dropping between 6-10 percentage points of GDP over the

Plan period. However, the projections were prepared before the recent substantial decline in the Pula vis-à-vis the US dollar. Particularly with diamond exports priced in US dollars, this has resulted in a marked increase in Pula revenues. Mission projections that take these recent developments along with other factors into account suggest that the Government will experience a more comfortable financial situation than projected in the Plan's base case. At the same time, the inflow of foreign funds will be substantially higher in Pula terms, contributing to a build up in domestic reserves which exceeds the projections in the base case by a wide margin. However, given the narrow base of the revenue system and its vulnerability to external and highly uncertain factors, a certain amount of risk is attached to both the Plan's and the mission's revenue projection. Also, the responsiveness of the revenue system with respect to domestic inflation is rather low. Thus, if domestic inflation exceeds the levels assumed in the Plan (10 percent per annum), this would have an adverse effect on the overall budget balance. In the following, the revenue projections and expenditure allocations of the Plan's base case are discussed in more detail.

(ii) Revenue and grants

3.21 Total revenue and grants are expected to grow by an annual rate of only 0.5 percent in the base case, leading to a decline in total revenue and grants in terms of GDP from 44 percent in 1985/86 to 36 percent in 1990/91 (see Table 3.3). The main factor underlying this downward trend is a sharp drop in mineral revenue which is only partly offset by the growth in non-mineral revenue items. As a result, the share of mineral revenue in total revenue and grants is expected to fall from 47 percent in 1985/86 to 34 percent in 1990/91.

Table 3.3: Revenue and Grants, 1985/86 - 1990/91
(millions of Pula at 1985/86 prices)

	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91
Customs Revenue	166.5	192.0	195.6	205.4	216.4	198.6
Mineral Revenue	358.5	305.3	325.3	302.2	281.8	263.6
Other Income Tax	97.5	99.3	102.7	108.0	115.4	123.6
Other Revenue	73.1	82.7	90.1	96.7	99.8	99.9
Development Grants	39.4	39.4	39.4	39.4	39.4	39.4
Interest Revenue	23.3	34.9	43.2	48.9	51.9	53.7
Total Revenue and Grants	758.3	753.6	796.5	800.6	804.7	778.9

Source: NDP VI

3.22 The Government's mineral revenues come from royalties, rents, dividends and income tax on mining companies. Despite the assumption that Botswana will be able to sell all its annual output (including the high quality stones) by 1987/88, the Plan projects that mineral revenues will decline by an annual rate of about 5 percent (in 1985/86 Pula prices) from Pula 359 million in 1985/86 to Pula 264 million in 1990/91. There are four critical elements underlying the projections relating to the world market prices for diamonds, the US dollar price, the dollar-Pula exchange rate and the volume and quality of diamond exports. First, The Plan argues that world market prices for diamonds will only keep pace with world inflation of 5 percent per annum, while the Plan deflates government revenue by the domestic inflation rate, which is assumed to be 10 percent. This price-differential of 5 percentage points without compensating exchange rate movements is the main factor responsible for the downward trend of mineral revenue in the Plan's base case projections. Secondly, the projection does not take into account the sharp devaluation of the Pula in the base year. Because diamonds are priced in US dollars, when the Pula depreciates, for example, revenues from the diamond exports increase in Pula terms. The plan projection is based on an exchange rate of roughly US\$1.00 per pula, which despite differential inflation rates in Botswana and the rest of the world does not change significantly over the plan period. This exchange rate is close to that which prevailed in the two years prior to the Plan's drafting. In real effective terms the Pula depreciated over 25 percent on a trade-weighted basis during 1984 and 1985. Against the US dollar, however, the depreciation was greater, and the average rate during 1985 was US\$0.53 per Pula. In 1985/86 the Pula value of mineral revenue should exceed the Plan projection by over 50 percent.

3.23 While the value of the Pula is dependent upon the fortunes of the Rand, and the Government is reticent to plan using current exchange rate levels, a rate in the range of US\$0.625 per Pula seems to represent a more realistic assumption of the value of the Pula. Using this exchange rate means that Pula revenue from diamonds will continue to be substantially greater than that projected in NDP VI. Finally, the Plan's projection assumes that Botswana can gradually increase its diamond exports so that from 1987/88 on, it can also sell the high quality stones. As pointed out, demand growth allowing a discontinuation of the practice of stockpiling roughly 2 percent of the annual diamond output volume essentially already occurred in 1985/86 and contributed to the phenomenal growth in mineral revenues. The projection for export receipts in the Plan supporting the revenue projection, however, shows only an increase of 2 percent for diamond export receipts (after factoring in some export growth and an appreciation of the currency) between 1985/86 and 1987/88.

3.24 If the projections were revised to take these factors into account, diamond revenue throughout the period would be higher than assumed in the Plan. Using as a base the revised estimate for mineral revenue in 1985/86 of P 630 million and the budget estimate for 1986/87 of P 686 million (P 623 million in 1985/86 prices) instead of the Plan's projections of P 359 million and P 305 million, respectively, and changing

only the exchange rate in the base scenario to US\$0.625 Pula for the period 1986/87 - 1990/91 increases the Pula value of diamond revenue collections by almost P 600 million in just two years time. At this exchange rate over the entire Plan period, total revenues could approach P 1800 million beyond that expected in the Plan (a 38 percent increase). The exchange rate movements would presumably not have such a significant impact on expenditure since despite the large depreciation of the Pula against the dollar, nominal appreciation of the Pula against the Rand has resulted in relatively little movement in effective terms on an import-weighted basis. In nominal effective terms, there was 4.8 percent appreciation of the Pula during 1984 and 1985, while in real terms there was a 6.6 percent depreciation. Table 3.4 contains revised projections of Central Government revenue and expenditure for NDP VI. While revenues are substantially higher and expenditure somewhat greater than Plan projections, showing a much more comfortable budgetary picture than originally planned, the overall trend is toward smaller surpluses and potential budget deficits sometime after the beginning of the next Plan.

Table 3.4: Summary of Overall Fiscal Operations of the Central Government, 1985/86 - 1990/91
(Pula millions, 1985/86 prices)

	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91
	<u>est.</u>	<u>proj.</u>	<u>proj.</u>	<u>proj.</u>	<u>proj.</u>	<u>proj.</u>
Total Revenue	1,015.2	1,086.2	1,068.7	1,088.5	1,108.3	1,087.1
Customs Revenue	145.4	175.9	184.2	193.4	203.8	187.0
Mineral Revenue	595.0	623.4	609.2	596.5	583.5	554.3
Other revenue	245.4	249.4	229.7	253.0	275.5	300.1
Grants	29.4	37.5	45.6	45.6	45.6	45.6
Total Expenditure	772.8	821.5	860.7	887.0	926.0	988.5
Wage Bill	163.6	184.9	197.5	210.9	225.2	240.6
Interest Payments	22.4	25.5	43.2	45.8	45.6	42.6
Other Current Exp.	245.4	271.1	289.6	309.3	330.3	352.8
Grants/Cntrpart Exp.	29.4	37.5	45.6	45.6	45.6	45.6
On-lent Aid Funds	-	-	45.2	40.2	40.2	54.5
Other K Exp. inc. Lending	312.0	302.5	239.7	235.2	239.0	252.5
Overall Balance	242.4	264.7	208.0	201.5	182.4	98.6
(as % of GDP)	12.4	12.9	9.7	8.9	7.7	4.0
Financing	-242.4	-264.7	-208.0	-201.5	-182.4	-98.6
External (net)	49.8	83.1	134.6	115.5	102.9	121.3
Other	-292.2	-347.8	-342.6	-317.0	-285.3	-219.9
Memorandum item						
GDP	1,952.3	2,049.9	2,152.4	2,260.0	2,373.0	2,491.7

Source: Mission estimates and projections

3.25 The second largest revenue component is customs and excise duties, which the Plan projects to increase by an annual growth rate of 4 percent. This corresponds to a rate of growth in imports that is significantly lower than the projected growth rate for GDP, reflecting the assumption that Botswana will make some progress in terms of import-substitution (the implicit import elasticity with respect to GDP is 0.7). Given that there has been only a slight real effective depreciation (import-weighted) of the Pula, projections in Table 3.4 for customs duties collections do not represent much of a change from original Plan projections. Income tax revenue from the non-mineral sectors, which to a large extent consists of wage tax revenue, is projected to grow in line with GDP. Other revenue and interest revenue is basically Bank of Botswana profits and interest on lending to parastatals. The Plan projects the combined total of these two revenue components to grow by an annual rate of about 10 percent, due to the envisaged increase of the Government's deposits with the Bank of Botswana on which the Bank of Botswana does not pay interest, and the substantial lending to parastatals over the Plan period. This is another area where the recent devaluation of the Pula may have a positive revenue effect. In addition, the higher revenue from the mineral sector and customs has already enabled the Government to accumulate more reserves than estimated in the base scenario, further boosting revenue. Finally, the real level of external grant aid, excluding grants-in-kind, is envisaged to remain stable in absolute terms during the plan period.

3.26 The main conclusion which emerges from the discussion of the base case's revenue projections is that since they do not reflect recent developments with respect to the Pula exchange rate, they tend to underestimate Pula revenue collections. In the revised budget estimates for 1985/86, revenue collections are expected to exceed the Plan's projections by 34 percent. Mission projections suggest that this margin may widen somewhat more by 1990/91. Thus, one might argue that there is no need for new revenues in the near future and in fact the Plan does not propose any new revenue measures. However, despite the favorable revenue projections, there is scope for reviewing the Government's revenue system and through other means, such as the IMF report on expanding the revenue base, the Government is identifying potential measures to be taken. As mentioned above, the projections are based on a best judgment about various factors to which a great deal of uncertainty is attached. In particular, the diamond market is extremely fragile and the political situation in the region is very unstable. With roughly 70 percent of government revenue coming from diamond exports and the Customs Union with South Africa and other countries, a deterioration in the diamond market or the political situation in the region could easily have significant adverse effects on government revenue. Thus, there is scope for diversifying the sources of government revenue with a view to reducing the vulnerability to external developments. Further, there are several areas where the revenue system could be rationalized.

3.27 The mid-term review of NDP VI should utilize the results of the recent IMF tax mission as well as the study of incentives and disincentives

to livestock production which the Government has agreed to carry out. A number of areas which could be considered are discussed below:

- (i) increasing taxation of agricultural incomes by making taxation of agricultural incomes more horizontally neutral. The Botswana Government has historically granted an extensive array of fiscal concessions to the livestock industry which are not available to other sectors of the economy. For example, the Government currently allows capital expenditures on agricultural investments as deductions against taxable income rather than as the more common practice of considering them to be depreciable assets, as in the industrial or commercial sectors. As a result of this and other tax concessions, incentives to invest in agriculture are much greater relative to other sectors. To the extent such investment leads to increasing stock levels without promoting better management of cattle and land and higher offtake rates, granting concessions to agricultural investments may actually contribute to further degradation of the land.
- (ii) the revenue intake could be substantially increased and the revenue base stabilized by following other members of SACU and introducing a broad-based sales tax at either the retail or manufacturer/importer level. Tentative estimates suggest that a 5 percent ad valorem tax on major consumption goods would yield some P 30 million in additional revenue.
- (iii) there may be room for rationalization in the rates for personal and corporate income taxes. The top marginal personal income tax rate of 60 percent compares with a corporate tax rate of 35 percent, which is low by international standards. However, before action is taken it may be necessary to evaluate the impact of an increased corporate tax rate on foreign investors.
- (iv) the funding system of local governments needs to be reviewed. Currently the three major towns are to a large extent self-supporting financially, mainly through property taxes and local income tax, while rural districts rely heavily on Central Government grants. Those transfers are targeted to grow by an annual rate of 9.5 percent, which is the second fastest growing expenditure item in the recurrent budget. An increase in local taxes in the rural districts, coupled with a reduction in the dependence on Central Government grants, would certainly be conducive to local democracy and accountability. However, this would also require careful evaluation of the efficiency of tax collection procedures, particularly in rural areas, since some taxes seem to cost nearly as much to collect as they yield in revenues.
- (v) more attention should be paid to cost recovery programs. In the health sector, medical fees and charges have not been revised since 1975. In the education sector, only a negligible amount of

the bursaries is recovered; graduates have to repay only 5 percent of their income for five years. In the housing sector, arrears on service levy and building material loan payments under low-income housing programs are a major problem; further, although this does not affect the budget directly, BHC charges rents which are below economic levels. In the transportation sector, cost recovery from road transportation is an area of concern. Road users are charged through various fees and permits as well as through a sales tax on petroleum. Despite ad hoc adjustments from time to time, taxation of road transportation has declined considerably in real terms in recent years; further, the maintenance costs for the roads during NDP VI are projected to exceed revenues from road users by a wide margin.

3.28 Although this list is not exhaustive, it shows that there are a number of areas where the revenue system could be improved to broaden and stabilize the revenue base and improve the overall efficiency of the revenue system. With respect to generating more revenue, an objective which will become important only over the medium and long term, the revenue measures cited above suggest that the sources should be ample to deal with the Government's financial needs beyond the current Plan period.

(iii) Expenditure

3.29 As set forth in NDP VI, total expenditure including lending will grow by an annual rate of 4 percent, leading to a slight decline in the share of government expenditure in GDP by 2 percentage points to 42 percent in 1990/91 (see Table 3.5). The Government's share in total expenditure remains high compared with other African countries, reflecting the large amounts of mineral royalties and other revenues going through the Government budget. The structure of expenditure will shift, however, towards recurrent expenditure; the share of recurrent expenditure in total expenditure will increase from 55 percent in 1985/86 to 64 percent in 1990/91, reflecting a leveling off of capital expenditure, while recurrent expenditure will grow steadily. This change in the structure of expenditure highlights the close attention that was given to the recurrent budget implications of investment expenditure in the plan.

3.30 Ministerial recurrent expenditure (i.e., excluding interest payments), are projected to increase by an annual rate of 6.8 percent compared with about 10 percent during the previous plan period. As discussed earlier, the overall ceiling for ministerial recurrent expenditure has been determined not only by financial but also by manpower considerations. Clearly, the projected sharp drop in the growth rate of government revenue and grants from the 12 percent actually recorded during NDP V make it necessary to constrain the target rate for recurrent expenditure growth. But, more important, since at Botswana's current stage of development, an expansion in recurrent expenditure necessitates a nearly equal expansion in manpower, the containment of the targeted growth

3.33 The Plan projects capital expenditure including lending to average Pula 316 million per annum during the plan period (Table 3.6). The Plan identifies five categories of capital expenditure and lending: ministry expenditure (170 million p.a.), self-liquidating projects (40 million p.a.), drought projects (average 6 million p.a.), on-lent aid funds (54 million p.a.) and lending to parastatals (54 million p.a.). Ministry expenditures comprise projects undertaken by ministries which have implications for the recurrent budget in terms of supplies, maintenance and staffing. Thus, they are constrained by the growth of recurrent expenditure. An analysis of capital and recurrent expenditure undertaken by the Ministry of Finance indicates that, in recent years, each P 25 million increase in capital expenditure results in a one percent increase in the growth of recurrent expenditure. Assuming that this overall ratio will reflect an adequate accommodation of the recurrent cost requirements for future investment programs of the Government, a recurrent expenditure ceiling of 6.8 percent constrains the level of development expenditure to P 170 million a year. However, the Government felt that its financial position during NDP VI would allow for higher capital outlays. Therefore, the category of self-liquidating projects was introduced. The projects are capital expenditures without significant recurrent cost implications. Thus, total annual development expenditure is targeted to average around P 210 million during NDP VI, comprising P 170 million ministry expenditure and P 40 million self-liquidating projects. A detailed list of all envisaged individual projects, including project summaries which also indicate the project's recurrent cost implications can be found in part II of the Plan document. About two thirds of total ministry expenditure have been allocated to three Ministries: Works and Communications, Education, and Local Governments and Land.

Table 3.6: Composition of Capital Expenditure including Lending, 1985/86 - 1990/91
(in millions of Pula at 1985/86 prices)

	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91
Ministry Expenditure	170.0	170.0	170.0	170.0	170.0	170.0
of which:						
Works and Communications	(55.0)	(55.0)	(55.0)	(55.0)	(55.0)	(55.0)
Education	(33.0)	(33.0)	(33.0)	(33.0)	(33.0)	(33.0)
Local Gov. and Land	(22.0)	(22.0)	(22.0)	(22.0)	(22.0)	(22.0)
Other projects	30.0	34.0	38.0	42.2	46.5	50.8
Drought projects	20.0	10.0	5.0	0.0	0.0	0.0
On-lent Aid Funds	68.0	88.2	42.2	37.6	37.6	50.9
Net Lending to Parastatals	47.9	48.0	45.9	42.5	41.8	50.5
Total capital expenditure including net lending	<u>335.9</u>	<u>350.2</u>	<u>301.2</u>	<u>292.3</u>	<u>295.9</u>	<u>322.2</u>

Source: NDP VI

Table 3.5: Expenditure and Net Lending, 1985/86 - 1990/91
(million of Pula at 1985/86 prices)

	<u>1985/86</u>	<u>1986/87</u>	<u>1987/88</u>	<u>1988/89</u>	<u>1989/90</u>	<u>1990/91</u>
Recurrent Expenditures	382.0	406.7	435.7	465.4	497.6	532.2
Development Programme	288.0	302.2	255.3	249.8	254.1	271.7
Interest Paid	25.0	34.9	43.9	48.1	48.1	45.4
Net Lending to Parastatals	47.9	48.0	45.9	42.5	41.8	50.5
Total Expenditure	<u>742.9</u>	<u>791.8</u>	<u>780.8</u>	<u>805.8</u>	<u>841.6</u>	<u>899.0</u>

Source: NDP VI

in recurrent expenditure reflects the Government's efforts not to crowd-out the private sector by absorbing too large a share of scarce skilled manpower. The plan projects an annual growth rate of 7 percent for the skilled and professional levels. The projected growth rates of GDP and the Government's contribution to GDP are 4.9 percent and 5.1 percent respectively.

3.31 The departmental allocation of recurrent expenditure varies widely (see Table 3.1). As discussed earlier, the high growth items are: education (10.5 percent per annum); grants to local authorities (9.5 percent); railway transportation (from no expenditure in 1984/85 to P 14 million in 1990/91); and health (6.4 percent). For most of the other departments, the recurrent expenditure ceiling is much lower; it averages around 3.4 percent, which is the expected rate of growth of population.

3.32 The Plan assumes the maintenance of real wages and salaries for government employees. However, merit increases may be granted from time to time and grade promotions will continue and structural increases such as that scheduled for April 1986 may take place. As pointed out above, the expenditure provisions do not take into account the recent change in the Pula rate which, to the extent the import-weighted effective exchange rate has also depreciated, may require higher expenditures for imports. For this and other reasons discussed below, the ceilings on the recurrent budget for some sectors may be difficult to sustain. The projections for interest payments are also based on exchange rates which do not reflect the recent devaluation of the Pula. Interest payments will, therefore, exceed the Plan projection by a wide margin, particularly since most interest on long-term debts are denominated in currencies other than the Rand. Finally, it is not clear what the long-term liabilities arising from the pension scheme are; the Government might wish to consider setting up a special pension fund.

3.34 Based on the assumption that the current drought will end soon, provision for drought relief expenditure has only been made for the first half of the plan period and at declining rates, totalling P 35 million. However, the Plan's intention to phase out drought relief measures as soon as the drought ends may prove to be overly ambitious since many of the drought relief programs have an open ended character. Already the Government has experienced the internal political pressures which can be brought to maintain drought relief programs. The Government may thus find itself in a position where it has to take over the funding of relief programs, currently financed by donors, who, with the end of the drought, may discontinue that form of assistance. Therefore, the Government should establish and communicate to recipients clear and fixed criteria for the conditions under which drought relief will be provided to particular areas.

3.35 On-lent aid funds are related to the investment program of the parastatals. A large share of their projects is financed by borrowing from donors. Insofar as the donors request the lent funds to be channeled through the Government accounts, they appear in the plan as on-lent aid funds to parastatals. They are projected to average P 54 million per annum during NDP VI, stemming largely from the construction of the Moropule Power Station, and loans to the Botswana Telecommunications Corporation and to the Water Utilities Corporation. Another financing source for parastatals is borrowing from the Government. Government lends to parastatals through the Public Debt Service Fund (PDSF) and the Revenue Stabilization Fund (RSF), both of which are financed through the budget. The PDSF is financed by an appropriation from the original budget. Ex-ante surpluses after transfer to PDSF are transferred to the RSF. Government lending to parastatals is projected to average around P 45 million per year. Parastatals are involved in a large investment program which is, however, only partially reflected in the Plan. The present system of parastatal management allows the necessary degree of autonomy from government interference. However, analysis of the aggregate impact of parastatals (e.g., for external financing and debt servicing requirements) would be facilitated through consolidated accounts which could be presented on the Plan documents.

3.36 Overall, the capital budget appears to be well-conceived. However, it is based on exchange rate assumptions which are not based on current levels. In order to implement the projects included in the Plan as envisaged, expenditure allocations including lending may have to be increased somewhat, largely depending upon the import content of the investment projects and the degree to which the import-weighted exchange rate has depreciated. To a some degree this problem may only be a question of accounting, since at current exchange rate levels external projects assistance and foreign borrowings in Pula terms will also increase. Mission projections presented in Table 3.4 assume that capital expenditures including lending will exceed Plan projections by approximately 5 percent as a consequence of effective depreciation of the Pula. The mid-term review of the Plan and the annual budgeting exercises will have to determine the extent to which actual allocations will have to increase.

(iv) Borrowing

3.37 The base case predicts that substantial government borrowing will be needed only toward the end of the plan. If in addition to the on-lent aid funds, 30 percent of the ministry capital expenditure were financed from external sources, the Government would accumulate sizable amounts of deposits, albeit at a declining rate, with the Central Bank through most of NDP VI. If there were a sharp rise in the overall budget deficit, as projected in the base case for 1990/91, it would necessitate a considerable draw down of domestic deposits, amounting to about one third of total borrowing requirements in that year. Although in terms of flows, the Government would be a net user of funds from the domestic banking system in 1990/91, it would, in terms of stocks, only slightly change the significant feature of Botswana's banking system of the Government being a net supplier of funds. According to mission estimates, the Government will accumulate deposits with the Central Bank throughout the whole Plan period, largely reflecting the higher inflow of foreign funds in Pula terms. The Plan projects Government's external debt service as a percentage of exports to increase from 3 percent in 1985/86 to 5 percent in 1990/91. Concurrently, the parastatals' external debt service is estimated to grow from 2 percent in 1985/86 to 6 percent in 1990/91. Bank projections (see Table 2.2) foresee total debt service increasing to 7 and 9 percent by 1990 and 1995, respectively. These projections represent a sharp increase in debt servicing, though not one which is out of line with requirements or the capacities of the Government to handle.

3.38 On balance, therefore, it appears that the projected level of resources flowing to the Government during NDP VI will exceed the envisaged expenditure program. Notwithstanding this surplus, the longer-term outlook, which foresees movement toward budgetary deficits given current expenditure growth estimates, suggests that the Government would be well-advised to use this breathing space to review the traditional revenue sources and to explore new ones. Increased emphasis must be placed on cost recovery both for its revenue and efficiency implications. Also, and more importantly, the tax base has to be broadened in order to reduce its vulnerability to external shocks and make it more elastic with respect to inflation and economic growth, even if initially low rates imply only small collections. On the expenditure side, no major reallocations among sectors are proposed, though the following sectoral chapters suggest some policy changes which may entail some increased expenditure or sub-sectoral reallocation. This points to the need to pay even more attention to scrutinizing investments closely to ensure that only investment projects having acceptable economic returns are undertaken. In the short run, however, particularly given the exceptionally high expected budgetary surpluses in the next few years, the Government should make special efforts to identify further development projects which have little or no recurrent cost implications (i.e. self liquidating projects) and which could be implemented in this Plan period. Recognizing that manpower limitations are the binding constraints on increasing other investment and recurrent expenditures, it would be particularly beneficial if efforts were made to identify SLPs or other expenditures which could be justified in the human

resource development area. Special effort should also be made to ensure that ongoing programs, again particularly in the human development sectors, have all required supplies (e.g., books, medical supplies) to run efficiently.

CHAPTER IV. DEVELOPMENT POLICY AND PUBLIC EXPENDITURE
IN AGRICULTURE

A. Introduction

4.1 The agricultural sector is more important to Botswana than its relatively small share of GDP -- 7 percent in 1985 -- would indicate. Despite lower production in recent years due to the drought, agriculture plays a significant role as an employer for most of the rural population. The Government recognizes the limits of agriculture and has continued to encourage employment generation in non-agricultural sectors. Realities appear to dictate, however, that a large proportion of the rural population will be dependent on agriculture for the foreseeable future. Exploitation of the country's non-renewable natural resources allows the agricultural sector to receive a net transfer of financial resources. But investment of these resources in agriculture, in the long-run, needs to be as cost-effective as possible and must be targeted at assisting the rural population to improve and then sustain increased productivity. Presently, a large amount of attention is given to assisting farmers who require technical support, incentives and assistance in provision of inputs and on-farm investments. Within this context the present expenditure program shifts emphasis toward arable agriculture as a means of achieving higher production and providing employment opportunities. In NDP VI, programs aimed at the small traditional farmer are continued, and new programs directed at medium farmers and irrigated production are to be instituted.

4.2 Although Botswana's land area is relatively large (600,000 km²), most of it consists of arid and semi-arid regions that are unsuitable for arable agriculture; about two-thirds of the country's land area is covered by the savannah grasses and thorn bush of the Kalahari Desert. Consequently, most of the population of just over one million have settled on about 10 percent of the total land area in the catchment areas of the Limpopo River, along the country's eastern border with Zimbabwe and South Africa. However, even in these more habitable areas, the climatic conditions are not particularly favorable to arable agriculture. Droughts occur regularly, often in successive years, and the average annual rainfall, even in these preferred areas, is only about 350 mm to 550 mm.

4.3 Of the approximately 80,000 farming households in the country (down from 85,000 in 1981), about 75 percent are engaged in traditional farming on the tribal lands of some 37 million ha. Many of these households grow crops for subsistence as well as holding cattle which are grazed communally. However, an estimated 50 percent of farming households do not hold any cattle, even as draft power, and depend solely on off-farm incomes or crops for their subsistence. Of the 360 commercial farms on freehold land, approximately 200 specialize in cattle production while the remainder raise both crops and cattle; even on these mixed farms, however, cattle production usually predominates.

4.4 The average farm family on tribal land plants up to about three ha under sorghum, maize or millet. Most of these families use oxen for

draft power (about one-half of these farmers, who do not own draft power, either share or hire) and yields may be as low as 150 to 300 kg/ha for sorghum, maize and millet in a normal year, as compared, for example, with Malawi, where rainfall averages are much higher, which produces about 800-1,000 kg/ha. It is estimated that in an average year, only about 30 percent of the traditional farm families produce enough for their own needs.

4.5 The cattle which graze on tribal land account for about 2.3 million head, or about 85 percent of the total herd of approximately 2.7 million. However, most of the herd, which is held on tribal land, is actually owned by people living outside these areas, either by freehold ranchers or by urban residents who depend mainly on other jobs for a living. The freehold ranchers who own and hold about 0.4 million head of cattle, are known to graze a large number of cattle on tribal land where they operate cattle posts (boreholes at which the watering of cattle takes place).

(1) Agricultural Performance

4.6 The overall performance of the agricultural sector has been dominated by the drought. Agricultural value added in real terms has declined for 7 consecutive years since 1977/78. The substantial drop in agricultural output is largely due to the decline in crop production as shown in Table 4.1 below. Total annual production of the three main cereals -- sorghum, maize, and millet -- varies greatly, with production at best about half the national requirement during normal years and falling seriously short in drought years. However, NDP VI notes that a declining trend in basic food production is discernible above the fluctuations due to drought. The fall in output of arable agriculture has resulted in a large number of farmers not producing enough to meet their caloric requirements and having to supplement their diets with food purchased or obtained through government relief programs.

Table 4.1: Production of Major Crops, 1979 - 1984

	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Sorghum '000 tons	4.3	29.1	28.3	3.8	5.2	5.7
Maize '000 tons	2.3	11.6	21.4	12.4	8.5	0.5
Millet '000 tons	0.9	2.9	1.8	0.5	0.4	0.7
Beans & pulses '000 tons	1.0	1.8	2.7	0.5	0.3	0.4
Total production	8.5	44.8	54.2	17.2	14.4	7.3

Source: Ministry of Agriculture, Statistical Bulletin.

4.7 To meet its domestic cereal requirements, Botswana's food imports have risen accordingly to 170,000 tons of cereal in 1983/84. Food aid meets less than 20 percent of the total need. In terms of value, however, as Table 4.2 below shows, food imports represent a small share not only of total imports, but also of export revenue.

Table 4.2: Cereal Imports and Percentage of Revenue 1980-84

	<u>1980/81</u>	<u>1981/82</u>	<u>1982/83</u>	<u>1983/84</u>
Cereal imports '000 tons	79.4	111.0	173.6	170.0 ^{1/}
of which food aid	9.2	4.9	24.3	31.3
Value of imports of cereal & milled products (P)	20	23	27	59
as % of total imports	5	4	5	7
as % of export revenues	8	7	7	7

Source: Report on the National Food Strategy, MOF.

^{1/} Estimated figure.

4.8 In contrast to arable agriculture, the livestock subsector has expanded rapidly in terms of numbers, offtake and beef sales. The national herd has increased significantly over the last two decades, from 1.4 million in 1964 to about 2.7 million in 1984, with a peak of approximately 3 million before the drought in 1979 (Appendix 7.5); the number of cattle slaughtered also increased from 228,000 head in 1979 to 239,000 in 1984; and the value of beef and beef products increased from about P38 m in 1979 to P120 m in 1984. The expansion of the subsector can be attributed to (a) attractive prices which reach the final producer; (b) a physical environment relatively favorable to livestock; and (c) government support and incentives.

(ii) Agricultural Constraints and Potential

4.9 The most serious constraints affecting agricultural production in Botswana stem from sparse rainfall and poor soils. Under these environmental conditions, not much can be expected in terms of marketable crop surplus from dryland farming with the prevailing technology. Irrigation, particularly through large-scale operations, has some potential to increase production, but irrigable areas are limited. While conditions favor livestock production, in some respect, as stated above, the cattle population is near the upper limit of its carrying capacity under present levels of management.

4.10 Botswana has had below average rainfall or droughts since the 1978/79 season. The effect of these rainfall levels on rural activities has been devastating. The number of households holding land fell from 70,000 in 1980 to 59,000 in 1984 and the number of households engaged in planting over this period dropped by about 30 percent. Total cereal production fell to its lowest recorded level of about 7,000 tons in the 1983/84 season. The drought also affected grazing conditions and watering points which led to livestock weight losses and high cattle mortality. The cattle mortality rate rose from about 13.8 percent in 1980 to 19.3 percent

in 1984 for the traditional farmers and from 3.9 percent in 1980 to 10 percent in 1984 for the commercial farmers (Appendix 7.6). During NDP V, the Government had to allocate about P14 m to MOA for various relief measures. However, drought is not a new phenomenon in Botswana. Any assessment of the natural resources of Botswana's soil and climate concludes that the potential for dryland farming is limited given current technology. Soil quality is low and the high sand content is partly responsible for the high evapotranspiration rate. The low and erratic rainfall coupled with extreme and rapid changes of temperature adversely affects both planting and germination. Other constraints affecting arable agriculture include lack of high yielding, adaptable, short season varieties of staples and lack of draft power at the time required.

4.11 In light of the very limited increase in production from dryland farming, irrigation has often been mentioned as a potential solution to the problem. There are two main sources of surface water in the country: the Limpopo River and its tributaries in the east and the Okavango Delta in the northwest. Expansion in the use of the Limpopo, which is also used for irrigation by Zimbabwe and South Africa, will require agreement between the countries concerned regarding water use. The Okavango Delta, although relatively inaccessible, is a natural swamp with large quantities of seasonal water. Other areas mentioned include Lake Ngami River, Chobe River, Boteti River and Kasane Kazungula Triangle. Although these water resources have not yet been the subject of a careful study, the costs of developing them for irrigation purposes are expected to be high. While ground water in some areas may be tapped for cattle and crops, the potential of distributing the larger quantities required for irrigation has not yet been determined.

4.12 Currently there are about 1,100 ha of land under full irrigation, mostly on freehold land in the Tuli Block along the Limpopo. The main crops grown are wheat, cotton, citrus and vegetables. While the Tuli Block farms have potential for increased crop production, at present cattle ranching is by far the most prevalent enterprise. Evidently there are farmers now possessing land in the Tuli area who would move land into crop production if the right signals were received. Currently, increased crop production is limited due to lack of basic infrastructure and services. Road links are often inadequate, preventing easy access to inputs and produce; domestic marketing facilities catering to a large volume of production are limited or unavailable. Power transmission lines are non-existent in some places, and power is priced above economic levels (see Chapter VI), leaving irrigation to rely on expensive diesel for power generation. Further study of crop marketing is required, and preparation work needs to be carried out for an integrated project or a coordinated set of projects which would enhance the production capability of the Tuli region by providing increased and upgraded infrastructure and marketing support.

4.13 Botswana is in many respects cattle country. There are few areas where cattle do not graze, and under the current management system, most areas have either reached or will soon reach their maximum sustainable capacity. The communal tenure system encourages overgrazing and provides a

disincentive towards modern management techniques, and drought conditions exacerbate the situation further in terms of range degradation. Further production growth in the subsector, if it is to be achieved, will have to come primarily from increased offtake derived from more efficient use of land resources and not from growth of the herd.

B. Agricultural Strategy

4.14 For more than a decade, Botswana's basic strategy for development depended upon achieving quick and large returns from capital investment in diamond mining and reinvesting those returns in infrastructure and social services. In addition emphasis has been given to strengthening the productive beef industry which enjoys preferential access to the European Common Market. However, the mining and beef industries have not been significant sources of employment for an expanding labor force, and almost half of the rural population remains in poverty despite government efforts to increase access to education and other social services. Against this uncertain background, the Government sees agriculture, particularly the arable subsector, as a key area for employment creation, income redistribution and increases in income.

4.15 The Government recognizes that the severe drought that has affected Botswana for the last four years is not an exceptional but a recurring cyclical phenomenon that should be anticipated in the long-term development of agriculture. This has now been incorporated in the National Food Strategy (NFS), supported by the Plan, which aims at achieving recovery in food production, establishing a food-grain reserve and giving priority to irrigated agriculture to reduce fluctuations in year-to-year output.

4.16 To achieve these objectives, policies for developing agriculture will focus on provision of adequate technical support (extension and research), incentives (producer prices and marketing facilities), and various programs to provide inputs and on-farm investments on a subsidy/grant basis. These programs formulated for different groups of farmers are the Government's main interventions to counter some of the constraints to expanded agricultural production. The main new emphasis of NDP VI is on large-scale irrigation and subsidized infrastructure for middle-size and commercial farmers.

(i) Government Incentives and Assistance Programs for Agriculture

4.17 To encourage agricultural crop production, the Government, through the Botswana Agricultural Marketing Board (BAMB), has established floor prices for the major crops, based on prices of imports from South Africa. However, producers are free to sell above the established prices. As Botswana is a member of the South African Customs Union, agricultural products (excluding those from livestock) move freely across borders. There are no subsidies for consumers. BAMB, as a last resort purchaser of

grain, maintains input stores and storage depots at strategic remote areas. Botswana, through the Botswana Meat Commission (BMC), has one of the best organized marketing systems in the world for its beef and beef products. Approximately 85 percent of the country's beef production is exported and producer prices reflect the returns from overseas sales. About 50 percent of the export market sales are to EEC, where prices tend to be 25-30 percent higher than the average world prices.

4.18 The current approach to research concentrates on the farming system and commodity base, emphasizing drought avoidance strategies such as early maturing varieties of food grains. The formulation of reliable and financially attractive technical packages is extremely difficult in the harsh natural conditions of Botswana. As a result, no significant achievements in arable agriculture have emerged despite the continued existence of several programs. These various research activities, supported mainly by donor agencies, are being carried out in a disjointed manner. The key to research in Botswana is setting priorities and the various on-going activities need to be integrated and expanded into a research program that directly supports the Government's objectives for the sector. The Farming System Research Program (FSRP), which is looking at activities that will lead to identification of plant varieties and techniques less vulnerable to drought, seems to have produced some success, but only in a limited area. This program, therefore, may require wider coverage than hitherto. Notably lacking from the research program is the development of water-retention technology, which needs to be a high priority. There is also the need to identify technologies already developed elsewhere and to speed-up their adoption by farmers. Botswana has a good research program for livestock, and an extensive data base in livestock production. However, as the problem of range degradation becomes more critical, research effort is needed to develop a program to monitor the effect of continuous heavy grazing on carrying capacity and production under different management systems.

4.19 The role of the extension service is stressed in the Plan. It is charged not only with responsibility for delivering innovative technologies in agriculture, but also with the delivery of some of the programs of financial assistance. Extension efforts on crop husbandry have had minimal impact so far. Lack of improved packages to present to farmers is a major factor in this. The widely scattered farming population and vast amounts of territory make the work of the extension field staff difficult. Lack of career incentives, compounded by a rapidly expanding workload, makes a good extension agent in the MOA susceptible to better offers from the parastatals and commercial banks. The Government should review the remuneration packages of the extension field services and make the necessary adjustments to enable the MOA to retain and recruit competent staff. While provisions for housing and transport of agents are included in the plan, the expanding workload may also require more systematic programming of extension workers' visits with farmers and supervisors. Work plans for extension staff should be drawn up and adhered to.

(ii) Arable Programs

4.20 The Arable Lands Development Program (ALDEP), introduced in 1979, remains a key program through which the Government is attempting to remove some of the known constraints facing the poorer traditional farmers. These farmers are defined as those holding less than 10 ha of land and owning less than 40 head of cattle, with a potential individual investment capacity of under P2,000. ALDEP's assistance to farmers is provided in the form of draft power, farm implements, fencing and water tanks. Initially, financing of the various packages consisted of loan/subsidy to farmers. Because of poor credit repayments and low farmer participation, the Government, since October 1983, has revised the financing plan to an 85 percent government grant^{1/}. Since the change, the number of participants has increased significantly: before October 1983, only 2,225 packages were distributed whereas between October 1983 and June 1985, 6,297 were distributed. However, of all the packages distributed in the last two years, 59 percent were for fencing and only 22 percent and 18 percent were for farm implements and draft power, respectively. Implementation of ALDEP rests largely with the extension staff, who are required to identify beneficiaries, process applications, and distribute the packages.

4.21 Even with the large grant component ALDEP has not moved as fast as the Government had anticipated. The reasons for this include the drought, the problems of the extension staff and the lack of promising technical packages. ALDEP represents a worthwhile effort to help poorer farmers undertake on-farm investments which they would not have been able to make through their own resources. However, only after the current drought is over will it be possible to measure its achievement over the past years.

4.22 A new program, the Accelerated Rainfed Arable Program (ARAP) similar in concept to ALDEP was introduced in September 1985. ARAP is conceptually directed towards intermediate or medium-scale dryland farmers though the ALDEP target group, small-scale farmers, are also eligible for assistance. The program includes: grants for destumping, draft power hire for ploughing, row planting and weeding, input procurement and distribution (sorghum and millet seeds, fertilizer), communal water development for crop farming, and an 85 percent subsidy for fencing. The maximum land area for assistance has been set at 10 ha, except for the supply of free fertilizer for plots of land up to 3 ha. The fixed amount given for different activities seems to represent 100 percent of cost, at least up to the 10 ha specified. As in the case of ALDEP, implementation of ARAP will rest with the extension staff.

4.23 Further assistance to farmers is provided through an array of other programs including the Agricultural Relief Programs (ARP). This program has an expected life of one year (1985/86) by which time it is hoped that the drought will be over. Among the drought relief measures are: a free seed distribution scheme, 85 percent subsidy for draft power

^{1/} Except for the oxen component of the draft power package, where financing is on the basis of 60% grant and 40% farmers' contributions.

and grants for destumping. To regain former levels of production after the drought, a program called the Post Drought Recovery Program (PDRP) has been included in the Plan. According to the Plan, this program will provide subsidies for hire of draft power, purchase and distribution of supplementary seed and fodder supplies, payment for destumping of arable lands and other measures which can be considered appropriate to the recovery period. Indirect assistance to farmers under ARP also includes the Labor Based Relief Program (LBRP) which offers short-term work opportunities to the rural population who are paid a daily wage of P2 for their labor in rural infrastructure schemes identified by the villages through village development committees. Projects that have so far been undertaken through LBRP include: construction of dams and airstrips, clearing of minor roads, erection of drift fences for grazing management and clearing of firebreaks. When directed particularly at construction of small dams, other water retention devices and other productive purposes, this program appears beneficial both in terms of employment creation and its impact on production capability.

4.24 While the programs to boost dryland agriculture may have some productive impact, they appear more important as measures for income redistribution than for agricultural development. It does not seem likely that these programs can generate large increases in rural employment or incomes. In the case of Botswana, some subsidization of the poorest farmers may be justified given the availability of resources and when there are reasonable prospects that recipients could become more self-sufficient in food production or could otherwise benefit from better nutrition through increased production at the farm level. These programs must be kept under review, however. Programs, such as ARAP, directed at higher income groups, should be justified on economic grounds.

4.25 In general, these programs seem to have been formulated without adequate consideration of possible duplication of coverage and disparities in benefits. For example, the ARAP program provides an outright grant for the better-off intermediate farmers, while the poorest farmers under ALDEP must contribute financially through a downpayment. One major point of concern is the degree of overlap among ARAP, ALDEP, PDRP, and DRP, all of which provide similar packages and, to a great extent, to the same groups of farmers. There would be advantages in consolidating these programs, or at the least coordinating and harmonizing the different activities, to avoid duplication and allow for better implementation. Of particular urgency is a decision on which of the drought relief measures should be maintained in a post drought situation.

4.26 There is some indication, as noted in NDP VI, that there may be a declining trend in basic food production over and above the fluctuations that can be attributed to drought. A determination of whether this indeed is the case would seem to justify a comprehensive study or survey. Such a study could be useful in determining assistance packages for different levels of farmers. There are many factors contributing to the lack of participation and/or low productivity by farmers in Botswana. Some of these factors (as indicated earlier) are known, and are being addressed through the various agricultural programs. However, a downward trend in production would seem to suggest other unresolved issues and/or need for alternative methods of motivating farmers.

(iii) Irrigation Potential

4.27 Because of the drought and the desire for food self-sufficiency/ food security, the possibility of exploiting irrigated agriculture is being stressed to a greater extent than hitherto. During the Plan, a series of studies will be undertaken to determine the potential for irrigated agriculture based on Botswana's rivers and groundwater resources. In an effort to encourage private investment in irrigation, a number of feasibility studies will be undertaken for commercial schemes in the Chobe River area and south of the Okavango Delta. Private investment will also be encouraged through the Financial Assistance Policy (FAP) which offers assistance to commercial farmers for irrigation. FAP provides a grant covering a proportion of the initial capital cost. Up to this point, however, very little FAP funds have been used for irrigation. Infrastructure improvements (roads) will be undertaken mainly in the Tuli Block areas. The Molapo Development Project, which was initiated in 1983 -- for small scale irrigation -- will be continued, and an Irrigation Development Unit will be established within the MOA.

4.28 Commercial irrigated agriculture has a role in agricultural development in Botswana. Farmers using irrigation are likely to be producing higher valued crops, which could earn valuable foreign exchange and offset expenditures on food imports. In light of lack of experience of developing irrigation, however, the Government needs to proceed cautiously and should avoid the possibility of spreading its efforts too thinly. For the near future, concentration in the Tuli Block area, for example, which is already being developed with reasonable success by commercial farmers, could generate information and experience which would be valuable for the long-run development of irrigation. While cattle ranching is currently the dominant activity in these farms, farmers could eventually expand their crop acreage. The Government could increase crop production through provision of infrastructure, services and the negotiation of water rights on the Limpopo. With respect to marketing, there is a need to analyze the potential for export and processing facilities given the limited domestic demand. The other two areas identified for irrigation development, even if proven viable agronomically, are a considerable distance from markets and service centers. Moreover, the development of land around the Okavango Delta must proceed cautiously because of the fragile environmental balance of the area. Conceptually, small scale farms have more potential for creating employment than large holdings. The Molapo pilot program, if successful, would offer a basis for replicating the approach elsewhere. However, experience elsewhere in Africa, raises doubt about the viability of smallholder irrigation schemes. Further study of the economics and employment creation of small and large holdings is thus required.

(iv) Agricultural Diversification

4.29 In addition to the promotion of arable and livestock development, the Plan supports the diversification of agriculture in a number of areas including: small stock, poultry and eggs, dairy products, horticulture,

forestry and fisheries. These enterprises, seem to present viable economic alternatives to dryland crop production. Small stock provides an important source of income and nutrition in rural areas. They are relatively drought resistant and suitable for small production units. The promotion of poultry and egg production has had some success, particularly around the cities, and imports of these products have been reduced to only 5 percent of total requirement. A major constraint to expanded poultry production, however, is the availability of quality feed. The overall constraints for these enterprises are in the areas of marketing, processing facilities, inputs and technical know-how. There would seem to be scope for a study that would among other things, examine the potential for smallstock and their interaction with crops/livestock (mixed farming). The study should include accurate assumptions about trends including demand and supply situations.

(v) Food Self-Sufficiency and Grain Reserve

4.30 Food self-reliance is conceived as a priority within the NFS and NDP VI. In the long run, the Government hopes that investments in both dryland and irrigated agriculture will lead to self-sufficiency. As a medium-term objective, the Government intends to achieve food security during the Plan period by maintaining 30,000 tons of strategic foodgrain reserve and an adequate foreign exchange reserve. While the Government justifies these policies on the political uncertainties in the region, it must also recognize their economic costs. Given the substantial magnitude of its food deficits, as well as ecological constraints and uncertainties of growing foodgrains through irrigation, it will be extremely difficult for Botswana to achieve the high rates of growth in foodgrains implied by the goal of self-sufficiency. Also, as indicated earlier (para 4.8), the import of food does not necessarily represent a heavy burden on the country's foreign exchange. With regard to maintaining a 30,000 tons food reserve (roughly three months' of commercial imports in a non-drought year), the Government needs to evaluate this proposal carefully, as this could result in higher costs and inefficient turn-over of the stored grain.

(vi) Livestock Programs

4.31 The Government's aim has been to promote the maximum sustainable production and income growth for the cattle industry. This policy has been backed by the Tribal Grazing Land Policy (TGLP) which proposes major land tenure reforms. TGLP, which was initiated by the Government in 1975, is aimed essentially at changing the traditional system of land tenure in the tribal grazing areas. Under this program, leasehold ranches were to be established within the tribal lands, while ensuring that adequate land would be reserved around the villages for communal grazing to ensure that "every tribesmen has as much land as he needs to sustain himself and his family." ^{2/} Thus, the intention was to replace communal grazing with leasehold ranching, except in those areas needed for draft purposes by

2/ TGLP

small subsistence farmers. On the ranches, which would be fenced, exclusive right to the use of the land by individuals or groups of individuals forming syndicates or group ranches, would be recognized.

4.32 Although the program has seen some progress, a combination of technical, political and economic constraints have limited its impact. In recent years, the emphasis has been reversed and aimed at leaving most of the tribal land under traditional tenure, while establishing some ranches, quite often on unsettled land outside, or on the periphery of the tribal areas, depending on the amount of land that is made available for ranch development by the local land boards. In addition, the land use planning procedures and land zoning have not been consistent with TLGP's original concept.

4.33 TGLP, if implemented along the guidelines of the original policy document, could achieve sustainable output of fodder from the grazing resource, which in turn could lead to an expanded level of livestock production. In an attempt to put TGLP back on its track, the Government, during the Plan, will implement a National Land Management and Livestock Project (NLMLP) which, among other things, addresses the fundamental reforms in the planning and administration of land use. In addition abattoir capacity will be increased through the construction of a new abattoir in Francistown. This will permit an increase in the slaughter offtake which has remained relatively constant because the abattoir capacity of the country has been fully utilized. It will also reduce the need for shipping the animals to Lobatse (in the south) and impoundment of animals at foot and mouth disease gates. Other programs to be implemented during NDP VI include improvement in livestock marketing facilities, which will also provide incentives for increased offtake; expansion of the cordon fence system to provide strict control of cattle movements; and a program referred to as Service to Livestock Owners in Communal Areas (SLOCA), which aims at encouraging the use of improved animal husbandry techniques and provision of livestock inputs and marketing services.

4.34 While the livestock programs seem to be basically sound, the existing differential grade pricing system for livestock producers does not create enough incentives for the majority of farmers to invest in improved range management practices and quality beef production. There is a need, therefore, to refine the package of fiscal and pricing incentives and disincentives to discourage the overgrazing of the range and to stimulate production of higher quality of meat for export. In addition, as specified in previous Bank studies, there are a number of measures which, if initiated, would lead to greater efficiency and cost recovery in the livestock subsector. For example, veterinary services costs and the costs of improving and extending the trek route system should be recovered from user charges, and current nominal TGLP land rental rates should be aligned with market values. As noted earlier (para. 3.27), the income tax system should treat agricultural and other income and capital expenditures on a horizontally neutral basis.

C. The Agricultural Expenditure Program

4.35 This section focuses on the Ministry of Agriculture's (MOA) expenditure, which represents the main avenue of public support for agriculture. However, investment in support of agriculture also includes a number of parastatals ^{3/}, donor agencies and private institutions which are not included in the Plan. Table 4.3, below, shows the forecast and outcomes for the previous Plan in comparison with NDP VI.

Table 4.3: Agriculture Development Expenditure

NDP V Planned and Actual Compared to NDP VI Forecast
(P '000)

	Planned		NDP V ^{1/} Actual			NDP VI Planned	
	Value	%	Value	%	% Implemented	Value	%
Animal health	16,733	15.5	18,703	29.7	111	4,285	5.4
Livestock development	44,714	41.2	17,722	28.1	39	7,321	9.2
Arable development	24,067	22.1	13,760	21.8	57	52,830	66.2
Research	4,621	4.2	1,609	2.6	35	1,300	1.6
Manpower training	3,689	3.4	5,246	8.4	142	310	0.3
Other ^{2/}	14,729	13.6	5,902	9.4	40	13,811	17.3
Total ^{3/}	108,445	100	62,942	100	57	79,857	100

^{1/} Excludes expenditure on drought relief projects which amounted to about P13.8 million in NDP V.

^{2/} Others include projects such as: horticulture, poultry, forestry, housing, etc.

^{3/} Excludes expenditures on drought relief projects or self liquidating projects which amounted to P14 m actually spent in NDP V and an estimated P8 m for NDP VI.

4.36 The total development expenditures allocated for MOA in the Plan of P 80 m at 1985 prices excludes expenditure on drought relief or self liquidating projects estimated at about P8 m (Appendix 7.7). This represents a slight decrease in agriculture's share in total actual development expenditure from about 7.4 percent in NDP V to about 6.3 percent in the current NDP VI. This reduction is partly a matter of accounting. Thus:

- (i) a large investment for the construction of the Francistown Abattoir will be undertaken by BMC, and is therefore, not included within MOA's budget;
- (ii) most of the responsibilities for irrigation development have been allocated to BDC and other ministries; and

^{3/} Botswana Meat Commission (BMC); Botswana Agricultural Marketing Board (BAMB); National Development Bank (NDB); Botswana Livestock Development Corporation (BLDC); Botswana Development Corporation (BDC)

- (iii) while most of the major programs implemented during NDP V are carried through during NDP VI, some major activities like the Botswana Vaccine Institute and the expansion of the Agricultural Training College have been completed;

A breakdown of the development activities and expenditures is given in Appendix Table 7.8. The figures indicate a significant shift in emphasis from livestock to arable farming, with most of the allocations going to the arable agricultural programs. Allocations to animal health and livestock development in NDP VI are estimated at only 15 percent as compared to 58 percent actually spent in NDP V. Arable agriculture accounted for 22 percent in NDP V as compared to an estimated 66 percent in the current Plan. As the core of the Government's strategy to boost dryland production, ARAP and ALDEP account for the largest share of about 54 percent of the total agricultural development budget. Allocation to manpower training in NDP VI is estimated at only 0.3 percent as compared to 8.4 percent actually spent in NDP V, reflecting the major expansion of the Agricultural College, which was undertaken during NDP V.

4.37 The MOA has been allocated real growth of recurrent expenditure of 3.5 percent per year during NDP VI, as compared to about 10.0 percent a year in the previous Plan (see Appendix 7.9). This is well below the overall growth in the recurrent budget of 6.8 percent per year. The Government has set the ceiling for recurrent expenditure growth on the basis of manpower scarcity as well as the fact that with the exception of irrigation, the newly identified programs have minimal recurrent implications. As a large proportion of the agricultural programs depend on the ability of extension agents to administer them and given that 20 percent of the extension service field posts are currently vacant, it will be important, therefore, to evaluate whether limitations on the recurrent budget are adversely affecting the implementation of some programs, particularly ARAP and ALDEP.

4.38 In view of past experience in implementing agricultural programs and the limited extension capacity, it seems that the overall allocations to arable agriculture, particularly for ARAP and ALDEP, may be too ambitious. Even if drought recedes, funds may not be disbursed as quickly as planned. Moreover, while the implementation of ARAP is planned for the current 1985/86 season, no clear directive had been sent to the field staff by the end of 1985, and there had been no reinforcement of staff to execute the new programs in addition to the several on-going ones; this spells delays in implementation. Although allocations for research are low by comparison with the past, the under-utilization of funds in NDP V and the ample availability of donor funding for research, some of which does not go through the Government's budget, seem to justify the present allocation.

D. Wildlife Conservation

4.39 The ecological system in Botswana with its variety of wildlife habitats and diversity of wild animal populations represents a unique heritage for future generations of Botswana which must be maintained. There is growing awareness both within the country and internationally, however, of the potentially detrimental impact on Botswana's wildlife and environmental resources of the country's growth and development efforts. These concerns stem from the fragility of the environment and the effects of increased land-use competition from high population growth, greater demand for limited water resources, the effects of overgrazing and movement of cattle onto lands once only occupied by indigenous and migratory wildlife. Through the years steps have been taken to set aside discrete areas of the country as national parks, game reserves and cattle free zones. At this point 17 percent of Botswana's total land area has been designated as parks and reserves with additional lands (another 17 percent of total) proposed as wildlife management areas. Problems remain, however. Parks and reserves are not necessarily self-contained ecological units, as evidenced by the seasonal migrations into non-reserved areas which continue to take place. This creates problems as wild animals must confront the growing populace and cordon fences, which have been erected to control foot-and-mouth disease, and compete for forage on already overgrazed lands. Overgrazing also results in increased risk of encroachment of cattle onto the reserved areas, putting even greater pressure on wildlife.

4.40 In NDP VI the Government recognizes that fence construction throughout the country as well as the drought have affected wildlife migration patterns and that careful planning of wildlife utilization, along with agriculture and land-use development, is essential to conserve these resources. Government policy in the Plan period will emphasize wildlife utilization as a means of promoting rural development and employment creation as well as conservation of wildlife resources. If pursued carefully under an appropriate policy regime, utilization and conservation need not be mutually exclusive. During NDP VI wildlife management areas are to be formed in which wildlife utilization would be the primary form of land use. However, to promote long-term utilization and conservation of these resources and to implement appropriate conservation strategies, the Government, through its policies and allocation of manpower and financial resources, must ensure that the Department of Wildlife and National Parks has the requisite technical and enforcement capabilities. In addition, the Government needs to ensure that adequate machinery exists for inter-governmental coordination, especially between the agencies responsible for livestock development, range ecology, wildlife conservation and management, and tourism. NDP VI calls for in-post manpower in the Department (including administrators, clerical employees and game wardens) to increase from 207 in 1984/85 to 293 in 1990/91. Authorization for this increase has already been made. The Department's recurrent budget will also increase by 6 percent per annum, from P 1.9 million to P 2.7 million (in real 1985/86 prices). These efforts must be complemented by the necessary scientific investigations to determine wildlife distribution and

size, natural rates of population increases and the effects of planned offtake so that appropriate hunting and capture quotas can be set. Only in this way can one be assured that the utilization program itself will not lead to further contraction of this valuable natural resource and heritage.

Chapter V: DEVELOPMENT POLICY AND PUBLIC EXPENDITURE IN MANUFACTURING

A. Introduction

5.1 Manufacturing in Botswana is still at an early stage of development. The sector is dominated by the activities of government agencies which, in the absence of an indigenous entrepreneurial base, have taken up the task of promoting industrial activities. The growth and development of manufacturing in Botswana is inhibited by a number of factors: a) the small size of the domestic market; b) the lack of skills in both the work force and management and absence of an industrial labor tradition; c) the high cost of infrastructure; d) competition with South African products (although there exists an option for protection under the SACU agreement); and e) the high cost of international marketing.

5.2 Most of Botswana's rural population are poor, outside the cash economy and dependent on government's development and drought relief programs. Therefore, the target market for the modern industries is the urban areas consisting of major cities and mining towns. An urban population about 200,000 with relatively low purchasing power does not appear to offer an attractive domestic market for most modern industries to achieve economies of scale in production. The situation becomes more critical when one looks at the easy supply of high quality products in the domestic market from South Africa. In other words, Botswana's industries have to compete directly with the highly sophisticated industrial sector in South Africa for the market share.

5.3 Modern industries in Botswana, in the absence of a pool of local technical and management skills, are virtually dependent on expatriates. Also, as a consequence of the lack of any past industrial tradition, the productivity of factory workers is low. In addition, high salaries of expatriate workers contribute to the high costs of production, which in turn make the domestic products uncompetitive with South African products. The development of industry in Botswana, therefore, will require careful planning of production activities and manpower, both local and expatriate workers.

5.4 Many African countries have faced similar problems in the initial stages of the industrialization process. However, these countries had the option of developing agricultural production; for Botswana that option is not readily available because of the limited production base in agriculture. Therefore, there is a strong argument for promoting manufacturing in Botswana. Furthermore, the industrial environment in Botswana does have a number of positive features to offset the problems cited above: a) the availability of foreign exchange for imports; b) a relatively stable economy which has attracted capital from other parts of Africa, primarily South Africa; c) the availability of certain raw materials for processing, e.g., animals products and minerals; and d) a comparatively undistorted policy environment with relatively free trade. The surpluses generated by the mineral sector have enabled the Government to maintain a foreign exchange

regime relatively free of restrictions, to introduce simple and attractive tax policies for non-resident businesses and provide comprehensive financial assistance for manufacturing industries.

B. Government Programs for Industry Development

5.5 The Government has established a number of institutions and programs for industrial development. ^{1/} The Ministry of Commerce and Industry (MCI) has the main responsibility for promoting and regulating industrial development through these programs. In addition, parastatals and autonomous agencies such as the Botswana Meat Commission (BMC), the Botswana Development Corporation (BDC), and the National Development Bank (NDB) have played important roles in promoting industry in the country. The results of these governmental efforts have been impressive in terms of diversification of the industrial base, capital investment and employment creation. From 1966 to 1980 only six new establishments per year began operation, compared to over fifty per year in 1982-1984.

Table 5.1: Development of Formal Manufacturing Sector 1966-84
(Number of new establishments per period)

	1966-80	1981	1982	1983	1984	Total
<u>Subsector</u>						
Meat & Meat Products	1	-	1	2	1	5
Dairy & Agro-based Prod.	2	-	1	6	3	12
Beverages	5	1	3	3	4	16
Textiles	15	7	13	9	7	51
Tanning & Leather Prod.	4	-	2	1	1	8
Chemical & Rubber Prod.	7	1	3	5	7	23
Wood & Wooden Products	5	-	1	3	5	14
Paper & Paper Products	3	1	1	2	1	8
Metal Products	19	3	7	2	6	37
Building Material	13	2	7	7	3	32
Plastics	1	-	3	4	4	12
Electrical Products	3	2	5	1	5	16
Handicrafts	1	-	2	2	-	5
Total	87	17	51	51	53	253

Source: Ministry of Commerce and Industry

^{1/} These include Botswana Enterprises Development Unit (BEDU), Rural Industrial Officer Cadre (RIO), Business Advisory Services (BAS), Trade and Investment Promotion Agency (TIPA), and Industrial Extension Coordinating Committee (IECC).

5.6 In 1984, there were 209 medium- and large-scale manufacturing enterprises ^{2/} in the formal sector with a total capital investment of P 115 million and employing more than 10,000 people (Appendix Table 10.1). Between 1978 and 1983, manufacturing sector value added grew at about 5 percent per annum in real terms.

5.7 An important feature of the industrial development in Botswana may be observed by looking at the ownership of these enterprises. Large and medium industries ^{3/} are owned mainly by expatriates or by the Government through BDC, and small-scale and rural industries are dominated by citizens. Another interesting feature is that, while the medium- and large-scale industries have expanded into a variety of production areas (see Table 5.1) over the last decade, the small-scale sector is concentrated mainly in sewing/knitting, carpentry, cement block making, shoe making and bakeries. Botswana nationals have been successful in trade and commerce. In 1984, they owned 85 per percent of the licensed establishments (Appendix Table 10.4).

5.8 The overall progress of industrial development may be attributed partly to the Financial Assistance Policy (FAP) and partly to the Government's free trade policies. FAP, introduced in May 1982, aimed at creating productive employment by offering a unified scheme of financial incentives in the form of grants to manufacturers instead of a series of subsidies to offset the high cost of utilities, housing and industrial lands, and shortages of raw materials and skilled manpower. Details of FAP are given in Annex IV of the Country Economic Memorandum (October 15, 1985). Table 5.2 summarizes the main features of the program.

5.9 The impact of FAP in general has been positive in attracting new investments and creating employment (Appendix Table 10.5). Development of large- and medium-sized industries has come mainly from expatriate investors who received support from FAP and have taken advantage of the liberal tax policies of the Government. The highest marginal rate for both resident and non-resident companies in Botswana is 35 percent. Remittances of 100 percent of profits are allowed after payment of company taxes. In addition, protection is available under the SACU agreement, though if a company elects to apply for protection, however, it will only be given in place of the FAP benefits. There are essentially two types of such infant industry protection under SACU. The first is where the tariff external to SACU is raised for an industry which could provide 60 percent of the total needs of the product within the customs union. In this instance, the industry would have free access within all areas of the customs union. Under the second type, protection to local manufacturing could be granted for 8 years through raising tariffs on particular goods entering individual member-states within SACU. Only two enterprises in Botswana, Kgalagadi Breweries and Kgalagadi Soap, have received this protection.

^{2/} Of the 259 medium- and large-scale units established since 1966, 50 have closed.

^{3/} Medium industries are defined as those ranging from P 20,000 to P 900,000 of investment and large industries over P 900,000.

Table 5.2: Main Features of the Financial Assistance Policy

Small Industry	Grants on capital investments and working capital or P 2,000 per citizen job created	
Medium-scale Industry	<u>Automatic Package</u> Reimbursements of company taxes paid, for 5 years on a sliding scale (25%-100%)	<u>Case By Case Method</u> Capital grant of P 1,000 (maximum) for each citizen job created
	Reimbursements of unskilled labor costs, for 5 years on a sliding scale (20%-80%)	Grant on sales revenues for 5 years on a sliding scale of 2% to 8%
	Training grant of P 2,500 (maximum per worker each year)	Reimbursements for unskilled labor costs and training grants are similar to those under automatic package
Large Industry	Grants are similar to those under the medium-scale industry either for Automatic Package or for Case by Case Method. They can be, and usually are, less than the formula amounts if the Government determines the higher amounts are not warranted.	

Note: a minimum of 6 percent financial rate of return is expected on medium and large projects to become eligible for grants.

5.10 The Government, through BDC, is also active in investing in the large and medium industries. BDC has invested over the last decade in a wide range of activities ranging from air-transportation to handicrafts manufacturing (Appendix Table 10.6). A major objective of government investments through BDC is to create new employment. While these investments are expected to be financially self-supporting, there are questions about the underlying economic viability. It appears that in some instances investments have been made entirely for their associated employment. The implicit shadow price of labor may well be negative in this instance. For example, the investment in sugar packing in Francistown has created 120 new jobs, but has also distorted sugar prices in the economy. The retail price of sugar has increased by 30 percent with wholesalers now paying P 606 per ton for sugar imported from Zimbabwe re-packed in Botswana. The wholesale prices in Zimbabwe are under P 450 per ton.

5.11 A large number of agencies and programs, public and private, are active in the promotion of small industries. The most important agency in this field is the Batswana Enterprises Development Unit (BEDU). The

National Development Bank (NDB) is also active in promoting small enterprises. However, the results of these efforts have been mixed. For example, a recent study ^{4/} found that of about 100 SSEs sponsored by BEDU, only 26 were successful, 30 were unsuccessful and the remaining needed additional assistance for survival. BEDU has since been reorganized and under the new organization structure Business Advisory Services (BAS) and Rural Industrial Officer Cadre (RIO) have become a part of BEDU. This step appears to be in the right direction in consolidating BEDU's work and focussing its expertise on extension services and training.

5.12 NDB is also experiencing difficulties in its "micro credit" operations due to the high costs involved in processing and supervising loans of P 500 or less. According to NDB, each of these loans costs P 211 to P 273 - an enormous implicit subsidy. This situation is further complicated by the depressing effects of the drought and NDB's problems in collection of arrears. Credit from NDB is considered costly in relation to the grants and subsidies available through ALDEP, ARAP, FAP and drought-related programs. While reducing or possibly eliminating NDB's micro operations altogether would be premature at this time, there is a need to reassess NDB's role in providing all forms of credit, including whether its lending policies and the government's policies regarding equity transfers and other financial relief are appropriate for that role. As part of this reassessment, there is a need to determine whether commercial banks would engage in smaller-scale lending and what might be necessary to promote expanded commercial activities in this regard.

5.13 Micro enterprises deserve more attention and active support both for expanding local commercial activities and for encouraging the development of Botswana entrepreneurship. However, hardly any commercial banks are supporting such enterprises. Barclay's Bank is supporting projects having a capital expenditure over P 5,000. NDB appears to be reluctant to get much involved in micro enterprises in the future. BDC has set aside 10 percent of its profits to encourage sub-commercial projects. But this fund is basically benefitting organizations such as the Forestry Association of Botswana and the Accountants Training Institute in their various pilot projects. There is a demand for capital for small and micro enterprises. But assistance is not forthcoming from the formal financial institutions primarily because those micro loans are costly to process and service. One way to overcome the problem would be to encourage micro enterprises to organize business/industry cooperatives and then apply for loans. BEDU, with the assistance of the marketing division of Tswelelo may be able to offer the required technical assistance to micro enterprises toward this endeavor.

5.14 Although a number of institutions, ^{5/} offer short-term and non-formal courses in skills training, there is a need to expand courses for entrepreneurship development. Current programs offer either technical or business management skills, but fall short of preparing participants in practical and psychological terms for modern businesses. In addition, a number of committees (Industrial Extension Coordinating Committee (IECC) and Development Advisory Committee (IDAC)) have been set up to coordinate the activities of those programs. It may be worthwhile to look into the activities of these programs and committees and then rationalize them for a more cost effective delivery system.

C. Industry Sector Expenditure Program in NDP VI

5.15 The manufacturing share of GDP in 1985 totalled about 7.4 percent. Its projected share in NDP VI will rise to almost 9 percent. This increase is based on the assumption that the two largest enterprises, BMC and the Brewery, will grow moderately (5 percent), while other manufacturing activities will grow at 10 percent per annum.

5.16 The major objectives of the Government in industry and trade in NDP VI are to encourage the growth of private sector, diversify the manufacturing base, create employment opportunities, particularly in rural areas and support citizen ownership of businesses. The main emphasis is on employment creation in the formal sector and the development of the rural sector. The Government plans to achieve the employment targets in industry during NDP VI by relying chiefly on the private sector. It intends to sustain a favorable business climate through the FAP, liberal tax policies, and providing better information on investment opportunities through the Trade and Investment Promotion Agency (TIPA) of MCI. The Government's direct investments in this sector (estimated at P 110 million) will be through BDC ^{6/} (Appendix Table 10.7). This constitutes about 33 percent of the total expected investment in manufacturing over the Plan period. This implies a heavy reliance on private sector development to meet the targets.

5.17 Based on a projected annual growth in sectoral GDP of 8.3 percent, manufacturing is expected to create more than 87,000 new jobs between 1985/86 and 1990/91 or about 55 percent of the total of new formal employment in the Plan. However, manufacturing grew at only 5.3 percent between 1978 and 1983, and the projected higher growth in NDP VI rate may

^{5/} Institute of Development Management (IDM), Partnership for Productivity (PFP), Batswana Enterprises Development Unit (BEDU), Rural Industrial Officer Cadre (RIO), Rural Industries Innovation Center (RIIC).

^{6/} P 77 million from borrowings and P 33 million from share capital and internal sources.

be difficult to achieve for a number of reasons. First, manufacturing enterprises must be supplied with manpower possessing the requisite skills. Thus growth in this sector is linked to successful implementation of Plan programs in manpower development. Second, plans for developing industries in rural areas are likely to suffer a delay due to the drought; and if the drought continues, livestock numbers will further decline with consequent shortfalls in the beef-related industries. Third, further import substitution will be difficult to achieve due to the constraints on the availability of raw materials in the economy. Fourth, the strength of the Pula, relative to the South African rand, may pose problems of competitiveness. The Government may have to accept a slower growth rate in manufacturing, and focus on entrepreneurship development which in any event is necessary on a long-term basis. There also appears to be scope for exploring further the potentials of regional cooperation through the Southern African Development Co-ordination Conference (SADCC).

D. Possible Further Action

5.18 The key elements of efficient industrial growth in Botswana are in place. There are, however, a number of extensions or modifications of the approach which should be considered. These are: (1) strengthen the project review process assessing economic viability before proceeding with BDC support or extending FAP; (2) extend FAP, on a selective basis to small-scale activities of citizens in the commerce and services sector; (3) rationalize the institutions/programs supporting industrial growth; (4) explore areas of regional cooperation (e.g., transport, heavy industries); and (5) explore the potential of agro-industrial enterprises which would make use of livestock by-products and increased arable production.

5.19 The Government's financial incentives to investors - expatriates or citizens - through FAP have been successful, but at a cost. ^{7/} The FAP, without any doubt, has attracted many investors who otherwise would not have come forward. However, the future success of the program depends on identifying entrepreneurs who will, after five years, expand and grow without FAP assistance. The Government will have to resist the temptation of assisting marginal industries by extending the period beyond five years. There is a need to train staff in project review particularly at the district level. A number of projects, both small and medium, received FAP approval but could not get off the ground because applicants later found either that the projects were not profitable or they could not raise the minimum capital needed to receive additional support from the Government. As a result, disbursements of FAP grants, among other reasons, have been less than projected.

5.20 The development of entrepreneurship among citizens has been slow. Nevertheless, a number of Botswana have become successful in trade and commerce. Government policy should recognize that participation in

^{7/} "Report on Evaluation of FAP", April 1984, MFDP.

trade and commerce is a natural route for the development of entrepreneurship in manufacturing. Consideration should be given to extending some of the benefits of FAP to Batswana nationals engaged in certain commercial and service activities such as repairs as well as to activities promoting tourism development.

5.21 A large number of agencies are involved in promoting entrepreneurship. These institutions or agencies communicate well among themselves and make people aware of their existence. Nevertheless, there is a cost in terms of overhead and use of scarce personnel. There are serious questions, for example, in whether NDB is actually providing much additional service relative to what can be received from FAP, BDC and the commercial banks. In the case of institutions serving the small-scale sector, it may be worthwhile to rationalize the activities of various groups into a more cost-effective delivery system.

5.22 Botswana's small market size and landlocked location suggest that cooperation with the neighboring countries may be a key to success of manufacturing development. Within SADCC Botswana should push for exploration of the possibilities of greater economic cooperation and interdependence in areas such as transportation and the development of basic industries in the region. This may be a strategy for industrial development which will only bear results in the longer run. But the groundwork should be initiated now. In addition, Botswana must look toward manufacturing activities which would make economically efficient use of its natural resources. Livestock by-products include a range of products which could be processed further in the country. Until this point it has evidently been financially advantageous to export hides and tallow, for example. As production of high value crops increases over time, these products represent potential inputs to domestic processing industries as well. The Government should consider how best to encourage greater domestic value added of these products.

CHAPTER VI: DEVELOPMENT POLICY AND PUBLIC EXPENDITURE
ON PHYSICAL INFRASTRUCTURE

A. Introduction

6.1 Despite its high cost, the expansion of Botswana's infrastructure base has proceeded rapidly. Roads which were virtually non-existent twenty years ago are excellent in the heavily travelled corridors and are available, though to varying degrees, in other areas of the country. In urban areas, the vast majority has access to piped water, and in villages and rural areas most of the population has access to some form of assured water supply. Domestic generation of electricity using indigenous sources of energy is increasing and is available even to an increasing proportion of the rural population. In relation to most countries, Botswana's infrastructure is for the most part well-maintained, though its pricing policies in some cases need improvement. Public utilities are efficient and well managed. Given the high costs of supplying these services to a small population spread out around the country, the emphasis has to remain getting the most out of the system. Future investment choices have to emphasize economic returns and priorities especially since they imply expanding services to the more thinly-populated areas of the country and often involve cross-subsidization paid for by consumers in the major population centers.

B. Energy

6.2 Starting from a small base, domestic production of energy in Botswana (coal, petroleum and electricity) now accounts for over half of total commercial requirements with the remainder representing imports of petroleum products and some electricity. During the years since independence, the energy sector's primary accomplishment has been to supply required levels of energy to the major growth sector of the economy: the mining industry. In the future, however, the energy sector must reorient its efforts toward serving other areas of the economy. In addition to meeting the needs of the mining sector, demand from the emerging productive sectors of the economy (manufacturing industries located in urban and rural areas), from the rapidly growing urban population, and from rural consumers (who require power for a number of purposes, including irrigation) must also be met at economic prices if Botswana is to achieve its stated objectives for the next Plan period.

(1) Background

6.3 Coal is Botswana's largest known energy resource. Its primary use is in the production of electricity, though substantial amounts are also used in the mining sector and to a lesser extent in manufacturing. No hydroelectric or geothermal potential exists. While there is some thought that there might be petroleum deposits in the Kalahari Desert area, this

is speculative and requires further geophysical investigations. Petroleum requirements for transportation, industrial and all other uses are thus met through imports. Although fuelwood is the major source of energy for rural areas, its potential is limited since woodlands in areas surrounding the population centers are rapidly being depleted. Wind power has some potential and is being used to produce power in isolated parts of the country. The climate is suited for limited application of solar technology. As in the case of wind power, more research/feasibility studies are required.

6.4 Botswana's rapid economic growth over the past two decades as well as its rapid growth in total and urban population have resulted in large increases in energy consumption. Total national demand for electricity since the mid-1970s has increased by over 10 percent per annum, most of which came from the diamond and copper industries. Over the same period demand in southern Botswana, the country's primary growth area, grew at an average of 13 percent per annum. In the last three years, demand has grown at closer to 15 percent per annum, reflecting strong demand in all sectors. Power investment is for the most part the responsibility of the Botswana Power Corporation (BPC), a wholly Government-owned enterprise. BPC's major new investment in recent years is a coal-fired plant at Morupule where generation of power should begin early in 1986. Already a major achievement of this project has been that of connecting the previously separate northern and southern electricity supply systems of the country through one primary north-south transmission line. BPC capital expenditure in 1984/85 and 1985/86 totalled over P 200 million as construction began on the first phase of Morupule. This compares with an average of only P 11 million over the period 1979/80 - 1983/84. After the Morupule units have been completed, some older coal and diesel operating sets will be retired, leaving the basic supply capacity to BPC as:

<u>Power Complex</u>	<u>Size (megawatts)</u>
Gaborone (diesel)	6 MW
Morupule (coal)	90 MW
Salebi Phikwe (coal)	80 MW
ESCOM interconnection	30 MW
Total	<u>206 MW</u>

With the addition of this capacity, demand for electricity as projected in NDP VI is expected to be met until 1988. While more recent projections of power demand show slower demand growth, the projections still show a need for further capacity by the end of the decade.

(11) Objectives and Targets

6.5 The primary objectives of Botswana's energy policy and for the NDP VI period are to reduce energy imports by maximizing use of indigenous energy resources and to provide electricity at least cost and at

prices which properly reflect resource costs. These objectives imply a substantial reorientation of past policy and emphasis and are to some extent mutually conflicting. The basic problems relate to 1) potential conflicts between current expansion plans and the goal of least cost provision of energy, and 2) the current system of energy pricing which acts as a disincentive to most uses of electricity.

(iii) Issues

6.6 Least Cost Expansion. The present long-term expansion program of the Botswana Power Corporation relies almost solely on further expansion of the Morupule coal-fired thermal power plant. Though proven coal reserves and the requisite water would permit installation of up to 300 MW at Morupule, which would supply demand within Botswana until after the year 2000, this is not necessarily the least cost solution. The Government needs to consider other options seriously to determine whether there might be lower cost means of supplying that power. Such alternatives include enlarging the scope of planned interconnections with Zambia to cover border and other areas, establishing interconnections with Zimbabwe, and increasing interconnections with South Africa. The Government is naturally concerned about possible interruptions of supply from interconnected systems, but this is unlikely if there are two or three sources of supply. In addition, if interconnection represents the least cost means of supplying electricity, consumers would benefit from consequent reductions in tariffs.

6.7 BPC's capital expenditure targets for NDP VI include construction of 3 more 30 MW units at Morupule in addition to the three units now being constructed. When the development plan was written, the fourth unit was expected in 1988, the fifth in 1990 and the sixth shortly thereafter. (See Table 6.1 for BPC's financing requirements over NDP VI). Construction plans for the fourth unit have been made, and work is already proceeding. Prior to going forward with subsequent additions to the Morupule complex, an expansion plan which sets out costs of proceeding with the various alternatives should be developed.

6.8 Pricing. Due to financial restructuring agreements between BCL, the Government and other creditors, charges for power supplied to BCL, as well as to the Shashe Dam and Selebi Phikwe pumping stations, are related to historical capital costs of the power facilities. In order to meet its financial return requirements, BPC must, therefore, compensate by cross-subsidizing with higher tariffs from all other consumers. Although BCL accounted for slightly more than one half of total electricity sales in 1985, the average electricity price charged BCL was only one third that of all other consumers (Table 6.2). This implies that on average electricity prices to non-BCL consumers are 50 percent higher, and average tariffs which BPC can charge BCL one half of which would be needed to maintain adequate financial returns.

Table 6.1: Energy Sector Power Projects During NDP VI
(Rila millions, 1985/86 prices)

	<u>1984/85</u>	<u>1985/86</u>	<u>1986/87</u>	<u>1987/88</u>	<u>1988/89</u>	<u>1989/90</u>	<u>1990/91</u>
Botswana Power Corporation							
(Moropule Complex)							
of which Units 1-3	144.6	61.5					
Units 4-6	-	4.0	15.0	41.0	21.0	15.0	45.0
Reticulation	6.0	10.0	5.6	2.4	2.4	4.0	8.0
BPF Total	150.6	75.5	20.6	43.4	23.4	19.0	53.0
Ministry Energy Programs							
Rural Power Supplies		2.0	0.9		0.1		
Oil & Gas Exploration			2.5	2.5			
Central Power Supplies		0.2	0.2	0.2	0.2	0.2	0.2
Other		1.4	0.8	0.8	0.7	0.8	2.7
Ministry Subtotal		3.6	4.4	3.5	1.0	1.0	2.9
Total Energy Sector Capital							
Expenditure during NDP VI		79.1	25.0	46.9	24.4	20.0	55.9
Total for BPC during NDP VI (1985/86 - 1990/91)					234.9		
Total Energy Expenditures during NDP VI					251.3		

Source: NDP VI

Table 6.2: Electricity Sales Yield
(thebe per kilowatt/hour, current prices)

	<u>1974/75</u>	<u>1980/81</u>	<u>1983/84</u>
BCL	2.9	3.4	4.2
Non-BCL consumers	5.2	10.9	12.3
Southern Division	5.3	11.3	12.4
Northern Division	4.8	9.8	11.9

Source: NDP VI, June 1985

6.9 The policy of cross-subsidizing BCL tariffs with increased receipts from all other consumers does not recognize the economic costs associated with this practice. It raises input prices for all direct and indirect users of electricity, hinders economic activity in other sectors, and distorts the competitive position of domestic producers. For example, since Botswana's agricultural prices are essentially given by the South African market, farmers who wish to irrigate in Botswana must use high-priced electricity or diesel to produce crops which compete with South African producers using much lower-priced electricity. Similarly, the high cost of electricity reduces the competitiveness of domestic manufactures. The government should consider reducing electricity tariffs for non-BCL users with subsidization of BCL's electricity use continuing through a direct Government grant to BCL or, in lieu of raising BCL's electricity tariffs, to BPC. Currently this would require a grant of approximately P 10 million per annum.

C. Water Supply

(i) Background

6.10 Due to natural climatic conditions Botswana suffers from limitations on its water supply potential. Even during normal rainfall years, average rainfall ranges from only 250 mm per annum in the desert southwest to 650 mm in the north. For the last four years Botswana has been in a drought cycle, making the provision of adequate supplies of water that much more important and difficult. In response to the drought, water use restrictions were imposed in 1983, most notably in the Gaborone area. In addition to curtailing water use for domestic purposes, new connections for commercial undertakings were limited which impinged on this region's ability to support increased levels of employment creation and economic growth. Over the NDP VI period Botswana's total population is projected to grow at 3.8 percent per annum; urban population is expected to move beyond 40 percent of total; manufacturing growth is projected to exceed 8 percent per annum; and the country is expected to make increasing use of irrigation. These factors make necessary future additions to water supply capacity, not only in the Gaborone area but for the entire country.

6.11 Surface water is estimated to represent 80 percent of Botswana's total water potential. However, most surface water (85 percent) is located away from the main population centers. Perennial water resources exist in the Okavango area in the remote northwest and in the northern Chobe area, both of which are around 500 km from Gaborone by direct route and over 900 km by road. Surface water outside these regions can primarily be found in the Limpopo River and its tributaries, along Botswana's eastern border with South Africa, but the availability of these waters is much more erratic. The country's groundwater potential is still being investigated. Groundwater in the more populated eastern section can be found at depths from 30-100 meters and at shallower depths is generally assumed to be recharged from rainfall. Most existing boreholes are located in the eastern quarter and serve rural and village populations as well as the country's large

cattle population. Groundwater has been located in the Kalahari region, but at depths reaching 100 meters and with only minimal yields and recharge.

6.12 Water supply in the main urban centers is the responsibility of the Water Utilities Corporation (WUC), which covers the towns of Gaborone, Selebi Phikwe, Francistown, Lobatse, and Jwaneng and encompasses 19 percent of the total population. Water supplied from WUC is generally surface water with the largest reservoirs in Gaborone and Shashe. WUC operations involve supply and reticulation, and presently 80 percent of WUC's coverage receive piped water. WUC was established to operate on a commercial basis with charges for water reflecting the cost of supply. In large part this principle has been maintained, though there is some cross-subsidy from high to low volume consumers, and to some degree prices may not fully reflect the cost of investments financed through the Government budget. WUC has only slowly taken over operations in different areas, and in so doing has maintained a fairly sound financial footing. Water supply and reticulation in the major villages (over 5,000 population) is the responsibility of the Department of Water Affairs (DWA) in the Ministry of Mineral Resources and Water Affairs (MMRWA). DWA constructs the water supply systems in smaller villages after which responsibility for administration of the systems is given to the District Councils. Consumers using standpipe water are assessed no fee on the theory that hauling water is enough of a disincentive to waste. Rural consumers with piped water are expected to pay the cost of connection and a charge on water consumed not to exceed comparable urban tariffs. In practice, however, full cost recovery and collection of charges in rural areas is not achieved, and the Government subsidizes the cost of supplying water. As areas are moved under the coverage of WUC, their cost recovery record would be expected to improve. This issue will become more important as the major villages which now receive significant subsidies will begin to come under WUC coverage and tariff principles.

(ii) Objectives/Expenditures

6.13 To meet near-term demand requirements, the Government has identified two major investments during the NDP VI period: construction of additional water supply facilities for the Gaborone area and raising of the Shashe Dam, which would provide additional water supply capacity to the Francistown/Selebi Phikwe area and possibly allow water transfer to other areas. The NDP VI investment program estimates the former operation to cost P 100 million with P 25 million from the Government budget and the remainder to be raised by WUC through external borrowing, including from the World Bank. Raising the Shashe Dam is estimated at P 32 million, of which up to one-third would come directly from budgetary resources and the remainder from externally borrowed funds. Of total expected investment in water supply during NDP VI, WUC accounts for 61 percent and MMRWA programs for 39 percent (Table 6.3), the major MMRWA capital expenditures are planned to be enlarging old and constructing new village water supply schemes.

6.14 Government recurrent expenditure on water supply is more difficult to estimate since such expenditure includes activities of the District Councils, which have their own budgets. Total recurrent expenditure for district water supplies during NDP V grew by 13 percent per annum in real terms. Annual growth in allocations to DWA for NDP VI is expected to be only 2 percent in real terms while Central Government subsidy to District Councils, which would cover water and all other responsibilities of the Councils, will grow by 9.5 percent per annum. As population growth and the influx into the major villages results in expansion of water supply facilities at an even greater pace, the degree of cost recovery by District Councils may become increasingly important and should be monitored closely by the Government.

6.15 Gaborone Area Expansion. The total population of Gaborone, Lobatse, and nearby villages already making use of the Gaborone reservoir (Tlokweng and Mogoditshane) surpassed 123,000 in 1985 and is projected to grow by 7 percent per annum reaching 185,000 by 1991. NDP VI projects growth of domestic and commercial water demand of approximately 7.4 percent per annum in this region (see Table 6.4). Additional capacity was expected to be required in 1988. Given that Gaborone/Lobatse area water demand is recovering more slowly than expected after the lifting of water use restrictions imposed because of the drought, the timing required for this additional capacity is presently being reviewed. For enlarging the Gaborone area supply capacity, NDP VI specifies construction of two earthfill dams on the Metsemotlhaba and Kolobeng rivers to the west of Gaborone. This project has been delayed following a recent decision to weigh the construction of the Kolobeng/Metsemotlhaba dams against an alternative groundwater source near Kanye where investigations and feasibility studies are still on-going to determine whether this option is viable.

Table 6.3: Summary of NDP VI Water Investment Programs

<u>Program</u>	<u>P millions</u>		<u>Percentages</u>
Urban Water Supply	135.6		61.2
of which: Gaborone area	99.8		45.0
Shashe area	33.4		15.1
Jwaneng	2.4		1.1
Major Village Water Supply	29.6	34.4	13.4
Village Water Supplies	29.8	34.7	13.5
Other programs	26.5	30.9	12.0
MMRWA Subtotal	85.9	100.0	38.8
Total	221.5		100.0

Source: NDP VI, June 1985

Table 6.4: Urban Water Consumption
(megaliters)

<u>Area</u>	<u>1981/82</u>	<u>1982/83</u>	<u>1983/84</u>	<u>1985/86</u>	<u>1990/91</u>	<u>Growth in NDP VI (%)</u>
Gaborone	4.9	6.2	3.3	..	..
Lobatse	1.4	1.5	1.1	..	..
Subtotal	6.2	7.7	4.3	11.0	15.7	7.4
Francistown	1.0	1.1	1.2	..	..
Selebi Phikwe	11.6	11.4	11.9	..	..
Subtotal	12.6	12.5	13.1	15.2	17.2	2.5
Jwaneng	..	..	..	1.4	1.8	5.2

Source: NDP VI, June 1985

6.16 Water Master Plan. The long-term challenge to Botswana in this sector is to provide adequate water supplies to the growing population and meet the growing demand from industrial and agricultural concerns. The Government's primary efforts in the past in this area have been to ensure supply to the main urban, industrial and mining areas and to expand groundwater availability in rural villages and grazing areas. For the future efforts in this regard must be augmented by the formulation of a long-term strategy for the use of this scarce and unevenly distributed resource. Supplying water is an expensive proposition in Botswana and given the country's natural limitations, must be planned carefully and with due regard to the timeframe required to implement long-range investment decisions. Since under extreme drought conditions, as in recent years, filling newly constructed reservoirs could take up to seven years, major water investments can take 10 to 12 years from inception to completion. The Government recognizes these concerns and proposes to formulate a Water Master Plan early in NDP VI which will provide the framework for determining long-range requirements and investments.

6.17 In the future all major investments in the water supply sector, including the possible raising of the Shashe Dam, should be considered within the context of the Water Master Plan. As NDP VI points out, by the turn of the century or soon thereafter, projected water demand from known local resources will not meet projected supply capacity in some areas of the country, primarily the Gaborone/Lobatse area. As part of the input to the Master Plan, increased attention needs to be given to completion of detailed groundwater resource investigations and to studying further exploitation of existing and potential surface water sources. Economic, technical, and environmental feasibility studies of water transfer schemes

from Shashe, Okavango, and Chobe need to be undertaken, and since riparian rights are involved, the implications and requirements for international agreements should be enumerated.

6.18 The key long-term issue in Botswana is the issue of future location of population centers and investment. Initial indications from previous water resource studies are that future development in the country may need to shift toward settlements in the northeastern section of the country in order to meet water requirements, while growth capacity in the southeastern Gaborone/Lobatse area should be reassessed. Current relative water tariffs are already structured so as to give the correct price signals to urban water consumers, i.e., water prices are higher in southeast Botswana, reflecting the relatively expensive long-run cost of supplying water to that area. Maintaining these water tariff signals by ensuring that prices reflect the full cost of supply should be an aim of future water policy. However, this signal will not be sufficient encouragement to increased investment in locations other than the Gaborone area. Other infrastructure (transport, power, communications, etc.) in targetted areas must be made available for such non-public investment to take place. Moreover, further expansion of Gaborone and particularly its satellite settlements should be deferred until the proposed master plan's conclusions are examined. Otherwise the Government will risk an untenable situation developing in the Gaborone/Lobatse region.

D. Transportation

6.19 In the past transportation expenditure in Botswana was primarily related to roads. However, with the acquisition of the Botswana railway system from the National Railway of Zimbabwe (NRZ), a substantial amount of resources will be directed toward the purchase, renovation and running of this enterprise.

6.20 With Botswana's vast land expanse (580,000 km²) and population of just over 1 million, it is one of the least densely populated countries in the world. As a result of this and the fact that materials needed for road construction are not available indigenously in many parts of the country, provision of road transportation infrastructure is extremely costly. At independence Botswana's stock of roads was minimal. In the twenty years since then a great deal of investment activity in the transportation sector has occurred and has resulted in the construction of major stretches of paved roads which now serve the north-south corridor linking Lobatse and Gaborone with Francistown and Kasane, and to a lesser extent other areas of the country. At present there are 13,000 km of roads and tracks in the country, of which 8,000 km are gazetted (maintained by the Central Government) with the remainder the responsibility of District Councils. Twenty-five percent of the gazetted roads are paved, 15 percent are gravel and 60 percent are dirt. Where paved roads exist, they are of good quality, though given the use made of the paved roads by heavy transit traffic, maintenance of these roads does present a problem. The construction and maintenance of the gravel and dirt roads are of varying quality.

6.21 The major challenge to the roads sector in Botswana in the coming years is to expand and upgrade the quality of the existing system in order to facilitate further expansion of production in the other sectors of the economy and development of the rural areas. In NDP VI and the National Transport Plan (1984) the Government has identified the major investments to take place over the coming years. During NDP VI average expenditure by the Roads Department from the development budget is projected to be P 29 million which in real terms is approximately the same as that in the previous Plan period and represents about 15 percent of total Ministerial expenditures from the developmental budget during the coming Plan period. One of the major road construction projects is to link the diamond mine in Orapa with the major north-south road at Serowe. The economic feasibility studies determined that construction of this road would result in only a minimal economic return. A more economic alternative would have been to upgrade the current road from Francistown to Orapa. The Maun-Nata road is expected to bring a much more satisfactory economic rate of return, as is construction of a spinal and feeder roads in the Tuli Block along with a road linking the Selebi Phikwe area directly to South Africa. This should be a particularly beneficial investment since it will allow the commercial farms in the Tuli area much better access to agricultural markets in Botswana and South Africa, thus removing a current disincentive to increasing agricultural output and helping the planned diversification of economic activity in the mining town of Selebi Phikwe. The development budget for roads will also fund other rural roads, bridges and detailed design and feasibility studies.

Table 6.5: Cost Recovery in Roads
(Pula millions, 1985/86 prices)

	<u>79/80</u>	<u>80/81</u>	<u>81/82</u>	<u>82/83</u>	<u>83/84</u>	<u>84/85</u>	<u>85/86</u>
Expenditure	5.8	6.1	5.3	5.8	9.4	15.2	18.2
Revenue	2.3	2.7	2.4	4.2	7.0	4.0	3.0

Source: NDP VI

6.22 The fact that these investments must now take place in an environment where resources may not be as plentiful as in previous years points to the major issue in the transport sector. As is recognized in both the Transport Plan and NDP VI, in the future greater attention must be given to cost recovery measures. The need for greater cost recovery is made even more evident by the phenomenal growth of Government expenditures on road maintenance over the past several years as compared with transportation revenue. While Government expenditure on road maintenance increased three-fold from Pula 6 million in 1979/80 to P 18 million in

1985/86 (in constant 1985/86 prices), transport revenues began this period at P 2 million, reached a peak in 1983/84 at P 7 million before declining to Pula 3 million in 1985/86 (Table 6.5). ^{1/} A continuation of the 20 percent per annum real increases in the recurrent budget for roads is not budgeted during NDP VI; rather the Roads Department is allotted a 4.5 percent p.a. real increase. As with other sources of revenue in the Plan, transportation revenues are projected to remain constant in real terms. Given the need to diversify the sources of revenue and the fact that cost recovery in this sector is so low, the Government should give greater attention to increasing taxes and other sources of revenue from the transport sector. The Government has considered some alternatives, and NDP VI identifies these potential sources as sales taxes on gasoline and diesel, vehicle licenses, transport permits and other fees. Taking advantage of recent petroleum price reductions, the sales tax on diesel was reinstated in March 1986. Automobile owners are generally those who could most afford to pay a substantial registration fee. However, vehicle license fees are currently very low and could easily be increased without detrimental effect on the users. Given the large amount of transit traffic by non-Batswana carriers who presently contribute little or nothing toward the cost of maintaining the roads they are using, it would be prudent for the Government to institute greater cost recovery measures from this source.

6.23 A major development in the transportation sector in recent years is the planned acquisition by Botswana of the railway system in the country now owned and operated by the National Railway of Zimbabwe. Since new locomotives and rolling stock need to be procured, this acquisition will have a major impact on the Government's budget over the coming years, accounting for P 110 million of the total development budget for transportation of P 323 million, and by 1990/91 for 19 percent of the recurrent budget (P 14 million out of total P 75 million) allocated to transport. The actual payment for the system, which could be as high as Pula 70 million, is not budgeted during NDP VI since it probably will not take place until the 1990s. The economic benefit to Botswana of acquiring and owning the railway is not immediately apparent, particularly given that many national railway systems have proven uneconomic and require large subsidies. Nevertheless, given that the system even under Botswana ownership will mainly serve transit traffic and that rail lines generally do not exist in areas other than the eastern section, there is the potential for the railways either to make a profit or not to be a large drain on the Government's budget. The Government will need to ensure that the railways has the required numbers of trained manpower and rolling stock and that the lines are being maintained.

E. Housing

6.24 Background. In the past the Government has provided the major proportion of housing in Botswana through the construction and sites and

^{1/} This excludes revenues on petroleum which may be collected via the Customs Union.

servicing activities of the Botswana Housing Corporation (BHC) and the Self Help Housing Agencies (SHHA). The Government is presently the primary landlord in the urban areas where as of 1984, 68 percent of all urban dwellings were rented, as compared to only 4 percent in the rural areas. Botswana's urban population currently represents approximately 20 percent of total and has grown almost 10 percent per annum since 1971. Over the Sixth Plan period growth in the main urban areas ^{2/} and the villages which will come under the urban classification ^{3/} by the end of the decade ^{4/} is projected at 6 percent per annum, a rate which may be on the low side given the record of growth over the past 15 years. Given the consequent numbers of new housing required in these areas and the budgetary resources which can be directed to the housing sector, the Government will no longer be able to be the country's main landlord and provider of housing. As a result of this and in order to minimize the growth of squatter communities without basic services, new policies must be implemented to remove the existing disincentives to private sector initiative in construction, finance and ownership of rental property. The Government should direct its efforts toward supporting private construction through its sites and servicing activities.

6.25 The housing sector is currently dominated by BHC and the SHHAs under the administration of local councils. The SHHAs are responsible for the sites and services programs (construction and upgrading) benefitting the low income urban populace under which low cost housing is constructed privately or through "self-help". SHHAs receive subsidies to cover staff costs and other technical assistance. Low income housing receives a cross-subsidy from higher cost housing to defray infrastructure costs. In addition, plottolders must repay Building Material Loans and are charged an average monthly service levy of approximately P 9. During the NDP V period (1979-1985) over 7,700 new plots were developed while almost 5,000 were upgraded. On the whole SHHAs provided new or upgraded housing for 70,000 low income dwellers during this period, almost half of whom were in Gaborone.

6.26 BHC is responsible for construction of higher cost housing, generally for high income residents but also for those in the middle income range who can meet income eligibility requirements. Finance for BHC largely consists of loans from the Central Government at less than market interest rates (10 percent interest, 25 year maturity) which thus represents the Government's primary subsidy of BHC. BHC charges monthly rental fees on its properties. During NDP V BHC provided 3,300 housing units. Thus new housing provided by both SHHAs and BHC totalled approximately 1,800 per annum during NDP V as compared with average annual

2/ Gaborone, Francistown, Selebi Phikwe, Lobatse, Orapa, Jwaneng

3/ Settlements of more than 5,000 people with at least 75 percent of the labor force in non-agricultural activities.

4/ Serowe, Mahalapye, Molepolole, Kanye, Mochude, Maun, Palapye, Ramotswa, Tlokweng, Mogoditshane

requirements over NDP VI of 2,800 new housing units in urban areas. In addition the newly urban major villages will require approximately 1,600 new units per annum, though currently there are no SHHAs in these areas. Aggregate need in rural areas is even greater, but the major programs are designed primarily to provide for urban requirements.

6.27 Issues. NDP VI does not envision expansion of Government activities in the housing sector to provide for total requirements in the coming years. Rather the Government has recognized that it must look to the private sector to fill the construction gap. Despite BHC's waiting list for housing which has over 14,000 applications, the private sector has shown little interest in constructing housing for rental or sale (except for high cost housing). Financing institutions have also evidenced little interest in providing housing finance for low or medium cost housing. To at least some extent these problems result from the current record regarding less than economic pricing and cost recovery and problems with arrears. While time may be needed for some people to begin to understand that services provided in conjunction with housing are not free and must be paid for, this problem should not be overestimated and should not obscure the point that the Government needs to reduce disincentives to greater housing production. The regulatory framework for land allocation and use in the urban setting is another area needing more consideration. Given reasonable pricing policies, relaxation of zoning regulations could be used to encourage construction of the types of housing in short supply.

6.28 Over the previous Plan period, nominal rents charged by BHC increased by only 20 percent, meaning that in real terms rents declined by almost 40 percent. Another 20 percent rent increase took place in September 1985, but rents are still below previous real levels and, more importantly, still stand at only an approximate 65 percent of economic levels - the level at which full cost recovery plus a reasonable return on investment is achieved. Losses to BHC on account of these pricing policies must be compensated for by subsidies from the Government. There is thus no effective demand for privately constructed and leased low and medium cost housing since urban dwellers are willing to wait for BHC housing rather than pay economic rents to other landlords. Similarly there is little incentive for the private sector to construct houses for selling purposes given the financial advantages to potential buyers of renting at sub-economic prices. In addition the BHC tenant-purchase scheme will have little impact until rents charged are moved to economic levels.

6.29 Arrears in paying rents are also a problem in Botswana. For low income housing at the beginning of 1985, 73 percent of all dwellers were at least 30 days late in paying service levies, and 64 percent were 30 days in arrears on Building Material Loans. These percentages somewhat overstate the extent of the problem since in 1983/84 total levy collections as a percentage of the amount due ranged from 65 percent in Francistown and 81 percent in Gaborone to over 100 percent in Selebi Phikwe. Non-governmental financial institutions and landlords must have expectations for timely rental payments for them to lend for and construct greater amounts of housing. Thus institutional arrangements regarding collection and enforcement procedures need to be reviewed toward making them more effective.

6.30 In NDP VI the Government states its intention to develop a National Housing Plan which would be updated regularly and would strengthen the planning, implementation and management of Botswana's housing programs. Since responsibility for housing is dispersed among a number of agencies, coordination of housing activities and policies through such a mechanism would be beneficial. However, the Government should not await the completion of this Plan before acting on economic pricing, subsidy issues or the creation of a suitable regulatory framework for land use which would allow private sector investment activity. In an attempt to assist the Government in this regard, the Bank has proposed to undertake a study of issues within the housing sector. The proposed study will review housing finance in Botswana to examine how to encourage a greater role for financial institutions in financing low and medium cost housing, as well as other institutional constraints to promoting more private sector and individual involvement in housing construction.

CHAPTER VII: MANPOWER AND HUMAN RESOURCE DEVELOPMENT

A. The Availability of Skilled Manpower in the Medium Term

7.1 As explained earlier the projections of manpower needs are one of the most impressive aspects of the Plan. There was a careful analysis of the relation between the expected supply of manpower through primary and secondary school system, the university and technical training, and requirements of manpower for carrying out the public expenditure program and meeting the manpower needs of private sector enterprises and parastatals. This analysis took place as part of the National Manpower Development Plan in 1984 and fed directly into NDP VI. The results are summarized in Table 7.1.

Table 7.1: Skilled Manpower Supply and Demand over the Plan Period, 1985-1991

	<u>1985</u>	<u>1991</u>
<u>Manpower Requirements</u>		
Primary education or less	220,311	280,994
Completed secondary school	45,742	64,116
University degree or higher	2,768	3,681
<u>Available Supply of Manpower</u>		
Primary education or less	461,786	511,050
Completed secondary school	42,781	85,748
University degree or higher	1,159	2,286

Source: National Manpower Development Planning, 1984
MFDP, Gaborone

7.2 The situation in 1985, as shown in the table, is that there is a large surplus of labor which is relatively unskilled while there exists a shortage of more highly skilled workers. During the NDP VI period, the over abundance of low-skilled labor as compared to manpower requirements will increase even more. The availability of persons having completed secondary school will more than exceed demand, though these workers may still not have the necessary vocational skills the economy actually requires. At the higher levels, there will still be a gap which will not be filled from the present educational and training schemes and the proposed expansions. There are two potential sources for filling these gaps. The first is to introduce new or expand existing training programs,

and the second is to make more use of expatriate manpower. Limits to the first alternative include the trainability of secondary school graduates in the medium term as well as financial constraints on the budget. Thus, while the Plan does propose new training schemes, it also recognizes that the absolute number of expatriates will increase from its present level of 4,700 to over 5,000 during the Plan period. The Plan's practical goal is for the share of local staff in total skilled employment to continue to rise.

7.3 Given the pressure on the Government to localize the administration, the willingness to increase expatriate employment is a courageous decision. The extent of employment of expatriates has drawn criticism not only from Parliament, but from the donor community as well. It needs to be recognized, however, that Botswana is fully exploiting whatever trained manpower it has. This is not a country where trained manpower has been lured abroad by higher salaries. At this point in time, the real alternative to employing expatriates is to keep positions vacant, i.e., to limit the programs which require skilled manpower.

7.4 There are two areas, however, in which the Government might wish to consider changes in its programs. The first is the possibility of upgrading the skills of individuals who, for economic reasons, did not complete their secondary schooling and enter university. Industrial class employees should be given an increased opportunity to study in adult classes and programs. Existing non-formal education programs have received a limited share of the education recurrent budget but within those limitations has made substantial progress since the establishment in 1978 of the Department of Non-Formal Education. Current government strategy includes the expansion of correspondence courses leading to junior and general certificates up to a maximum of 3,000 enrollees. Further expansion of these efforts should be considered while continuing to maintain present standards of cost recovery (fees are charged to cover the cost of materials). A second area to explore might be the possibility of shifting expatriate employment to lower cost sources of supply such as other parts of Africa and South Asia, or younger, perhaps less qualified graduates from the industrial countries. The Economics Department of the University, for example, has three vacant positions which the Department would like to fill, but is under instructions that only expatriates with Ph.D's be considered. The salary and allowances have not proven sufficient to attract Ph.D's, however, and as a consequence, these positions have been vacant for a number of years. This is a self-defeating position to take when young, recent masters degree-holders could meet the need in the medium term.

B. The Evolution of the School and Training Systems

7.5 Botswana has achieved very substantial coverage of the population through the primary school system. Going much beyond present levels means reaching very sparsely populated areas and is probably not feasible in the short term. The Plan obviously takes this into account by providing

recurrent expenditure increases for primary schools which are proportionate to the expected growth in enrollment rather than the higher cost per student which expanded coverage would imply. There is historically a sharp drop in enrollment at the secondary levels, and, as a result, the Government has decided to extend the period of basic education to cover junior secondary as well. While this will be costly in financial terms, an additional two years of schooling will raise the basic skill endowment of the population.

7.6 A very serious problem in the past has been the inadequacy of training in math and science in the schooling system. The University found that enrollees did not possess even basic knowledge of these subjects. An innovative and effective response has been the establishment of a six-month pre-science course at the university designed to bring secondary school graduates up to standard in these areas.

7.7 Planned development expenditure on education of P 38 million per annum represents approximately 22 percent of the development budget (see Table 7.2). In 1984/85, education's share of the recurrent budget was also 22 percent, but with the planned growth in the education recurrent budget (10.9 percent per annum in real terms), this share will increase to 28 percent by the end of the Plan period. Although this high growth will carry education's share of the total budget beyond averages of other countries of similar income, it is not unwarranted given the special needs of Botswana to upgrade basic educational and technical skills of the population. During NDP VI the predominant portion (42 percent) of education's capital budget will be for construction of secondary schools, while construction of primary schools, which had been the major expenditure

Table 7.2: Development Expenditure on Education
(annual averages in 1985/86 prices, Pula '000)

Expenditure Category	Projected Expenditure in NDP VI	Share of Total	
		NDP VI	NDP V
University	4,807	13	9
Vocational training	2,425	6	3
Literacy Program	1,500	4	4
Secondary School Construction	16,090	42	29
Primary School Construction	5,000	13	33
Brigades	1,100	3	3
Other	7,078	19	19
Total Expenditure on Education	38,000	100	100

Source: NDP VI, 1985
Budget documents

item during the previous Plan, will fall to a relatively minor share (33 percent of total during NDP V to 13 percent in the current Plan). This reflects the inclusion of junior secondary education in the definition of basic schooling. The relative emphasis on secondary education is also evident in the allocation of recurrent expenditure (see Table 7.3). Recurrent growth for secondary schooling reflects the projected increase in secondary enrollments (8 percent annual growth in junior secondary schools and 12 percent in the senior secondary) and the increased requirements for qualified local and expatriate teachers (teachers required will rise from 1,250 in 1985 to over 2,160 in 1991, growth of approximately 10 percent per annum).

Table 7.3: Growth in Recurrent Spending on Education over NDP VI
(in 1985/86 prices, Pula '000)

	<u>1984/85</u>	<u>1990/91</u>	<u>Annual Growth (%)</u>
Primary	30,199	41,853	5.6
Secondary	25,564	54,228	13.4
University	14,128	31,702	14.4
Technical Education	2,317	5,840	16.7
Non-Formal Education	822	1,669	12.5
Other	1,719	3,754	13.9
Total MOE Expenditure	74,749	139,046	10.9

Source: NDP VI, June 1985

7.8 The expansion of the university has been carefully planned in relation to the long-run absorptive capacity of the economy. Botswana has learned from other countries where excessive university expansion has turned shortages of skills into surpluses of unemployed liberal arts graduates. Even with planned enrollment in the University growing from the current level of 1,600 students to over 3,400 students, this phenomenon should not occur at this point in Botswana. Continuing efforts should be made, however, to monitor requirements for and available supply of graduates with various types of degrees.

7.9 On the whole, there is little to argue with the careful expansion of the education system. As mentioned earlier, greater efforts at adult and non-formal education should be considered, and various alternative means of promoting this, including the possibility of education loans for industrial class employees, should be considered. These efforts would support the role of the brigades which over the last ten years have contributed significantly to the training of out-of-school men and women for industrial class occupations. In addition, the trainees pay fees which

partially cover training costs. Although the brigades are far from being self-supporting, their contribution to the financing of their activities represents a savings to the Government.

7.10 Botswana is at present in the fortunate position of being able to afford virtually free education at all levels. No fees are charged for primary education but some are at the secondary level (see Table 7.4). NDP VI envisages an equalization of the secondary school rates which presently vary considerably. University costs are recovered from salaries of the graduates (5 percent a year for 5 years). Since, with rapid population growth, the education burden on the budget will continue to increase, it is important that the recovery of costs related to education be expanded over time. As experiences in other countries have shown, there is scope for extending a fee/loan program to the upper secondary school level and for raising the recovery from university graduates from its current very low level to a level more related to actual costs.

Table 7.4: Cost Recovery in Education

<u>Type of School</u>	<u>Average Cost per student (Pula)</u>	<u>Source</u>	
		<u>Student</u>	<u>Government (%)</u>
Primary	160	0	100
Secondary			
Government School	833	10	90
Government Assisted	460	14	86
Community Junior			
Secondary School	349	62	38
Private Independent	2,000	100	0
University	8,079	5% of graduate's salary for 5 years is collected	

Source: NDP VI and other Government sources

Table 7.5: Unit Costs of Education, 1984/85

<u>Program</u>	<u>Government Recurrent Expenditure ('000 Pula)</u>	<u>Enrollment</u>	<u>Cost per Student (Pula)</u>
Technical	2,054	650	3,160
Brigades	750	750	1,000
Non-Formal	907	36,000	25
Primary	33,323	208,400	160
Secondary	20,030	27,326	733
Teacher Ed	1,456	1,001	1,455
University	9,760	1,208	8,079

Source: NDP VI

C. The Health System

7.11 Health is generally a success story in Botswana relative to conditions prevailing in most of sub-Saharan Africa. Tropical diseases are found in relatively low levels due to the drought, infant mortality is low and declining, life expectancy rates are among the highest, and the country has a good health care system based on a network of outpatient services with referral to hospitals in Gaborone and Francistown. The donors have been effective in the health field, and most of Botswana's physicians have come under various aid programs. Non-governmental organizations, private practitioners and the mining companies also provide services.

7.12 However, public health problems do affect the country in significant magnitude. These include tuberculosis; diarrheal diseases and skin and eye infections associated with poor sanitary practices and lack of safe water; sexually transmitted diseases; and malnutrition, particularly as it affects children up to the age of five. Since independence the Government has shifted its health care focus from that based on a curative system to developing a preventive care network of basic health services for the rural population. In addition government policy has been to educate the population as a means of achieving better health standards. Unlike most of the surrounding countries which devote up to 75 percent of their health budget to hospital services, less than 50 percent of the Botswana health budget has been directed to hospitals in recent years. Alongside this approach has been the development of systems of referral, supervision, and manpower training. In this respect, substantial gains have been made in providing an accessible health care system to the population.

7.13 In line with past emphasis on primary health care, over the plan period the Government is increasing the share of the recurrent budget

devoted to this system, as evidenced by the 14.2 percent per annum real increase in the budgetary allocation to primary health care (Table 7.6). However, the relative share of hospital services will also rise to 57 percent, reflecting the 8.1 percent annual growth in expenditures on this item. This corresponds to the plan's major investment in the health sector, the construction of a new hospital in Franciatown. While expansion of the existing health facility is clearly needed and the existing site has some limitations, the plant at the current hospital is in good condition. There is thus a serious question about the need for building an entirely new facility at this time. Construction of the new hospital comprises over 40 percent of the health sector's capital budget over the plan (Table 7.7). It would perhaps be more appropriate to maintain the current hospital facility and to phase in activities at the new site over an extended period. After a while, there could be a functional division between the current facility and a less ambitious facility at the new site. While this would involve some duplication of central services, the final cost would be far less than that of servicing a loan on hard terms which the construction of the new hospital will require.

Table 7.6: Projected Recurrent Expenditure in Health, 1985-1991
(P'000 1985/86)

	Actual 1984/85	Growth Rate % per annum	Projected 1990/91
MOH HQ	2,891	1.0	3,069
Manpower	2,815	3.0	3,361
Primary Care	2,034	14.2	4,512
Hospital Services	12,554	8.1	20,033
Technical Services	4,195	1.0	4,453
Total	24,489	6.3	35,432

Source: NDP VI

Table 7.7: Projected Development Expenditure in Health, 1985-1991
(P'000 1985/86 prices)

	<u>Total</u>
Health Manpower	1,120
Hospital Services	50,436
of which: Francistown hospital	28,900
Primary Health Care Services	13,835
Technical Support Services	4,390
Total	69,789

Source: NDP VI

7.14 The important question for the long run is the sustainability of quality health services. Health services are currently provided at costs which are truly nominal (see Table 7.8). It is important to review the fee structure. In particular, higher charges for private patients and for meals for all patients would seem to be called for.

Table 7.8: Schedule of Fees in the Health Sector
(Pula)

	<u>General Patients</u>	<u>Private Patients</u>
Hospital Patients		
Initial Examination	0.4	3.0
Daily Fee for Ward Care	0.1	
Residents		5.0
Non-residents		10.0
Meals	free	free
Maternity Fees		
Ante/post natal care	0.4	25.0
Health Center/Hospital delivery	0.5	
Delivery mid-wife		10.0
Delivery by physician		20.0
Family Planning Program		
Membership Fee	0.4	

Source: Government Publications

D. Population

7.15 Because Botswana has only a million people in a country the size of France, there could be a tendency to be complacent about the population issue or even to argue that rapid growth is an advantage. While this argument might be valid in a country with less limited resources, in Botswana it would lose sight of the constraints on availability of water and good quality land. Even at present levels of population, land is becoming over-grazed and cattle posts must be pushed further and further into the areas previously untouched. In these areas there will be increased competition between cattle and wildlife for limited grazing and water resources. In addition, as pointed out elsewhere in the report, population growth imposes pressures on other key areas such as education, urban infrastructure, transportation and water and utility supply. Curbing population growth would lessen potential demand in these services as well.

7.16 At currently expected rates of growth, there is no reason to believe Botswana's population will be stabilized short of three million people. The real issue for policy-makers is whether the stationary population point will be three or four million, or even more. Botswana's current net reproduction rate (NRR, the number of daughters a newborn girl will bear during her lifetime) is currently estimated at 2.8. For Botswana's population to become stationary at around 4.4 million, the NRR will have to decline to unity by the year 2020, i.e., the required decline in reproduction rates will have to take place in just two generations. Whether even this is feasible may well be the difference between a growing economy with ample food, education and health for all citizens and a decline into the scarcity and falling income levels that have characterized other African countries.

7.17 While the government has recognized the implications of high population growth on overall economic growth, it has not developed a comprehensive population policy. Since the early 1970s, though, it has progressively introduced family planning into its program of maternal and child health. Current efforts are directed toward spacing of pregnancies and births as a means of improving health standards of women and children, and it thus makes a meaningful contribution to improving maternal and child health. As family planning prevalence increases and as education efforts for males and females proceed, the Government should develop a population policy and redirect its family planning programs toward encouraging contraception to reduce the birth rate and lower family size. NDP VI makes no explicit reference to this objective though it does have as a goal an increase in the proportion of women using family planning from 15 percent to 25 percent over the Plan period. Although family planning activities fall under the budgetary category of primary health care (see Table 7.6), its share of the 14 percent per annum recurrent expenditure growth may only be minimal so long as government policy does not recognize reducing the birth rate as a concrete goal.

Final Thoughts

1. To be useful, a report must focus on the elements which could be improved rather than the things which are being done well. In Botswana's case this is especially unfair because its relative performance has been so good. The key point to keep in mind is the fragility of the base on which the development effort rests. The political and economic instability of the Southern African region, the volatility of world markets for diamonds, copper and livestock products, and the uncertainties of the weather, all call for an unusually large safety margin in entering into new commitments and allocating the available resources. It is important that Botswana continues to view itself as a country with a large temporary cash inflow, rather than a country with a large permanent income.

2. During the mission's stay, we visited a village in the north of the country. We had been given the name of a manufacturer who had benefitted under the Financial Assistance Program. We asked him how he came to be an entrepreneur. He had left school after eight years and joined the Post Office. A few years later, he resigned and put his savings into a grocery store which was where we met him and which was obviously very successful. Several years after that he saw a business opportunity in making cement blocks for local construction, and when the concerned government official came to talk about the FAP at the kgotla (the communal meeting) he seized the opportunity and applied. The brickmaking unit is now operating successfully and employing about eight people. We asked whether demand was sufficient and he assured us that it was and that indeed he hoped to expand his production at some point in time. We asked why he did not go ahead and expand right away, and he replied after a moment of thought "Rome wasn't built in a day."

3. That is a hard lesson both for governments and international agencies to learn. We are impatient that highways and dams be built, that factories and farms expand their production, that the poor be better fed, clothed and housed. But in so much of Africa these achievements have not been sustained. Botswana is carefully laying the foundations for sustainable growth in the long run, and its efforts merit the continued support of the international community.

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Table 1.1: BOTSWANA - Selected Demographic Data

Population (1985)	1,052,000
Birth Rate (per thousand)	46.0
Death Rate (per thousand)	7.5
Total Fertility Rate	6.2
Rate of Natural Increase (% per annum)	3.85
Population Growth Rate	3.77
Infant Mortality (per thousand)	44.1
Life Expectancy	66.14

Source: World Bank estimates.

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Table 1.2: BOTSWANA - Population by Sex and Age, 1985
(thousands)

Age Group	Total	Male	Female
0-4	202	102	100
5-9	162	81	81
10-14	142	71	71
15-19	114	56	58
20-24	87	40	47
25-29	72	29	43
30-34	58	24	34
35-39	42	18	24
40-44	34	15	19
45-49	31	14	17
50-54	26	12	14
55-59	22	10	12
60-64	19	9	10
65-69	14	7	7
70-74	11	5	6
75+	17	7	10
	1052	498	553

Note: Column totals do not add exactly due to rounding.

Source: World Bank estimates. WDR 1985.

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Table 1.3: BOTSWANA - Formal Sector Employment by Economic Activity
1975-1983
(thousands)

Economic Activity	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Agriculture	4.3	4.0	4.3	5.2	4.3	4.3	4.8	4.2	4.5	5.4
Mining & Quarrying	4.5	5.5	5.5	4.7	6.3	7.2	7.3	7.1	7.2	7.5
Manufacturing	3.8	4.3	4.2	4.4	5.5	5.6	6.4	7.2	9.8	9.5
Electricity and Water	0.6	0.7	1.0	1.3	1.3	1.5	1.6	2.2	1.9	2.0
Construction	9.0	6.1	6.9	9.2	11.4	13.4	15.2	13.6	9.6	11.1
Commerce	10.3	10.5	10.0	11.0	9.8	10.4	15.3	16.6	15.3	18.1
Transport & Communications	2.0	2.0	1.8	2.0	2.3	3.4	3.9	3.7	3.9	5.5
Finance & Business Services	2.0	2.8	2.4	2.7	3.4	3.4	4.9	5.7	6.0	6.2
Community & Social Services	1.6	1.8	2.1	2.0	2.0	2.4	3.8	3.9	3.5	3.5
Education	4.4	5.0	5.8	6.1	1.2	1.3	1.6	1.6	1.6	1.6
Subtotal	42.5	42.7	44.0	48.6	47.5	52.9	64.8	65.8	63.3	70.4
Central Government	12.2	13.6	15.4	16.6	23.0	24.1	26.3	27.7	30.1	32.1
Local Government	2.7	3.1	3.3	4.3	5.1	5.4	6.3	6.7	7.2	7.5
Total	57.4	59.4	62.7	69.5	75.6	82.4	97.4	100.2	100.6	110.0
Employment in South African Mines				20.8	20.3	20.4	17.5	18.6	18.8	18.9

Note: Data are as of end-August. 1984 data are preliminary.

Source: Statistical Bulletin, March 1985, Botswana Central
Statistical Organization

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Table 1.4: BOTSWANA - Estimated Number of Persons Employed and Basic Payments by Economic Activity and by Citizenship, 1984

Economic Activity	Number of persons employed				Total	Total Basic Monthly Payments (000 pula)		Mean Monthly Basic Payments per Person (pula)		
	Citizens		Non-Citizens			Citizens	Non-Citizens	Citizens	Non-Citizens	
	Male	Female	Male	Female						
Agriculture	4184	1099	45	28	5356	424.3	82.2	80.3	1125.6	
Mining and Quarrying	6561	548	396	4	7509	2401.0	1270.0	337.7	3177.1	
Manufacturing	7066	1917	511	37	9531	1942.4	952.4	216.2	1741.2	
Electricity and Water	1820	77	114	3	2014	659.6	556.5	347.7	4756.1	
Construction	10269	386	410	12	11085	2115.6	597.0	198.6	1387.1	
Commerce	10206	7325	527	57	18115	3121.2	789.5	178.0	1351.9	
Transport, Communications	4528	722	253	37	5540	1330.3	509.4	253.4	1756.4	
Finance & Business Services	3890	1866	365	70	6191	1870.7	1076.9	325.0	2475.6	
Community and Social Serv.	1955	1161	316	116	3548	742.4	431.5	238.3	990.0	
Education	605	610	176	176	1567	359.4	422.0	295.0	1197.7	
Subtotal	51004	15711	3121	540	70456	14966.9	6689.8	224.1	1826.0	0.0
Central Government	n.a.	n.a.	n.a.	n.a.	32085	n.a.	n.a.	n.a.	n.a.	
Local Government	5060	2366	33	10	7477	2645.6	54.7	356.3	1072.2	
1984 Total (1)	56144	18077	3154	558	77933	17612.5	6744.5	237.3	1816.4	0.0
1983 Total (1)	51323	15857	2702	511	70392					

Notes: (1) Total Excluding Central Government

Source: Employment Survey, August 1984, Central Statistical Office, MFDP

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Table 1.5: BOTSWANA - Employment in South African Mines, 1973-1984

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Number of Employees (a)	n.a.	n.a.	24076	25456	25297	20804	20307	20441	17534	18560	18819	18894
Number of Recruits	28446	27104	33337	40390	38564	23360	19523	20497	17959	20456	17852	18823
Earnings of Deferred Pay (Rand '000)	n.a.	4102	6972	9964	10695	9706	9120	14415	14542	14434	16355	16776
Remittances (Rand '000)	n.a.	640	1098	1834	2571	2895	4333	4724	5759	6036	7660	6863

Note: (a) as at end of period.

Source: Statistical Bulletin, March 1985, CSO, Botswana

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Table 2.1 BOTSWANA - GROSS DOMESTIC PRODUCT AT CURRENT MARKET PRICES BY INDUSTRIAL ORIGIN, 1974/75-1983/84
(Millions of Pula)

	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	Prel. 1983/84
Agricultural a/	61.2	65.7	74.4	71.7	81.7	83.3	90.5	87.0	74.1	80.1
Mining & Quarrying	18.0	33.6	42.0	55.8	117.4	210.7	203.7	129.5	286.4	403.1
Manufacturing	15.5	20.9	25.3	24.4	42.0	29.2	49.3	71.2	78.7	85.4
Electricity & Water	6.9	11.1	9.2	10.0	11.5	15.0	19.3	21.8	29.7	34.5
Construction	20.1	18.0	15.3	17.1	21.4	36.4	38.3	47.6	45.0	51.6
Wholesale & Retail Trade	34.3	42.5	55.5	71.9	102.4	157.0	175.0	182.4	225.3	289.4
Transport & Communications	7.5	12.5	11.9	15.0	13.4	13.6	16.6	19.8	30.6	30.9
Finance & Business Services	14.6	18.2	24.6	29.9	46.4	70.5	68.3	87.6	98.0	117.3
General Government	29.4	40.2	52.3	58.6	78.5	92.6	124.1	144.1	171.4	198.4
Household, Comm. & Social Serv.	8.8	13.1	12.5	15.2	18.2	20.9	27.2	32.7	37.5	47.0
Dummy Sector	-3.3	-2.7	-7.9	-9.3	-17.6	-27.7	-33.1	-45.3	-52.4	-68.7
GDP at Market Prices	213.0	273.9	315.1	360.3	516.1	701.5	779.2	779.2	1024.3	1269.0
Indirect Taxes, Net	18.1	22.9	29.2	40.9	61.6	102.0	120.6	118.8	131.9	NA
GDP at Factor Cost	194.9	251.0	285.9	319.4	454.5	599.5	658.6	660.4	892.4	NA

a/ Agricultural value added estimates for 1978/79 onward have recently been revised by the CSO to correct the omission of cattle sales among traditional farmers and of bonus payments received by such farmers from the BMC. The changes are reflected in the following National Accounts tables as well.

Source: National Accounts of Botswana, 1973/74-1982/83 and official sources.
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Table 2.2 BOTSWANA - PERCENTAGE DISTRIBUTION OF GDP AT CURRENT MARKET PRICES BY INDUSTRIAL ORIGIN, 1974/75-1983/84
(Percent)

	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	Prel. 1983/84
Agricultural	28.7	24.0	23.6	19.9	15.8	11.9	11.6	11.3	7.2	6.3
Mining & Quarrying	8.5	12.3	13.3	15.5	22.7	30.0	26.1	16.6	28.0	31.8
Manufacturing	7.3	7.6	8.0	6.8	8.3	4.2	6.3	9.1	7.7	6.7
Electricity & Water	3.2	4.1	2.9	2.8	2.2	2.1	2.5	2.8	2.9	2.7
Construction	9.4	6.9	4.9	4.7	4.1	5.2	4.9	6.1	4.4	4.1
Wholesale & Retail Trade	16.1	15.5	17.6	20.0	19.8	22.4	22.5	23.4	22.0	22.0
Transport & Communications	3.5	4.6	3.8	4.2	2.6	1.9	2.1	2.5	3.0	2.4
Finance & Business Services	6.9	6.6	7.8	8.3	9.0	10.0	8.8	11.2	9.6	9.2
General Government	13.8	14.7	16.6	16.3	15.2	13.2	15.9	18.5	16.7	15.6
Household, Conn. & Social Serv.	4.1	4.8	4.0	4.2	3.5	3.0	3.5	4.2	3.7	3.7
Dummy Sector	-1.5	-1.0	-2.5	-2.6	-3.4	-3.9	-4.2	-5.8	-5.1	-5.4
GDP at Market Prices	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Indirect Taxes, Net	8.5	8.4	9.3	11.4	11.9	14.5	15.5	15.2	12.9	NA

Source: National Accounts of Botswana, 1973/74-1982/83 and official estimates.
November 1985

Table 2.3 BOTSWANA - GROSS DOMESTIC PRODUCT AT CONSTANT MARKET PRICES BY INDUSTRIAL ORIGIN, 1974/75-1983/84
(Millions of 1979/80 Pula)

	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84
Agricultural	90.7	87.7	88.9	92.8	86.8	86.6	83.3	75.0	71.8	58.4	57.4
Mining & Quarrying	52.9	53.2	87.5	92.1	171.4	169.1	210.7	260.6	222.1	393.3	531.6
Manufacturing	17.4	24.5	31.4	34.6	32.4	43.6	29.2	37.0	45.8	42.4	40.0
Electricity & Water	4.3	8.8	13.3	11.1	12.2	15.6	15.8	15.3	15.9	15.7	22.4
Construction	57.1	47.8	34.5	22.8	24.3	25.9	36.4	32.0	37.2	26.2	28.9
Wholesale & Retail Trade	60.6	66.2	73.7	81.4	91.2	123.4	157.0	163.8	150.7	162.1	187.5
Transport & Communications	9.9	9.0	10.5	10.3	11.0	10.7	13.6	14.8	18.1	23.8	22.3
Finance & Business Services	24.9	24.2	26.2	29.2	32.2	49.1	70.5	64.3	78.6	81.1	89.3
General Government	61.7	60.5	71.6	78.3	80.5	90.4	92.6	104.7	113.9	122.9	133.9
Household, Comm. & Social Serv.	13.0	15.0	19.9	18.7	19.0	20.9	20.9	25.6	29.2	35.0	35.4
Dummy Sector	-1.2	-2.8	-4.2	-7.9	-11.6	-20.2	-27.7	-31.3	-40.8	-43.4	-53.2
GDP at Market Prices	399.3	394.1	453.3	463.4	549.4	615.1	701.5	761.8	742.5	917.5	1095.5

Source: National Accounts of Botswana, 1973/74-1982/83 and official estimates.
November 1985

Table 2.4 BOTSWANA - PERCENTAGE DISTRIBUTION OF GDP AT CONSTANT MARKET PRICES BY INDUSTRIAL ORIGIN, 1974/75-1983/84
(Percent)

	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84 Prel.
Agricultural	22.3	19.6	20.0	15.8	14.1	11.9	9.8	9.7	6.4	5.2
Mining & Quarrying	13.5	19.3	19.9	31.2	27.5	30.0	34.2	29.9	42.9	40.5
Manufacturing	6.2	6.9	7.5	5.9	7.1	4.2	4.9	6.2	4.6	3.7
Electricity & Water	2.2	2.9	2.4	2.2	2.5	2.1	2.0	2.1	1.7	2.0
Construction	12.1	7.6	4.9	4.4	4.2	5.2	4.2	5.0	2.9	2.6
Wholesale & Retail Trade	16.8	16.3	17.6	16.6	20.1	22.4	21.5	20.3	17.7	17.1
Transport & Communications	2.3	2.3	2.2	2.0	1.7	1.9	1.9	2.4	2.6	2.0
Finance & Business Services	6.1	5.8	6.3	5.9	8.0	10.0	8.4	10.6	8.8	8.2
General Government	15.4	15.8	16.9	14.7	14.7	13.2	13.7	15.3	13.4	12.2
Household, C.m. & Social Serv.	3.8	4.4	4.0	3.5	3.4	3.0	3.4	3.9	3.8	3.2
Dummy Sector	-0.7	-0.9	-1.7	-2.1	-3.3	-3.9	-4.1	-5.5	-4.7	-4.9
GDP at Market Prices	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: National Accounts of Botswana, 1973/74-1982/83 and official estimates.
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Table 2.5 BOTSWANA - GROWTH OF GDP AT 1979/80 MARKET PRICES BY INDUSTRIAL ORIGIN, 1974/75-1983/84
(Percent)

	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	Prel. 1983/84
Agricultural	-11.1	1.4	4.4	-6.5	-0.2	-3.8	-10.0	-4.3	-18.7	-1.7
Mining & Quarrying	0.6	64.5	5.3	86.1	-1.3	24.6	23.7	-14.8	77.1	35.2
Manufacturing	40.8	28.2	10.2	-6.4	34.6	-33.0	26.7	23.8	-7.4	-5.7
Electricity & Water	104.7	51.1	-16.5	9.9	27.9	-3.8	2.0	3.9	-1.3	42.7
Construction	-16.3	-27.8	-33.9	6.6	6.6	40.5	-12.1	16.3	-29.6	10.3
Wholesale & Retail Trade	9.2	11.3	10.4	12.0	35.3	27.2	4.3	-8.8	7.6	15.7
Transport & Communications	-9.1	16.7	-1.9	6.8	-2.7	27.1	8.8	22.3	31.5	-6.3
Finance & Business Services	-2.8	8.3	11.5	10.3	52.5	43.6	-8.8	22.2	3.2	10.1
General Government	-1.9	18.3	9.4	2.8	12.3	2.4	13.1	8.8	7.9	9.0
Household, Comm. & Social Serv.	15.4	32.7	-6.0	1.6	10.0	0.0	22.5	14.1	19.9	1.1
Dummy Sector	133.3	50.0	88.1	46.8	74.1	37.1	13.0	30.4	6.4	22.6
GDP at Market Prices	-1.3	15.0	2.2	18.6	12.0	14.0	8.6	-2.5	23.6	19.4

Source: National Accounts of Botswana, 1973/74-1982/83 and official estimates.
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Table 2.6 BOTSWANA - IMPLICIT DEFLATORS FOR GDP AT MARKET PRICES BY INDUSTRIAL ORIGIN, 1974/75-1983/84

	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	Prel. 1983/84
Agricultural	69.8	73.9	80.2	82.6	94.3	100.0	120.7	122.3	126.9	139.5
Mining & Quarrying	33.8	38.4	45.6	32.6	69.4	100.0	78.2	58.3	72.8	75.8
Manufacturing	63.3	66.6	73.1	75.3	98.2	100.0	133.2	155.5	185.6	213.5
Electricity & Water	78.4	83.5	82.9	82.0	73.7	100.0	126.1	137.1	189.2	154.0
Construction	42.1	54.5	67.1	70.4	82.6	100.0	119.7	128.0	171.8	178.5
Wholesale & Retail Trade	51.8	57.7	68.2	78.8	83.0	100.0	136.8	121.0	139.0	154.3
Transport & Communications	83.3	119.0	115.5	136.4	125.2	100.0	112.2	109.4	128.6	138.6
Finance & Business Services	69.3	69.5	84.2	92.9	94.5	100.0	106.2	111.5	120.8	131.4
General Government	48.6	56.1	66.8	72.8	86.8	100.0	118.5	126.5	139.5	148.2
Household, Com. & Social Serv.	58.7	65.8	66.8	80.8	87.1	100.0	106.3	112.0	197.1	132.8
Dummy Sector	117.9	64.3	100.0	80.2	87.1	100.0	105.8	111.0	120.7	129.1
GDP at Market Prices	54.0	60.4	68.0	65.6	83.9	100.0	102.3	104.9	111.6	115.8

Source: National Accounts of Botswana, 1973/74-1982/83, and official estimates.
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Table 2.7 **BOTSWANA - EXPENDITURE ON GDP AT CURRENT MARKET PRICES, 1974/75-1983/84**
 (Millions of Pula)

	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84
Total Consumption	169.6	210.0	269.9	315.9	398.5	499.0	602.1	717.9	851.4	1021.1
Public	41.5	54.7	75.7	91.3	104.3	140.7	192.3	230.4	281.8	335.3
Central	37.3	48.6	70.4	83.2	94.5	128.2	174.4	208.7	254.8	302.0
Local	4.2	6.1	5.3	8.1	9.8	12.5	17.9	21.7	27.0	33.3
Private	128.1	155.3	194.2	224.6	294.2	358.3	409.8	487.5	569.6	685.8
Non-Profit Services	2.2	3.3	3.7	5.3	4.1	5.0	7.4	9.6	12.4	7.1
Households, Marketed	85.6	110.2	142.1	168.3	241.3	294.4	335.9	406.2	480.9	593.9
Households, Nonmarketed	40.3	41.8	48.4	51.0	48.8	58.9	66.5	71.7	76.3	84.8
Gross Domestic Investment	101.7	115.0	98.7	142.5	197.6	297.8	349.9	359.6	303.3	260.8
Increase in Stocks	44.4	35.9	20.9	32.4	34.7	49.0	43.3	55.0	-17.0	-10.1
Cattle	13.5	13.2	15.6	24.5	15.7	12.5	9.0	2.0	-28.0	-23.0
All Other	30.9	22.7	5.3	7.9	19.0	36.5	34.3	53.0	11.0	12.9
Gross Fixed Cap. Formation	57.3	79.1	77.8	110.1	162.9	248.8	306.6	304.6	320.3	270.9
Exports of Goods	93.8	135.2	155.5	161.1	275.9	357.8	398.0	349.9	618.3	771.1
Imports of Goods	-119.6	-152.4	-175.3	-213.3	-302.7	-387.4	-495.1	-564.0	-637.1	-687.5
Import of Services (net)	-28.0	-35.1	-33.7	-45.9	-53.2	-58.8	-70.6	-74.4	-112.7	-98.8
Net errors & Omissions	-4.5	1.2					-5.1	-9.8	1.1	1.5
GDP at Market Prices	271.3	325.0	368.6	458.4	596.1	796.8	951.7	1077.5	1154.7	1281.9

Source: National Accounts of Botswana, 1973/74-1982/83 and official estimates.
 November 1985

Table 2.8 BOTSWANA - PERCENTAGE DISTRIBUTION OF EXPENDITURE ON GDP AT CURRENT PRICES, 1974/75-1983/84
(Percent)

	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84
Total Consumption	79.6	76.7	85.7	87.7	77.2	70.4	77.3	92.1	83.1	80.5
Public	19.5	20.0	24.0	25.3	20.2	19.9	24.7	29.6	27.5	26.4
Central	17.5	17.7	22.3	23.1	18.3	18.1	22.4	26.8	24.9	23.8
Local	2.0	2.2	1	2.2	1.9	1.8	2.3	2.8	2.6	2.6
Private	60.1	56.7	61.6	62.3	57.0	50.6	52.6	62.6	55.6	54.0
Non-Profit Services	1.0	1.2	1.2	1.5	0.8	0.7	0.9	1.2	1.2	0.6
Households, Marketed	40.2	40.2	45.1	46.7	46.8	41.6	43.1	52.1	46.9	46.8
Households, Nonmarketed	18.9	15.3	15.4	14.2	9.5	8.3	8.5	9.2	7.4	6.7
Gross Domestic Investment	47.7	42.0	31.3	39.6	38.3	42.0	44.9	46.1	29.6	20.6
Increase in Stocks	20.8	13.1	6.6	9.0	6.7	6.9	5.6	7.1	-1.7	-0.8
Cattle	6.3	4.8	5.0	6.8	3.0	1.8	1.2	0.3	-2.7	-1.8
All Other	14.5	8.3	1.7	2.2	3.7	5.2	4.4	6.8	1.1	1.0
Gross Fixed Cap. Formation	26.9	28.9	24.7	30.6	31.6	35.1	39.3	39.1	31.3	21.3
Exports of Goods	44.0	49.4	49.3	44.7	53.5	50.5	51.1	44.9	60.4	60.8
Imports of Goods	-56.2	-55.6	-55.6	-59.2	-58.7	-54.7	-63.5	-72.4	-62.2	-54.2
Import of Services (net)	-13.1	-12.8	-10.7	-12.7	-10.3	-8.3	-9.1	-9.5	-11.0	-7.7
Net errors & Omissions	-2.1	0.4								
GDP at Market Prices	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: National Accounts of Botswana, 1973/74-1982/83 and official estimates.
November 1985

Table 2.9 BOTSWANA - EXPENDITURE ON GROSS DOMESTIC PRODUCT AT CONSTANT MARKET PRICES, 1974/75-1983/84
(Millions of 1979/80 Pula)

	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84 Prel.
Total Consumption	281.0	301.7	330.1	371.0	398.4	451.6	499.0	520.0	566.0	680.9	665.5
Public	83.1	83.6	95.7	115.1	125.3	119.3	140.7	163.6	184.1	203.2	222.7
Central	75.1	76.1	86.8	108.9	117.3	110.3	128.2	149.0	166.8	182.9	199.8
Local	8.0	7.5	8.9	6.2	8.0	9.0	12.5	14.6	17.3	20.3	22.9
Private	197.9	218.1	234.4	256.7	273.1	332.3	358.3	356.4	381.9	397.7	442.0
Non-Profit Services	3.8	3.8	5.0	5.0	6.6	4.7	5.0	6.9	8.7	8.8	5.4
Households, Marketed	121.7	150.1	171.6	193.9	209.3	276.2	294.4	291.7	313.9	330.3	375.2
Households, Nonmarketed	72.4	64.2	57.8	57.8	57.2	51.4	58.9	57.8	59.3	58.6	62.2
Gross Domestic Investment	214.9	188.7	181.7	134.5	184.4	225.5	290.9	296.2	285.9	196.5	160.8
Increase in Stocks	32.0	76.2	53.4	26.4	39.4	38.2	42.1	31.5	38.5	-15.2	-7.8
Cattle	14.8	18.0	17.0	19.0	29.9	16.0	12.5	7.5	1.7	-21.6	-17.4
All Other	17.2	58.2	36.4	7.4	9.5	22.2	29.6	24.0	36.8	6.4	9.6
Gross Fixed Cap. Formation	182.9	112.5	128.3	108.1	145.0	187.3	248.8	264.7	247.4	211.7	168.6
Exports of Goods	188.9	194.2	261.0	264.8	316.5	369.7	357.8	455.5	391.5	695.2	868.9
Imports of Goods	-252.0	-243.3	-266.1	-258.2	-290.6	-369.5	-387.4	-429.5	-447.1	-435.2	-463.7
Import of Services (net)	-33.5	-47.2	-53.4	-49.5	-59.3	-62.2	-58.8	-61.5	-56.3	-74.4	-57.3
Net errors & Omissions								-18.9	2.5	-65.5	-78.7
GDP at Market Prices	399.3	394.1	453.3	463.4	549.4	615.1	701.5	761.8	742.5	917.5	1095.5

Source: National Accounts of Botswana, 1973/74-1982/83 and official estimates.
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Table 2.10 BOTSWANA - GROWTH OF EXPENDITURE ON GROSS DOMESTIC PRODUCT AT CONSTANT MARKET PRICES, 1974/75-1983/84
(Percent)

	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84
Total Consumption	7.4	9.4	12.6	7.2	13.4	10.5	4.2	8.8	6.2	10.8
Public	0.6	14.5	20.3	8.9	-4.8	17.9	16.3	12.5	10.4	9.6
Central	1.3	14.1	25.5	7.7	-6.0	16.2	16.2	11.9	9.7	9.2
Local	-6.3	18.7	-30.3	29.0	12.5	30.9	16.8	18.5	17.3	12.8
Private	10.2	7.5	9.5	6.4	21.7	7.8	-0.5	7.2	4.1	11.3
Non-Profit Services	0.0	31.6	0.0	32.0	-28.8	6.4	30.0	26.1	1.1	-38.6
Households, Marketed	23.3	14.3	13.0	7.9	32.8	6.6	-0.9	7.6	5.2	13.6
Households, Nonmarketed	-11.3	-10.0	0.0	-1.0	-10.1	14.6	-1.9	2.6	-1.2	6.1
Gross Domestic Investment	-12.2	-3.7	-26.8	37.1	22.3	29.8	1.8	-3.5	-31.3	-18.2
Increase in Stocks	138.1	-29.9	-50.6	49.2	-3.0	10.2	-25.2	22.2	-139.5	-48.7
Cattle	21.6	-5.6	11.8	57.4	-46.5	-21.9	-40.0	-77.3	-1370.6	-19.4
All Other	238.4	-37.5	-79.7	28.4	133.7	33.3	-18.9	53.3	-82.6	50.0
Gross Fixed Cap. Formation	-38.5	14.0	-15.7	34.1	29.2	32.8	6.4	-6.5	-14.4	-20.4
Exports of Goods	2.8	34.4	1.5	19.5	16.8	-3.2	27.3	-14.1	77.6	25.0
Imports of Goods	-3.5	9.4	-3.0	12.5	27.2	4.8	15.9	4.1	-2.7	6.5
Import of Services (net)	40.9	13.1	-7.3	19.8	4.9	-5.5	4.6	-8.5	32.1	-23.0
Net errors & Omissions										
GDP at Market Prices	-1.3	15.0	2.2	18.6	12.0	14.0	8.6	-2.5	23.6	19.4

Source: National Accounts of Botswana, 1973/74-1983/83 and official estimates.
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Table 2.11

BOTSWANA - NET DIRECT TAXES ON GDP BY INDUSTRIAL ORIGIN, 1973/74-1982/83
(Millions of Pula)

	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83
Agricultural	0.0	0.1	0.1	0.1	-0.2	-0.4		-0.1	-0.1	0.1
Mining & Quarrying									0.8	0.6
Manufacturing	0.5	0.5	0.4	1.3	0.7	2.6	0.3	4.1	5.6	0.5
Electricity & Water								-0.2		
Construction				0.1		0.1	0.1	0.1	0.1	0.1
Trade, Hotels & Restaurants	13.5	16.8	20.8	27.8	39.4	57.9	100.8	115.8	111.7	130.6
(Customs Duty)	13.4	16.4	19.4	27.5	38.9	57.6	84.7	103.7	104.7	127.5
Transport, Storage & Comm.		0.2	1.4	0.7	0.8	1.0	0.4	1.1	0.6	0.2
Finance & Business Services	0.1	0.2	0.1		0.2	0.1	0.2	0.1	-0.2	-0.5
General Government	0.1	0.3	0.4	0.2	0.0	0.4	0.3	0.3	1.3	0.4
Business Ent. Serving Households	0.1	0.3	0.3	0.2		0.4	0.2	0.1	0.2	0.2
Non-Profit Inst. Serving Households			0.1					0.1		
Total	14.3	18.4	23.5	30.4	40.9	62.1	102.3	121.3	119.0	132.2

Source: CSO, National Accounts of Botswana, 1982/83.
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Table 2.12

BOTSWANA - IMPLICIT DEFATORS FOR EXPENDITURE ON GDP, 1974/75-1983/84

	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84 Prel.
Total Consumption	56.2	63.6	72.6	79.3	88.2	100.0	115.8	126.8	141.7	153.4
Public	49.6	57.2	65.8	72.9	87.4	100.0	117.5	125.1	138.7	150.6
Central	49.0	56.0	64.6	70.9	85.7	100.0	117.0	125.1	139.3	151.2
Local	56.8	68.5	85.5	101.3	108.9	100.0	122.6	125.4	133.0	145.4
Private	58.7	66.3	75.7	82.2	88.5	100.0	115.0	127.7	143.2	154.9
Non-Profit Services	57.9	66.0	74.0	80.3	87.2	100.0	107.2	110.3	140.9	131.5
Households, Marketed	57.0	64.2	73.3	80.4	87.4	100.0	115.2	129.4	145.6	158.3
Households, Nonmarketed	62.8	72.3	83.7	89.2	94.9	100.0	115.1	120.9	130.2	136.3
Gross Domestic Investment	53.9	63.3	73.4	77.3	87.6	102.4	118.1	125.8	154.4	162.2
Increase in Stocks	58.3	67.2	79.2	82.2	90.8	116.4	137.5	142.9	111.8	129.5
Cattle	75.0	77.6	82.1	81.9	90.1	100.0	120.0	117.6	129.6	132.2
All Other	53.1	62.4	71.6	83.2	85.6	123.3	142.9	144.0	171.9	134.4
Gross Fixed Cap. Formation	50.9	61.7	72.0	75.9	87.0	100.0	115.8	123.1	151.3	160.7
Exports of Goods	48.3	51.8	58.7	50.9	74.6	100.0	87.4	89.4	88.9	88.7
Imports of Goods	49.2	57.3	67.9	73.4	81.9	100.0	115.3	126.1	146.4	148.3
Import of Services (net)	59.3	65.7	68.1	77.4	85.5	100.0	114.8	132.1	151.5	171.0
Net error & Omissions										
GDP at Market Prices	54.0	60.4	68.0	65.6	83.9	101.0	102.3	104.9	111.6	115.8

Source: National Accounts of Botswana, 1973/74-1982/83 and official estimates.
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Table 2.13

BOTSWANA - PRODUCTION, CONSUMPTION AND INVESTMENT 1974/75-1983/84
(Millions of Pula)

	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	Prel. 1983/84
GDP at Market Prices	213.0	273.9	315.1	360.3	516.1	701.5	779.2	779.2	1024.3	1269.0
Net Factor Payments	-24.9	-25.9	-24.4	-31.9	-45.8	-39.6	-106.0	-55.1	-128.7	NA
Gross National Product a/	188.1	248.0	290.7	328.4	470.3	661.9	673.2	724.1	895.6	NA
Gross Domestic Investment	181.7	115.0	98.7	142.5	197.6	297.8	349.9	359.6	303.3	260.8
Fixed Investment	57.3	79.1	77.8	110.1	162.9	248.8	306.6	304.6	320.3	270.9
Increase in Stock	44.4	35.9	20.9	32.4	34.7	49.0	43.3	55.0	-17.0	-10.1
Consumption	169.6	210.0	269.9	315.9	398.5	499.0	602.1	717.9	851.4	1020.8
Private	128.1	15.3	194.2	224.6	294.2	358.3	409.8	487.5	569.6	685.8
Public	41.5	54.7	75.7	91.3	104.3	140.7	192.3	230.4	281.8	335.0
Gross Domestic Savings	43.4	63.9	45.2	44.4	117.6	202.5	177.1	61.3	172.9	248.2
Net Current Transfers	8.3	26.2	27.2	32.5	44.0	52.7	-16.0	61.1	59.7	NA
Net Factors Payments	-24.9	-25.9	-24.4	-31.9	-45.8	-39.6	-106.0	-55.1	-128.7	NA
Gross National Savings	26.8	64.2	48.0	45.0	115.8	215.6	55.1	67.3	103.9	NA

a/ Not adjusted for terms of trade.

Source: National Accounts of Botswana, 1974/74-1982/83 and official estimates.

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Table 2.14

BOTSWANA - GROSS CAPITAL FORMATION BY SECTOR, 1974/75-1982/83
(Millions of Pula)

	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83
Agricultural	14.1	17.5	17.2	26.6	15.9	16.4	13.5	6.1	-20.0
Mining & Quarrying	15.5	17.7	9.0	39.8	74.6	128.8	126.5	117.0	56.1
Manufacturing	6.8	11.2	7.3	1.2	7.7	2.3	20.5	18.8	12.7
Electricity & Water	2.5	3.7	2.2	0.2	3.3	8.2	17.6	22.2	53.8
Construction	7.5	6.3	5.4	2.1	3.7	7.2	12.7	1.4	9.0
Wholesale & Retail Trade	15.7	11.2	9.8	9.3	10.4	22.0	20.1	42.3	25.3
Transport & Communications	2.8	4.3	4.5	2.8	5.0	7.2	8.8	19.0	14.2
Finance & Business Services	9.8	10.3	10.3	15.5	16.2	20.5	34.1	28.9	26.0
General Government	24.5	29.2	30.3	41.1	57.5	78.6	90.1	101.3	123.4
Household, Comm. & Social Serv.	2.6	3.6	2.7	3.9	3.3	6.6	6.0	2.6	2.8
Total Gross Capital Formation	101.8	115.0	98.7	142.5	197.6	297.8	349.9	359.6	303.3

Source: National Accounts of Botswana, 1973/74-1982/83 and official estimates.
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Table 2.15

BOTSWANA - GROSS CAPITAL FORMATION BY TYPE OF ASSET, 1974/75-1983/84
(Millions of Pula)

	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84 Prel.
Total Change in Stocks	44.4	35.9	20.9	32.4	34.7	49.0	43.3	55.0	-17.0	NA
Raw Material & Goods for Resale	14.2	8.6	5.9	7.8	9.6	29.3	12.9	35.8	7.7	NA
Work in Progress in Fin. Goods	16.7	14.1	-0.6	0.1	9.4	7.2	21.4	17.2	3.3	NA
Increase in Cattle Herds	13.5	13.2	15.6	24.5	15.7	12.5	5.0	2.0	-20.0	-23.0
Total Fixed Capital Formation	57.3	79.1	77.8	110.1	162.9	248.8	306.6	303.8	320.3	270.9
Residential Buildings	11.0	13.4	9.6	17.0	20.6	23.9	37.4	29.0	35.1	NA
Non-Residential Buildings	9.4	10.7	14.0	8.8	19.0	25.7	50.8	40.7	30.8	NA
Other Construction	21.2	28.6	33.4	55.1	59.3	104.0	90.7	59.5	92.5	NA
Machinery & Transport Equipment	15.7	26.4	20.8	29.2	64.0	95.2	127.7	174.6	161.9	NA
Total Gross Capital Formation	101.7	115.0	98.7	142.5	197.6	297.8	349.9	358.8	303.3	260.8

Source: National Accounts of Botswana, 1973/74-1982/83 and official estimates.
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Table 3.1

BOTSWANA - SUMMARY BALANCE OF PAYMENTS, 1976-1984

(Millions of Pula)

	1976	1977	1978	1979	1980	1981	1982	1983	1984
Trade Balance	-28.4	-36.8	-51.2	0.1	-45.1	-239.8	-122.7	27.5	136.0
Exports, f.o.b. a/	147.6	161.3	185.0	360.4	423.2	335.8	474.3	782.4	875.0
Imports, f.o.b. b/	-176.0	-198.1	-236.2	-360.3	-468.3	-574.8	-597.0	-674.9	-739.0
Services (net)	-21.0	-21.0	-50.5	-75.8	-115.3	-48.5	-46.1	-162.7	-202.9
Services Payments	113.0	122.0	140.7	183.6	273.1	218.5	233.4	372.2	447.1
Transportation & Travel	44.0	47.0	48.1	63.1	88.1	94.4	98.5	123.9	134.1
Investment Income	13.0	12.0	30.3	52.1	98.6	35.0	41.4	142.5	200.3
Migrant Remittances	32.0	34.0	26.1	26.2	36.6	36.1	31.6	24.7	23.5
Other	24.0	29.0	36.2	42.2	49.8	53.0	61.9	81.1	89.2
Service Receipts	92.0	101.0	90.2	108.6	157.8	170.0	187.3	209.5	244.2
Transportation & Travel	29.0	31.0	28.2	31.8	53.4	51.6	70.3	81.0	83.8
Investment Income	3.0	5.0	6.4	17.4	26.4	34.3	34.7	39.3	65.5
Migrant Remittances	49.0	53.0	42.2	41.4	53.0	54.4	50.1	52.1	50.8
Other	11.0	12.0	13.4	18.0	25.0	29.7	32.2	37.1	45.7
Balance of Goods & Services	-49.4	-57.8	-101.7	-74.9	-160.4	-287.5	-168.8	-135.2	-66.9
Transfer Payments (net)	58.0	79.4	67.1	105.0	99.3	116.3	119.9	137.3	131.0
Private Transfers (net)	5.0	5.2	5.2	1.8	-1.0	-1.4	-0.2	-0.4	-7.5
Official Transfers (net) c/	45.0	74.2	61.9	103.2	100.3	117.7	120.1	137.7	138.5
Balance on Current Account	0.6	21.6	-37.6	30.1	-61.1	-171.2	-48.9	2.1	64.1
Balance on Capital Account	26.0	2.1	70.5	72.5	118.2	91.3	91.5	105.3	69.5
Private Long Term	14.0	15.1	44.5	90.8	97.2	93.8	53.9	58.5	75.0
Private Short Term	22.0	20.2	26.2	-6.1	4.0	-5.1	13.1	23.5	-15.0
Government Capital	-10.0	-33.9	-1.8	-10.5	14.8	1.2	41.6	19.6	30.9
Banking Sector		-0.2	0.8	-1.7	2.2	1.4	-17.1	3.7	-21.4
Overall Balance	26.6	23.7	32.9	102.6	57.1	-79.9	42.6	107.4	133.6
Change in External Reserves	-17.0	-17.9	-42.2	-91.9	-67.3	62.9	-54.6	-136.6	-160.5
Allocation of SDRs				0.9	0.9	-2.1	-1.9	-1.5	-4.1
Exchange Rate Adjustment		2.6	9.2	-3.3	-5.4	27.9	29.4	10.0	112.4
Net Errors & Omissions	-9.6	-8.4	0.1	-8.3	14.7	-8.8	-15.5	20.7	-81.4

a/ Reported customs statistics adjusted for timing.

b/ Reported customs statistics adjusted for valuation (to exclude duties and freight and insurances charges) and coverage.

c/ Including grants but not loans converted into grants.

Source: Bank of Botswana Bulletin, December 1984 and June 1985, and data provided by the Bank of Botswana, November 1985

Table 3.2:

BOTSWANA - RECORDED FOREIGN TRADE, 1975-1984
(Millions of Pula)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Exports, f.o.b.	105.0	153.2	161.8	183.5	356.1	389.0	319.7	487.8	670.1	780.2
Meat & Products	36.4	43.0	44.4	27.2	63.9	28.8	58.2	82.9	76.2	55.1
Animals	0.1	0.2	0.7	0.1	0.2	0.1	0.1	0.2	0.2	
Hides & Skins	1.5	3.1	3.8	2.3	8.7	3.0	4.4	7.4	5.4	5.3
Diamonds	32.1	37.5	50.0	75.5	183.8	236.3	129.7	253.8	447.8	546.8
Copper Nickel Matte	22.0	51.8	42.6	50.1	60.8	80.5	76.6	67.3	63.4	60.2
Textiles	2.5	6.1	6.5	8.2	13.1	15.6	15.4	28.6	30.7	37.1
All Other Goods	10.4	11.5	13.8	20.1	25.6	25.5	35.3	47.6	47.2	75.7
Imports (Duty, incl. c.i.f.)	159.3	181.4	247.7	292.5	425.0	534.2	638.9	734.7	781.8	865.0
Food, Beverages, Tobacco	29.0	35.5	49.1	53.4	72.0	84.0	90.8	121.1	153.5	174.3
Fuel	16.8	19.2	26.2	25.8	57.2	69.7	80.9	103.4	98.4	97.3
Chemicals, Rubber Products	10.5	14.0	19.4	21.3	32.6	41.5	49.7	60.4	64.8	70.8
Wood & Paper Products	6.5	6.4	8.4	8.9	13.5	17.0	20.0	28.9	27.0	29.8
Textiles, Footwear	16.3	21.0	26.5	28.6	36.7	44.9	58.8	71.6	72.4	73.2
Metal, Metal Products	15.8	13.1	23.6	33.8	46.0	58.6	73.7	68.4	76.3	79.5
Machinery, Electric. Equip.	16.6	20.8	32.4	45.0	64.9	87.6	104.7	101.3	99.4	126.6
Vehicles, Transport. Equip.	21.6	21.2	25.0	36.2	50.8	63.1	79.4	86.1	89.8	99.0
Other Goods	26.2	30.2	37.1	39.5	51.3	67.8	80.9	93.5	108.2	114.5

Source: Statistical Bulletin, March 1985, Vol.10 - No.1.
November 1985

Table 3.3: BOTSWANA - PERCENTAGE IN TOTAL EXPORTS AND IMPORTS OF RECORDED FOREIGN TRADE, 1975-1984
(Percent)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Exports, f.o.b.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Meat & Products	34.7	28.1	27.4	14.8	17.9	7.2	18.2	17.0	11.4	7.1
Animals	0.1	0.1	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Hides & Skins	1.4	2.0	2.3	1.3	2.4	0.8	1.4	1.5	0.8	0.7
Diamonds	30.6	24.5	30.9	41.1	51.6	60.7	40.6	52.0	66.7	70.1
Copper Niche Matte	21.0	33.8	26.3	27.3	17.1	20.7	24.0	13.8	9.5	7.7
Textiles	2.4	4.0	4.0	4.5	3.7	4.0	4.0	5.9	4.6	4.8
All Other Goods	9.9	7.5	8.5	11.0	7.2	6.6	11.0	9.8	7.0	9.7
Imports (Duty, incl. c.i.f.)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Food, Beverages, Tobacco	18.2	19.6	19.8	18.3	16.9	15.7	14.2	16.5	19.6	20.2
Fuel	10.5	10.6	10.6	8.8	13.5	13.0	12.7	14.1	12.6	11.2
Chemicals, Rubber Products	6.6	7.7	7.8	7.3	7.7	7.8	7.8	8.2	8.3	8.2
Wood & Paper Products	4.1	3.5	3.4	3.0	3.2	3.2	3.1	3.9	3.5	3.4
Textiles, Footwear	10.2	11.6	10.7	9.8	8.6	8.4	9.2	9.7	9.3	8.5
Metal, Metal Products	9.9	7.2	9.5	11.6	10.8	11.0	11.5	9.3	9.8	9.2
Machinery, Electric. Equip.	10.4	11.5	13.1	15.4	15.3	16.4	16.4	13.8	12.7	14.6
Vehicles, Transport. Equip.	13.6	11.7	10.1	12.4	12.0	11.8	12.4	11.7	11.5	11.4
Other Goods	16.4	16.6	15.0	13.5	12.1	12.7	12.7	12.7	12.8	13.2

Source: Statistical Bulletin, March 1985, Vol 10 - No.1.
November 1985

Table 3.4:

BOTSWANA - DESTINATION OF EXPORTS, 1975-1984

(Millions of Pula)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Common Customs Area a/	24.8	23.2	18.7	25.0	24.9	25.8	52.9	55.3	55.6	NA
Other Africa	4.7	11.5	13.5	13.6	30.0	32.8	33.7	64.4	61.7	NA
Europe	51.9	66.8	85.6	93.2	237.7	246.9	154.4	306.3	501.2	NA
United Kingdom	49.7	63.3	63.6	8.6	46.3	8.2	21.3	56.2	29.4	NA
Other	2.2	2.7	22.0	84.6	191.4	238.7	133.1	250.1	471.8	NA
North & South America	22.6	52.1	43.4	50.6	61.7	81.5	77.6	49.9	49.9	NA
All Other Countries	1.0	6.4	0.7	1.1	1.8	2.0	1.1	2.9	2.9	NA
Exports (f.o.b. value)	185.0	153.2	161.9	183.5	356.1	389.0	319.7	478.8	671.3	788.2

a/ Comprises Botswana, Swaziland, Lesotho and South Africa.

Source: Statistical Bulletin, March 1985, Vol. 10 - No.1.

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Table 3.5:

BOTSWANA - ORIGIN OF IMPORTS, 1975-1984
(Millions of Pula)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Common Customs Area a/	127.1	147.7	212.4	247.7	372.6	465.0	559.5	635.5	645.5	NA
Other Africa	28.3	22.1	24.6	29.1	29.3	35.8	40.5	46.7	57.1	NA
Europe	7.3	6.0	5.5	7.7	13.6	13.1	18.1	29.5	50.3	NA
United Kingdom	3.9	3.0	4.0	4.9	9.6	7.3	7.2	16.7	9.8	NA
Other	3.4	3.0	1.4	2.8	4.0	5.8	10.9	12.8	40.5	NA
North & South America	3.8	3.7	4.2	5.9	5.7	16.1	14.3	12.1	8.2	NA
All Other Countries	0.8	1.9	0.9	2.1	3.8	4.2	6.5	10.9	15.5	NA
Imports (duty inclusive, c.i.f. values)	159.3	181.4	247.5	292.5	425.0	534.2	638.9	734.7	776.6	865.0

a/ Comprises Botswana, Swaziland, Lesotho and South Africa.

Source: Statistical Bulletin, March 1985, Vol.10 - No.1.

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Table 3.6:

BOTSWANA - UNIT VALUE INDICES AND TERMS OF TRADE, 1975-1982a/
(1977=100)

	1975	1976	1977	1978	1979	1980	1981	1982
Unit Value Indices								
Total Exports	74.2	90.9	100.0	115.8	163.3	166.9	162.6	154.9
Total Imports	84.9	91.0	100.0	128.2	152.5	187.9	215.2	238.2
Terms of Trade	87.4	99.9	100.0	90.3	107.1	88.8	75.5	65.0
Change in Unit Value Indices (In Percent)								
Total Exports		22.6	10.0	15.8	41.0	2.2	-2.6	-4.7
Diamonds		11.0	36.7	45.8	37.2	10.0	-20.1	-12.3
Beef		30.9	9.1	6.1	32.4	-11.8	36.1	12.2
Copper-Nickel		21.4	-13.3	-2.5	33.1	5.0	3.7	-18.2
Other		89.7	46.9	-25.0	211.0	-3.5	-4.1	8.5
Total Imports (of which):								
Petroleum Products		34.4	21.5	-2.2	86.2	12.7	7.3	15.9
Fertilizers		-13.6	18.0	66.1	-16.3			
Machinery		18.0	-35.4	33.3	52.6	67.8	6.3	9.9
Terms of Trade		14.3	0.1	-9.7	18.6	17.0	-15.0	-13.9

a/ In terms of units of accounts (UA) of the Southern African Customs Union. To date the UA has been equivalent to the South African Rand.

Source: External Trade Statistics, 1979 and IMF.

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Table 3.7:

BOTSWANA - INTERNATIONAL RESERVES, 1976-1984
(Millions of Pula, end of period)

	1976	1977	1978	1979	1980	1981	1982	1983	1984
Gross Official Reserves	65.1	82.8	124.5	210.8	255.0	223.0	310.8	457.3	736.6
SDR Holding		1.5	1.6	2.6	2.3	5.4	7.2	8.8	12.9
Reserve Position in IMF		1.2	1.2	2.3	4.8	9.3	10.7	13.7	18.2
Foreign Exchange Reserves	65.1	80.1	121.7	205.9	247.9	208.3	292.9	434.8	705.5
Imports (Goods & Services)	289.0	320.1	379.9	543.9	741.5	793.3	830.4	1047.1	1186.1
Gross Official Reserves/ Average Monthly Imports	2.7	3.1	3.9	4.7	4.1	3.4	4.5	5.2	7.5

Source: Bank of Botswana Bulletin, June 1985.
November 1985

TABLE 2 - ROTSWANA

SERVICE PAYMENTS, COMMITMENTS, DISBURSEMENTS AND OUTSTANDING AMOUNTS OF EXTERNAL PUBLIC DEBT

PROJECTIONS BASED ON DEBT OUTSTANDING INCLUDING UNDISBURSED AS OF DEC. 31, 1984
DEBT REPAYABLE IN FOREIGN CURRENCY AND GOODS
(IN THOUSANDS OF U.S. DOLLARS)

YEAR	DEBT OUTSTANDING AT BEGINNING OF PERIOD		TRANSACTIONS DURING PERIOD					OTHER CHANGES	
	DISBURSED ONLY	INCLUDING UNDISBURSED	COMMITMENTS	DISBURSEMENTS	SERVICE PAYMENTS			CANCEL-LATIONS	ADJUST-MENT
	(1)	(2)	(3)	(4)	PRINCIPAL (5)	INTEREST (6)	TOTAL (7)	(8)	(9)
1980	134,273	219,073	89,325	24,418	5,972	6,622	12,594	2,665	.42
1981	151,850	280,503	45,043	24,585	1,983	6,667	8,650	83	-13,790
1982	164,551	309,890	105,552	56,579	3,723	9,669	13,392	-	-9,174
1983	210,830	402,345	148,398	35,872	11,142	12,780	23,922	1,631	-12,255
1984	230,223	525,713	50,714	75,519	17,822	15,229	33,051	20	-24,278
1985	276,132	534,307	-	74,685	28,645	19,662	48,307	-	5
* * * * * THE FOLLOWING FIGURES ARE PROJECTED * * * * *									
1985	276,132	534,307	-	74,685	28,645	19,662	48,307	-	5
1986	322,175	505,867	-	64,240	18,181	22,898	41,079	-	-2
1987	368,233	487,484	-	39,407	28,540	26,093	54,633	-	3
1988	379,104	458,947	-	30,308	33,879	26,672	60,551	-	3
1989	375,532	425,071	-	19,599	35,638	26,108	61,746	-	-7
1990	359,485	389,426	-	13,305	35,430	24,717	60,147	-	-4
1991	337,358	353,992	-	9,340	34,971	22,889	57,860	-	-3
1992	311,728	319,018	-	5,313	34,978	20,856	55,834	-	-2
1993	282,059	284,038	-	1,978	34,881	18,527	53,408	-	-4
1994	249,153	249,153	-	-	34,731	16,039	50,770	-	-
1995	214,422	214,422	-	-	35,251	13,486	48,717	-	-3
1996	179,168	179,168	-	-	32,508	10,892	43,400	-	5
1997	146,865	146,865	-	-	30,974	8,497	39,471	-	-5
1998	115,686	115,686	-	-	28,007	6,221	34,228	-	-3
1999	87,676	87,676	-	-	22,546	4,209	26,755	-	4
2000	65,134	65,134	-	-	15,227	2,737	17,964	-	-1
2001	49,906	49,906	-	-	9,959	1,831	11,790	-	-1
2002	39,946	39,946	-	-	6,638	1,282	7,920	-	1
2003	33,309	33,309	-	-	3,014	944	3,958	-	1
2004	30,298	30,298	-	-	3,014	773	3,787	-	-

* THIS COLUMN SHOWS THE AMOUNT OF ARITHMETIC IMBALANCE IN THE AMOUNT OUTSTANDING INCLUDING UNDISBURSED FROM ONE YEAR TO THE NEXT. THE MOST COMMON CAUSES OF IMBALANCES ARE CHANGES IN EXCHANGE RATES AND TRANSFER OF DEBTS FROM ONE CATEGORY TO ANOTHER IN THE TABLE.

Table 5.1 BOTSWANA - Summary of Government Operations, 1978/79 - 1986/87
(millions of pula)

	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86 RE	1986/87 RE
Recurrent Revenue	136.8	212.2	269.5	283.0	346.5	514.8	763.4	985.7	1153.5
Recurrent Expenditure	99.1	122.0	166.8	200.0	226.3	278.6	342.3	426.1	522.2
Current Surplus	37.8	90.2	102.7	83.0	120.2	244.2	421.1	559.7	631.3
Capital Expenditure	79.0	98.3	121.4	121.3	161.4	192.7	212.1	275.3	316.0
Net Lending	-5.9	7.8	28.7	20.1	27.0	46.8	60.4	71.4	64.1
Overall Deficit/Surplus	-35.4	-15.9	-39.5	-58.4	-68.2	54.7	148.7	213.0	251.2
Financing of Deficit	35.4	15.9	39.5	58.4	68.2	-54.7	-148.7	-213.0	-251.2
Grants	29.7	36.9	37.8	39.7	47.2	48.2	39.5	29.4	41.2
External Loans	16.2	13.3	12.2	13.0	62.2	34.3	58.6	65.0	75.0
Internal Loans	.0	2.0	1.4	-13.0	-0.8	.0	-0.1	0.0	0.8
Less Amortization	-2.6	-3.7	-2.5	-1.5	-3.3	-14.3	-24.9	-39.5	-23.1
IMF Transactions	0.2	-2.4	-0.8	-4.0	0.9	-1.3	0.8	-1.0	-1.0
Other financing	1.8	2.7	-2.6	1.4	4.8	-2.6	-1.5	2.5	-2.0
Change in Cash Balances (--increase)	-9.9	-33.1	-6.1	22.8	-42.8	-119.0	-221.3	-269.5	-341.3

Source: Financial Statements, Tables and Estimates of Consolidated and Development Fund Revenues, 1986/87

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Table 5.2 Botswana - Government Revenue 1978/79 - 1986/87
(Millions of Pula)

	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86 RE	1986/87 RE
Revenues and Grants	166.5	249.1	307.3	322.6	393.7	563.1	802.9	1015.2	1178.2
Tax Revenues	112.1	184.3	244.3	226.6	279.1	440.7		794.3	995.3
Mineral Revenues a/	38.8	76.6	101.1	77.1	99.5	193.8	376.5	560.3	685.8
Custom Union Receipts	49.8	80.2	102.0	104.3	114.3	156.8	155.8	145.4	193.5
Non-Mineral Income Tax	20.9	24.3	38.5	41.6	58.3	78.9	87.2	82.2	109.4
Export Duties	0.5	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.5
Property Taxes	0.4	0.6	0.3	0.8	0.9	0.5	0.8	0.5	0.5
Motor Vehicles Taxes	0.8	1.0	1.1	1.3	1.3	1.4	1.6	1.5	1.5
Business and Professional Licenses	0.9	0.9	0.8	1.2	1.3	1.0	1.3	0.9	1.0
Stamp Duties	.0	-	-	-	-	-	-	-	-
General Sales Tax	-	-	-	-	2.9	7.8	5.8	3.1	3.1
Non-Tax Revenues	24.8	27.9	25.3	56.4	67.4	74.1	134.6	191.4	141.7
Interest	9.5	9.3	8.4	10.7	13.5	14.4	25.5	16.3	4.0
Other Property Income	6.2	8.7	3.9	27.5	35.4	37.5	79.5	150.3	75.5
Other	9.0	10.0	12.9	18.2	18.6	22.2	29.7	24.8	62.2
Grants	29.7	36.9	37.8	39.7	47.2	48.2	39.5	29.4	41.2
Recurrent	0.1	2.7	2.3	1.4	2.6	0.1	5.4	1.2	1.2
Development	29.6	34.3	35.5	38.2	44.6	48.2	34.2	28.2	40.0

a/ includes royalties and dividends

Source: Financial Statements, Tables and Estimates of Consolidated and Development Fund Revenues, 1986/87.

Table 5.3 Botswana - Government Revenue 1978/79 - 1986/87
(percentage distribution)

	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86 RE	1986/87 BE
Revenues and Grants	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Tax Revenues	67.3	74.0	79.5	70.2	70.9	76.3	78.3	78.2	84.5
Mineral Revenues a/	23.3	30.7	32.9	23.9	25.3	34.4	46.9	55.2	58.2
Custom Union Receipts	29.9	32.2	33.2	32.3	29.0	27.9	15.4	14.3	16.4
Non-Mineral Income Tax	12.6	9.8	12.5	12.9	14.8	14.0	18.9	8.1	9.3
Export Duties	0.3	0.3	0.2	0.1	0.2	0.1	0.1	0.1	.0
Property Taxes	0.2	0.3	0.1	0.2	0.2	0.1	0.1	0.1	.0
Motor Vehicles Taxes	0.5	0.4	0.4	0.4	0.3	0.2	0.2	0.1	0.1
Business and Professional Licenses	0.6	0.4	0.3	0.4	0.3	0.2	0.2	0.1	0.1
Stamp Duties	.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
General Sales Tax	0.0	0.0	0.0	0.0	0.7	1.4	0.6	0.3	0.3
Non-Tax Revenues	14.9	11.2	8.2	17.5	17.1	13.2	16.8	18.9	12.0
Interest	5.7	3.7	2.7	3.3	3.4	2.6	3.2	1.6	0.3
Other Property Income	3.7	3.5	1.3	8.5	9.0	6.7	9.9	14.8	6.4
Other	5.4	4.0	4.2	5.6	4.7	3.9	3.7	2.4	5.3
Grants	17.8	14.8	12.3	12.3	12.0	8.6	4.9	2.9	3.5
Recurrent	0.1	1.1	0.7	0.4	0.7	.0	0.7	0.1	0.1
Development	17.8	13.7	11.6	11.9	11.3	8.6	4.3	2.8	3.4

a/ includes royalties and dividends

Source: Financial Statements, Tables and Estimates of Consolidated and Development Fund Revenues, 1986/87.

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Table 5.4: Botswana - Government Recurrent Expenditure 1978/79-1986/87
(Millions of Pula)

	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86 RE	1986/87 RE
General Public Services	35.8	47.0	62.3	74.1	80.9	96.6	118.4	142.6	174.5
General Administration	25.2	32.2	40.3	48.0	51.6	61.8	78.7	95.6	120.1
Public Order	6.2	7.3	10.1	11.6	13.3	16.6	18.8	22.4	27.4
Defense	4.3	7.4	11.9	14.5	16.0	18.3	20.9	24.5	27.0
Social Services	37.5	42.8	57.2	67.2	77.5	91.7	112.2	142.0	169.1
Education	23.4	28.2	37.7	43.6	48.4	58.7	71.6	89.3	105.0
Health	7.2	7.6	10.1	12.3	14.1	16.4	20.2	23.3	29.4
Social Welfare	1.1	0.3	0.6	0.6	2.9	2.3	3.6	7.1	9.0
Housing	4.3	4.9	6.3	7.8	8.9	10.4	11.8	15.7	17.6
Other	1.5	1.8	2.5	2.9	3.2	3.9	5.0	6.6	8.1
Economic Services	17.5	21.6	30.4	33.8	36.9	46.8	60.6	82.6	108.8
Agriculture	8.6	9.8	15.3	16.9	18.7	22.6	27.7	33.4	43.4
Mining	1.0	1.4	1.7	1.8	2.2	2.4	3.2	4.4	5.2
Electricity & Water	2.1	2.8	3.9	4.4	5.2	6.3	7.0	9.8	14.6
Roads	2.3	2.5	3.2	3.7	4.2	6.5	10.3	14.4	21.2
Air Transport	0.6	0.7	1.0	1.1	1.2	1.5	2.1	2.6	3.2
Rail Transport	0.3	-	-	-	-	-	0.5	3.5	5.3
Telecommunications	1.1	1.8	1.7	1.6	1.0	1.4	1.6	2.0	2.1
Other Transport	0.1	.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Commerce & Industry	0.5	0.6	0.9	1.1	1.2	1.6	1.9	2.6	4.0
Other	1.0	1.9	2.7	3.2	3.1	4.5	6.3	9.9	9.7
Unallocated	8.3	10.7	17.0	24.8	31.1	35.5	51.1	58.9	69.8
Public Debt Interest	4.8	5.0	5.0	5.4	11.0	13.1	19.2	22.4	28.1
Transfers to Local Authorities	3.4	5.5	11.5	18.3	20.1	22.5	31.9	36.5	41.7
Other	.0	0.2	0.5	1.1	-	-	-	-	-
Total Recurrent Expenditure	99.1	122.0	166.8	200.0	226.3	270.6	342.3	426.1	522.2

Source: Financial Statements, Tables and Estimates of Consolidated
and Development Fund Revenues, 1986/87

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Table 5.5: Botswana - Government Capital Expenditures and Net Lending 1978/79-1986/87
(Millions of Pula)

	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86 RE	1986/87 BE
General Public Services	13.4	21.0	19.4	18.7	14.4	19.1	30.4	32.9	31.2
General Administration	3.1	5.9	3.8	5.2	4.7	5.7	10.0	17.3	12.9
Public Order	1.0	0.7	1.8	1.8	2.1	3.7	4.6	8.1	10.8
Defense	9.4	14.5	13.8	11.7	7.6	9.7	15.0	12.5	7.5
Social Services	20.5	35.3	49.2	53.6	60.9	60.4	79.1	109.8	152.2
Education	8.7	16.1	20.4	19.9	17.2	19.2	20.2	31.0	46.1
Health	2.1	1.8	4.0	5.5	4.2	6.2	5.0	15.1	23.0
Social Welfare	0.2	1.7	1.3	0.3	3.8	8.7	19.0	19.5	18.0
Housing	8.8	14.8	22.3	25.8	34.3	25.0	32.8	40.4	60.2
Other	0.8	0.8	1.2	2.2	1.5	1.3	2.1	3.8	4.9
Economic Services	39.2	49.8	73.5	68.9	112.1	107.8	160.4	193.2	190.2
Agriculture	8.6	9.3	11.4	13.9	12.2	17.4	22.0	39.7	30.9
Mining	3.9	10.5	17.1	12.8	7.4	4.2	5.2	5.0	3.2
Electricity & Water	2.9	4.3	7.5	6.3	14.2	38.1	68.5	63.8	61.4
Roads	15.1	15.0	15.0	20.6	32.0	19.1	16.4	29.9	24.0
Air Transport	2.7	3.2	2.3	4.0	18.8	14.0	16.8	5.5	3.7
Rail Transport	1.1	0.6	4.2	3.3	7.0	1.4	4.4	21.2	40.1
Telecommunications	1.4	3.1	6.2	-2.2	.0	-0.2	7.1	8.2	4.3
Other Transport	-	-	0.1	.0	0.3	.0	0.1	0.3	0.2
Commerce & Industry	2.9	0.7	8.5	8.9	16.0	11.7	19.7	18.9	21.5
Other	0.6	3.1	1.3	1.4	4.2	2.2	0.5	0.8	0.9
Unallocated	0.0	0.0	0.1	0.2	1.0	2.3	2.6	5.8	5.7
Transfers to Local Authorities	-	-	0.1	0.2	-	0.3	0.2	0.5	0.7
Other	-	-	-	-	1.0	2.1	2.4	5.3	6.0
Total Capital Expenditure & Net Lending	73.1	106.1	142.2	141.4	188.4	189.6	272.5	346.7	380.1

Source: Financial Statements, Tables and Estimates of Consolidated and Development Fund Revenues, 1986/87

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Table 5.6: Botswana - Government Consolidated Expenditure and Net Lending
1978/79 - 1986/87
(Millions of Pula)

	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86 RE	1986/87 RE
General Public Services	49.23	67.97	81.63	92.85	95.23	115.65	148.74	180.45	205.66
General Administration	28.30	38.11	44.08	53.24	56.22	67.50	89.46	112.94	133.01
Public Order	7.24	7.97	11.90	13.44	15.40	20.23	23.39	30.51	38.15
Defense	13.69	21.89	25.65	26.17	23.61	27.92	35.89	37.00	34.50
Social Services	58.07	78.06	106.38	120.83	138.43	152.06	191.28	251.80	311.25
Education	32.11	44.24	58.08	63.50	65.62	77.87	91.83	120.29	151.07
Health	9.35	9.42	14.10	17.85	18.31	22.60	25.14	38.35	52.31
Social Welfare	1.26	2.05	1.85	0.82	6.65	10.98	22.64	26.59	26.96
Housing	13.05	19.76	28.68	33.55	43.18	35.45	44.58	56.15	77.85
Other	2.30	2.59	3.67	5.11	4.67	5.16	7.09	10.43	13.06
Economic Services	56.63	71.32	103.89	102.71	148.98	154.57	220.99	275.83	298.95
Agriculture	17.22	19.09	26.71	30.79	30.84	39.93	49.65	73.17	74.32
Mining	4.87	11.87	18.79	14.50	9.65	6.61	8.32	9.36	8.41
Electricity & Water	4.99	7.12	11.35	10.69	19.39	44.35	75.51	73.59	76.04
Roads	17.36	17.41	18.21	24.31	36.20	25.61	26.62	44.26	45.16
Air Transport	3.30	3.84	3.28	5.08	19.99	15.50	18.88	8.07	6.82
Rail Transport	1.36	0.63	4.15	3.29	6.98	1.38	4.88	24.63	45.39
Telecommunications	2.52	4.95	7.91	-0.61	1.01	1.13	8.63	10.19	6.39
Other Transport	0.05	2.04	0.10	0.08	0.39	0.09	0.13	0.41	0.35
Commerce & Industry	3.38	1.32	9.40	9.99	17.26	13.27	21.60	21.50	25.52
Other	1.58	5.05	3.99	4.59	7.27	6.70	6.77	10.65	10.55
Unallocated	8.27	10.68	17.08	24.97	32.12	37.84	53.70	64.66	76.44
Public Debt Interest	4.83	4.96	5.07	5.59	10.95	13.33	19.39	22.86	28.71
Transfers to Local Authorities	3.41	5.53	11.54	18.28	21.17	24.51	34.31	41.80	47.73
Other	0.03	0.19	0.47	1.10	-	-	-	-	-
Total Recurrent Expenditure	172.20	228.03	308.98	341.36	414.76	460.12	614.71	772.74	902.30

Source: Financial Statements, Tables and Estimates of Consolidated
and Development Fund Revenues, 1986/87

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Table 5.7: Botswana - Government Consolidated Expenditure and Net Lending
1978/79 - 1986/87
(percentage distribution)

	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86 RE	1986/87 RE
General Public Services	28.6	29.8	26.4	27.2	23.0	25.1	24.2	23.4	22.8
General Administration	16.4	16.7	14.3	15.6	13.6	14.7	14.6	14.6	14.7
Public Order	4.2	3.5	3.9	3.9	3.7	4.4	3.8	3.9	4.2
Defense	8.0	9.6	8.3	7.7	5.7	6.1	5.8	4.8	3.8
Social Services	33.7	34.2	34.4	35.4	33.4	33.0	31.1	32.6	35.6
Education	18.6	19.4	18.8	18.6	15.8	16.9	14.9	15.6	16.7
Health	5.4	4.1	4.6	5.2	4.4	4.9	4.1	5.0	5.8
Social Welfare	0.7	0.9	0.6	0.2	1.6	2.4	3.7	3.4	3.0
Housing	7.6	8.7	9.3	9.8	10.4	7.7	7.3	7.3	8.6
Other	1.3	1.1	1.2	1.5	1.1	1.1	1.2	1.3	1.4
Economic Services	32.9	31.3	33.6	30.1	35.9	33.6	36.0	35.7	33.1
Agriculture	10.0	8.4	8.6	9.0	7.4	8.7	8.1	9.5	8.2
Mining	2.8	5.2	6.1	4.2	2.3	1.4	1.4	1.2	0.9
Electricity & Water	2.9	3.1	3.7	3.1	4.7	9.6	12.3	9.5	9.4
Roads	10.1	7.6	5.9	7.1	8.7	5.6	4.3	5.7	5.0
Air Transport	1.9	1.7	1.1	1.5	4.8	3.4	3.1	1.0	0.8
Rail Transport	0.8	0.3	1.3	1.0	1.7	0.3	0.8	3.2	5.0
Telecommunications	1.5	2.2	2.6	-0.2	0.2	0.2	1.4	1.3	0.7
Other Transport	.0	.0	.0	.0	0.1	.0	.0	0.1	.0
Commerce & Industry	2.0	0.6	3.0	2.9	4.2	2.9	3.5	2.8	2.8
Other	0.9	2.2	1.3	1.3	1.8	1.5	1.1	1.4	1.2
Unallocated	4.8	4.7	5.5	7.3	7.7	8.2	8.7	8.4	8.5
Public Debt Interest	2.8	2.2	1.6	1.6	2.6	2.9	3.2	3.0	3.2
Transfers to Local Authorities	2.0	2.4	3.7	5.4	5.1	5.3	5.6	5.4	5.3
Other	.0	0.1	0.2	0.3	0.0	0.0	0.0	0.0	0.0
Total Recurrent Expenditure	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Financial Statements, Tables and Estimates of Consolidated
and Development Fund Revenues, 1986/87

May 1986

Table 6.1:

BOTSWANA - SUMMARY ACCOUNTS OF COMMERCIAL BANKS, 1976-1984
(Millions of Pula, end of period)

	1976	1977	1978	1979	1980	1981	1982	1983	1984
Cash	3.6	2.6	3.7	5.3	7.1	7.6	10.4	12.0	13.2
Balance at Bank of Botswana	18.7	21.4	15.8	33.2	28.7	15.5	58.2	68.3	75.7
Treasury Bills	8.5	10.0	7.6	6.6	5.2	9.2			NA
Bills Eligible for Discount	0.1	0.6	1.1	1.6	2.6	3.5	6.0	7.0	16.0
Claims on Other Banks	0.9	2.0	3.0	5.7	3.9	2.6	11.9	8.0	33.8
Loans and Advances	70.6	74.2	75.2	86.1	95.5	147.6	142.6	169.4	222.7
Domestic Investments	1.7	1.7	1.7	1.7	0.3	0.3	0.3	0.4	0.1
Fixed Assets	7.6	4.0	4.4	4.7	5.4	8.5	9.6	10.6	14.5
Other Assets		8.4	8.5	10.3	16.4	18.1	22.9	11.0	22.9
Total Assets -Total Liabilities	111.7	125.7	121.0	155.2	165.1	212.9	261.9	288.3	398.9
Balance Due Other Banks (Foreign Liabilities)	1.0	2.5	2.7	2.2	2.9	6.7	3.2	8.7	12.2
Government Deposits and Loans a/ Public Deposits	22.3	13.1	3.8	1.5	12.8	0.7	0.4	0.3	NA
Demand	33.1	45.8	45.2	64.2	66.2	85.2	104.6	121.4	141.2
Time	29.7	35.7	35.7	47.2	29.3	49.7	60.2	60.6	128.9
Savings	12.8	14.1	16.4	19.5	25.7	31.8	36.8	43.9	51.3
Capital and Reserves	3.6	5.7	7.5	9.4	9.5	13.8	20.9	25.3	29.5
Other Liabilities	9.0	8.6	9.8	11.2	18.7	25.0	35.7	28.2	35.7

a/ Includes parastatals.

Source: Bank of Botswana Bulletin, June 1985.
November 1985

Table 6.2:

BOTSWANA - BREAKDOWN OF COMMERCIAL BANK LENDING, 1976-1984
(Millions of Pula, end of period)

	1976	1977	1978	1979	1980	1981	1982	1983	1984
Central Government	3.1	2.6	1.7	0.8					
Local Authorities			0.2	0.5	0.7	0.2	0.3	0.1	0.3
Parastatals	1.2		3.8	0.2	1.7	5.0	7.8	14.7	19.3
Households	4.8	4.1	9.1	10.0	13.7	21.0	23.1	32.2	36.6
Businesses	59.2	65.6	61.5	67.8	75.9	114.8	111.5	122.5	183.4
Agriculture	13.1	18.9	18.3	15.0	16.7	17.7	16.2	15.0	16.4
Mining and Quarrying	21.3	24.2	23.1	28.5	30.0	36.0	20.7	21.5	38.5
Manufacturing	3.8	3.3	2.6	3.4	4.6	5.4	6.9	12.2	9.3
Electricity & Water	0.2	0.2	0.2	1.0	0.1	0.2	2.3	1.2	2.3
Construction	6.4	5.3	5.7	4.1	4.1	6.5	9.5	9.2	12.5
Trade	5.8	8.2	7.7	8.3	11.8	30.0	40.5	39.7	83.8
Transport & Communications	0.6	0.7	1.3	2.4	2.3	7.3	5.0	3.2	4.6
Finance	1.5	1.0	0.7	1.8	1.8	4.2	2.3	2.2	4.5
Business Services	4.7	2.9	1.4	1.4	3.4	6.6	6.9	17.4	9.0
Other	1.8	0.9	0.5	1.9	1.1	0.9	1.2	0.9	2.5
Total	68.3	72.3	76.3	79.3	92.0	141.0	142.7	169.5	238.6

Source: Bank of Botswana Bulletin, June 1985.
November 1985

Table 6.3:

BOTSWANA - INTEREST RATES, 1976-1984
(Percent per annum, end of period)

	1976	1977	1978	1979	1980	1981	1982	1983	1984
Bank of Botswana									
Lending Rate (Bank rate)	8.25	7.75	6.75	5.75	5.75	8.50	12.00	10.50	9.00
Commercial Banks' Call Rate	6.00	4.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
Official									
Treasury Bills a/	7.50	7.00	6.00	5.00	5.00	5.00			
Commercial Banks									
Savings Accounts	3.50	3.50	3.50	3.50	3.50	7.50	11.00	9.50	8.00
Call Deposits	5.00	3.00	2.00			6.50	11.00	5.00	5.00
31 Days Notice up to 12 months	7.00	6.00	5.00	4.00	4.00	8.50	12.00	10.50	8.50
88 Days Notice	7.50	7.00	6.00	5.00	5.00	9.00	12.50	11.00	9.80
Fixed Deposits Up to P 250,000									
6 months	8.00	8.00	7.00	6.00	6.00	9.50	13.00	11.50	9.50
12 months	8.50	8.50	7.50	6.50	6.50	10.00	13.50	12.00	10.00
Fixed Deposits Over P 250,000									
Prime Lending Rate	11.50	11.00	10.00	9.00	9.00	11.00	14.50	13.00	11.50

a/ New issues of treasury bills were suspended starting December 10, 1981. The last treasury bill expired in March 1982.

Source: Bank of Botswana Bulletin, June 1985.
November 1985

Table 6.4: BOTSWANA - RATES OF EXCHANGE BETWEEN THE PULA AND OTHER CURRENCIES, 1976-1984
(End of period)

	1976	1977	1978	1979	1980	1981	1982	1983	1984
<hr/>									
Foreign Currency Per Pula 1000									
South African Rand	1,000.0	1,050.0	1,050.0	1,040.6	1,005.7	1,007.0	1,012.0	1,056.9	1,274.4
US Dollar	1,150.0	1,207.5	1,207.5	1,267.9	1,347.3	1,136.2	942.5	865.4	641.0
SDR	989.8	994.1	926.9	962.0	1,055.6	970.0	854.6	825.6	654.1

Source: Bank of Botswana Bulletin, June 1985.
November 1985

Table 7.1: BOTSWANA - AGRICULTURAL OUTPUT, 1973/74-1981/82
(Millions of Pula)

	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82
Traditional Agriculture	50.9	54.2	61.8	70.8	73.2	78.5	70.6	77.0	72.5
Freehold Farming	17.3	19.3	18.4	21.4	14.7	13.0	15.8	27.5	26.1
Subsistence Hunting	5.6	3.9	2.6	2.9	3.2	3.7	4.6	5.4	6.1
Traditional Forestry	3.6	4.0	4.4	4.9	5.4	6.1	7.8	7.5	8.4
Gathering	<u>1.3</u>	<u>1.5</u>	<u>1.8</u>	<u>1.9</u>	<u>2.1</u>	<u>2.4</u>	<u>2.8</u>	<u>3.5</u>	<u>3.9</u>
Gross Output	78.7	82.9	89.0	101.9	98.6	103.7	101.6	120.9	117.0
Intermediate Consumption	<u>16.3</u>	<u>21.7</u>	<u>23.3</u>	<u>27.5</u>	<u>26.9</u>	<u>25.6</u>	<u>26.3</u>	<u>38.9</u>	<u>41.0</u>
Value Added	62.4	61.2	65.7	74.4	71.7	78.1	75.3	82.0	76.0

Source: National Accounts of Botswana, 1981/82 and previous issues.

March 1985

**Table 7.2: BOTSWANA - STRUCTURE OF TRADITIONAL AGRICULTURAL OUTPUT
1974/75-1981/82 (in millions of Pula)**

	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82
Cattle Sales	20.1	23.5	30.6	20.4	38.8	30.3	36.5	35.3
Net Increase in Cattle Herd	12.7	12.6	13.3	24.4	15.8	10.7	6.4	1.5
Production for Own Use ^{a b}	21.0	25.3	26.5	27.0	23.4	28.4	32.9	34.4
Other Production Marketed	<u>0.4</u>	<u>0.4</u>	<u>0.4</u>	<u>1.4</u>	<u>0.5</u>	<u>1.2</u>	<u>1.2</u>	<u>1.3</u>
Gross Output	54.2	61.8	70.8	73.2	78.5	70.6	77.0	72.5
Intermediate Consumption	<u>9.3</u>	<u>9.7</u>	<u>11.9</u>	<u>13.8</u>	<u>15.3</u>	<u>16.7</u>	<u>17.9</u>	<u>23.3</u>
Value Added	44.9	52.1	58.9	59.4	63.2	53.9	59.1	49.2

a The most important item is milk, followed by crops and meat from deceased animals.

b Includes produce held in stock and not consumed.

Source: National Accounts of Botswana, 1981/82 and previous issues.

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Table 7.3 : BOTSWANA — CATTLE POPULATION AND RECORDED OFFTAKE, 1977-1983

	1977	1978	1979	1980	1981	1982	1983
Cattle Population (Mid-Year) (X 1000)	2,600	2,717	2,817	2,911	2,967	2,979	2,818
Total Slaughtered	235,720	193,833	274,961	184,283	242,394	284,435	280,350
BMC	195,850	149,346	228,961	140,783	201,394	237,135	233,900
Commercial Slaughter for Domestic Consumption	16,270	22,487	20,000	16,000	17,000	17,000	13,150
Home Slaughter	23,600	22,000	26,000	21,500	24,000	30,300	23,000
Live Exports	-	-	-	-	-	-	-
Estimated Total Offtake Rate (%)	9	7	10	6	8	10	10

Source: CSO, National Accounts of Botswana, 1982/82; CSO and Ministry of Agriculture, Botswana Agricultural Statistics; BMC Annual Reports and staff estimates.

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Table 7.4

BOTSWANA

DEVELOPMENT STRATEGY AND PUBLIC EXPENDITURE

Estimated Area, Yield and Production of Main Crops, 1979-1984

	1979	1980	1981	1982	1983	1984
<u>Sorghum</u>						
Area planted ('000 ha)	68	146	140	93	126	114
Area harvested ('000 ha)	42	130	122	37	34	49
Ratio of area harvested to area planted	62	88	87	40	27	42
Traditional (kg/ha)	91	215	224	103	131	114
Commercial (kg/ha)	423	460	450	131	988	153
Production ('000 tons)	4.3	29.1	28.3	3.8	5.2	5.7
<u>Maize</u>						
Area planted ('000 ha)	52	80	87	64	61	48
Area harvested ('000 ha)	21	46	59	23	19	35
Ratio of area harvested to area planted	40	58	68	37	32	74
Average yield						
Traditional (kg/ha)	84	167	306	282	257	67
Commercial (kg/ha)	310	907	893	774	1,123	217
Production ('000 tons)	2.3	11.6	21.4	12.4	8.5	0.5
<u>Millet</u>						
Area planted ('000 ha)	13	17	20	16	17	17
Area harvested ('000 ha)	8	14	13	4	6	8
Ratio of area harvested to area planted	62	84	65	25	35	49
Average yield (kg/ha)	112	159	148	132	69	86
Production ('000 tons)	0.9	2.9	1.8	0.5	0.4	0.7
<u>Beans/Pulses</u>						
Area planted ('000 ha)	26	44	26	20	21	17
Area harvested ('000 ha)	14	13	15	4	3	3
Ratio of area harvested to area planted	53	53	56	17	15	17
Average yield						
Traditional (kg/ha)	70	144	176	118	64	135
Commercial (kg/ha)	200	250	700	500	350	50
Production ('000 tons)	1.0	1.8	2.7	0.5	0.3	0.4
<u>Total</u>						
Area planted ('000 ha)	159	287	273	193	229	196
Area harvested ('000 ha)	86	205	210	69	64	64
Average yield (kg/ha)	98	194	230	223	182	119
Production ('000 tons)	8.5	44.8	54.2	17.2	14.4	7.3

Source: MOA Statistics and BAMB.

Note: Average yields are per hectare harvested.

Table 7.5

BOTSWANA

DEVELOPMENT STRATEGY AND PUBLIC EXPENDITURE

Livestock Inventories, 1978-1984

(1,000 head)

Year	Cattle			Sheep			Goats		
	Comm.	Trad.	Total	Comm.	Trad.	Total	Comm.	Trad.	Total
1978	425	2,300	2,730	13	108	121	12	616	628
1979	400	2,400	2,840	13	95	108	12	545	557
1980	456	2,455	2,911	15	134	149	14	624	638
1981	472	2,495	2,967	19	120	140	18	603	621
1982	475	2,504	2,979	24	116	140	19	617	636
1983	411	2,407	2,818	25	140	165	21	762	783
1984	379	2,306	2,685	23	140	171	25	865	890

Source: MOA Statistics; commercial farm estimates by Planning Unit, MOA.

Note: Comm. = Commercial; Trad. = Traditional farms.

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Table 7.6

BOTSWANA

PUBLIC EXPENDITURE AND DEVELOPMENT

Cattle Mortality and Offtake by Herd Size, 1980-1984

Herd Size	Ratio of Deaths to Total Cattle					Ratio of Sales to Total Cattle				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
1-10	31.6	30.1	30.4	54.1	65.0	9.7	7.4	8.0	12.3	13.0
11-20	19.7	15.7	20.2	30.1	42.7	8.3	6.9	7.9	9.0	8.0
21-30	17.0	16.2	17.1	21.5	32.4	6.9	6.3	7.6	4.9	9.5
31-40	17.2	15.3	17.0	20.1	21.3	6.5	6.9	7.8	6.8	7.6
41-50	14.1	16.9	12.3	14.7	25.3	8.3	6.4	6.3	5.3	6.2
51-60	15.5	17.1	20.2	13.8	21.3	8.7	7.9	8.0	4.1	8.8
60-100	13.1	14.4	15.8	14.6	15.6	6.4	8.0	8.2	6.9	6.4
101-150	11.9	11.7	16.0	7.0	11.9	8.9	8.4	9.0	7.8	6.3
151+	8.7	9.2	15.4	12.2	7.2	7.6	8.6	8.4	11.9	6.5
Total										
Trad.	13.8	13.6	17.0	17.8	19.3	7.7	7.8	8.2	8.5	7.3
Comm.	3.9	4.0	5.9	8.9	10.0	21.3	23.7	33.7	39.9	38.8

Source: MOA Statistics.

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Table 7.7

BOTSWANA

DEVELOPMENT STRATEGY AND PUBLIC EXPENDITURE

Ministry of Agriculture - Actual/Estimated Capital Expenditures

(P '000)

	Actual					Estimated 1984/85	Total NDP V 1979/80-1984/85	NDP VI	
	1979/80	1980/81	1981/82	1982/83	1983/84			Total Estimated ('85 prices)	Estimated 1985/86
Headquarters	1,534	2,980	4,510	6,285	4,475	7,367	27,062	61,378	10,285
Dept. of Animal Health	3,900	5,981	3,190	5,375	2,271	5,857	26,575	4,795	2,278
Field services	3,039	2,610	2,413	2,652	3,297	7,300	21,311	20,748	3,234
Agricultural research	235	138	210	848	562	587	2,582	1,645	575
Agricultural college	694	1,382	1,996	254	259	200	4,786	300	50
Total Ministry of Agriculture	9,403	13,092	12,321	15,415	10,764	21,321	82,316	88,866	16,425
Total Government Expenditure	98,284	121,436	121,254	160,358	140,677	200,000	842,010	1,261,365	271,914
% agriculture							8.8%	4.7%	6%
ALDEP 1/	-	-	668	774	735	3,500	5,677	19,200	2,200
ARAP 2/	-	-	-	-	-	-	-	29,000 ^{2/}	n.a.
Drought relief program 3/	-	-	-	-	-	-	10,624	6,699	6,699

Source: MOA, 1985/86 Estimates of Expenditure from the Consolidated Development Fund.

1/ Included in the Headquarters allocations.

2/ Not included in the original budget plan, i.e., not within the totals included above.

3/ Included within the Ministry of Agriculture's total budget.

Table 7.8

BOTSWANA

DEVELOPMENT STRATEGY AND PUBLIC EXPENDITURE

Ministry of Agriculture - Capital Expenditures (Current Prices)

(P million)

	Actual Expenditure					Anticipated 1984/85	NDP V Estimated 1979 - 85	NDP VI Allocations 1985 - 91	Estimated Expenditure 1985/86
	1979/80	1980/81	1981/82	1982/83	1983/84				
Total Headquarters	1.5	3.0	4.5	6.3	4.4	7.4	27.1	61.4	10.3
of which:									
ABAP	-	-	-	-	-	-	-	29.0	0.8
ALDEP	-	-	-	-	-	-	-	19.2	2.2
Drought programs 1/	0.9	1.0	0.2	0.9	1.4	2.7	6.8	0.4	0.4
Buildings	-	0.03	0.03	-	0.01	-	0.2	1.0	0.1
Cooperative development	-	-	0.06	-	-	0.02	0.03	1.3	0.2
Northern Abattoir	-	1.3	1.7	0.5	0.03	0.2	3.7	0.01	0.01
Botswana Coop. Union	-	0.3	0.3	-	0.07	0.2	0.7	0.08	0.08
BMB	0.1	0.03	1.3	1.7	0.4	0.2	3.8	1.4	1.2
Cooperative Bank	0.3	-	-	0.08	-	0.06	0.4	0.04	0.04
Third Livestock Project	-	-	-	-	-	-	-	3.0	0.1
Arable subsector recovery measures	-	-	-	-	-	-	-	5.8	5.8
Strategic grain reserve	-	-	-	-	-	-	-	0.2	0.2
Toxins eradication	-	-	-	-	-	-	-	0.6	-
Agricult. Irrigation Unit	-	-	-	-	-	-	-	1.3	-
Dept. of Animal Health	3.9	6.0	3.2	5.4	2.3	5.9	26.6	4.8	2.3
of which:									
Foot & mouth disease control	0.2	0.2	-	-	-	0.1	0.5	0.1	0.1
Veterinary diagnostic	-	0.02	0.02	0.04	0.2	2.0	2.3	2.0	1.4
Veterinary food. fence	0.6	0.4	1.3	2.0	0.4	1.3	6.0	1.2	0.2
Drought - Botulism	0.1	0.08	-	0.3	0.8	2.4	3.7	0.5	0.5
Improvement to disease control system	-	-	-	-	-	-	-	0.6	0.09
Dept. of Agr. Field Service	3.0	2.6	2.4	2.7	3.3	7.1	21.3	20.7	3.2
of which:									
Rural training centers	0.008	0.03	0.03	0.7	0.2	0.1	1.0	1.2	0.2
Fisheries investigations	-	-	-	-	-	-	-	0.2	0.04
Reorganization/extension	0.1	0.02	0.02	0.007	0.06	0.2	0.4	1.2	0.2
Livestock improvement subsidy scheme	0.06	0.03	0.04	0.09	0.05	0.06	0.3	0.3	0.05
Sheep and goat development	0.2	0.1	0.1	0.2	0.05	0.2	0.8	0.3	0.1
Poultry development	0.006	0.008	0.003	0.3	0.3	0.1	0.9	1.3	0.05
Small Dam Building	0.2	0.3	0.3	0.4	0.4	0.5	2.1	2.7	0.5
Development of crop production 2/	0.4	0.2	0.04	-	-	-	0.6	0.2	0.2
Agric. extension, small projects	0.03	0.05	0.05	0.08	0.1	0.1	0.4	1.3	0.2
Horticultural development	-	-	0.09	0.06	0.06	0.1	0.3	0.8	0.3
Housing for field staff	-	-	-	0.008	0.001	0.1	0.1	4.8	0.5
Group Ranch Development	-	0.02	0.06	0.03	0.1	0.2	0.4	0.06	0.06
Soil conservation	-	-	0.005	0.002	0.002	0.002	0.009	0.3	0.05
Rural afforestation	0.005	0.01	0.2	0.06	0.02	0.1	0.4	0.8	0.1
Nyamaland Irrigation scheme	0.07	0.4	0.3	0.2	0.2	0.2	1.3	0.9	0.3
Dairy development	0.02	0.02	0.001	-	0.009	0.002	0.06	0.2	0.02
Services to livestock owners	0.4	0.4	0.3	0.1	0.1	0.2	1.6	2.2	0.3
Drought relief - seed supply	0.5	0.3	0.2	0.002	0.9	2.1	4.1	0.001	0.001
Soil mappings	-	-	0.02	0.05	0.02	0.03	0.1	0.3	0.03
Molapo Farm Development	-	-	-	-	0.02	0.2	0.2	1.0	0.2
Drought relief - drought power	-	-	-	-	0.3	2.6	3.0	0.001	0.001
Agri. Irrigation Unit	-	-	-	-	-	-	-	1.0	-
Dept. of Agri. Research	0.23	0.14	0.21	0.84	0.56	0.59	2.58	1.6	0.58
Botswana Agric. College	0.69	1.38	1.99	0.25	0.26	0.20	4.79	0.1	0.05
Total Development Budget^{3/}	9.40	13.09	12.32	15.41	10.76	21.32	82.32	88.86	16.43

Source: MDA, 1985/86 Estimates of Expenditure from Consolidate and Development Funds.

1/ Includes all FMD relief programs, Agricultural Water Committee and Cattle Movement.

2/ Irrigation studies.

3/ Total includes some projects not shown in table.

Table 7.9

BOTSWANA

DEVELOPMENT STRATEGY AND PUBLIC EXPENDITURE

Recurrent Budget for Ministry of Agriculture, 1979/80 - 1985/86

(Pula, current prices)

Department	1979/80		1980/81		1981/82		1982/83		1983/84		1984/85		1985/86	
	Approved	Actual Expenditure	Approved	Actual Expenditure	Approved	Actual Expenditure	Approved	Actual Expenditure	Approved	Actual Expenditure	Approved	Actual Expenditure	Approved	Actual Expenditure up to July 1985
I. Headquarters														
Personal emoluments	427,860	341,890	498,270	474,900	560,580	558,320	710,740	619,360	790,570	704,570	889,540	844,330	960,590	311,980
Others	432,610	317,790	489,190	440,220	528,160	516,240	992,510	702,160	888,790	794,910	947,810	848,950	1,192,560	334,950
Total	860,470	659,680	987,460	915,210	1,088,740	1,074,560	1,703,250	1,321,520	1,679,140	1,499,480	1,847,350	1,693,280	2,153,150	646,930
II. Animal Health														
Personal emoluments	2,249,780	2,282,831	3,410,180	3,391,031	3,859,210	3,911,590	4,742,200	4,237,950	5,384,010	5,574,470	7,084,680	7,274,700	8,542,260	2,178,100
Others	3,022,310	2,532,521	4,882,670	4,863,741	4,571,130	4,975,350	5,578,240	5,642,430	6,707,181	6,406,150	8,228,310	7,978,250	7,605,970	1,303,970
Total	5,271,960	4,815,350	8,292,850	8,254,770	8,429,340	8,886,940	10,320,440	9,880,380	12,091,190	11,980,620	15,312,990	15,252,950	16,148,230	4,022,070
III. Agricultural Field Services														
Personal emoluments	2,451,740	2,219,480	3,168,560	3,021,520	3,832,100	3,566,280	4,426,250	3,867,520	4,957,440	4,521,720	5,493,740	5,574,910	6,572,980	1,942,840
Others	812,590	264,310	1,058,490	1,150,010	1,171,150	1,151,070	1,571,520	1,179,540	1,491,590	1,328,990	2,085,140	1,877,200	2,174,460	575,810
Total	3,264,290	2,983,790	4,227,050	4,171,530	5,003,610	4,717,350	5,997,770	5,047,060	6,449,030	5,850,710	7,578,880	7,452,110	8,747,440	2,518,650
IV. Agricultural Research														
Personal emoluments	759,310	729,410	1,017,990	986,740	1,159,330	1,111,870	1,339,810	1,125,590	1,415,180	1,314,280	1,618,330	1,586,490	1,865,820	595,530
Others	435,800	420,030	722,100	692,340	840,720	755,470	1,048,390	831,180	1,183,330	1,347,770	1,607,360	896,670	1,766,290	177,320
Total	1,195,110	1,149,440	1,740,090	1,679,080	2,000,050	1,867,340	2,388,200	1,956,770	2,598,510	2,662,050	3,225,690	2,483,160	3,632,110	772,850
V. Cooperatives														
Personal emoluments	198,880	159,840	229,730	227,720	290,540	273,290	353,260	329,900	444,660	427,780	579,140	551,360	647,100	199,440
Others	54,770	44,310	84,060	74,090	102,920	90,140	142,150	107,170	168,710	140,790	250,890	221,530	248,470	64,880
Total	253,630	204,150	313,790	297,810	393,460	363,430	495,410	436,670	614,170	568,570	830,030	772,890	895,570	264,320
VI. Botswana Agricultural College														
Personal emoluments	173,350	177,480	254,670	246,450	337,020	332,540	454,360	384,430	522,600	465,140	588,540	528,340	624,030	194,520
Others	248,340	316,910	321,250	281,550	455,860	367,800	561,610	480,730	624,780	638,360	738,080	627,480	789,250	168,980
Total	421,690	494,390	575,920	528,000	792,880	700,340	1,015,970	865,160	1,147,380	1,103,500	1,326,620	1,155,820	1,413,280	363,500
GRAND TOTAL														
Personal emoluments	6,280,670	5,910,930	8,569,400	8,344,430	10,037,780	9,753,890	12,026,620	10,584,350	13,514,240	13,007,960	16,263,970	16,360,120	19,212,790	5,962,410
Others	5,006,270	4,285,880	7,557,760	7,301,990	7,670,300	7,856,070	9,894,420	8,953,220	11,065,380	10,652,970	13,575,580	12,450,280	13,776,930	2,630,880
Ratios	1.25:1	1.38:1	1.13:1	1.11:1	1.31:1	1.25:1	1.22:1	1.18:1	1.22:1	1.22:1	1.17:1	1.31:1	1.39:1	
Total	11,286,940	10,196,790	16,127,160	15,646,420	17,708,080	17,609,960	21,921,040	19,537,570	24,579,620	23,660,930	30,121,560	28,810,400	32,989,720	8,593,290

Source: MIA.

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Table 0.2:

BOTSWANA - MINERAL PRODUCTION, 1974-1984
(Millions of Pula)

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Copper-Nickel Matte											
Production ('000 T)	6.7	16.5	32.5	30.0	39.5	39.8	40.1	46.6	46.5	48.1	51.8
Value	7.9	22.7	51.6	43.0	51.3	74.1	83.3	79.4	60.7	61.1	71.7
Coal											
Production ('000 T)	32.7	71.2	224.1	294.0	314.5	355.1	371.5	379.9	382.1	395.1	392.9
Value	0.3	0.6	1.7	2.2	2.3	2.7	3.5	4.2	4.5	5.4	5.5
Diamonds											
Production (Mil. of Carats)	2.7	2.4	2.4	2.7	2.8	4.4	5.1	4.9	7.6	10.9	12.9
Value	30.1	29.6	33.8	48.6	79.0	163.7	223.6	206.8	419.0	607.9	685.2
Index of Mining Production											
1976=100	57.0	70.0	100.0	104.0	123.0	147.0	161.0	169.0	211.0	271.0	310.0

Source: Statistical Bulletin, March 1985.
November 1985

Table B.3:

BOTSWANA - ELECTRICITY GENERATION, 1974-1984
(Millions of kWh)

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Botswana Power Corporation	196.4	232.6	289.9	301.6	356.7	396.2	387.0	428.9	425.9	394.7	412.3
Southern Division	30.6	35.8	48.0	49.7	57.6	65.9	73.8	79.2	74.7	18.2	6.6
Shashe Division	165.8	196.8	241.9	251.9	299.1	330.3	313.2	349.7	351.2	376.5	405.7
Francistown	1.5										
Industrial	36.8	37.1	42.3	46.2	51.5	74.7	86.5	106.7	95.9	67.9	62.5
Total	234.7	269.7	332.2	347.8	408.2	470.9	473.5	535.6	521.8	462.6	474.8

Source: Statistical Bulletin, March 1985.
November 1985

Table 9.1:

OSTRONG - COST OF LIVING INDEX BY INCOME GROUP ^{a/} AND ITEM, 1975-1984
 (Urban and semi-urban areas: August 1980=100)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Food, Beverages & Tobacco	55.6	60.5	69.2	75.3	85.5	100.0	120.6	130.8	154.4	168.0
Clothings & Shoes	56.4	64.9	71.1	75.9	89.7	100.0	109.1	119.2	128.3	140.2
Household Effects, Fuel, Light & Water	52.3	62.2	69.7	74.1	96.7	100.0	113.2	125.5	136.5	145.1
Rent, Services & Taxes	63.4	85.6	91.9	101.7	102.4	100.0	110.4	120.1	125.7	130.9
All Income Groups - All Items	56.2	64.3	72.5	78.4	89.8	100.0	116.0	130.2	142.5	153.7

^{a/} Indicates median income for item breakdown, 1975-79.

Source: CSO, Statistical Bulletins, June/September 1983 and March 1985.
 November 1985

Table 10.1: Profile of the Formal Manufacturing Sector 1984

Subsector	Number of Establishments Operating				Location		Labour Forces	
	Botswana owned	Mixed ownership	Foreign owned	Total	Urban	Rural	Local	Foreign
Meat & Meat Products	-	1	1	2	1	1	1,956	41
Dairy & Agro-based Products	1	4	3	8	6	2	46	9
Beverages	1	7	5	13	9	4	579	27
Bakery Products	3	3	7	13	10	3	377	20
Textiles	8	8	32	48	43	5	2,432	87
Tanning & Leather Products	-	4	3	7	6	1	419	23
Wood & Wooden Products	-	2	14	16	16	-	393	32
Paper & Paper Products	1	6	5	12	9	3	448	22
Metal Products	-	2	4	6	5	1	238	22
Building Materials	9	7	21	37	33	4	1,490	79
Plastics	7	4	15	26	19	7	1,063	38
Electrical	1	3	6	10	9	1	318	33
Handicrafts	-	1	2	3	3	-	52	4
Total	32	55	122	209	177	32	10,073	453

Source: Ministry of Commerce and Industry

Note: The above data on the formal manufacturing sector is based on data reported on manufacturing license applications held by the Ministry of Commerce and Industry. These statistics do not compare directly with data collected by the Central Statistics Office and shown in earlier chapters because of different reference period and differences in industry classifications.

Table 10.2: Total Investment in Manufacturing in Botswana as of end 1984

Subsector	Number of companies	Investment (P'000)	Investment per company (P'000)
Meat & Meat Products	2	19,151	9,576
Dairy, Other Agro-based Products	8	7,327	916
Beverages	13	16,357	1,258
Bakery Products	13	2,104	162
Textile	48	21,541	449
Tanning & Leather Products	7	3,793	542
Chemical & Rubber Products	16	15,702	981
Wood & Wood Products	12	1,934	161
Paper & Paper Products	6	2,022	337
Metal Products	37	10,932	295
Building Materials	26	6,803	262
Plastic Products	8	4,623	578
Electrical Products	10	2,444	244
Handicrafts	3	399	133
Total	209	115,132	551

Source: Ministry of Commerce and Industry.

Note: Investment includes capital outlay in both fixed and current assets.

Table 10.3: Employment in the Formal Manufacturing Sector 1979-1984

	<u>1979</u>		<u>1984</u>		<u>1979-84</u>
	number	%	number	%	% change p.a.
BMC	1,652	36	1,970	18	3.6
Other	3,073	64	8,926	82	23.8
Total Jobs	4,725	100	10,896	100	18.7
No. of companies	88	-	276	-	-
Jobs per company (inc. BMC)	53	-	40	-	-
Jobs per company (exc. BMC)	35	-	33	-	-

Source: Ministry of Commerce and Industry

Note: The above data on the formal manufacturing sector is based on data reported on manufacturing license applications held by the Ministry of Commerce and Industry. These statistics do not compare directly with data collected by the Central Statistics Office and shown in earlier chapter because of different reference period and differences in industry classifications.

Table 10.4: Retail and Wholesale Business Establishments 1984

License Type	Foreign	Ownership Batswana	Total	Batswana %
Trade Act				
General Trading	190	478	668	72
Small General	7	751	758	99
Fresh Produce	27	340	367	93
Restaurant	18	403	421	96
Specialty	87	103	190	54
Petrol Station	26	56	82	68
Wholesale	47	70	117	60
Chemist	3	10	13	77
Subtotal	405	2,211	2,616	85
Liquor Act				
Bottle Store and Bar	na	na	630	na
Other	na	na	749	na
Subtotal	na	na	749	-

Source: Ministry of Commerce and Industry.

Table 10.5: FAP Summary Results, Medium-Scale Industrial Projects
May 1982 - November 1984

Project Sector	No. of Projects			Projected Employment		
	Rural	Urban	Total	Rural	Urban	Total
Textiles	4	13	17	42	778	820
Concrete products	5	2	7	121	53	174
Mechanical Projects	1	7	8	10	157	167
Woodwork Projects	3	5	8	92	157	249
Sorghum Milling	8	1	9	53	8	61
Bakery Projects	5	2	7	178	37	215
Leather and Leather Goods	1	4	5	27	293	320
Meat Products	-	1	1	-	17	17
Paper Products	2	4	6	115	144	259
Chemical Products	1	2	3	8	34	42
Food Processing	3	3	6	145	90	235
Other	7	11	13	352	305	657
Total	40	55	95	1,143	2,073	3,216

Source: Ministry of Commerce and Industry

**Table 10.6: Funds Invested by BDC
Percentage by Sector**

	<u>1975</u>	<u>Funds Invested</u> <u>1980</u>	<u>1985</u>
Commercial and Industry Property	48	32	21
Commerce and Industry	11	32	14
Agriculture	10	6	15
Hotels & Tourism	14	10	25
Residential Property	14	16	-
Financial Services	2	3	2
Transportation	1	1	11
SSEs	-	-	2

Source: BDC Anniversary Report, 1985

Table 10.7: Projected BDC Investment NDP6
(P Million)

Sector	1985/86	1986/87	1987/88	1988/89	1989/90	Total
Agriculture (1)	2.4	2.3	2.6	3.0	3.7	14.2
Major Industries	3.8	2.6	3.2	4.6	5.8	20.0
Other Industries	1.3	2.1	2.9	4.6	5.8	16.7
Hotels, Tourism, Transport (2)	1.0	2.9	3.5	1.9	2.4	11.7
Industrial Property	4.7	5.8	6.4	8.5	9.6	35.0
Commercial and Residential Property	1.3	1.8	2.4	3.1	3.7	12.3
Total	14.5	17.5	21.0	25.7	31.0	110.0

Source: Botswana Development Corporation

Notes: (1) excludes large-scale irrigation (see Chapter 7)
(2) excludes purchases of new aircraft

TABLE 3A

PAGE 1

BOTSWANA	- SOCIAL INDICATORS DATA SHEET				
	REFERENCE GROUPS (WEIGHTED AVERAGES) /a				
	MOST RECENT ESTIMATE /b			(MOST RECENT ESTIMATE) /b	
	1960/b	1970/b		MIDDLE INCOME AFRICA S. OF SAHARA	MIDDLE INCOME N. AFRICA & M.D. EAST
AREA (THOUSAND SQ. KM)					
TOTAL	600.4	600.4	600.4	.	.
AGRICULTURAL	424.7	439.7	433.6	.	.
GDP PER CAPITA (US\$)					
	..	..	920.0	1063.8	1134.9
ENERGY CONSUMPTION PER CAPITA (KILOGRAMS OF OIL EQUIVALENT)					
	157.0	251.0	337.0	581.5	623.9
POPULATION AND VITAL STATISTICS					
POPULATION, MID-YEAR (THOUSANDS)	445.0	577.0	998.0	.	.
URBAN POPULATION (% OF TOTAL)	1.7	9.3	22.4	32.0	49.0
POPULATION PROJECTIONS					
POPULATION IN YEAR 2000 (MILL.)			1.8	.	.
STATIONARY POPULATION (MILL.)			5.6	.	.
POPULATION MOMENTUM			1.9	.	.
POPULATION DENSITY					
PER SQ. KM.	0.7	1.0	1.7	65.1	37.8
PER SQ. KM. AGRI. LAND	1.0	1.3	2.1	124.8	470.1
POPULATION AGE STRUCTURE (%)					
0-14 YRS	45.8	48.7	47.6	43.6	43.5
15-64 YRS	51.4	48.4	47.9	51.3	53.0
65 AND ABOVE	2.6	2.8	4.4	2.7	3.3
POPULATION GROWTH RATE (%)					
TOTAL	2.1	2.6	4.2	2.9	2.8
URBAN	18.1	19.8	11.1	5.1	4.4
CRUDE BIRTH RATE (PER THOUS)					
	51.7	2.2	44.2	47.0	40.0
CRUDE DEATH RATE (PER THOUS)					
	12.7	10.6	9.4	15.0	11.5
GROSS REPRODUCTION RATE					
	3.1	3.2	3.2	3.2	2.8
FAMILY PLANNING					
ACCEPTORS, ANNUAL (THOUS)	..	..	11.3 /c	.	.
USERS (% OF MARRIED WOMEN)	..	..	..	6.4	21.4
FOOD AND NUTRITION					
INDEX OF FOOD PROD. PER CAPITA (1969-71=100)	91.0	96.0	70.0	82.9	95.1
PER CAPITA SUPPLY OF					
CALORIES (% OF REQUIREMENTS)	99.0	100.0	94.0	98.5	118.2
PROTEINS (GRAMS PER DAY)	80.0	80.0	69.0	55.4	77.8
OF WHICH ANIMAL AND PULSE	40.0	37.0	34.0 /c	16.5	17.8
CHILD (AGES 1-4) DEATH RATE	22.6	18.7	13.3	16.6	12.8
HEALTH					
LIFE EXPECT. AT BIRTH (YEARS)	54.8	57.9	61.0	52.0	57.8
INFANT MORT. RATE (PER THOUS)	114.6	100.1	74.2	108.8	96.8
ACCESS TO SAFE WATER (XPOP)					
TOTAL	..	29.0	..	42.4	67.2
URBAN	..	71.0	100.0 /d	67.5	93.4
RURAL	..	26.0	..	35.8	45.8
ACCESS TO EXCRETA DISPOSAL (% OF POPULATION)					
TOTAL	..	..	..	28.9	45.9
URBAN	..	..	..	57.7	63.0
RURAL	..	..	..	20.7	28.6
POPULATION PER PHYSICIAN					
	22250.0	14070.0	..	11791.7	4331.0
POP. PER NURSING PERSON					
	4790.0 /e	1140.0	..	2459.8	1845.0
POP. PER HOSPITAL BED					
TOTAL	440.0	350.0	340.0 /f	981.1	621.8
URBAN	..	..	60.0 /f	368.8	545.0
RURAL	..	..	4230.0 /f	4371.9	2511.3
ADMISSIONS PER HOSPITAL BED					
	..	15.3	..	27.2	25.7
HOUSING					
AVERAGE SIZE OF HOUSEHOLD					
TOTAL	..	..	5.0 /g	..	..
URBAN	..	..	4.8 /g	..	..
RURAL	..	..	5.0 /g	..	..
AVERAGE NO. OF PERSONS/ROOM					
TOTAL	..	..	..	..	..
URBAN	..	..	..	..	..
RURAL	..	..	..	..	..
PERCENTAGE OF DWELLINGS WITH ELECT.					
TOTAL	..	..	..	..	..
URBAN	..	..	..	..	..
RURAL	..	..	..	..	..

BOTSWANA BOTSWANA		- SOCIAL INDICATORS DATA SHEET						
		1960/ ^b			1970/ ^b		REFERENCE GROUPS (WEIGHTED AVERAGES) / ^a	
		1960/ ^b			1970/ ^b		(MOST RECENT ESTIMATE) / ^b	
		1960/ ^b			1970/ ^b		MIDDLE INCOME	
		1960/ ^b			1970/ ^b		AFRICA S. OF SAHARA	
		1960/ ^b			1970/ ^b		MIDDLE INCOME	
		1960/ ^b			1970/ ^b		N. AFRICA & MID EAST	
EDUCATION								
ADJUSTED ENROLMENT RATIOS								
PRIMARY:	TOTAL	42.0	69.0	102.0	95.7	89.8		
	MALE	35.0	65.0	94.0	100.0	103.7		
	FEMALE	48.0	73.0	110.0	83.2	75.2		
SECONDARY:	TOTAL	1.0	7.0	23.0	17.3	42.9		
	MALE	1.0	8.0	21.0	25.0	50.9		
	FEMALE	1.0	7.0	25.0	14.8	34.6		
VOCATIONAL (% OF SECONDARY)								
		4.2	19.4	7.8	5.9	10.0		
PUPIL-TEACHER RATIO								
PRIMARY		31.0	36.0	32.0	41.1	29.7		
SECONDARY		12.0	15.0	16.0	25.5	18.8		
CONSUMPTION								
	PASSENGER CARS/THOUSAND POP	2.9	3.1	8.7 / ^d	20.8	17.8		
	RADIO RECEIVERS/THOUSAND POP	4.7	34.7	103.5	107.8	175.9		
	TV RECEIVERS/THOUSAND POP	..	..	..	20.8	51.2		
	NEWSPAPER ("DAILY GENERAL INTEREST") CIRCULATION PER THOUSAND POPULATION	..	22.5	19.7	18.4	37.2		
	CINEMA ANNUAL ATTENDANCE/CAPITA	..	0.2	..	0.4	2.4		
LABOR FORCE								
TOTAL LABOR FORCE (THOUS)								
		227.0	270.0	435.0				
	FEMALE (PERCENT)	49.8	52.6	50.1	36.2	11.0		
	AGRICULTURE (PERCENT)	92.0	87.0	78.3 / ^d	54.3	42.4		
	INDUSTRY (PERCENT)	3.0	4.0	7.7 / ^d	18.3	27.9		
PARTICIPATION RATE (PERCENT)								
	TOTAL	50.9	46.7	43.6	30.8	26.2		
	MALE	53.2	47.7	46.6	47.1	46.2		
	FEMALE	48.9	45.9	41.8	27.2	5.8		
ECONOMIC DEPENDENCY RATIO								
		1.0	1.1	1.2	1.3	1.8		
INCOME DISTRIBUTION								
PERCENT OF PRIVATE INCOME RECEIVED BY								
	HIGHEST 5% OF HOUSEHOLDS	..	28.1 / ^h	..	..	..
	MIDDLE 40% OF HOUSEHOLDS	..	60.3 / ^h	..	..	..
	LOWEST 20% OF HOUSEHOLDS	..	1.6 / ^h	..	..	..
	LOWEST 40% OF HOUSEHOLDS	..	7.6 / ^h	..	..	..
POVERTY TARGET GROUPS								
ESTIMATED ABSOLUTE POVERTY INCOME LEVEL (US\$ PER CAPITA)								
	URBAN	..	..	284.0 / ^d	590.7	226.3		
	RURAL	..	..	154.0 / ^d	275.3	134.0		
ESTIMATED RELATIVE POVERTY INCOME LEVEL (US\$ PER CAPITA)								
	URBAN	..	..	303.0 / ^d	545.6	431.5		
	RURAL	..	..	303.0 / ^d	201.1	326.0		
ESTIMATED POP. BELOW ABSOLUTE POVERTY INCOME LEVEL (%)								
	URBAN	..	..	40.0 / ^d	..	..
	RURAL	..	..	55.0 / ^d	..	29.0		

.. NOT AVAILABLE
 . NOT APPLICABLE

NOTES

- /a The group averages for each indicator are population-weighted arithmetic means. Coverage of countries among the indicators depends on availability of data and is not uniform.
- /b Unless otherwise noted, "Data for 1960" refer to any year between 1959 and 1961; "Data for 1970" between 1969 and 1971; and data for "Most Recent Estimate" between 1981 and 1983.
- /c 1977; /d 1980; /e 1962; /f 1976; /g 1978; /h Economically active population.

BOTSWANA BOTSWANA		- SOCIAL INDICATORS DATA SHEET				
		REFERENCE GROUPS (WEIGHTED AVERAGES) /a				
		(MOST RECENT ESTIMATE) /b				
		MIDDLE INCOME			MIDDLE INCOME	
		AFRICA S. OF SAHARA			N. AFRICA & MID EAST	
		1960/b	1970/b	RECENT ESTIMATE/b		
EDUCATION						
ADJUSTED ENROLLMENT RATIOS						
PRIMARY: TOTAL		42.0	69.0	102.0	95.7	89.6
MALE		35.0	65.0	94.0	100.0	103.7
FEMALE		48.0	73.0	110.0	83.2	75.2
SECONDARY: TOTAL		1.0	7.0	23.0	17.3	42.9
MALE		1.0	4.0	21.0	25.0	50.9
FEMALE		1.0	7.0	25.0	14.8	34.6
VOCATIONAL (% OF SECONDARY)		4.2	17.4	7.8	5.9	10.0
PUPIL-TEACHER RATIO						
PRIMARY		31.0	36.0	32.0	41.1	29.7
SECONDARY		12.0	15.0	16.0	25.5	18.8
CONSUMPTION						
PASSENGER CARS/THOUSAND POP		2.9	3.1	8.7 /d	20.8	17.8
RADIO RECEIVERS/THOUSAND POP		4.7	34.7	103.5	107.8	175.9
TV RECEIVERS/THOUSAND POP		..	..	..	20.8	51.2
NEWSPAPER ("DAILY GENERAL INTEREST") CIRCULATION PER THOUSAND POPULATION		..	22.5	19.7	18.4	37.2
CINEMA ANNUAL ATTENDANCE/CAPITA		..	0.2	..	0.4	2.4
LABOR FORCE						
TOTAL LABOR FORCE (THOUS)		227.0	270.0	435.0	..	..
FEMALE (PERCENT)		49.8	52.6	50.1	36.2	11.0
AGRICULTURE (PERCENT)		92.0	87.0	78.3 /d	54.5	42.4
INDUSTRY (PERCENT)		3.0	4.0	7.7 /d	18.3	27.9
PARTICIPATION RATE (PERCENT)						
TOTAL		50.9	46.7	43.6	36.8	26.2
MALE		53.2	47.7	46.6	47.1	46.2
FEMALE		48.9	45.9	41.8	27.2	5.8
ECONOMIC DEPENDENCY RATIO		1.0	1.1	1.2	1.3	1.8
INCOME DISTRIBUTION						
PERCENT OF PRIVATE INCOME RECEIVED BY						
HIGHEST 5% OF HOUSEHOLDS		..	28.1 /b	..	..	..
MIDDLE 40% OF HOUSEHOLDS		..	60.3 /b	..	..	..
LOWEST 20% OF HOUSEHOLDS		..	1.6 /b	..	..	..
LOWEST 40% OF HOUSEHOLDS		..	7.6 /b	..	..	..
POVERTY TARGET GROUPS						
ESTIMATED ABSOLUTE POVERTY INCOME LEVEL (US\$ PER CAPITA)						
URBAN		..	..	284.0 /d	590.7	226.3
RURAL		..	..	154.0 /d	275.3	134.0
ESTIMATED RELATIVE POVERTY INCOME LEVEL (US\$ PER CAPITA)						
URBAN		..	..	303.0 /d	545.6	431.5
RURAL		..	..	303.0 /d	201.1	326.0
ESTIMATED POP. BELOW ABSOLUTE POVERTY INCOME LEVEL (%)						
URBAN		..	..	40.0 /d	..	..
RURAL		..	..	55.0 /d	..	29.0

.. NOT AVAILABLE
 . NOT APPLICABLE

NOTES

/a The group averages for each indicator are population-weighted arithmetic means. Coverage of countries among the indicators depends on availability of data and is not uniform.

/b Unless otherwise noted, "Data for 1960" refer to any year between 1959 and 1961; "Data for 1970" between 1969 and 1971; and data for "Most Recent Estimate" between 1981 and 1983.

/c 1977: /d 1980; /e 1962; /f 1976; /g 1978; /h Economically active population.

DEFINITIONS OF SOCIAL INDICATORS

Notes: Although the data are drawn from sources generally judged the most authoritative and reliable, it should also be noted that they may not be internationally comparable because of the lack of standardized definitions and concepts used by different countries in collecting the data. The data are, nonetheless, useful to describe orders of magnitude, indicate trends, and characterize certain major differences between countries.

The reference groups are (1) the same country group of the subject country and (2) a country group with somewhat higher average income than the country group of the subject country (except for "High Income Oil Exporters" group where "Middle Income North Africa and Middle East" is chosen because of stronger socio-cultural affinities). In the reference group data the averages are population weighted arithmetic means for each indicator and shown only when majority of the countries in a group has data for that indicator. Since the coverage of countries among the indicators depends on the availability of data and is not uniform, caution must be exercised in relating averages of one indicator to another. These averages are only useful in comparing the value of one indicator at a time among the country and reference groups.

AREA (thousand sq. km.)

Total—Total surface area comprising land area and inland waters; 1960, 1970 and 1983 data.

Agricultural—Estimate of agricultural area used temporarily or permanently for crops, pastures, market and kitchen gardens or to lie fallow, 1960, 1970 and 1982 data.

GNP PER CAPITA (US\$)—GNP per capita estimates at current market prices, calculated by same conversion method as *World Bank Atlas* (1981-83 basis); 1983 data.

ENERGY CONSUMPTION PER CAPITA—Annual apparent consumption of commercial primary energy (coal and lignite, petroleum, natural gas and hydro-, nuclear and geothermal electricity) in kilograms of oil equivalent per capita; 1960, 1970, and 1982 data.

POPULATION AND VITAL STATISTICS

Total Population, Mid-Year (thousands)—As of July 1; 1960, 1970, and 1983 data.

Urban Population (percent of total)—Ratio of urban to total population; different definitions of urban areas may affect comparability of data among countries; 1960, 1970, and 1983 data.

Population Projections

Population in year 2000—The projection of population for 2000, made for each economy separately. Starting with information on total population by age and sex, fertility rates, mortality rates, and international migration in the base year 1980, these parameters were projected at five-year intervals on the basis of generalized assumptions until the population became stationary.

Stationary population—Is one in which age- and sex-specific mortality rates have not changed over a long period, while age-specific fertility rates have simultaneously remained at replacement level (net reproduction rate = 1). In such a population, the birth rate is constant and equal to the death rate, the age structure is also constant, and the growth rate is zero. The stationary population size was estimated on the basis of the projected characteristics of the population in the year 2000, and the rate of decline of fertility rate to replacement level.

Population Momentum—Is the tendency for population growth to continue beyond the time that replacement-level fertility has been achieved; that is, even after the net reproduction rate has reached unity. The momentum of a population in the year t is measured as a ratio of the ultimate stationary population to the population in the year t , given the assumption that fertility remains at replacement level from year t onward, 1985 data.

Population Density

Per sq. km.—Mid-year population per square kilometer (100 hectares) of total area; 1960, 1970, and 1983 data.

Per sq. km. agricultural land—Computed as above for agricultural land only, 1960, 1970, and 1982 data.

Population Age Structure (percent)—Children (0-14 years), working age (15-64 years), and retired (65 years and over) as percentage of mid-year population; 1960, 1970, and 1983 data.

Population Growth Rate (percent)—total—Annual growth rates of total mid-year population for 1950-60, 1960-70, and 1970-83.

Population Growth Rate (percent)—urban—Annual growth rates of urban population for 1950-60, 1960-70, and 1970-83 data.

Crude Birth Rate (per thousand)—Number of live births in the year per thousand of mid-year population; 1960, 1970, and 1983 data.

Crude Death Rate (per thousand)—Number of deaths in the year per thousand of mid-year population; 1960, 1970, and 1983 data.

Gross Reproduction Rate—Average number of daughters a woman will bear in her normal reproductive period if she experiences present age-specific fertility rates; usually five-year averages ending in 1960, 1970, and 1983.

Family Planning—Acceptors, Annual (thousands)—Annual number of acceptors of birth-control devices under auspices of national family planning program.

Family Planning—Users (percent of married women)—The percentage of married women of child-bearing age who are practicing or whose husbands are practicing any form of contraception. Women of child-bearing age are generally women aged 15-49, although for some countries contraceptive usage is measured for other age groups.

FOOD AND NUTRITION

Index of Food Production Per Capita (1969-71 = 100)—Index of per capita annual production of all food commodities. Production excludes animal feed and seed for agriculture. Food commodities include primary commodities (e.g. sugarcane instead of sugar) which are edible and contain nutrients (e.g. coffee and tea are excluded); they comprise cereals, root crops, pulses, oil seeds, vegetables, fruits, nuts, sugarcane and sugar beets, livestock, and livestock products. Aggregate production of each country is based on national average producer price weights; 1961-65, 1970, and 1982 data.

Per Capita Supply of Calories (percent of requirements)—Computed from calorie equivalent of net food supplies available in country per capita per day. Available supplies comprise domestic production, imports less exports, and changes in stock. Net supplies exclude animal feed, seeds for use in agriculture, quantities used in food processing, and losses in distribution. Requirements were estimated by FAO based on physiological needs for normal activity and health considering environmental temperature, body weights, age and sex distribution of population, and allowing 10 percent for waste at household level; 1961, 1970 and 1982 data.

Per Capita Supply of Protein (grams per day)—Protein content of per capita net supply of food per day. Net supply of food is defined as above. Requirements for all countries established by USDA provide for minimum allowances of 60 grams of total protein per day and 20 grams of animal and pulse protein, of which 10 grams should be animal protein. These standards are lower than those of 75 grams of total protein and 23 grams of animal protein as an average for the world, proposed by FAO in the Third World Food Supply; 1961, 1970 and 1982 data.

Per Capita Protein Supply From Animal and Pulse—Protein supply of food derived from animals and pulses in grams per day; 1961-65, 1970 and 1977 data.

Child (ages 1-4) Death Rate (per thousand)—Number of deaths of children aged 1-4 years per thousand children in the same age group in a given year. For most developing countries data derived from life tables; 1960, 1970 and 1983 data.

HEALTH

Life Expectancy at Birth (years)—Number of years a newborn infant would live if prevailing patterns of mortality for all people

at the time of its birth were to stay the same throughout its life; 1960, 1970 and 1983 data.

Infant Mortality Rate (per thousand)—Number of infants who die before reaching one year of age per thousand live births in a given year; 1960, 1970 and 1983 data.

Access to Safe Water (percent of population)—total, urban, and rural—Number of people (total, urban, and rural) with reasonable access to safe water supply (includes treated surface waters or untreated but uncontaminated water such as that from protected boreholes, springs and sanitary wells) as percentages of their respective populations. In an urban area a public fountain or standpost located not more than 200 meters from a house may be considered as being within reasonable access of that house. In rural areas reasonable access would imply that the housewife or members of the household do not have to spend a disproportionate part of the day in fetching the family's water needs.

Access to Excreta Disposal (percent of population)—total, urban, and rural—Number of people (total, urban, and rural) served by excreta disposal as percentages of their respective populations. Excreta disposal may include the collection and disposal, with or without treatment, of human excreta and waste-water by water-borne systems or the use of pit privies and similar installations.

Population per Physician—Population divided by number of practicing physicians qualified from a medical school at university level.

Population per Nursing Person—Population divided by number of practicing male and female graduate nurses, assistant nurses, practical nurses and nursing auxiliaries.

Population per Hospital Bed—total, urban, and rural—Population (total, urban, and rural) divided by their respective number of hospital beds available in public and private, general and specialized hospitals and rehabilitation centers. Hospitals are establishments permanently staffed by at least one physician. Establishments providing principally custodial care are not included. Rural hospitals, however, include health and medical centers not permanently staffed by a physician (but by a medical assistant, nurse, midwife, etc.) which offer in-patient accommodation and provide a limited range of medical facilities.

Admissions per Hospital Bed—Total number of admissions to or discharges from hospitals divided by the number of beds.

HOUSING

Average Size of Household (persons per household)—total, urban, and rural—A household consists of a group of individuals who share living quarters and their main meals. A boarder or lodger may or may not be included in the household for statistical purposes.

Average Number of Persons per Room—total, urban, and rural—Average number of persons per room in all urban, and rural occupied conventional dwellings, respectively. Dwellings exclude non-permanent structures and unoccupied parts.

Percentage of Dwellings with Electricity—total, urban, and rural—Conventional dwellings with electricity in living quarters as percentage of total, urban, and rural dwellings respectively.

EDUCATION

Adjusted Enrollment Ratios

Primary school - total, male and female—Gross total, male and female enrollment of all ages at the primary level as percentages of respective primary school-age populations. While many countries consider primary school age to be 6-11 years, others do not. The differences in country practices in the ages and duration of school are reflected in the ratios given. For some countries with universal education, gross enrollment may exceed 100 percent since some pupils are below or above the country's standard primary-school age.

Secondary school - total, male and female—Computed as above; secondary education requires at least four years of approved primary instruction; provides general, vocational, or teacher training instructions for pupils usually of 12 to 17 years of age; correspondence courses are generally excluded.

Vocational Enrollment (percent of secondary)—Vocational institutions include technical, industrial, or other programs which operate independently or as departments of secondary institutions

Pupil-teacher Ratio - primary, and secondary—Total students enrolled in primary and secondary levels divided by numbers of teachers in the corresponding levels.

CONSUMPTION

Passenger Cars (per thousand population)—Passenger cars comprise motor cars seating less than eight persons; excludes ambulances, hearses and military vehicles.

Radio Receivers (per thousand population)—All types of receivers for radio broadcasts to general public per thousand of population; excludes un-licensed receivers in countries and in years when registration of radio sets was in effect; data for recent years may not be comparable since most countries abolished licensing.

TV Receivers (per thousand population)—TV receivers for broadcast to general public per thousand population; excludes unlicensed TV receivers in countries and in years when registration of TV sets was in effect.

Newspaper Circulation (per thousand population)—Shows the average circulation of "daily general interest newspaper," defined as a periodical publication devoted primarily to recording general news. It is considered to be "daily" if it appears at least four times a week.

Cinema Annual Attendance per Capita per Year—Based on the number of tickets sold during the year, including admissions to drive-in cinemas and mobile units.

LABOR FORCE

Total Labor Force (thousands)—Economically active persons, including armed forces and unemployed but excluding housewives, students, etc., covering population of all ages. Definitions in various countries are not comparable; 1960, 1970 and 1983 data.

Female (percent)—Female labor force as percentage of total labor force.

Agriculture (percent)—Labor force in farming, forestry, hunting and fishing as percentage of total labor force; 1960, 1970 and 1980 data.

Industry (percent)—Labor force in mining, construction, manufacturing and electricity, water and gas as percentage of total labor force; 1960, 1970 and 1980 data.

Participation Rate (percent)—total, male, and female—Participation or activity rates are computed as total, male, and female labor force as percentages of total, male and female population of all ages respectively; 1960, 1970, and 1983 data. These are based on ILO's participation rates reflecting age-sex structure of the population, and long time trend. A few estimates are from national sources.

Economic Dependency Ratio—Ratio of population under 15, and 65 and over, to the working age population (those aged 15-64).

INCOME DISTRIBUTION

Percentage of Total Disposable Income (both in cash and kind)—Accruing to percentile groups of households ranked by total household income.

POVERTY TARGET GROUPS

The following estimates are very approximate measures of poverty levels, and should be interpreted with considerable caution.

Estimated Absolute Poverty Income Level (US\$ per capita)—urban and rural—Absolute poverty income level is that income level below which a minimal nutritionally adequate diet plus essential non-food requirements is not affordable.

Estimated Relative Poverty Income Level (US\$ per capita)—urban and rural—Rural relative poverty income level is one-third of average per capita personal income of the country. Urban level is derived from the rural level with adjustment for higher cost of living in urban areas.

Estimated Population Below Absolute Poverty Income Level (percent)—urban and rural—Percent of population (urban and rural) who are "absolute poor."

at the time of its birth were to stay the same throughout its life; 1960, 1970 and 1983 data.

Infant Mortality Rate (per thousand)—Number of infants who die before reaching one year of age per thousand live births in a given year; 1960, 1970 and 1983 data.

Access to Safe Water (percent of population)—*total, urban, and rural*—Number of people (total, urban, and rural) with reasonable access to safe water supply (includes treated surface waters or untreated but uncontaminated water such as that from protected boreholes, springs and sanitary wells) as percentages of their respective populations. In an urban area a public fountain or standpost located not more than 200 meters from a house may be considered as being within reasonable access of that house. In rural areas reasonable access would imply that the housewife or members of the household do not have to spend a disproportionate part of the day in fetching the family's water needs.

Access to Excreta Disposal (percent of population)—*total, urban, and rural*—Number of people (total, urban, and rural) served by excreta disposal as percentages of their respective populations. Excreta disposal may include the collection and disposal, with or without treatment, of human excreta and waste-water by water-borne systems or the use of pit privies and similar installations.

Population per Physician—Population divided by number of practising physicians qualified from a medical school at university level.

Population per Nursing Person—Population divided by number of practicing male and female graduate nurses, assistant nurses, practical nurses and nursing auxiliaries.

Population per Hospital Bed—*total, urban, and rural*—Population (total, urban, and rural) divided by their respective number of hospital beds available in public and private, general and specialized hospitals and rehabilitation centers. Hospitals are establishments permanently staffed by at least one physician. Establishments providing principally custodial care are not included. Rural hospitals, however, include health and medical centers not permanently staffed by a physician (but by a medical assistant, nurse, midwife, etc.) which offer in-patient accommodation and provide a limited range of medical facilities.

Admissions per Hospital Bed—Total number of admissions to or discharges from hospitals divided by the number of beds.

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