THE POLITICAL ECONOMY OF INEQUALITY: POVERTY, DROUGHT AND AID PROGRAMMES IN BOTSWANA c. 1982 - 1988

by

Stephen Lyons

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GLOSSARY & ABBREVIATIONS USED IN TEXT

ALDEP	Arable Lands Development Programme
ARAP	Accelerated Rainfed Agriculture Programme
BAMB	Botswana Agricultural Marketing Board
Batswana	The people of Botswana
Bahiri	Sharers of water and grazing on a traditional basis
BDP	Botswana Democratic Party
BMC	Botswana Meat Commission
BNF	Botswana National Front
CFA	Committee on Food Aid Policies and Programmes (WFP)
CKGR	Central Kalahari Game Reserve
CSM	Corn Soya Milk
CTO	Central Transport Organisation
DC	District Commissioner
DO	District Officer
DSM	Dried Skimmed Milk
DWA	Dept. of Water Affairs
EWTC	Early Warning Technical Committee
FAP	Financial Assistance Policy
FFW	Food for Work
FWE	Family Welfare Educator
FRD	Food Resources Dept.
RoB	Republic of Botswana
ICSM	Instant Corn Soya Milk
IFP	Institutional Feeding Programme.
ILO	International Labour Organisation.
IMDC	Inter-ministerial Drought Committee
kgotla	Traditional court
LAC	Livestock Advisory Centre
LBRP	Labour Based Relief Programme
mafisa	Traditional loan and use of livestock for ploughing
majako	Traditional exchange of labour
MOA	Ministry of Agriculture
MFDP	Ministry of Finance and Development Planning
MLGL	Ministry of Local Govt. and Lands
Motswana	A single person of Botswana
MOH	Ministry of Health
NDB	National Development Bank
NDP	National Development Plan
NFS	National Food Strategy
NMS	National Migration Study
OAU	Organisation of African Unity
P	Pula (approx. 1986 value: $0.50)
RA	Regional Advisor FRD
RAD	Remote Area Dweller
RADO	Remote Area Dwellers' Officer
RADP	Remote Area Dwellers' Programme
RHENO	Regional Health Educator & Nutrition Officer

RIDS	Rural Income Distribution Survey (1974-75)
RMO	Regional Medical Officer
RoB	Republic of Botswana
S&CD	Social & Community Development Department
SGR	Strategic Grain Reserve
SWAPO	South West Africa Peoples' Organisation
TGLP	Tribal Grazing Lands Policy
UNCN	United Nations Commissioner for Namibia
UNDP	United Nations Development Programme
UNDTCD	United Nations Department of Technical Cooperation.
UNFPA	United Nations Fund for Population Activities
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations Childrens' Fund
UNIDO	United Nations Industrial Development Organisation.
UNV	United Nations Volunteers
USAID	United States Agency for International Development
VDC	Village Development Committee
WB	World Bank
WFP	World Food Programme
WHO	World Health Organisation
WMA	Wildlife Management Area
WMO	World Meteorological Organisation.

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ABSTRACT

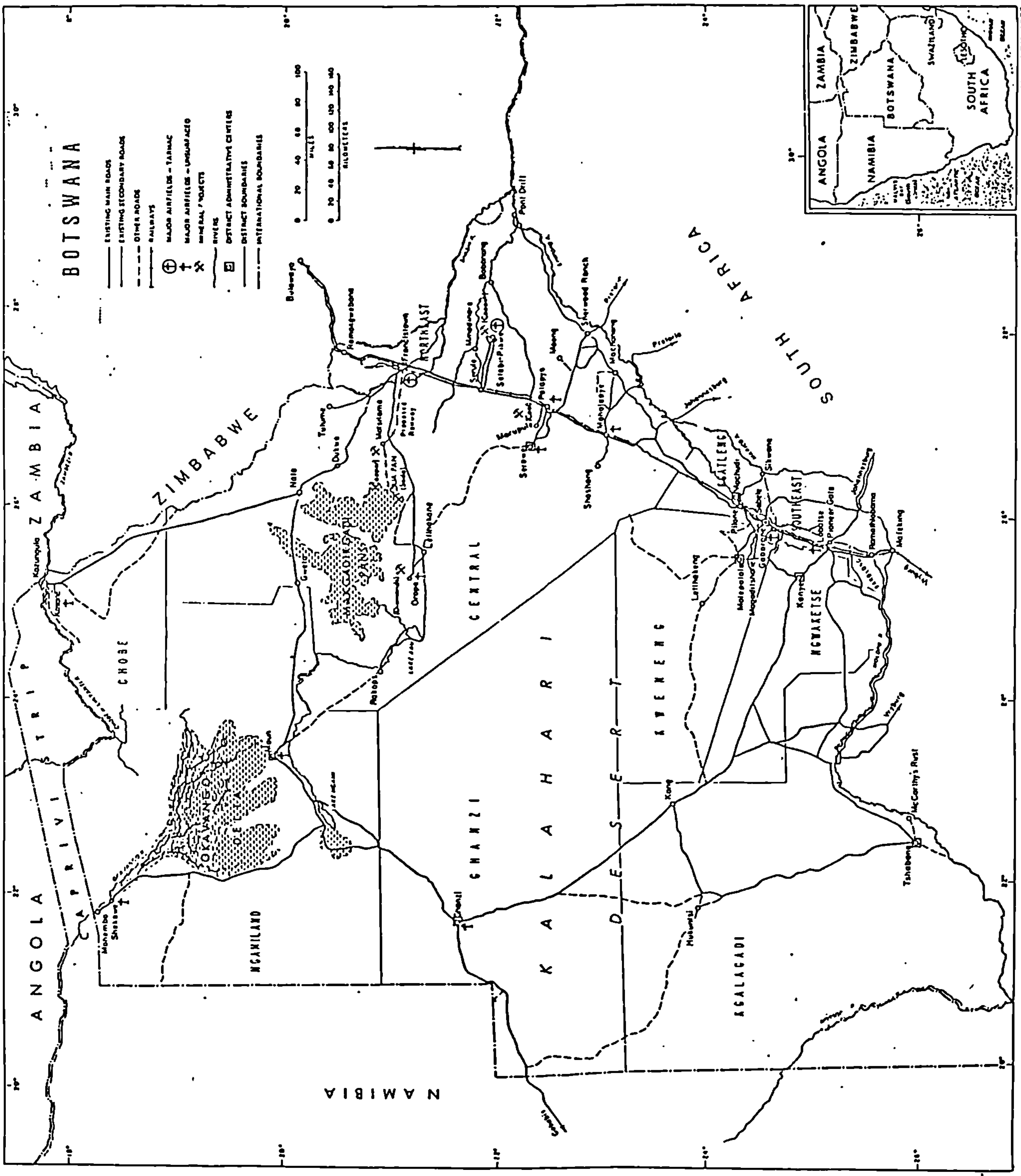
Botswana's pattern of economic growth during its first two decades of Independence has been hailed by many economists as representing a model for successful development in Sub-Saharan Africa. From the 1970s the development of the diamond industry provided the main impetus to this economic growth, and allowed the government to make rapid improvements in the provision of rural health care, primary education, and water supplies. However, despite these improvements to the rural infrastructure little has been achieved in stimulating or even maintaining rural incomes and levels of employment. The nutritional status and economic well-being of a substantial proportion of the rural population remains precarious, especially during periods of drought. This thesis argues that the present structure of economic development serves to preserve and intensify these existing patterns of inequality rather than allay them.

The first two sections of the thesis are concerned with the political economy of the country, and the nature and spatial distribution of rural poverty. I argue that the key to an understanding of this rural poverty lies in the changing socio-economic role of livestock over the last fifty years, and the emergence of new class structures based on the ownership of cattle. A growing exclusivity in the control of water sources and grazing, encouraged during the colonial period amongst the tribal elite, led to a growing inequality in income and assets and the breakdown of traditional redistributive mechanisms in the rural economy. It was this privileged and educated tribal elite, now largely divested of its tribal and kinship obligations, that gained political power on Independence, and which now forms collectively the largest group of livestock owners in the country. With access to lucrative overseas markets, what had emerged as a growing

contradiction between the private ownership of herds and the continued communal tenure of grazing land, is now being resolved by sweeping changes to the structure of land tenure. Whereas water borehole syndicates in the past had had (theoretically at least) an open membership and did not preclude the grazing of smaller herds, the new land tenure policies now promise an exclusive control over water and grazing on fenced ranches. The existence of these ranches now threaten the very subsistence base of many marginal groups.

An assessment of the government's commitment to tackling the problems of rural poverty can be derived from a study of its own welfare programmes. The third section of the thesis is concerned with the nature and effectiveness of the food aid and labour based relief programmes over the period 1982-88. Whilst these programmes have averted widespread starvation, they have done little to protect or restore the productive assets of the poor. Rather they have served to mask the structural nature of rural poverty and inequality and left the process of privatisation of the commons to continue unchallenged. In some cases they have also failed to achieve the more modest objective of alleviating malnutrition: an analysis of relief food distribution for the period reveals serious shortfalls to those marginal groups most at risk.

The final chapter summarises the main findings of the thesis and concludes that the fundamental issue of unequal access to productive assets such as cattle, grazing and water remains unresolved, reflecting the low priority afforded by the political elite to the plight of the poor. Without seeking to be prescriptive, it argues for a radical departure from the present pattern of economic development to one based upon a more equal access to productive assets.


BOTSWANA
ZAMBIA
ZIMBABWE
ANGOLA
NAMIBIA
SOUTH AFRICA
CAPRIVI STRIP
CHOBE
NGAMILAND
OKAVANGO DELTA
MAKGADIKGADI PANS
CENTRAL
GHANZI
KALAHARI DESERT
KWENENG
NGWAKETSE
KGALAGADI
NORTHEAST
SOUTHEAST
KGATLENG

GENERAL INTRODUCTION

From the early 1980s, an increasing amount of literature in the field of development economics began to focus attention on the worsening food situation in sub-Saharan Africa. Although there had been a small increase in per capita cereal production over 1979-84 in developing countries as a whole (of around 2%), the sub- Saharan region fared considerably worse, and production of cereals actually fell over the same period. Per capita cereal production was, on average, some 20% lower in 1985 than it was in 1979, self-sufficiency had declined from 85% to 75% during the same period, and food aid as a percentage of total imports had increased from 25% to 39% (Maxwell 1986, p.12).

The problem has been compounded by the fact that many of the national economies of the region have also suffered a declining share in world trade, have faced dwindling foreign exchange earnings, and a decrease in public revenues available for investment in rural development. For the region as a whole, the debt/service ratio as a measure of the proportion of export earnings required to meet debt repayments, rose from 4.6% to 20.3% during the period 1974 to 1983 (Singer 1987, p.41). In addition, drought, pestilence and civil war have continued to devastate large areas of the region, leaving many rural subsistence economies shattered, and producing declining levels of income and nutritional standards for the great mass of the rural population.

The present study focuses on the situation of the rural poor in Botswana, and was conceived and researched during a two and a half year period spent in the country attached to the Ministry of Local Government and Lands, as a Food Management and Logistics Advisor to the Food

Resources Department (FRD). Botswana provides an interesting area of study for development economists on several counts. Geographically, it is situated in perhaps the most politically sensitive area of Southern Africa, and yet remains one of the few multi-party democracies in the region, having recently celebrated (in 1986) its first twenty years of Independence and internal stability.[1] Firmly committed to a market economy structure, it has sustained the high rates of economic growth that were first established in the mid-1970s with the development of the mineral industry. World Bank statistics indicate Botswana's economy had the highest rate of growth in Africa during 1970-78, at an average of 16.1% per annum, and in 1983 it surpassed South Africa to become the world's third largest producer of diamonds (Picard 1987, p.232). Despite the fact that the country has only recently begun to recover from what has perhaps been its most severe drought this century, with per capita cereal production in 1986 falling to just under 56% of 1970-80 levels,[2] it has emerged with more than adequate foreign currency reserves, and no pressing balance of payments problems.

The country's impressive growth rate since the mid-1970s, fuelled by rising mineral revenues, has enabled the government to achieve an enviable record in the provision of primary education and health care in the rural areas, and it is largely because of this that Botswana continues to be seen almost as a "text-book" example of successful development in the Third World. As one observer has

[1] Sandford (1983, p.280) ascribed Botswana's "openness" to outside research as largely the result of the "hitherto considerable political cohesion of the country's important interest groups which makes politically inconvenient research findings less of a threat."

[2] Calculated from per capita production tables in World Bank (1987), p.63.

argued:

> "...stringent efforts have been made to see to it that everyone, however poor and wherever he lives, can have his health looked after, see his children going to school, drink clean water and in extremity, obtain relief from actual starvation" (Egner 1979, p.14).

However, the maintenance of adequate levels of nutrition is a necessary but only partial approach to human resource development. Many of the benefits of Botswana's economic growth have hardly touched the mass of the rural population of subsistence arable farmers, because both their output and resulting overall levels of income remain largely unaffected by existing patterns of mineral-led growth. For the majority of the population engaged in dryland farming, incomes derived from cereal production still remain dependent on the vagaries of the weather and overall rainfall patterns, and Botswana has one of the least promising climates for traditional rainfed agriculture in the whole of the sub-Saharan region. [3]

For the broad mass of the rural poor, relief from actual starvation during periods of drought has been maintained largely through the aegis of the international donor community. Botswana has been a recipient of food aid from the mid-1960s, which has been channelled through the country's network of health facilities, primary schools and remote area settlements. These major food distribution programmes are financed by the World Food Programme[4] and supplemented with donations from the EEC,

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[3] According to a study by Bush, 70,250 households out of a total of 82,000 in Botswana produced no crop at all in 1983, and between 1981-3, the hiring of rural labour fell by 36%. Bush (1985), pp.59-63.

[4] The total value of WFP food aid to Botswana during the period 1963 to 1987 was $133 million (WFP 1987e, p.1)

USAID and other bilateral donors. They run even in non-drought years, albeit in a scaled-down form.

Even with these institutional provisions for rural household food security, the persistent level of malnutrition in just over 25% of children under five years of age, even in non-drought years, implies that despite the country's impressive growth rate, rapid improvements to the rural infrastructure, and considerable flows of food aid, a sizeable proportion of rural households experience chronic food deficits which are related to low incomes and lack of assets (RoB, MFDP 1985, p.5). By 1987, nearly two-thirds of the total population of the country were receiving supplementary food aid of one kind or another.(RoB, FRD, 1987).

The central argument of this study is that rural poverty is on the increase in Botswana, and that the primary motive force behind this process is not - as commonly assumed - recurrent periods of drought (which have served only to hasten the process), but rather the pattern of economic development itself. This pattern was already well established during the Protectorate when the tribal elite was actively encouraged to develop its own livestock water sources, not for the tribe as a whole, but increasingly for syndicate or private use. With the growth of external markets for Protectorate beef and the development of a commercial livestock sector, the period saw a changing socio-economic role in the holding of livestock and a growing exclusivity in the control of grazing and water sources. These developments were accompanied by an increasing polarisation in the distribution of cattle ownership and the breakdown of many traditional redistributive mechanisms. It was the social and economic differentiation that evolved between the predominantly subsistence traditional sector on the one hand, and the emergent commercial sector on the

other, that provided the backdrop against which future land tenure policy was formulated after Independence.

Although motivated ostensibly by similar concerns over population growth and ecological deterioration as in other pastoral societies elsewhere in sub-Saharan Africa, Botswana has taken a distinctly different path with regard to land tenure, and this reflects the fact that, unlike most other pastoralist societies in the region, Botswana's herd owners form a sizable and politically dominant minority. Ownership of cattle remains the key to rural wealth, and figures on cattle distribution may be used as a proxy for wider patterns of social differentiation (Hinderinck & Sterkenburg 1987, p.79). This is reflected in the degree of state involvement in the commercialisation process, and there exists a high correlation between status within the civil service and the ownership of cattle (Picard 1987, p.147). According to Picard, the total number of this political elite, including cabinet members, parliamentarians, district councillors and other specialised political actors, is probably less than 250. With less than 7,000 employees in the formal private sector enjoying significant salaries, and 18,000 employees in the central and unified local government service, no single group can rival the government apparatus in terms of size, economic status and political influence.

New land tenure legislation was introduced in Botswana in 1975 in the shape of the Tribal Grazing Lands Policy. The TGLP is already having a profound effect on some marginal groups such as the *Basarwa*, as more and more communal land and water resources are being enclosed and effectively privatised. The Policy has not simply left the mass of the rural population at the level of subsistence at which it has, historically, always struggled to survive. The wealthier stockholders have been able to enlarge their

herds and gain control over scarce water resources at the expense of the rural poor, whose subsistence base itself is now increasingly coming under threat.

Some of the more disturbing effects that emerged with the development of commercial ranching under the TGLP land tenure changes can be seen at first hand in the evolving social relationships between the main Tswana groups and the *Basarwa* hunter-gatherers, particularly in the more remote areas of the country. What had developed over centuries as a symbiotic, semi-feudal relationship is now rapidly giving way to an impersonal cash nexus as more and more communally held land is commercialised and the hunter-gatherers are moved on, often with little or no compensation. In a SAREC report of 1979, Dahl & Hjort (1979, p.32) suggest that the acquisition of individual land rights to grazing can rapidly transform a pastoral society to a class society, with proletarianised herdsmen working for local capitalist ranches. My own research for the present study indicates that wage levels, working conditions and nutritional status on the freehold ranches are amongst the worst in the country. Other independent studies also suggest that the current poverty of the *Basarwa* is due more to the changes in access to their resource base with the commercial expansion of livestock, than to the harsh ecological conditions of their environment (Hitchcock (1978), Russell (1979), Stephen (1982), and Picard (1987). Guenther's study of proletarianised *Basarwa* on the freehold farms of Ghanzi paints a particularly disturbing picture, and one that is likely to become more common in the future with the expansion of leasehold ranches.

The exclusive rights to grazing and water resources that the TGLP bestows has allowed many of the larger stockholders to gain access to the lucrative overseas markets in the EEC, and obtain a price for their beef

substantially higher than exists in alternative local or regional markets. The bureaucracy has therefore a vested interest in using the state apparatus as an instrument of power in the process of commercialisation, and this is reflected in the amount of government funds accruing to livestock owners in the form of subsidies.

A wide literature exists on the concept of the post-colonial state and the issue of whether new elites have been more interested in appropriating the colonial heritage than in the fundamental restructuring of society and political economy (Meillassoux 1970, pp.97-110; Arrighi & Saul 1973, pp.11-43; Leys 1975; Ake 1981; Hart, 1982). In Botswana, it was the tribal Chiefs who gained most from the process of commercialisation during the Protectorate. Cliff & Moorsom (1979, p.37) point out that as they received a commission for the collection of taxes from the colonial administration, the Tswana nobility was able to maintain its preferential position throughout the colonial period. They used their control over native treasuries and labour to increase their personal wealth on the hoof, until the increasing scope for commercialisation in the 1950s and 1960s enabled them to transform this wealth into capital. After Independence, the Chiefs were able to assume the political control over the industry that was denied them during the period of the Protectorate. Parson (1974, p.239-240) argues that a clear continuity exists between the present generation of political and administrative elites and the pre-colonial tribal rulers.[5]

The Chiefs' early economic gains during the colonial period often allowed their families and relatives privileged access not only to material resources, but to

[5] For a description of the role of the Chiefs in public service see Jones (1983), pp.133-9. A review of Botswana's political parties is provided by Polhemus, (1983), pp.397-430.

a level of education in South Africa or Rhodesia unobtainable at that time in the Protectorate. This is not to say that all the Tswana Chiefs actively collaborated with the British administration but does suggest that they were in the best position to benefit financially from the increasing commercialisation process. Crowder's paper on Tshekedi Khama illustrates the Bangwato Chief's sustained opposition to British rule throughout his period as Regent of the largest Tswana state. (Crowder 1985)

After Independence, this level of education enabled them to reach dominant positions within the new state apparatus, and government bureaucrats now form the major component of the dominant economic elite, with civil service salaries providing the basis for the wealth of private investment funds flowing into the livestock industry. In her study of rural poverty, Brown (1983, p.126) points out that in Botswana there is a clear connection between ownership of assets and the level of attainment in education. Whilst writing on a more general level, Foster (1980, pp.201-236) maintains that there is a substantial chance that secondary and tertiary levels of schooling in Africa may have done as much to enhance current inequalities as it has done to remove them.[6]

The role of the state in the colonial and post-colonial development process, particularly in the field of rural development and agricultural commodity production, has a particular significance for Africa as a whole and also has a wide literature (Cliffe, Coleman & Doornbos 1977; Ake 1981; Bates 1981, pp.147-157; Dumont & Mottin, 1983).

[6] As we will see in Chapter Three, the premium attached to higher levels of educational achievement in Botswana (especially after its neglect during the Protectorate) has done little to break down existing levels of inequality.

Picard (1981) argues that in Botswana, the District Councils have not shifted their role orientation since Independence towards development tasks because the country's political elites see political mediation and social control as having a higher priority. During periods of drought however, it is the District Councils that assume an executive role in both human and livestock relief operations, using staff seconded from council duties. This is precisely when the government's true development priorities surface as there is a disproportionate amount of time and manpower spent on the livestock element of the programme while management of the relief food distribution remains poor and chronically short of adequately trained personnel. This is reflected particularly in the design, management and execution of Labour Based Relief projects.

Since the mid-1970s, the larger stockholders have been able to consolidate their position of economic power by political means under the guise of land reform. Picard (1980, pp.313-356) maintains that the TGLP, whilst aimed at tackling the problems of range conservation and a rapidly diminishing resource base for the smaller subsistence farmers, bore little political commitment to either. The Policy was more concerned with the creation of the legal and institutional framework necessary to advance the essentially commercial interests of the political elite itself.

Hinderinck & Sterkenburg's study (1987, p.184) of agricultural commercialisation in Sub-Saharan Africa comes to a similar conclusion: that Botswana's development strategy since Independence reflects the rather narrow objectives of meeting growth targets and attaches second place to redistribution and social

justice goals. Holm and Morgan (1985, p.463) noted that

> "The Government of Botswana is openly committed to an approach of development that accepts a certain degree of inequality as necessary for capital mobilisation."

As we will see in Chapter Four, the degree of inequality that does exist (in income levels, and access to productive assets such as cattle), is already high and increasing.

Though the commercialisation of agriculture, together with an improved physical and institutional infrastructure may be considered a necessary condition for rural development, it can also widen income disparities, polarise still further the ownership of productive assets, and promote the exploitation of labour.[7] That a rapid growth of national income in developing countries is perfectly consistent with the stagnation, or even decline, in the living conditions of the lowest income groups has been well documented by Fishlow (1972, p.391-402), Hodd (1976, pp.221-8), Cliffe et al (1988) and others.

This growing inequality of access to productive assets, and the reluctance of the Botswana government elite to adequately address the fundamental problems of declining rural incomes and unemployment levels, is a recurrent theme throughout this study. In essence, it sets out to show in an inductive fashion that in a market orientated economy with increasing levels of social and economic differentiation, there are likely to be inherent contradictions between unconstrained economic growth on the one hand, and equity on the other. Such a process can

[7] Wage rates on the commercial farms of the Tuli Block, for example are substantially below minimum rates established by the Government for its own unskilled workers, and the rates of malnutrition amongst the children living on the farms is amongst the highest in the country.

culminate in a growing immiseration for the poor, chronic malnutrition and even death by starvation, brings into question whether Botswana really is a "text-book" example of successful "development".

The study itself is divided into three distinct but interrelated sections: the first traces the historical roots of rural poverty and class formation in Botswana during the Protectorate, and the political significance of its growing economic ties with South Africa. As part of the price of British "protection" from the Boer settlers, colonial rule alienated the indigenous population from some of the best arable land in the country.[8] The increasing monetisation of the economy due to the imposition of taxes, which were collected by the Chiefs on a commission basis,[9] brought about a breakdown in the traditional redistributive mechanisms in tribal society (particularly in relation to the exchange of labour and livestock use), and the emergence of new class structures and property relations. This led to a corresponding disparity in the distribution of wealth and productive resources. Evidence of profound economic and societal change influenced by the influx of European settlers and external markets appeared even before the formal declaration of the Protectorate in 1885. Parsons relates that property rights to cattle in Botswana were first established by Chief Khama I of the Bangwato tribe after 1875 (Parsons 1977, p.119). The Chief's followers - who already controlled large herds due to their position in the political hierarchy - stood to gain most from this

[8] The Tuli Block area (see Map 1), along the border with South Africa was given to the British South African Company (BSAC) for the building of the Mafeking-Bulawayo railway through the Protectorate. It was subsequently sold by the BSAC on a freehold basis to white settlers and today forms the main irrigated area of arable land.

[9] Parson (1975) notes that the Bangwato Chief Khama's share of the Hut Tax in 1916 amounted to £1700 per annum, a not inconsiderable sum in those days.

development, as it at once freed them from *mafisa* [10] obligations and allowed them to trade openly with the established European trading stations. This represented an important watershed in the economic and political development of the Tswana peoples and was to have far reaching consequences for the future of traditional society.

Agricultural commercialisation is not in itself a new phenomenon in the sub-Saharan region and had existed in small pockets for centuries before the colonial period: surpluses were produced and exchanged both within and between small communities, which were sometimes integrated into wider economic networks and political units. Though as a result, some element of social differentiation must have occurred, the limited means of production and capacity would have allowed little more than personal services to be conspicuously consumed. Moreover, differentiation in socio-economic position implied differences in obligations as well as in assets, and numerous levelling mechanisms existed to prevent the occurrence of extreme inequalities (Hinderink & Sterkenburg 1987, p.25). The distinction therefore between the forms of commercialisation existing in pre-colonial society and those established during the Protectorate is a crucial one, and not simply of scale. In the former, economic life was not dominated by impersonal forces of supply and demand, and market prices did not serve to allocate resources, incomes and outputs. The labour input for such production was primarily provided by the family and wage labour in farming was virtually unknown (Fallers 1964; Feldmann 1975). By contrast, a process of capitalist commercialisation in agriculture implies an increasing monetisation in the

[10] Mafisa involved the use and distribution of the larger herds beyond the immediate family and was an important levelling mechanism.

economy, a system of deliberate production for the market, and relates specifically to the social attitudes, motivations and behaviourial patterns of the agricultural producers themselves.

Schapera (1943, 1947, 1970) is perhaps the most important and influential personal witness of the impact of these structural changes on Tswana society, particularly during the 1930s and 1940s. He writes:

> "The economic reciprocity which entered so strongly into the relations between Chief and subjects, and which formed one of the vital features of the native economic system, has broken down completely. The Chief no longer plays the part of tribal banker: his function as the holder and distributor of all the surplus wealth has been obliterated by the new economic forces...instead of working for the Chief, (the people) now worked for themselves: the accumulation of wealth became a motive in the life of every native." (Schapera 1943, p.150)

The late South African novelist Bessie Head has also produced an interesting documentary cameo of traditional society in its transitional stage, based on personal interviews conducted in her adopted village of Serowe (Head, 1981).

With production orientated towards external demands for labour and livestock, Botswana became a reserve on the periphery of the South African economy. This position was maintained and reinforced by European trading interests within Botswana itself and in South Africa. Parson (1975, pp.383-408) gives an interesting account of how these interests were directed against any indigenous attempt to make the state self-reliant. According to Pim, in a report commissioned in 1932 by the British Secretary of

State for Dominion Affairs on the Protectorate,

> "The main factor in destroying the old subsistence economy has been...the introduction of a money economy, and more especially of taxation levied in money...to pay taxes the Native has to raise money and he could do this only by selling his possessions to European traders or by going outside his Reserve to earn money in European service (HMSO, 1933, pp.23-24).

Migrant labour is acknowledged by almost all writers on Southern Africa as having had a profound effect on traditional society and the integrity of the family, and some have argued that such migration is one consequence of the historical development of capitalism and the geographical concentration of the means of production in particular regions (Arrighi 1970, pp.197-234; Legassick & Wolpe 1976, pp.87-107). In Botswana, Schapera studied the impact of migrant labour over a period of many years and noted that one of the effects was the emergence of the female headed household in the 1930s (Schapera 1970). A more recent study by the FAO in 1974 and commissioned by the Government of Botswana found that female headed households are less likely to own productive assets such as livestock, and are consequently disadvantaged when it comes to agricultural activities. They therefore figure amongst the poorest of all social groups (FAO, 1974, WFP 1985d, WFP 1985e, Cliffe et al, 1988). Brown (1983) in a study of the particular effects of male labour migration on women, argues that womens' earlier access to income and wealth was secure as they were productive members of a kin group headed by men. As land and cattle became privatised, women have been unable to maintain access to these resources (Dahl, 1987). Studies made in Botswana by two UN agencies (UNDP et al, 1985; UNICEF, 1986) both note the particular vulnerability of female headed households during recurrent periods of drought.

The pattern of development established during the Protectorate, because it was directed at the growth of an economic surplus in the commercial livestock sector (in order to maximise one of the few sources of taxable revenue), also had the effect of vesting an increasing amount of wealth and power in a small, privileged elite. In this process, the power, aspirations and perceptions of the elite were changed and, upon Independence, its interests were brought into conflict with those of the majority (Colcough & McCarthy 1980, p.243).

The second section of the study examines the increasingly dualistic structure of economic growth since Independence, the progressive divergence between subsistence and commercial livestock production, current trends in rural employment and incomes, and the nature and spatial distribution of rural poverty in Botswana.

Much useful background information on the natural climatic constraints acting upon traditional dryland crop production is provided by the occasional publications of the National Institute of Development Research and Documentation, University of Botswana, (NIR, 1983). Data on rainfall patterns during the 1982-87 drought, and their deviation from the long-term mean, have been published by the Department of Meteorological Services in Gaborone (RoB, 1987). This section also looks at the crucial issue of the land tenure changes (the Tribal Grazing Lands Policy) currently being pursued by the Botswana Government and now characterised by the enclosure of some hitherto communal grazing areas and the alienation of smaller herd owners from both land and water resources. The ideological rationale behind the TGLP is examined and an assessment made of its socio-economic impact on hunter-gatherer and other marginal groups.

Most studies of the severity and distribution of rural poverty in modern Botswana are based on the Rural Income Distribution Survey (RIDS) conducted in 1974, and based on a sample of 950 randomly selected rural households in some twenty areas, surveyed once a month throughout the year (RoB, Central Statistics Office, 1975). Watanabe & Mueller (1984, pp.115-127) used RIDS data to compile a profile of rural poverty in Botswana by deriving a "poverty income ratio", based on the Government's own "poverty datum line" which varied with individual household size, age and sex. The data revealed a high level of income inequality and argued that the basic problem of rural poverty in Botswana was the maldistribution of productive assets between the various income groups.

The RIDS is, at the time of writing, the latest national survey of rural income structures in Botswana that has been published, although another similar study is due to be published in the near future. Though this might indicate that any judgment on present poverty trends may be premature, evidence from regional studies conducted since 1974, together with known data on malnutrition rates, cattle mortality rates amongst smaller herds, and the general severity of the 1982-88 drought, all indicate the strong likelihood that both the extent and severity of rural poverty have increased in recent years, and that the dominant trend is towards a greater polarisation of assets and income. A study by various UN agencies in 1985 and commissioned by the Government's own Interministerial Drought Committee would seem to confirm this trend, even without the impact of drought (UNDP et al, 1985).

Colcough & McCarthy's 1980 study of the political economy of Botswana remains perhaps the best general analysis of the country's pattern of development and the interaction between its national bourgeoisie and political elite.

More recent papers edited by Harvey (1981) and Oommen et al (1983) have focused on the growth of livestock and mineral extraction industries since Independence, and the increasing significance of the SACU revenues to the Botswana Government. A more in-depth study of the development of the livestock industry, and the means by which the political elite were able to expand and control this important sector in their own interests after Independence, is provided by Hubbard (1983,1986). Most studies on Botswana have recognised the crucial relationship between cattle ownership, income, and social differentiation, and noted that access to the lucrative beef export markets is dominated by the larger breeders (Cliffe & Moorsom 1979; Colcough & McCarthy 1980; Sandford (1983); Hubbard, 1983, 1986; World Bank, 1985).

Though livestock rearing remains an important activity in many parts of sub-Saharan Africa, its commercialisation in the sense of directly producing for the market is still relatively a rare phenomenon. Livestock is still usually seen by most pastoralist and transhumant societies in the traditional sense, as a means of accumulating wealth and social prestige (Konczacki, 1978; USAID, 1986). In Botswana, though marginal stockholders still see livestock primarily as a means of financial security during periods of drought and crop failure, the commercialisation of livestock has been a dominant feature of the post-Independence economy.

The evidence for a rapid and growing commercialisation in Botswana is clear. Between the end of the drought in 1965 and 1978, the national herd grew from one million to nearly three million head. With the national herd standing at around 300,000 in 1900, this implies a ten fold increase up to 1978 (Colcough & Fallon, 1983). The growing commercialisation in livestock can also be showed by the national offtake rate (the proportion of the

national herd slaughtered each year), which was 3% in 1930, 6% in 1950, 10% in 1960 (Konczacki, 1978) rising to 13% by the mid-1970s (McDonald, 1978). A USAID (1986, pp.23,115) evaluation study estimated the offtake rate in the commercial sector itself at 15.6% in 1983, which compares with only 4-8% in Kenya after the World Bank Livestock Development Programme (Phase II), a programme which was aimed primarily at the commercialisation of livestock and had started in the mid-1970s.

The rapid progress of the commercialisation process after the 1930s was due to a combination of factors, including the introduction of new borehole drilling technology, the formation of boorehole syndicates (particularly by the tribal elite) and the incorporation of new grazing land that followed in its wake. It was to have important repercussions on the structure and direction of land tenure policies after Independence.

Customary law with regards to water distinguished between naturally occurring sources such as rivers, ponds and pans, and those derived from individual or group effort, such as hand-dug wells. Whilst the former was seen as being owned communally, the latter was often subject to more restricted use. (USAID 1986, p.101). However, as these hand-dug wells were generally low yielding and even ephemeral in nature, exclusive individual or group control did not confer a significant advantage over non-owners of similar water sources; nor did it necessarily allow for larger herds. During the 1930s, however, the introduction of deep borehole drilling technology not only extended the ecological zone suitable for grazing all year round, but in the process brought on major changes in land use patterns, size and distribution of herds. It also brought about the *de facto* ownership of grazing land, as water use was now restricted to the owner of the borehole. Their introduction not only

increased the potential for the commercial development of livestock but at the same time, the potential for a growing inequality and social differentiation.

The boreholes were expensive to drill and their use was therefore generally restricted to the tribal elite and other large stock owners, although district council funds were also used to site new boreholes to relieve existing areas of high grazing density. Hitchcock's detailed study for the MFDP in 1978 indicates that many district council owned boreholes drilled by the Protectorate administration in the western sandveld (to relieve grazing pressure in the eastern hardveld) had been sold off to private individuals by the time the TGLP was introduced in the mid-1970s. This is confirmed by a USAID study (1986, p.107). Colcough & Fallon's study for the ILO in 1983 notes that the larger cattle owners' position was also strengthened by the government's policy bias in respect of land allocation and borehole drilling rights, which was seen by the colonial administration as the first example of indigenous water resource development and actively encouraged. However, a study of the development of borehole syndicates in Kgatleng District noted that, far from being a local initiative for and on behalf of the tribe, this development soon led to a growing exclusivity in the control of water sources and paved the way forward to a future privatisation of the commons. (Peters 1983).

With these changes in the forces of production has developed a process of social transformation and the emergence of new values of economic individualism. The production advantages that ownership of the boreholes bestowed, together with the growing market orientation of the larger stockholders, further entrenched the already skewed distribution of cattle that had developed from the fragmentation of the tribal herds.

The skewed distribution of livestock also contributed to the emergence of a growing duality in the sector, as smallholders continued to pursue a subsistence level mixed farming strategy, whilst the larger stockholders produced solely for the market. The rapid increase in public sector employment that accompanied the growth in the mineral extraction industries, and the growth of non-agricultural economic activities, added to this duality as it allowed an increase in the amount of private investment in cattle. The commercial banks played a leading role in this investment, and a 1982 study by Makgetla notes the failure of the banks to direct investible funds into alternative development projects, due largely to the lack of acceptable collateral of most loan applicants without livestock (Makgetla 1982, pp.69-86).

Colcough & McCarthy's 1980 study showed that the incomes policy pursued by the Government since the mid-1970s had exacerbated rural deprivation as it had allowed public sector salaries to rise without establishing a minimum wage in agriculture and in herding. With the collapse of rural employment opportunities in agriculture during periods of drought, wage levels tended to fall and many smaller herd owners could no longer afford to maintain their stock. When this happened, the cattle were often sold off to the larger stockholders before they died of hunger. This had a dual effect: first, the larger stockholders could buy up emaciated stock at low prices, and secondly, the smaller stockholder was now even more dependent on deriving an income from wage labour. This process not only reinforced a downward spiral in wage levels, but enhanced still further the capacity of the larger stockholder to command the use of that wage labour. Furthermore, the system of taxation after this date was regressive, allowing the formation of new

echelons of bureaucrats amongst the urban elite (Colcough & McCarthy, 1980).

Traditional societies, which are characterised by their subordination of individual to communal interests and the prevalence of personal over contractual relationships, have been seen as inherently inefficient and hindering, rather than promoting, economic and social progress. Similarly, customary land tenure, the communal ownership of other productive assets, and the importance given to social and cultural considerations in economic decision making, have often been criticised as being incompatible with long term development needs, and in sub-Saharan Africa, detrimental to the long term ecology of the region. Such arguments, based on a rather uncritical acceptance of the "Tragedy of the Commons" paradigm first popularised by Hardin (1968) would at first sight appear to be particularly applicable to Botswana: overgrazing, range degradation and consequent herd loss are encountered throughout the communal grazing areas of the eastern hardveld (USAID 1986, p.120). Cattle left to roam unguarded during the day tend to use the same trek routes and these low-lying areas become natural run-offs when the rains come, causing severe soil erosion due to the lack of vegetation, especially around the larger villages. As a result, livestock development policies such as the TGLP (which sought to introduce a greater exclusivity to land use), have been seen throughout the sub-Saharan region in recent years as an essential element of the development process, by government and donor community alike.[11]

The TGLP has since been criticised on several counts. First, the rationale for the TGLP is based on the premise

[11] See USAID (1986), for a comparative evaluation of the various World Bank and AID financed livestock development projects.

that traditional pastoralism on communally held land is inherently inefficient and ecologically unsound. This has been challenged by several observers (Hitchcock (1978), Dahl & Hjort (1979), Sandford (1983) and others, who all argue that the "Tragedy" paradigm was based more on *a priori* assumptions about human nature than on empirical evidence from pastoralist societies. Mazonde (1987) notes that in Botswana overstocking and range degradation are not limited to the communal areas, but occurs throughout the freehold farm blocks. Sandford (1983) argues that it is extremely difficult to ascertain on any scientific basis the level of overgrazing at which permanent and irreversible damage is done to the range, and in most cases "overgrazing" may only be a cyclical phenomenon occurring with periods of drought, when the stock carrying capacity of the range is diminished. Where serious and permanent range degradation has occurred it has usually been associated with areas around deep boreholes. (Oxby (1975); Sandford (1983); Livingstone (1986). The inference that may be drawn from this is that provided adequate measures for de-stocking are carried out during the early periods of drought, and provided that new water sources are smaller and more evenly spaced (to reduce stock densities), communal pastoralism remains an ecologically sound economic activity.

Secondly, the size of herd required under the TGLP makes it unlikely to be of benefit to anyone but the very wealthiest of stockholders. The amalgamation of several smallholders is not generally feasible, as the real economic benefits of having a TGLP ranch lie in the exclusivity of access to grazing land and water that it confers. Hitchcock's field study confirms this, as he notes that the main motive for stockholders applying for a TGLP ranch was to evict people off the land (Hitchcock, 1978). For the same reason, the assignment of individual smallholders to discrete areas of land within a ranch is

not feasible either: private grazing lands require individual water supplies which cannot be capitalised upon by the modest offtake of a smallholding.

A major proportion of the financial costs of the TGLP was provided by World Bank loans administered under the aegis of the Second Livestock Development Project, which began in 1977. The model ranch envisaged by the TGLP supports a herd of at least 500 head, the minimum considered necessary to generate an offtake that would finance private water development and other ranch costs. The TGLP was based essentially on the argument that the benefits that would accrue in terms of economies of scale, increased output and income would offset the loss of welfare incurred by the displacement of the smaller stockholders already using the land. Konczacki (1978, p.145-6) saw the planned privatisation of communal land and water resources in Botswana under the TGLP as

> "a major step forward in the right direction...the land boards can play a crucial role in closing the gap between the rich and the poor".

Similar arguments were put forward by the Chambers & Feldman consultancy in 1973, which first formulated the framework for the new TGLP (Chambers & Feldman, 1973). However, the "trickle-down" argument for the TGLP cannot be sustained as the taxation of livestock in Botswana is almost completely offset by the extensive range of government subsidies available to stockholders, and the very low rents (at P0.04 per hectare per annum) paid for the ranches (World Bank, 1985). Other studies of the social effects of the TGLP have been equally scathing. Masalila (then the Permanent Under Secretary of the MLGL - the Ministry charged with the implementation of the TGLP) was particularly critical of the implementation of the policy (Masalila, 1983), whilst studies by Weimer,

Colcough & McCarthy, Hubbard, and Picard have expressed serious concern over the likely effects of the Policy on the poor, particularly marginal groups such as the *Basarwa* (Weimer 1977, p.46; Colcough & McCarthy 1980; Stephen 1982; Hubbard 1983, 1986; Picard 1980, 1987).

The USAID evaluation of land tenure and livestock development in Sub-Saharan Africa saw Botswana's TGLP as an important milestone in land tenure policy:

> "The Tribal Land Act (of 1968) was a critical instrument in reforging institutional arrangements and channels away from rural based traditional centres of power towards modern-sector elites, possessing more cosmopolitan economic outlooks and less tied to constraints of reciprocity and social obligation, characteristic of leadership roles in customary society" (USAID 1986, p.104).

Lease and contract methods of assigning exclusive grazing areas to individuals can be viewed as diminishing the rights and freedom to land use that had previously been held on a communal basis. Far from relieving the overgrazed commons by the removal of large private herds to commercial ranches, the TGLP has increased communal range deterioration as the herds are invariably returned during periods of drought, when the grazing in leasehold ranches is exhausted. The USAID study notes that this is a common recurrence in all World Bank/USAID funded livestock projects in the Sub-Saharan region (USAID 1986, p.44). Because drought tends to affect smaller herds much quicker than larger ones, it merely speeds up a pre-existing process of concentration in livestock,[12] of which the TGLP is only the latest development. The larger stockholders not only benefit most from the range of subsidies available, but are often able to increase their

[12] The high mortality of smaller herds, even when grazed in similar areas to larger herds, is often due to the increased demand for milk from the herder's own family competing with that of calves.

herds during drought by buying up weak and emaciated cattle from the smaller herders (World Bank, 1985).

The third and final section of the study is an analysis of both short and long-term strategies for household food security in Botswana, with its main focus of attention on the 1982-88 drought relief programme. In particular, an assessment is made of the effectiveness of the response to the drought from both the Botswana government and the donor community. For the government, the nature and efficacy of its response to both the drought and its other poverty-orientated programmes is a valuable indicator of its commitment to social justice, of which the alleviation of rural poverty and deprivation is the most essential element. This section makes a qualitative analysis of the way the current drought relief programme was managed, discusses the nutritional requirements and supplementary feeding programmes of Vulnerable Groups and primary school children, and the particular effects of drought on marginal groups such as destitutes and the Remote Area Dwellers. It then goes on to provide a regional assessment of the management and effectiveness of the relief programme in providing an adequate level of nutrition for these groups, during the period 1985-88. This assessment is based essentially on unpuplished figures supplied to me by the Secretary of the Interministerial Drought Committee (MFDP), based on data collected from individual health facilities throughout the country . Other data is drawn from internal reports and memoranda provided by the various Ministries, Government departments, district health teams and UN agencies involved in the programme's implementation.

For an analysis of the donor community's role in the drought relief programme, I also provide an in-depth evaluation of how effectively its food aid was distributed and utilised during the 1986-88 drought

years. Beneficiary level and stock utilisation reports prepared by FRD for submission to the aid donors on a quarterly basis were felt inadequate for this purpose, for a variety of reasons. Firstly, figures for the number of malnourished and severely malnourished children were often subsumed in the "under five years" beneficiary category or only quoted in aggregate terms. This meant that it was not possible to obtain any indication of general trends or identify areas of high levels of malnutrition. Secondly, data for food actually distributed was again presented in aggregate terms with no regional or district analysis. Moreover, as the aid programme was being served by a multiplicity of donors, each of which had to present periodic food utilisation reports to their respective agencies or governments, this meant that there existed no comprehensive analysis of whether food aid distribution was adequate, even on an aggregate basis. Thirdly, the quarterly reports submitted by FRD HQ to the various donors were often inaccurate, particularly where it came to reporting stock losses.[13] Reports were typically submitted a full year behind schedule, and it was for these reasons that WFP unilaterally withdrew from the Remote Area Dweller's programme at the end of 1986.

For the purposes of this study therefore, the assessment of the distributive performance of the aid programme is based on unpublished data from the stock analysis ledgers and beneficiary level reports of the individual FRD depots. This data was collected and recorded on a daily basis as the deliveries to individual centres were made, and then summarised in monthly regional reports in a specific format designed jointly by myself and the other Food Management Advisers. This new report format was

[13] Personal observation in comparing FRD Quarterly Reports with stock condemnation and write-off authorisations in individual FRD depots.

computerised in early 1986 and further enhanced to compare calculated food requirements (based on latest beneficiary figures and ration levels) with actual distribution. It thus provided not only an assessment of each depot's monthly distributive performance, but a useful tool of analysis for logistic and planning purposes. Once the food requirements were known it became a simple matter to calculate the stock availability in months in order to facilitate the timely arrival of donor shipments or the government's own food purchases for the programme.

In this section we also examine some of the possible disincentive effects the food aid might have had on cereal production and government policy,[14] and point to alternative food aid strategies that might be used to enhance its overall impact on the country's development. In this regard, the ILO has recently prepared detailed proposals for expanding the country's Labour Based Relief Programme (which is primarily intended to provide short-term employment opportunities during periods of drought) into a fully fledged public works programme (ILO 1987).

The dilemmas of making aid a more efficient instrument of development are well illustrated by the experience of sub-Saharan Africa, the poorest, most heavily aided and least successful region of the Third World (World Bank 1981). Within a growing literature on the various issues of aid (Hayter & Watson 1985; Clay & Singer 1985; Wood 1986; Maxwell 1986; WFP 1986a, 1986b, 1986c; Mosley 1987; Singer et al 1987), Botswana's own experience provides a particularly useful area of study, not only because it has been a major recipient of aid since Independence, but

[14] Food aid, for example, may even help to consolidate existing power structures by acting as a palliative to the host government's own development policies, relieving what otherwise would be strong political pressures for reform.

because this aid has been seen as a stimulant to growth and an "outstanding success" in development terms (Mosley 1987, p.235).

Our main concern in this section is food aid. A recent Oxford Food Studies Group paper by Hay (1988, pp.1113-1125) notes that Botswana is generally acknowledged to have been one of the more successful countries in avoiding widespread famine deaths during the African drought of the 1980s, which he attributes, amongst other things, to its "competent civil service" and "good relationships with the donor community". Morgan, a former Secretary of the Interministerial Drought Committee (IMDC) at the Ministry of Finance & Development Planning, highlights the success of the country's investment in primary health care infrastructure, through which the bulk of its food aid provision flows. Like Hay, he also notes Botswana's capacity to elicit an adequate level of response from the donor community (Holm & Morgan 1985). Later chapters will question whether in fact such optimism is justified.

The actual management of the drought relief programme however, has drawn less praise. A critical evaluation of the management of Botswana's 1979-80 programme was provided by the influential Gooch & Macdonald consultancy report, commissioned by the MFDP and published in June 1981. This report included one element of analysis that has been a serious omission in past and subsequent evaluations: an attempt to quantify, on a district and regional basis, the actual distributive performance of the programme. A more recent, and equally critical report of the management of the programme was prepared in 1984 by an expatriate official who had worked at the Food Resources Department (Borton, 1984). This study attempts to build on these efforts by presenting an enhanced level of analysis for 1986-88, which I feel is essential

because of the important contribution aid provides during periods of drought to net food flows at the village level.

The food aid programme in Botswana, though successful on an aggregate level in averting famine, has only focused on the symptoms of rural deprivation and has not been directed at the causes, one of which has been, for some sections of the rural population, the very land allocation and commercialisation policies pursued by the Botswana government. Those marginal groups living in the remoter areas of the country, for example, have been particularly affected by the TGLP and yet are least likely to benefit from the relief aid programme, despite the fact that field studies estimate that a considerable proportion of the "Remote Area Dwellers" now depend on such programmes for more than 80% of their subsistence needs (Holm & Morgan 1985, p.467; Gulbrandsen, Karlsen, & Lexow, 1986, p.1). The lack of any data on the absolute number of RADs now threatened by these land tenure changes (or are likely to be so threatened in the future) is itself illustrative of the low priority afforded to this issue by the Botswana government.

Finally, the section focuses on both the immediate post-drought recovery plans and longer term development strategies currently being pursued by the Government of Botswana and set out in the 1985 "National Food Strategy" prepared by the MFDP. It argues that the policy strategy as set out in the NFS, is likely to enhance, not diminish, rural inequalities and deprivation in what is now increasingly a class divided society.

The contradiction between rapid economic growth on the one hand, and burgeoning levels of rural poverty and deprivation on the other, is not a problem unique to Botswana. In the past, the aboriginal populations of the

USA, New Zealand and Australia have been decimated and deprived of their only means of subsistence, or obliged to live a precarious existence outside mainstream society; the fate of similarly marginalised groups such as the *Basarwa* may lie along the same path.

In Botswana's case, as in the others, the only lasting solution for the poor will be a political one, but exactly what shape and form this solution may take (if at all) is obviously well beyond the scope of this study. What is required for Botswana is not a form of utopian socialism that advocates a return to the old means of production and exchange, in an attempt to rekindle the kinship values and moral bonds that once characterised traditional society. The challenge for the future surely lies in exploiting Botswana's international comparative advantage in livestock production, perhaps allied with the communal ownership of productive assets. When combined with effective range and water resource management, this form of pastoralism may not only preserve the delicate ecological balance of the Kgalagadi, but also stimulate a revival of economic reciprocity and promote a form of economic development that will benefit <u>all</u> Batswana.

SECTION A

THE EVOLUTION OF THE RURAL ECONOMY

I

THE STRUCTURE OF TRADITIONAL SOCIETY

a) Geography, Climate and People.

Botswana is some 581,730 square kilometres in area, slightly smaller than Texas and a little larger than France. The country is entirely landlocked, being bordered by the Republic of South Africa to the south-east and south, Namibia to the west, the Caprivi Strip to the north, and by Zimbabwe to the north-east. Essentially a shallow, sand filled basin with an average elevation of some 1000 metres, two-thirds of the country's surface is covered by the Kgalagadi Desert,[1] and has a predominantly semi-arid climate. Older rocks lying beneath the surface emerge in a broad belt along the eastern border and as scattered outcrops in the west and extreme north-west. Some of these rocks are of an immense age, and probably the oldest known rocks in the world.

The Kgalagadi consists of extensive deposits of wind-blown sand, forming wide flat plains and in some areas, dunes of varying shape and size, now largely stabilised with vegetation. Rainfall infiltrates rapidly but the percolation is not deep, due to the fine spherical nature of the sand.

Through the northern reaches of the Kgalagadi flows the Okavango River, winding its way from Angola, and eventually spreading out first into a massive delta, and then into a large shallow swamp, which is the dominant

[1] The closest English pronunciation would be "Khalahadi", though outside Botswana it is normally spelt and pronounced as "Kalahari."

feature of the region. The Okavango Delta represents the only extensive area of surface water in Botswana and transforms the arid sands of the desert into a tropical paradise of lush vegetation, attracting species of animals and birds of a bewildering variety and number. By contrast, much of the rest of the country is covered by tree savanna which grows on low, rolling dunes and is interspersed with bush savanna. Botswana has for the most part a sub-tropical climate but there are local variations depending on location and environment. Temperatures can fall as low as -7 degrees centigrade at night during the winter, rising to as high as 40 degrees at midday heat in the summer months. Being completely landlocked and separated from the coast by high plateaux and mountain ranges, the effective rainfall over much of Botswana is erratic, unevenly distributed, and essentially low, being in the region of 250-650mm. More than 90% of the rain falls in the summer months between November and April.

While large regions of western and central Botswana are virtually unoccupied, some 80% of the population is concentrated in the eastern 400-600mm. rainfall zone, where soils are of the ferruginous tropical type with good potential for arable crops. Such is the importance of an adequate rainfall to Botswana and its people that the national currency is expressed in units of it.[2]

The harshness of the climate and its general unsuitability for arable crop production has meant that historically, farming in Botswana has always been subsistence in nature with little opportunity for producing an agricultural surplus. This has meant that cattle, which are more drought resistant than crops, have

[2] The unit of currency in Botswana, the Pula, literally means "rain".

played an important role both culturally and economically as an insurance against crop failure.

The population of Botswana is just over 1 million with an average density of 1.8 persons per square kilometre, making it the most sparsely populated nation in the world after Mongolia.

The main ethnic group[3] in Botswana are the *Tswana* who arrived in the 17th. and 18th. centuries from the area now stretching from the Northern Cape eastwards through to the south-western Transvaal. Some 75% of the Tswana still live in this area of South Africa. The Bangwato of Central District, based in Serowe, are the largest Tswana group and form around 40% of the total population. Their tribal leaders, the Khamas, have been amongst the most prominent figures in the history of the country.

The *Kalanga* people, probably the second largest tribe after the main Tswana tribal groups, occupy the area around Francistown and north eastwards into Zimbabwe. Like the *Tswana*, the tribe was divided by national boundaries imposed by the colonial powers in the late 19th. century. The *Kalanga* are in fact not one ethnic group but a mixture of groups who have over the centuries come to settle in the mainly Bangwato tribal areas of what it now Botswana. They are essentially agriculturalists, though livestock still plays important social and religious functions within their society.

The *Yei, Mbukushu* and *Subiya* peoples are central African in origin and have no immediate historic relationships with the other ethnic groups in Botswana. They are river peoples who settled along the area between the Okavango

[3] For a more thorough description of Botswana's ethnic minorities, see Silberbauer, G. B., (1965) and Campbell, (1980).

Delta and the Chobe River around the middle of the 18th. century. They too had their tribal integrity destroyed when the colonial authorities created the Caprivi Strip in 1929.

The *Herero* are mainly settled around Lake Ngami and are related to the Ovambo peoples of Namibia. Most *Herero* now settled in these areas are descendants from those who fled from Namibia in 1905 where a war of extermination was being carried out against them by German farmers eager for their land.

The *Kgalagadi* is a general name given by the Tswana to those peoples living in an around the Kgalagadi desert, though they are now to be found living in all areas of Botswana. In the nineteenth century they were virtually enslaved by certain Tswana tribes and survived in the desert mainly by hunting and trapping. Today, some of them have prospered and own many cattle but the majority still subsist with a few goats and small fields of sorghum, melons and beans.

The *Basarwa*, or *San* peoples are the original inhabitants of Botswana and existed long before the arrival of the black tribes from central and southern Africa. There are about 50,000 *Basarwa* living throughout Botswana, Namibia and overlapping into Angola and Zimbabwe. Over the years, the steady encroachment of Tswana livestock along the fringes of the desert has destroyed many traditional hunting grounds, and cattle cordon fences (directed at the prevention of the spread of Foot & Mouth disease) have hindered migratory movements of wildlife essential for their own semi-nomadic lifestyles. Probably fewer than 3,000 *Basarwa* still exist by traditional hunting and gathering and the effects of drought on veld food has greatly accelerated their absorption into established villages and settlements where many, however, remain

totally destitute.[4] About 15,600 non-citizens are living in the country, some of which are from neighbouring countries, whilst others are expatriates on government and private contracts.

The social organisation of the Batswana remains focused on village settlement except for the *Kalanga* and *Basarwa*. The tradition was stronger several decades ago when the tribal capital was the centre of the political and social life of the tribe and was where the tribe lived for the winter months from May to October for a period of intense socialising and ceremonies. Another interesting feature of settlement in Botswana is the strength of relationship between the urban areas where 17% of the people live and the rural areas. The capital city of Gaborone is a recent development, having been built since Independence,[5] and urban dwellers maintain strong links with the rural areas with frequent visits to their cattle posts.

Though composed of several different ethnic groups, each with their own language, history and culture, Botswana has since Independence made positive steps towards creating a national sense of identity. Though tribal differences do occur these are generally of a minor nature and the overwhelming majority of individuals see themselves first and foremost as "Batswana". This is in marked contrast to some of its neighbours, where ethnic or tribal divisions still remains a serious impediment to political progress.

[4] Hitchcock (1978) maintains that the San have clearly defined territorial boundaries which are recognised by other hunter-gatherer groups and that being classified as purely nomadic in the past has led to them being denied normal rights of tenure. This process is likely to continue with the introduction of leasehold ranches. See also Stephen (1982).

[5] Prior to Independence, the capital of the Protectorate was Mafeking, i.e. in South Africa.

b) The Structure of the Traditional Rural Economy.

This section traces the social and political origins of the traditional rural economy and examines its main distinguishing features in the period prior to the formation of the Bechuanaland Protectorate in 1885. It provides the starting point for a comparison with the modern Botswana economy presented in subsequent sections, thereby helping to illustrate the dynamics of social and political change that has accompanied economic growth.

The precursor of the traditional Tswana society was the "classless" society of the Basarwa hunter-gatherers, where no formal property rights to either land or capital were recognised, and for whom no structure of formal government existed:

> "all their institutions, manners and customs serve to regulate the relations between the members of the band, and thus to maintain law and order." (Schapera, 1930)

In traditional Tswana society too, the right to own and use productive assets was not held by a particular group or class but traditionally vested in the tribe. The Batswana are predominantly a pastoral society, with cattle playing an important cultural and economic role in their lives. Unlike the tradition of most African tribes, they have always lived in large groups within established villages, split into a number of wards, and each headed by a Chief who held ultimate authority and responsibility for his people. In the past this was probably for reasons of defence and also as a natural concentration around a reliable water resource. Most households also keep a second dwelling some distance away from the village where they grow their crops, and which they call the "lands".

The Chief was trustee of this property and used it on the behest of the tribal members. His rule was patrimonial and his people termed his "children". Control of the tribal property included the allocation of land and, up to the last quarter of the nineteenth century, the tribal herds. Blocks of land for homesteads, arable fields and grazing areas were allocated by the paramount Chief of the tribe on the basis of village wards, and was selected on its suitability for each particular activity. Areas consisting of more favourable soils were reserved for crops, whilst more distant areas possessing a viable water source were set aside for grazing (USAID 1986, p.98).

Though evidence is fragmentary, descriptions of Bangwato tribal society (the main tribal group in Botswana) by various European travellers and missionaries in the early nineteenth century suggest that the social relations of production of traditional society were "feudal" in nature, but with the important distinction that it was cattle and not land that formed the contractual basis of political affiliation; in an arid climate such as Botswana, it was the former rather than the latter that was capable of sustaining a surplus (Parsons 1977).

Peters (1983, pp.46-114) describes the pre-colonial Tswana polity as a system of hierarchical domination, in which the tribal elite enjoyed a privileged appropriation of agricultural products and labour. But it was also characterised by a communal form of holding and access to basic resources such as land and water. The "free" commoner, while he was obliged to surrender a measure of his labour and agricultural output to the Chief, appears to have had a large measure of autonomy in respect of his own crop production. (Peters 1983, p.124.)

However, rights of free access to productive assets depended on kinship ties and full membership of the tribe, and the ability of tied servants to control their own production was clearly limited by the chiefly elite because of the need to provide labour at ploughing time. Subjugated groups such as the *BaKgalagadi* and *Basarwa* would have enjoyed few rights, and an early account by Mackenzie (1871) illustrates this:

> "...when one Bechuana tribe attacks another, the Bushmen and BaKalahari belonging to both are placed in the same category with cattle and sheep...they are to be "lifted" or killed as opportunity offers"

Traditionally, as the summer and rainy season approached, the chief would decide on the date when the people would begin ploughing. On this date there was a general move to the lands with only old people and children left in the villages. At other times during the year, males would be absent at their cattle posts, where larger herd owners would often keep a third dwelling.

Pre-colonial society was largely self-sufficient in cereal production (FAO 1974, p.17; Colcough & McCarthy 1980, p.8; Schapera, 1971, p.105), with people living on a diet of sorghum porridge and milk, the meat of wild animals and cattle, vegetables and fruit. Clothing was made mainly from animal skins decorated with bead work, embellished with iron, copper or bone ornaments. Archaeological evidence shows that from a very early date, many household implements were either made at home, or locally in the village, and included baskets, clay pots, iron bladed hoes, spears, axes and knives, skin bags, wooden bowls and pails, spoons, cups and bottles.

The high rate of population growth in recent years[6] has reversed this cereal self-sufficiency in all but years of exceptional rainfall, while the domestic production of household implements and clothing has practically disappeared, largely as a result of the country's membership of the South African Customs Union, which allows for the free movement of manufactured goods between member states.[7] Botswana's climatic conditions and lack of surface water make it extremely difficult to compete with its neighbour in all but the most rudimentary of manufacturing processes.

The traditional social structure in Botswana, based on strong kinship and family bonds, often required and even demanded a considerable individual and community effort in coping with food production in a harsh environment (Campbell 1980, Chapter 2; FAO 1974, p.16; Toulmin 1983, p.81-84) Daily life was one of continuous struggle for existence against the vagaries of the climate. In the past, the tribal authorities would organise "age regiments" not only for use as armies in times of war but as a mobilising force for joint enterprises and agricultural effort.

The means of extracting a productive surplus in arable agriculture remains essentially the same for the rural economy today as in the past, in all but the few irrigated freehold farm areas now under cash crops and using hired labour. But it is in the way that this surplus was extracted and used that enables us to distinguish between the two different economic epochs, and attach a historical specificity to them both. The

[6] Estimated at 3.7% in 1986 (RoB, Health Education Unit). Increases in the rate of population growth can be attributed to a number of factors, including improvements to the infant mortality rate as well as other social factors such as migrant labour.

[7] Some of the advantages and disadvantages of membership of the SACU are discussed in subsequent chapters.

essential difference was that production in traditional society was subsistence in nature and a function of the family group or tribe, whereas production after the establishment of the Protectorate became increasingly individualistic in nature, used hired labour, and was directed primarily at the market. In the pre-colonial tribal polity, peoples' relationships with the land, water and other productive resources were mediated by their reciprocal relationships with other people and their position within the tribe; with the development of a capitalist means of production in livestock these relationships were increasingly mediated through impersonal property rights. (Peters 1983) The Tswana have never recognised individual ownership of land in tribal areas, only rights of usage. Thus a tribal member could lay claim to a piece of land if he or his family could prove they had farmed it in the past, but that same villager could not sell or exchange the land. If it was deserted or not used for any length of time, another villager could approach the Chief and ask for it to be reallocated, and the land would then change hands if no objections were raised.

Communal tenure entitled every household to hold usufruct rights to an area of land sufficiently large enough to meet the family's subsistence needs, whilst the land itself remained the property of the tribe. That this communal tenure of land was inviolable and formed the basis of tribal society was illustrated by the reaction of the Tswana Chiefs to the encroachment of the Boers after 1870. In his appeal to the British government asking for the formation of a Protectorate in 1885, Khama III of the main Bangwato tribe wrote:

> "I am not baffled in the government of my town, nor in deciding cases among my own people according to our custom...I refer further to our law which declares that the lands of the

> Bangwato are not saleable. I say this law is also good; let it be upheld and continue to be law among black people and white people" (Head 1981, p. 9).

In Tswana society, male primogeniture laid the foundation for the Chief's position and inheritance, yet tribal society exhibited (for members of the tribe at least) a high degree of popular participation in the process of government. The traditional court or *kgotla* still survives today as the focal point for the village and bears witness to this particularly open form of tribal government. Though the customary authority of the tribal Chiefs has now waned, it is still through the medium of the *kgotla* that modern politicians are obliged to address the people, and face possible criticism of their policies.

The Chief's position within the tribe was one of prestige and power, described by Schapera as

> "...the symbol of tribal unity, the central figure around whom tribal life revolves. He is at once ruler, judge, maker and guardian of the law, repository of wealth, dispenser of gifts, leader in war, priest and magician of the people." (Schapera 1970).

The Chief ruled, however, on the sufferance of the tribe, according to the Tswana saying "*Kgosi kekgosi kamorafe*", meaning "A Chief is a Chief only because of the Tribe" - the implication being that the Chief had to do what was best for the tribe, otherwise he would be deserted by its members and revert back to the status of a commoner. Thus his position was also one of obligation. He was the holder of tribal property and had to be available at all times to run its affairs and settle its disputes.

The allocation for grazing land was also made on the basis of wards, with a *modisa* or overseer appointed to

ensure against outside herders using the grazing block. He was also responsible for the spacing of cattle posts, thus ensuring that soil erosion did not occur around major villages and perennial water sources due to overgrazing (USAID 1986, pp.99-100).

The ability to distribute seasonal grazing pressure by moving among a variety of water points in the communal grazing block was a central feature of Tswana herding strategy (Toulmin 1983, p.81-84). During the dry season, cattleposts were situated near perennial wells. With the coming of the rainy season in October or November, cattle would be trekked to more favourable grazing areas near ephemeral or seasonal water sources, such as pans and shallow wells or dams.

Thus two regulatory mechanisms existed to conserve the quality of communal grazing land: the natural one of water deficiency, and the human one in the form of the supervisory *modisa*. By 1943 however, this institutional arrangement had already broken down, and cattle could be grazed at will in any area recognised as pasture, without tribal authority (Schapera, 1943, p.223). This is illustrative of the decline in economic cooperation and reciprocity that has accompanied the commercialisation of the industry. Recent years have seen fundamental changes to the structure of land tenure in Botswana, and the formation of large-scale leasehold ranches on tribal land that have granted exclusive grazing and watering rights to their holders, reflecting the growing commercialisation of livestock since Independence. This in turn has led to a growing inequality in the ownership and control of the country's productive assets, and it is this development, and the social, economic and political implications that stem from it, that forms the basis of this and subsequent sections of the study.

c) Redistributive Mechanisms in the Rural Economy.

Perhaps the most notable feature of traditional Tswana society was that it had certain inherent safeguards for the community and the individual in coping with life in an unpredictable climate, particularly when faced with a crisis such as recurrent drought or crop failure. One such example was the practise, after a good harvest, of storing a proportion of the crop in tribal granaries for future redistribution to the tribe in times of drought (Colclough & McCarthy 1980, p.110). Peters (1983, p.84) notes that an essential feature of the pre-colonial polity was that little distinction existed between the Chiefs' private and tribal "purses", and that a proportion at least of the agricultural tribute was redistributed or consumed at the large tribal harvest ceremonies. This practice seems to have declined in the colonial period and the tribal granaries fallen into disuse, with storage facilities that were built during the Protectorate hopelessly inadequate and unable to cope with the requirements of the prolonged droughts of more recent years.[8]

When drought did occur, the effects were felt and shared by all, according to contemporary witnesses. The explorer and missionary David Livingstone wrote of one Tswana tribe in 1849:

> "As long as the *Bakwena* have anything at all it will be freely shared." (Vierich & Sheppard 1980, p.58).

The holding of cattle, traditionally the main source of individual social status and economic security in Botswana, has always played an important cohesive role in

[8] See Gooch & MacDonald (1981). This reflects both a declining self-sufficiency in cereal grains during the protectorate as well as an increasing reliance on South African grain imports.

the tribal community by the protection it offered against the ravages of drought. The natural growth of herds in years of good rainfall and grazing helped to sustain people through the years of inadequate rainfall and crop failure, when meat and milk were substituted for cereal grains.

The Chiefs utilised their sizeable herds to enhance their personal relationships with followers and, along with the allocation of cropland, ensure the survival of both the tribe and the individual household. While the chief grew rich during periods of plenty, in bad times he was obliged to share at least some of his accumulated wealth in order to retain his followers. This distributive mechanism was the *mafisa* system, whereby a section of the herd was loaned out or managed by others both to minimise risk through disease or the effects of drought and to provide a means of subsistence for all the tribe (FAO 1974; Colcough & McCarthy 1980; UNDP et al 1985).

Parsons notes that property rights to cattle were first established amongst the Bangwato tribe in 1875 by royal declaration from Chief Khama I, and it is likely that other tribes had also followed this course by the turn of the century. The reasons for this are not clear, but the most likely cause was the growing economic individualism that developed with an increased contact with European settlers and traders. It was the larger stock owners who stood to gain most from this development as it effectively freed them from formal *mafisa* obligations and allowed them to trade openly for cash with the established European trading points (Parsons 1977, p.119).

However, there is little evidence to suggest that *mafisa* obligations were widely disregarded whilst the larger stockholders were still tied to the communal grazing

areas, where social pressures could usually be relied upon to maintain a certain level of social homogeneity. With individuals restricted to their own grazing areas, which they had to share with others of the same ward, this would also have had a significant limiting effect on overstocking and range deterioration, as the quality of grazing of each depended on the cooperation of the others.

The size of individual cattle herds fluctuated with the availability of water in the communal grazing areas, and this in itself was a limiting factor on the process of individual accumulation and commercialisation. In wet summer months cattle were trekked out to the rivers and pans in the western sandveld, retreating in the dry winter and spring to the perennial rivers of the eastern hardveld. In this way the delicate ecological balance of the Kgalagadi Desert was preserved. It is likely therefore that such widespread changes in traditional *mafisa* relationships first evolved with the development and use of deep boreholes in the western sandveld in the 1930s, which allowed the larger stockholders to effectively escape the rural economy altogether. (Peters 1983)

Payment for *mafisa* services was usually in kind, with the manager of the herd utilising the flesh of dead animals and the milk of the living to supplement his basic diet. Managers of *mafisa* cattle might also perhaps receive a calf or two each year as payment for their services. In this way people with few cattle of their own could build up their own herds, have a supply of manure for their fields, access to draught power at ploughing time, and even during periods of drought and crop failure, still maintain a certain level of nutrition. The *mafisa* system thus had a significant levelling effect, with the benefits of holding large herds being spread over a much

larger group of people than the owner's immediate household.

The solidarity of the tribal community and the continuity of the rural economy was maintained through the existence of mutual obligations, not only in relation to livestock and agriculture, but also to the provision of labour, goods and services. The *majako* system was one such labour arrangement whereby poorer households attached themselves to others, and embraced a whole range of informal arrangements and activities. The main feature of *majako* was that it involved an exchange of labour. One man might help another plough his fields and then receive help with his own fields in return. Another, more common type of *majako* would occur during harvest time, when women would help each other in return for a share of the harvest. *Majako* could also include the curing of skins, the making of baskets and karosses, and general domestic duties. This type of work could provide up to six month's employment during the year (Parsons 1977).

Payment was not in cash but in meat and milk, or a share of the crop after the harvest. Where these arrangements were established on a regular basis, they often evolved into a symbiotic patron-client relationship, with mutual obligations on each side. This was particularly true of the relationships between the Tswana and the *Basarwa* (and to a certain extent, the *BaKgalagadi*).

These reciprocal relationships, involving an exchange of labour, characterised the essentially cooperative nature of traditional Tswana society. With the introduction of new social values during the Protectorate, this pattern of cooperation would start to break down and be replaced by a wholly new form of economic individualism - the harbinger of a process of social disintegration that we now examine in the following chapter.

II

THE TRANSFORMATION OF THE RURAL ECONOMY

a) The Formation and Administration of the Protectorate.

To the colonial powers of the mid-nineteenth century, the tract of land inhabited by the Tswana was not considered to have any intrinsic value, save in its geopolitical position and terrain. For Britain, its value lay in the fact that access to other colonial possessions in the north led through its territory. The trek route to the North ran from Kuruman in the south through the village of Shoshong (about 40km. west of Mahalapye and then the tribal capital of the Ngwato under the Chieftainship of Khama III) and the high flat plains of the country were ideally suited for ox-drawn wagons. This meant that the area was primarily of strategic rather than economic importance.

It was not long however before it had attracted other interested parties who realised that the area was well suited for pastoral farming. As early as the 1830s, the expansive tendencies of the Voortrekkers, descendants of the colonial trekboer community of semi-nomadic pastoral farmers, had already brought them into contact and conflict with the Tswana societies. By 1835, over 20,000 Voortrekkers had crossed the Vaal River and settled in the Tswana areas of the Transvaal. By 1850 they were well established and already looking westwards. In 1852 at the Sand River Convention, the British decided to give the Voortrekkers full independence of their de facto possessions north of the Vaal River. However, the Transvaal Voortrekkers were careful never to define their western borders and thus the existing conflict with the Tswana did not diminish, but increased. The system of

territorial acquisition of the Voortrekkers at the time simply required an individual to ride beyond the existing farms and then chose 3000 morgen for himself. [9] Its limits were advertised by the local administration and, if no objections were raised within three months, it became his. No account was taken of the existing indigenous inhabitants who now faced the choice of either moving elsewhere, or effectively becoming farmhands of their new masters.

By 1870, many Tswana tribes were in disarray, due to having lost much of their land to the Voortrekkers (Parson 1984). Inter-tribal conflicts were often engendered by the Voortrekkers themselves, who set themselves up as mercenaries serving any Chief who promised them land. In the same year, Chief Kgamanyane of the Bakgatla tribe was flogged by the Voortrekkers for failing to supply farm labour (Parson 1984, p.221) which resulted in many Bakgatla migrating from the Transvaal to Bakwena land, thus further exacerbating existing tribal land rivalry. The Chiefs finally appealed to the British for protection against further encroachment by the settlers, and for a short time their expansion was checked, though the Tswana regained very little of their land.

Another factor that influenced Voortrekker interest in the area was the discovery in 1870 of gold in the Tati River area around present-day Francistown, and diamonds along the Vaal River, close to the country's southern border. The Tswana Chiefs, feeling themselves deserted by the British, tried to co-exist with the Voortrekkers by signing a series of agreements and forming what alliances they could. This resulted in the establishment of two new Boer republics at Goshen and Stellaland just south of the present Botswana border, with the Rolong, Thlaping and

[9] Around 2400 hectares. See Parson, (1984), p.215.

Korana tribes losing almost all of their land. Thus the Voortrekkers had finally severed the interior from the Cape, and for the first time posed a serious obstacle between the British and their northern possessions. The annexation of South West Africa by the Germans in 1884 added to the problem of access to the interior and made it imperative that the British take action at last. The outcome was the declaration in 1885 of a British Crown Colony for Southern Bechuanaland (absorbed into the Cape Colony in 1895 and now part of the Cape Province of the Republic of South Africa), and a Protectorate for Northern Bechuanaland (now Botswana).

The impetus towards the formation of a Protectorate against the Voortrekkers, initially sought for by the Tswana Chiefs and finally recognised as politically expedient by the British, was now paralleled by other, imperialist interests: the British South Africa Company, led by Cecil Rhodes. The Company was charted in 1889, but the economic interest of its concessionaires in the region was first established in 1870, when large gold deposits were thought to exist in the Tati area. With the discovery of diamonds in the same year at Kimberley, and the later gold discoveries at the Witwatersrand, British imperial interests sought an expansion of colonial influence and settlement northwards, in to what would later become Northern and Southern Rhodesia.

This colonisation, Rhodes envisaged, would be undertaken by a monopoly chartered company under the protection of the British Crown, and would provide both the necessary administrative and political framework for running the country, whilst carrying out its normal business activities. In 1889, the Company was granted a Royal Charter to obtain from the Chiefs "powers of government and administration" within not only the Protectorate but in lands occupied by the Ndebele tribe. Within a period

of four years, the Ndebele land had passed into the hands of Rhodes and their Chief Lobengula had fled into exile.

In 1892, Rhodes made a formal offer on behalf of the Company to administer the Protectorate in return for £50,000 a year and finally received assurances from the British government that it would be given authority to do so in due course (Parson 1984). In 1895, the Chiefs Khama, Sebele and Bathoen travelled to England to appeal to the British government against this decision. Meanwhile, back in the Protectorate itself, the lands of Chiefs Montshiwa and Ikaneng were ceded to the Company, and the lands of Chief Lentswe hung in the balance.

The Chiefs' visit to England, however, proved a success due to their warm reception at public meetings aided by the London Missionary Society. Chief Khama of the Bangwato made a memorable speech at Leicester, in which he expressed their common fears over Rhodes' proposal:

> "We think that the Chartered Company will take our lands, that they might enslave us to work in their mines. We black people live on the lands, we live on the farms. We get our food from the land, and we are afraid that if the British South African Company begin in our country we will not get these things and that it will be a great loss to us." (Head, 1981, p.47).

Khama's fears at Leicester were to prove sadly prophetic, but not quite in the same sense in which they had been spoken. Whilst the Tswana people would escape the clutches of the Company, the protection of the British would prove to be both costly and disruptive to the fabric of traditional society. In the years to follow, some of the best farming land would be taken from them, and the Tswana would be set to work in the mines of South Africa in their thousands, not as slaves but as "free" migrant labourers. The final chapter leading to direct

British administration was the abortive Jameson raid into the Transvaal to support an uprising in favour of the Company. It failed miserably and the Company effectively lost all future political control over the Protectorate.

Historically, the main Tswana tribes had always settled in their own traditional areas and these were officially demarcated as "reserves" by the colonial administration in 1899. By the end of the nineteenth century, the "tribal reserves" comprised about 40% of the total land area of the country, with about 3% of the total held as freehold farms owned almost entirely by Europeans. The rest of the country remained largely unoccupied and undeveloped. In other areas, European settlement was largely concentrated in the larger villages in the eastern parts of the country, and particularly along the newly built railway line, where small trading stations were established and which were later to play an important role in both the livestock industry and in the development of the country's economic ties with South Africa.

Authority in the colonial administration was delegated through European District Commissioners in the Protectorate who were vested with the power to impose taxation, define tribal boundaries, appropriate lands to the Crown, and issue land rights. Thus, when in 1896-7 the railway link from Mafeking to Bulawayo was completed by the British South African Company, it received in return large tracts of freehold lands around Lobatse, Gaborone, the Tati River, and in the Tuli Block stretching along the Limpopo River and forming the border with South Africa.

Authorised concessions to European settlers were made by the Concessions Commission of 1893 and by 1898 the first white farmers settled in farms around Ghanzi, followed by others around Lobatse in 1903, Gaborone in 1906, and in

the Tuli and Tati areas from 1912. The Tuli Block concessions today form one of the few areas of cultivable land in Botswana where irrigated agriculture is economically feasible, from the perennial Limpopo River forming the border with South Africa.

Though the tribal administration survived, together with much of the traditional authority of the village Chief, in reality de facto political power lay with the colonial administration, itself heavily influenced by the European Advisory Council, an amalgamation of cattle breeding and trading interests with strong economic links with South Africa. Though the Native Advisory Council was formed in 1919, and after 1928 began taking on more of an appearance of a consultative committee, the Resident Commissioner was not bound to accept any of its advice on legislative measures. The de jure removal of the Chiefs' former political independence was to be finally established in the 1930s when it was declared that

> "His Majesty has unfettered and unlimited power to legislate for the government and administration of justice among the Native tribes in the Bechuanaland Protectorate." (Robertson 1984, p.22).

Throughout the period of the Protectorate, the colonial authorities remained remarkably ambivalent about its future political status as a Tswana state. This was reflected both in the growing political links with South Africa, and the virtual neglect of public services and infrastructure.

The administration's political ambivalence had first been made clear by the relationship that existed between the colonial Government and Rhodes in the early 1890s, when it was initially intended to hand over the administration of the country to the British South African Company. The South Africa Act of 1910 (which established the Union by

joining the two defeated Boer Republics of the Transvaal and Orange Free State to the former British colonies of Natal and the Cape) together with the customs agreement of the same year, drew the Protectorate closer economically with South Africa. The Act planned for the eventual inclusion of the High Commission Territories (Bechuanaland, Basutoland and Swaziland) within South Africa itself (Colcough & McCarthy 1980, p.114).

During the 1930s the colonial Administration came under renewed pressure to join the Union when South Africa imposed a trade embargo on Protectorate beef, in flagrant violation of the 1910 Customs Agreement. Later, when apartheid was officially instituted in South Africa after the Second World War, the planned integration of the High Commission Territories was seen as instrumental in forming the nucleus of the new Bantustan policy.[10] The future political status of the Protectorate remained uncertain until as late as 1961, when the colonial Administration agreed to the formation of a Joint Legislative Council, which effectively paved the way forward to Independence. As such councils had existed in Kenya since 1944, Tanganyika and Uganda (1945), Northern Rhodesia (1948) and Nyasaland (1949), the long delay in establishing a similar administrative body in Bechuanaland is indicative of the attitude prevailing during the whole of the colonial period regarding the Protectorate's independent status (Colcough & McCarthy 1980, p.27).

From the earliest days of the Protectorate, the main aim of the new administration was to hold the area at the minimum of cost, and this established a pattern of expenditure which did little to develop either the

[10] Such a plan, if it had been implemented, would have resulted in the total amount of land being "given" to the indigenous black population increasing from a mere 14% to over 40% of the total area of the new enlarged South Africa. It can be seen therefore as an attempt to gain international recognition for the new policy of apartheid.

country or its people. The High Commissioner of the Bechuanaland Protectorate, based at Mafeking in South Africa, stated in 1885 that it was his government's intention to do

> "as little in the way of administration or settlement as possible."[11]

The emphasis was laid less on development than on the maintenance of law and order. In 1913/4, of the 160 Batswana employed by the administration, 147 were policemen, and the department included 85% of all established posts in the government at that time. By 1932, the administration was employing 287 people in the police force, whilst the medical, veterinary and agricultural departments combined accounted for only 81 employees. In the same year, the education department had a staff complement of three (Colcough & McCarthy 1980, p.28,30).

Though about 8000 Tswana children were enroled in primary school, no money was provided by the colonial administration out of general revenues for their education, and any progress at all was due to tribal initiative or left to the various Christian Missions. On the other hand, several thousand Pounds were being spent during the same year on subsidising the education of the children of the European population, at that time less than 200 in number (Colcough & McCarthy 1980, p.31). If South Africa had not ceased to accept non-European foreign pupils to its schools and universities in 1954 and 1958 respectively, thereby effectively forcing the Administration to make its own provision, progress towards establishing even a basic level of education in Bechuanaland would have been even more retarded. Even so, as late as 1964, only 39 students were enroled in the

[11] From the "Blue Book", C.4588, p.106 quoted in Stevens, R. Lesotho, Botswana and Swaziland, London 1967., p.124.

fifth year of secondary school and studying for the Cambridge Overseas School Certificate (Colcough & McCarthy, 1980).

Discrimination in favour of the white minority population in the provision of education was reinforced by a similar recruitment policy in public service. In 1948 a dual salary scale was adopted for government employees in the colonial administration whereby African employees were paid two-thirds of the expatriate rate for posts that up to that date had been reserved for Europeans. This was justified by the claim that expatriate workers needed more money as an inducement to come and work in the Protectorate, whereas this was not necessary for Africans. In actual fact most of the expatriate employees were locally recruited whites from Mafeking in South Africa. The adoption of this dual salary scale meant that rates of pay more closely approximated those in South Africa where growing differentials in black and white salaries was well established.

In 1961, with Independence in sight, this ruling was changed, and no further inducements were payable to anyone recruited in Southern Africa, regardless of race or colour.[12] However, as it was then inevitable that the most senior posts would continue to be held by whites from South Africa, the salaries would have to correspond to those prevalent in the Union. Accordingly, the senior posts were upgraded with much smaller rises for junior posts which were to be held by Africans. In 1964, only 24 out of 184 administrative posts in the Protectorate were held by Batswana (Colcough & McCarthy 1980, p.209). A similar picture existed in the provision of health care. By the early 1930s, the patient/bed ratio for Europeans was 1:250, whilst that of the Tswana was about 1:2800.

[12] It is perhaps significant that in this year South Africa was expelled from the Commonwealth, and the political future of the BLS countries finally settled.

Hospitals remained largely the function of the Missions throughout the period of the Protectorate.

The administration spent considerably more of its time, effort and revenue on livestock development as it was one of the few taxable sources of Tswana income, particularly from the 1950s when new export markets were finally opened.[13] The development of cordon fences for the control of Foot & Mouth disease date from this period.

The lack of provision of a basic education and access to even a rudimentary level of health care for the broad mass of the population, can be seen as evidence not only of serious neglect of the indigenous population on the part of the colonial Administration, but also of active discrimination in favour of the European settlers. Provision for such basic human needs should have formed the primary goals of the country's development strategy during the colonial period. Instead, education for the Tswana became the privilege of the elite, for those wealthy enough to be sent to expensive private schools and colleges outside the country. They were thus able to command both the positions and salaries of high government service after Independence, and channel these newly available investment funds into livestock.

Botswana's traditional rural economy, characterised by its informal nature and largely cashless economic transactions, its sharing of labour and cattle at times of ploughing and harvesting, and of grain and meat during periods of drought, has been in decline for over a hundred years. With the formation of the Protectorate we saw the first signs of the process of commercialisation in livestock that would eventually lead to the breakdown

[13] This situation was to be reversed after Independence when the Tswana cattle owners themselves gained political power.

of tribal society, and mark the emergence of Botswana as an economic appendage of South Africa. It is during this period too that we can start to trace the first evidence of growing inequalities within Tswana society, a corresponding polarisation in cattle ownership, and the origin of a new class of entrepreneurs that will later throw off the shackles of traditional society and emerge as the political elite of the newly Independent Botswana.

Following on from our analysis of the political impact of the colonial administration on Tswana society, the next part of this section examines the dynamics of the social and economic change that emerged during the Protectorate. It illustrates how this pattern became firmly entrenched by the new political institutions which evolved during the period. We will examine the role of European trading interests in the evolution of the domestic economy, the active discrimination practised against Tswana in most economic spheres, and how the Protectorate became bound during the first quarter of this century to the peripheral role of labour and cattle reserve for two major markets: the Witswatersrand in South Africa, and the Copperbelt in Northern Rhodesia. These developments had a mutually reinforcing effect on the traditional rural economy, which would after Independence lead to the emergence of a nascent contradiction between the private ownership of cattle and the communal ownership of land. This contradiction is now being "resolved" by the fundamental restructuring of the land tenure system. First however, we will start our analysis with an assessment of the social and economic impact of taxation and the migrant labour system.

b) Taxation and the Migrant Labour System.

Even before the declaration of the Protectorate, the first steps towards the integration of Tswana society

into the cash economy were already established, by contact with the early white settlers. Chief Khama III of the Bangwato maintained a thriving trade in ivory and skins in exchange for rifles with English and Dutch traders from his tribal settlement in Shoshong (40 km. west of Mahalapye). Migrant wage labour of Batswana to the Cape Colony is recorded as early as 1844, although this form of activity was rare until after the formation of the Protectorate (Duggan 1977, p.42).

With the formation of the Protectorate however, the cash economy was formally introduced for the majority of the indigenous population. Britain's continued prevarication over the political future of the Protectorate was reflected in the colonial administration's marked reluctance to incur any expenditure that could not be met from local taxation. It was through the medium of new tax legislation that money was to grow in significance as a means of exchange.

With relatively little investment made in developing the social infrastructure, and even modest levels of public expenditure financed by tax revenues, the burden of the new tax legislation fell predominantly on the indigenous black population. Though direct budgetary grants from Britain were received until 1911 (when a balanced budget was achieved), after this date no further grants were made until the 1930s, when they were resumed to compensate for the tax revenue loss arising out of the closure of the South African cattle markets. During the whole of the colonial period, approximately 75% of all expenditures went on administrative costs (Parson 1984, p.22).

The Hut Tax of 1899 and the further surcharge in 1919 were extensions to the normal tribal levies but with the important distinction that they were paid in cash which essentially "forced upon the people the necessity of

finding a regular sum of money each year (Schapera 1971, p.7).

The proceeds from the 1919 surcharge on the basic Hut Tax were paid into a fund for financing Tswana education, medical development and the eradication of cattle diseases, the latter being particularly important to the colonial administration as it was the main source of tax revenue. Both taxes were amalgamated into the "African Tax" in 1932 and became payable by every adult male over the age of eighteen. Collected by the Tribal authorities after 1938, they were essentially a regressive poll tax, falling harder on the poorer families who were often least able to take advantage of the new provisions.[14]

Though at that time the District Commissioners had the power to waive the tax for people too poor to pay "without being deprived of their means of subsistence", Schapera mentions in 1935 that amongst the *Bakgatla* tribe, only 49 persons out of a total of 3645 were thus exempted (Schapera 1971, p.11).

The need for cash stimulated the growth of migratory labour to the South African mines. In other colonies in Southern Africa, taxation was often used as a means of dragging the indigenous population into the wage economy. In 1894, Rhodes as Prime Minister of the Cape Parliament had argued for a 10s. tax per head on all African males:

> "You will remove them (the Africans) from that life of sloth and laziness, you will teach them the dignity of labour and make them contribute to the prosperity of the State, and give them some return for our wise and good government" (Colcough & McCarthy 1980, p.259).

[14] Poorer families were less likely to send their children to school if they were required to look after cattle or perform domestic work. They were also less likely to live within walking distance of a health facility or veterinary office.

In Bechuanaland, however, the encouragement of migrant labour was more directed towards generating revenue for the administration as the white settler community was too small to be troubled by a shortage of labour. Thus those without access to domestic wage employment or cattle were obliged to work abroad to raise cash to pay the wages. The basis for this migratory labour system was in its price: migrants were cheaper than indigenous labourers, as being without their families fewer social services such as education and health care were required.

According to the Mine Natives' Wages Commission Report of 1944,

> "It is clearly to the advantage of the mines that Native Labourers should be encouraged to return to their homes after the completion of the ordinary period of service. The maintenance of the system under which the mines are able to obtain unskilled labour at a rate less than that ordinarily paid in industry depends upon this, for otherwise the subsidiary means of subsistence would disappear and the labourer would tend to become a permanent resident upon the Witwatersrand, with increased requirements" (Schapera 1971, p.204).

Oliver & Atmore (1967) laid particular attention to the needs of government revenue and the ways in which colonial administrations attempted to maintain law and order at a minimum expense to the European tax-payer.

There was a marked increase in migrant labour to the South African gold mines during the 1930s. The proportion of the total male population working in the mines stood at 6% in 1936 and rose to 10% in 1940 (Massey 1981, Fig. 3.1). The war years saw a further strengthening of economic ties with South Africa, and migrant labour steadily increased so that, by 1943, nearly half of all males aged fifteen to forty-four were working away from the Protectorate (Schapera, 1947, pp.32,39,115). This

trend continued in the intervening years up to Independence, and was a predominant feature of the economy until the late 1970s. The likely magnitude of Batswana working in South Africa is now much higher than official statistics show. Many people find work illegally, and whilst there is no data available for the number of migrant farm workers, the FAO estimated in 1974 that a combined figure of 20-30,000 Batswana find employment each year on farms and in factories (FAO 1974, p.20). The Colcough & McCarthy study estimated is that as many as 70,000 Batswana were working in South Africa in 1977, and that as many as one third of migrants do not pass through registered recruitment agencies (Colcough & McCarthy 1980, p.254).

Remittances from Batswana working in the South Africa mines became very significant to rural incomes after 1973-5, when wages had almost trebled in money terms (due in some measure to disapprobation from foreign companies working in South Africa). It has been estimated that in 1979 migrant workers contributed money and goods to around 60,000 family members still resident in Botswana (Borton, 1984, p.19). Up to that period wages had been lagging behind other sectors, but rose soon after due to general disapprobation about levels of wages from foreign and international companies operating in South Africa.

Table 1.1 overleaf shows the changing structure of migrant labour to the South African mines over the period 1973-83. Employment opportunities in South Africa are now declining due to the closure of marginal mines, increased mechanisation and a greater demand for jobs from the indigenous (South African) black population. The migrant labour system has had long term social and economic costs for the Batswana in terms of household security and integrity, despite its immediate short term financial benefits. For the predominantly female headed households back in Botswana, the responsibility for ploughing and

harvesting was now added to the burden of looking after the young, the very old and the sick. Brown's study of the impact of male migration concludes that it has brought about a feminisation of poverty which represents a major change in the social and economic structure of rural Botswana (Brown, 1983, pp.375,387). The tax legislation was also socially divisive. When the Hut Tax was introduced in 1899 for example, the Chiefs were allowed to retain 10% commission on the amounts they had collected (Colcough & McCarthy 1980, p.19, 23). This had the effect of concentrating wealth in relatively few hands, and consequently led to the creation of the personal fortunes held by some of the wealthiest families in Botswana today (Colcough & McCarthy 1980, p.23; Brown 1983, p.382).

TABLE 1.1 : BATSWANA EMPLOYMENT IN SOUTH AFRICAN MINES, 1974-1983.

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
Number of Employees	-	24076	25456	25297	20804	20307	20441	17534	18580	17887
Earning of Deferred Pay	4102	6972	9964	10695	9706	9120	14415	14542	14434	16355
Remittances (P'000)	640	1098	1834	2571	2895	4333	4724	5729	6036	7660

Source: CSO, Statistical Bulletin, March 1983.

The introduction of taxes and the corresponding need for cash came at a time of transition in the rural economy when private ownership of cattle was apparently universal in the main Tswana states (Parsons 1977, p.119; Schapera, 1943, pp.30-31). Here are the first signs of an ideological shift in Tswana society with regards to ownership of productive assets: the holding of cattle was no longer the sole prerogative of the Chief and the embodiment of prestige and social status, to be held for and on behalf of the tribe. It was now a commodity to be bought and sold and henceforth the Chiefs would use their

cash income from taxation to build up their own private herds for commercial purposes. This would in turn lead to the emergence, for the first time, of rural class formation based on the private ownership of cattle.

The annual obligation to pay the Hut Tax forced some owners to sell cattle to raise sufficient cash. In the early years of the century this Tax was roughly equivalent to 20% of the value of a good ox, and Schapera estimated that among the *Bakgatla* tribe in the 1930s, some 16% owned no cattle at all (Parsons 1977, p.118). The percentage of the rural population not owning cattle was to rise dramatically after Independence.

c) The Emergence of a Reserve Economy.

The evolution of Botswana's rural economy into a "reserve" of labour and livestock, and its mode of incorporation into the wider capitalist economy, differed from those pertaining in other African colonies, for a variety of climatic, political and strategic reasons. In Southern Rhodesia for example, a Land Apportionment Act of 1930 had given half of the country to the 5% of the population who were white settlers, and a similar alienation of land occurred in Northern Rhodesia. (Hinderinck & Sterkenburg, 1987, p.43). The black African population was generally dispossessed of its lands and pushed back in reserves to rely on subsistence farming, where the intensity of production led to soil erosion and the consequent growth of the migrant labour system as farmers could no longer meet subsistence needs.

By contrast, Botswana was not suitable as a white settler type economy. Though some areas (such as the Ghanzi, Tuli and Tati Blocks) were sold off around the turn of the century, the country's very small population, poor climate and soils, and little surface water, did not lend

itself easily to a capitalist transformation of agriculture during the colonial period. What the country did offer, however, was a comparative advantage in livestock production, both domestically and on an international level. Despite the risk of periodic drought, the extensive tracts of land held under communal tenure made the financial costs of raising livestock very low (Hubbard 1986). The social and ecological costs of commercialisation however were much higher, as we hope to show in subsequent chapters.

Hubbard (1983, 1986) identifies three distinct phases of development in the livestock industry in Botswana. In the first phase, the economy was characterised by the dominance of primary exports, its small domestic market, and direct political control by a colonial government serving the interests of large scale capital in South Africa. This period of development was that of a "reserve"[15] economy on the periphery of South Africa, dominated by European and South African trading interests acting as intermediaries between Batswana breeders and the South African meat markets. The concession of freehold farm blocks to white settlers in the 1900s allowed them to combine trading with ranching, and with the provision of finance from Johannesburg, many border farms were used as holding, growing out or fattening grounds for the export of cattle to South Africa.[16] The Imperial Cold Storage Company (ICS) was the key institution of the reserve trading system in the

[15] The term "reserve" economy is used here in the sense that it is one which exhibited extreme "peripheral" characteristics, lacked forward or backward linkages to the rest of the economy, and existed to be drawn upon at will by the metropolitan "centre". The shape and form that the industry took at the periphery was dictated by external interests, and its products were exported in the crudest of forms. Its revenues were subject to the vagaries of the world market and uncontrolled by the government, whilst marketing was dominated by the reserve trading system.

[16] See Hubbard (1983). As we will see in later sections, the practice of buying and fattening is still carried out by the Tuli Block freehold farmers, who buy cheap emaciated cattle during periods of drought.

Protectorate, the actual instrument of external capital operating in the periphery. The system involved the selling of manufactured goods from the "centre" (from Britain and, increasingly, from South Africa), to the "periphery" of Botswana, in return for the export of livestock and labour. It soon established itself as the dominant form of exchange in the Protectorate. It bought labour and cattle only when needed and in the most convenient form, i.e. migrant labour or livestock on the hoof. Specialised intermediaries, dealers and speculators were established within the Protectorate to buy livestock and were linked to commission agents at the main markets in Johannesburg and Northern Rhodesia, where purchase credit schemes were run by auctioneers and their agents. A two tier system of payment was made to the cattle sellers. The first down payment was the "floor price" equivalent to the South African Meat Board support price, with the subsequent payment being the balance obtained on the final sale overseas (Hubbard 1983). Normally, this bonus was paid on an annual basis, was usually 10 to 30% of the floor price and was usually retained as commission by the traders and speculators.

The reserve trading system, and the conflict of interests between the indigenous Batswana as primary producers, and the white traders as speculators and intermediaries, impeded the stabilisation and growth the industry required if it was to escape from its peripheral status. This conflict of interest was made manifest by the power and influence of the European Advisory Council, and was reflected in the active discrimination against non-whites. Access to credit and trading licences was denied Batswana and Asians, and therefore the trade was dominated from the outset by white settlers, particularly store owners and farmers. Export licences were fixed at £100, and ostensibly designed to regulate trade and exclude fraudulent dealing, but also served to ensure

that only the largest (i.e. mainly white) dealers exported cattle.

Even general traders were discriminated against, with the Credit Sales to Natives Proclamation of 1923 effectively barring Tswana traders from engaging in the market economy (Parsons 1975, pp.383-408). Even as late as 1949, there existed only ten stores owned by Batswana in the whole of the country, compared with 155 owned by Europeans (Best 1970, pp.598-612). This pattern of ownership is still visible today in many rural villages outside Gaborone.[17]

Botswana's peripheral status was reinforced by the country's membership of the Southern Africa Customs Union (SACU) from 1910, which allowed for the importation of cereals and manufactured goods from South Africa, often at subsidised prices. Though imports of cereals would have been of some benefit during periods of drought (when domestic production fell and prices rose), domestic production would have suffered during periods of normal and above normal rainfall. This tended therefore to divert long term investment away from cereal production and into livestock, reinforcing Botswana's peripheral status.

By 1920-1 94% of the Protectorate's exports of cattle went to South Africa. (BNA 2.274/1. in Hubbard 1983, p.114). After 1923, however, the market in South Africa for Protectorate cattle collapsed, and unrestricted cattle imports came to an end as an era of protectionism was established, despite the existence of the Customs Union agreement. Restrictions on imports to South Africa were to take several forms. Weight restrictions were imposed after 1923 and exports declined from 34,000 in 1925 to 25,000 in 1932, most of the losses falling on the

[17] Personal observation.

shoulders of the Batswana producers, as cattle grazed on communal land were generally leaner and therefore less heavy generally than their counterparts raised or fattened on the freehold farms. (Colcough & McCarthy 1980 p.16).

The imposition of weight restrictions served the interest of ICS as it could then obtain lower prices for cattle in the Protectorate, (due to the lack of alternative markets) which it did so to supply its overseas contracts, railing them out to be processed at Durban. With a complete embargo on Protectorate cattle to South Africa between 1933-5, producer prices remained very low (Hubbard 1983). Border freehold farms took advantage of this situation by buying cattle for fattening for the Johannesburg market, and smuggling became a vigorous business "initiated and financed by South African cattle speculators and farmers." (Colcough & McCarthy 1980, p.144). Though an abattoir at Lobatse had been commissioned in 1934, between 1935-37 it had processed only 21,000 head due to the closure of the South African markets. Smuggling during the same period had been 50-100,000 head per annum. (BNA S.274/6, in Hubbard 1983, p.152).

The second, expansionary, phase in the livestock industry came after the second world war. This period saw a break away from peripheral status, through the establishment of a successful meat processing plant at Lobatse and the forward integration into Botswana's main external markets. Whereas the industry had previously been drawn upon only during expansions of the South African market and been neglected during periods of contraction, it was now transformed into one of dynamic growth by the establishment of a viable abattoir at Lobatse. For the first time in its history, it took on the robust form and characteristics of a growth industry, and was supported by a new colonial policy of expansion and stabilisation.

As part of this new policy, the colonial administration was provided with increased funds with which to develop the economy and make up for the long years of neglect and parsimony. A colonial Development and Welfare grant of £400,000 was made available specifically for boreholes which enabled virgin desert to be opened up for livestock permanently for the first time (Roe 1980, p.22; Peters 1983). With drilling going on at an unprecedented rate, together with the absence of a serious drought in the 1950s, this led to the national herd increasing by an unprecedented 34% between 1949 and 1959 (Hubbard 1983, p.188), and laid the foundation for the de facto control of much of the western sandveld that was later to be declared de jure leasehold under the TGLP after Independence.

After 1960 the livestock industry expanded to gain preferential access to the lucrative British market, and also regained access (by quota) to the relatively high priced South African market. With the gradual move towards decolonisation, there was an increasing prominence of the Batswana tribal aristocracy in the affairs of the beef export industry. Seretse Khama of the Bangwato (later to become the first President of Botswana) became the single most influential local board member of the Bechuanaland Protectorate Abattoirs (BPA) Ltd. (Hubbard, p.212). As the BPA was 50% owned by the Livestock Breeders Trust, it thus allowed Tswana breeding interests to establish control over the industry for the first time.

Nationalisation and fair prices for producers became the election platform for Khama and the Botswana Democratic Party as Independence drew near, with the moderate BDP favoured by the colonial government over more radical parties (Hubbard 1983, p.226; Parson 1984). With control of the industry now in the hands of the larger cattle owners, plus their likely control of the future post-

colonial state, the interests of the industry could be articulated forcefully and defended by the state in international markets to a degree impossible under the colonial administration. As the livestock industry flourished in the run up to Independence, the rest of the economy stagnated. Although total wage employment grew from 7,000 to 10,000 between 1950 and 1960, it only represented about 2% of the population on both dates, whilst roughly three times this figure were working in the mines of South Africa over the same period (Colcough McCarthy 1980, p.31). The small number of jobs that were created are likely to have been insufficient to compensate for the decline in traditional sources of employment arising from the introduction of a cash economy open to imports from abroad (particularly from South Africa), and on Independence in 1966, some 100,000 Batswana (around 20% of the population at that time) were dependent on famine relief programmes, due to the very prolonged period of drought from 1961 (Colcough & McCarthy 1980, p.32).

Sir Seretse Khama, (grandson of Khama III of the Bangwato) described this situation on attaining Independence in 1966, when the country was one of the poorest in the world:

> "The basic physical and social infrastructure was sadly deficient, if not almost totally lacking. Roads and telecommunications, water and power supplies were totally inadequate to provide a base for industrial development. Most important of all the colonial Government failed to recognise the need to educate and train our people so they could run their own country. Not one single secondary school was completed during the whole seventy years of British rule. Nor did we inherit any properly equipped institutions for vocational training even at the lowest level of artisan skills. The administration had at its disposal only the most rudimentary information on our national resources. The country was largely unmapped" (Khama 1970).

The third phase of development of the livestock sector in Botswana began with the accession to political power of the Tswana cattle aristocracy, the nationalisation of the BPA meat processing plant, and the expansion of the beef export market. The period was marked by a growing commercialisation of livestock production which was fueled by the rapid growth in the level of revenues generated by the mineral extraction sector. These revenues have enabled the Government to rapidly expand the size of the public sector, whilst incomes and employment levels in the traditional rural economy have stagnated. Livestock has now become the primary repository of private domestic investment, with the government elite its primary investors. This investment in turn has called forward fundamental land tenure changes that now threaten the very subsistence base of many marginal groups, the discussion of which is covered in Chapter Four.

Section B now examines the dualistic structure of economic growth since Independence, how this growth has increased social differentiation in the rural economy, and been accompanied by a growing inequality in the ownership of livestock, incomes and assets. This pattern of economic growth has had important repercussions on the rural poor and culminated, in the late 1970s, in fundamental changes in the structure of land tenure which now threatens the continued existence of marginal groups such as the *Basarwa*.

SECTION B

ECONOMIC GROWTH, POVERTY AND DROUGHT

III

THE PATTERN OF ECONOMIC GROWTH SINCE INDEPENDENCE

Botswana, although starting from a very low base, had one of the world's fastest growing economies in the first two decades after Independence (World Bank 1985, p.4), and is now the third largest diamond producer in the world, with an output greater than both South Africa and Namibia combined (UNDP et al, 1985, p.12). Exports earnings from diamonds rose from US$91.2 million in 1978 to US$601.6 million by 1984 (RoB, CSO, 1985). Table 2.1 below shows the structure of this growth between 1966 to 1986, together with the per capita GNP for the same period:

TABLE 2.1 : INDEX OF GROWTH IN THE SECTORAL COMPOSITION OF GDP, 1966 - 1986. (1980=100)

	1966	1970	1974	1978	1980	1982	1984	1985	1986
GNP p.c.(1)	100	150	370	500	790	880	950	810	840
GDP(2)	18.53	27.14	61.58	81.23	100	105.10	160.63	174.21	No Data
Agriculture(3)	35.89	44.78	118.49	104.20	100	86.19	61.10	57.62	57.62
Industry(4)	5.46	20.87	45.21	82.49	100	110.20	218.19	226.06	264.06
Manufactures	24.66	27.05	59.59	110.96	100	156.85	150.68	157.53	154.11
Services	21.84	23.28	51.67	68.00	100	107.22	128.33	142.06	152.46

Source: World Bank, (1987) World Tables 1987, 4th. edition. Original data in 1980 US Dollars.

Notes: 1) Per capita GNP at current US $. 2) GDP at Factor Cost. 3) Agriculture sector includes livestock, except for cattle processed through the Botswana Meat Commission, where it is shown under the Industry sector. 4) Industry sector includes Manufactures, which is shown separately for comparison purposes.

Substantial revenues accruing to the Botswana government from its rapid mineral-led growth of the 1970s has allowed it to build up an enviable record in the

provision of primary education and health care in the rural areas. The physical infrastructure and basic levels of essential services at village level are of a high standard (compared to many other countries in the region), with even the more remote villages and settlements having their drinking water reticulated from boreholes. Approximately 45% of the population has had access to safe drinking water from as far back as 1977, compared to an average of only 25% for the sub-Saharan region as a whole (World Bank 1981). The infant mortality rate, at 80 per 1000 live births per year, is bettered in Africa only by Zimbabwe; life expectancy at birth is 57 years and the adult literacy rate is 61%, both relatively high in comparison with other African countries (UNICEF 1983).

However, with the combined unemployment and under-employment rate in the rural areas estimated in 1985 to be as high as 40%, and as many as 50% of rural households living in absolute poverty,(World Bank 1985, p.5), it is clear that economic growth itself is an ambiguous indicator of progress. Moreover, economic growth has been largely confined to the mining and livestock sectors and the contribution of arable agriculture to GDP has declined both in relative and absolute terms. As livestock itself (which has shown significant growth during the period) is subsumed under agriculture in Botswana's National Accounts, the Table 2.1 above therefore masks a marked fall in arable production throughout the 1970s and 1980s, due largely to the ravages of drought and both public and private investment preferences, which reflect the higher returns obtained from livestock. This is significant because most of Botswana's 80,000 rural households are subsistence farmers, of whom many do not own or have access to cattle, and are therefore completely reliant on the vagaries of the weather for much of their income. With beef export prices increasing much faster than the size

of the national herd (213% against 44% during 1970-80), increases in the value of cattle stocks usually account for around 80% of the agricultural sector's total investment (Hubbard, 1983, p.265).

We can not therefore make a realistic assessment of the country's present pattern of economic growth without first analysing its various components in order to judge whether any real and positive income effects have occurred. Equally important are the ways in which increases in income are generated: from terms of trade gains, from the sale of non-renewable assets such as minerals, or from labour intensive activities such as arable agriculture. These have different investment and employment opportunities, and have different levels of dependence on foreign interests and vulnerability to external events.

In this chapter we will briefly examine the impact of growth in the mining and manufacturing sectors on employment levels, government revenues and expenditure patterns, and how this rapid growth has allowed for an equally rapid expansion in public sector employment and salaries. As a corollary to this we explore the legacy of the low level of provision for education under the colonial administration, and the current relationship between livestock ownership, level of education and access to civil service employment. The latter has become particularly significant as the main source of private investment for the livestock industry.

We then look at the livestock industry itself, the degree to which the industry is controlled by and on behalf of the political elite, and assess the social and environmental effects of the overgrazing that has arisen as a consequence of expanding overseas markets.

a) Growth in the Mining and Manufacturing Sectors.

Although the mining sector has in recent years accounted for more than two-thirds of export earnings, and almost one-third of government revenue, (World Bank 1985, p.5), its direct contribution to solving the chronic unemployment problem has been very limited. The sector is not only inherently capital intensive in nature but also has few direct linkages with other sectors: the diamond industry accounted for 85% of the mining sector's production in 1982, yet only employed 3772 workers (less than 1% of the total workforce), including 366 expatriates (World Bank 1985, p.39). For the mining sector as a whole, GDP at constant prices increased four-fold during the period 1976-81, whilst its labour force grew from 5450 to 7350, an increase of only one-third (World Bank 1985, footnote, p.18).

The diamond industry's contribution to GNP also remains highly dependent on world market prices, as determined by the De Beers' Central Selling Organisation (CSO), which markets some 85% of the world's total diamond output (Nchindo 1983). The weakness of mineral-led growth to exogenous influences was shown in 1981, when a sudden slump in the international diamond market led to a sharp fall in the growth of real GDP in 1981-2 - to 4.1% from the previous year's 11.2% (World Bank 1985, p.4).

Situated at Selebe-Phikwe, the copper-nickel industry has had a far greater impact on job creation than the diamond industry, employing some 8000 workers at the mine. However, this industry has been suffering from chronically depressed prices in recent years, and is also faced with the problem of diminishing reserves. Though production rose by 20% between 1980 and 1983, its market value fell by some 18% (World Bank, 1985, p.5).

Though foreign currency reserves generated by the mining sector have been substantial, the country's mineral resources are finite and the annual income derived from their sale determined exogenously (copper-nickel matte reserves at Selebe-Phikwe for example are nearing exhaustion). There is also the danger that the mining revenues, if not managed properly, could bring about a situation of "growth without development", one without a broad development base and which could not be sustained in either the long term (because of finite resources), or relied upon even for that matter in the medium term,[1] as revenues are determined by the vagaries of the world market and the continued cooperation of the multinational companies that exploit these resources. For example, the Selebe-Phikwe mining complex is jointly controlled by the South African company AAC, and the USA based Amax company. As De Beers has a 50% share in Botswana's diamond industry, and both it and AAC are interrelated companies under the control of Sir Harry Oppenheimer, Botswana's mining industry is dominated not only by South African capital but by one particular corporate group (Colcough & McCarthy, p.157). This illustrates the extent to which the past growth of Botswana's mineral industry has been determined exogenously.

The manufacturing sector contributed only about 6% to GDP in 1986 (World Bank 1987, p.61), and is characterised by the relatively large number of small enterprises: less than 6% of all firms have more than 200 employees. Despite being overshadowed by the contribution to GDP of the mineral industries, it employed over 8000 people by 1983 (World Bank 1985, p.10).

However, the profile of the formal manufacturing sectors show that the industrial base remains narrow, and in 1980 was 91% foreign owned (RoB 1980, p.203).

[1] Per capita GNP is now falling (see Table 2.1 above)

Foreign ownership extends even to the larger traders and dealers: with the exception of the Co-operative Society building, all commercial premises in the main Gaborone Shopping Mall are owned by foreigners (*Botswana Daily News*, Feb. 18, 1987). One sixth of the total employment in the manufacturing sector is at the Botswana Meat Commission, (itself sustained by access to preferential markets such as the EEC), a maize mill at Lobatse (owned by a South African subsidiary), and a tannery in Francistown.

Despite Botswana's membership of the SACU, which theoretically gives it access to the large South African market, in practice the lack of skilled manpower and the shortage of local entrepreneurs limits the value of this potential export outlet. The consequent need for in-service training and expatriate managers has raised unit costs in many manufacturing firms, thus making them less likely to be competitive with South African goods. This lack of skilled manpower can be seen as one consequence of the previous colonial administration's education policy.

Restrictions on free trade within the customs region by South Africa in the past make the future expansion of manufacturing industry in Botswana seem limited. There is also an apparent political threat from South Africa to restrict imports for foreign firms if they move production to Botswana, Lesotho or Swaziland (Selwyn 1975, p.119). Whilst most of Botswana's exports go to Europe and America, 87% of its imports originate in the Customs Union Area. Botswana thus remains very dependent on South Africa for its key requirements including foodstuffs, oil construction and building materials (Borton 1984, p.7).

The mineral sector's capacity to "transform" the rest of the economy therefore remains curtailed by the country's peripheral status with South Africa, and by its weak

linkages with the rest of the economy, and has not led to the evolution of a more diversified pattern of economic growth.

For the purposes of our study, a more critical question than how Botswana's economic growth has been generated is: In what ways have the gains from growth been distributed? In countries where most of the income accrues to a small minority of the population, further increases in total national income may be irrelevant to the welfare of most of the people, unless there exists appropriate redistributive measures, and may in fact have a negative impact on the incomes of the rural poor.

We have already noted that though substantial revenues have been channelled into the rural areas and significant improvements made to provision of primary education and health care of the rural population, employment gains in the mining industries have been minimal. Future employment gains in manufacturing are also likely to be limited. For those employees already within the mining industry however, salaries far in excess of those existing in agriculture have allowed for an increase in personal herd size and encouraged a growing social differentiation.[2]

Moreover, the overall pattern of government expenditure since Independence would still suggest a marked urban bias, even in the provision of basic health care. Though financial constraints were lifted shortly after Independence as the mineral revenues came on flow, the emphasis up to 1973 was still on curative medicine with 86% of capital expenditure going on the main hospitals and training Institute at Gaborone. Only 10% of capital expenditure was spent on health centres and clinics (Gish

[2] Minimum wage legislation was established during 1973 for all manual unskilled grades except for agricultural workers.

& Walker 1977). Less than 10% of government capital expenditure during the period 1971-1974 was spent in the rural areas and only 1% on agriculture (Colcough & McCarthy 1980, p.92).

The announcement of a new economic strategy in 1973 by the then vice-president, Quett Masire, promised to reverse this trend, as it put the emphasis:

> "not only on economic growth and its impressive physical manifestations, but also on the quality of the lives of all Batswana and the *equitable* distribution of the benefits of development", which would be accomplished by "raising rural incomes, by providing better services in rural areas, by developing a rural infrastructure, and by creating wider opportunities for self-advancement through education" (Masire, 1973, paras.2 & 4). (my italics)

With the Accelerated Rural Development Programme (ARDP), which arose out of this new strategy in 1974, an approach was taken with the emphasis more on rural clinics and health posts. Costing about P31 million, some studies have suggested that it was initiated primarily because of nervousness about the outcome of the forthcoming election and the need for the BDP to preserve its rural power base (Colcough & McCarthy 1980, p.43; Picard 1987). Accompanied by substantial increases in government wage levels targeted at the urban electorate, it also provided an attractive image of "rural development" for the international donor community. Whatever the primary motives for this new initiative, it did alter substantially the trend in government expenditure patterns, even though a level of urban bias remained, as Table 2.2 overleaf illustrates. The ARDP was jointly funded by the Government and the two Scandinavian aid agencies NORAD and SIDA. Although the rural water situation was very much improved under the ARDP by the installation of new village boreholes, water consumption

per capita in urban areas in 1980 was about 10-15 times the per capita rural rate (Colcough & McCarthy 1980, p.237).

TABLE 2.2: GOVERNMENT CAPITAL EXPENDITURE IN URBAN AND RURAL AREAS (1966/7-1976/7) (PERCENTAGE OF TOTAL DISBURSEMENT)

YEAR	66-67	67-68	68-69	69-70	70-71	71-72	72-73	73-74	74-75	75-76	76-77
RURAL	26%	39%	25%	20%	16%	8%	5%	10%	33%	32%	27%
URBAN	49%	45%	64%	45%	63%	74%	85%	70%	37%	42%	33%
ROADS, ETC.	25%	16%	11%	35%	21%	18%	10%	20%	30%	26%	40%

Source: RoB, Annual Statements of Accounts (1967 -1977).

The government's continued concentration on the comparatively straightforward construction of physical infrastructure, rather than the much more complicated process of stimulating rural production and employment, has left a growing proportion of the community reliant on government financial assistance, particularly during periods of drought. In 1975 for example, it was estimated that only 8% of the rural population were involved in cash employment (not counting self employment in agriculture), and even this figure included some work which was seasonal.

One consequence of this urban bias in expenditure and investment has been a surge in labour migration, now not just to the mines of South Africa, but to Palapye, Selebe-Phikwe, Orapa and Jwaneng. Botswana's urban population has grown from 4% of the total in 1964 to 15% in 1975, an increase of about 14% per year, and was described as having the fastest rate of urbanisation in Sub-Saharan Africa in 1973 (Todaro 1973, p.44). Between 1964 and 1975, some 10% of the rural population moved to

the towns, because of the greater opportunity for employment (Colcough & McCarthy, 1980, p.180). Although no later data is available, the physical expansion of the capital Gaborone strongly suggests that this trend has continued or even increased.

Thus Botswana's mineral-led growth, whilst improving the rural infrastructure, has done relatively little for rural incomes. A form of economic dualism has emerged, with a modern and highly capital intensive sector co-existing alongside a stagnant rural sector, characterised by chronic unemployment and declining incomes. As Egner notes:

> "The poor have been largely unaffected by either rises or falls in GDP. These affect mainly those who benefit from Government salary increases, mining incomes and the possession of cattle" (Egner & Klausen, n.d., p.35).

Instead, it has stimulated a more rapid development and commercial transformation in the livestock sector. With wage levels in the formal sector more "drought-proof" than those in agriculture, the trend during periods of drought has been for the larger stockholders to increase their ownership and control over productive assets, whilst the poor lose what little they already have.

b) Growth in the Public Sector.

Economic dependency on South Africa, and the uncertainty over its future political status, left the Protectorate with a stagnant rural economy as it approached Independence, with no incumbency felt on the part of the administration to develop either the social infrastructure of the country, or the skills of its people. This attitude of the colonial authorities, and its consequential neglect of the Protectorate, left the

country little prepared for self-rule in 1966.

The majority of administrative grades within the administration were held by expatriate officers, and as late as 1964, when Independence was in sight, some 75% of the occupied senior and middle management grades were still held by expatriates, as were 20% of the clerical and secretarial posts (Luke 1966, pp.17,141). Only those few Tswana officers fortunate enough to have been sent abroad for their education were able to gain access to the colonial civil service. This reflected the similar policy of racial discrimination shown against the Tswana population in commerce, but with the important distinction that its effects did not disappear on Independence; rather it sowed the seeds for a more serious form of discrimination and social differentiation amongst the Tswana themselves that has now become largely self-justificatory. If ownership of livestock during the Protectorate bestowed wealth and a privileged access to education, in the period since Independence, a high level of attainment in education has conferred senior positions within the civil service and legitimised a political form of control of the livestock industry itself.

The shortage of skilled manpower, particularly in the managerial and technical fields, and which is evident in both the private and public sectors, remains a serious constraint to Botswana's future development in the short to medium term, and can be seen in retrospect as one consequence of the low priority given to education and technical training afforded by the previous colonial administration.[3] In 1963 there were only 45 Batswana in institutions of higher education, (GB, Colonial Office, 1963, Bechuanaland Protectorate Report, p.60) and by 1967 some 38% of primary school teachers were still untrained

[3] As we will see in later sections, this has had a direct bearing on its ability to effectively manage and control the current Drought Relief Programme.

(RoB, *NDP 1976-81*, 1977, Table 6.6., p.109, and fig. 6.4, p.111).

The growth of domestic revenue was the most dramatic feature of Botswana's economy in the first decade after Independence, rising from P6.2 million in 1966-7 to P85.4 in 1976-7, at an average annual growth rate in real terms of 30%. The creation of a new range of bureaucratic and parastatal institutions to manage these rapid developments led to a corresponding demand for administrative and managerial skills and a growth in employment within Government service from 13,550 in 1972 to 21,675 by 1976. By 1980, 36.9% of all recorded employment was in the public sector (Parson 1984, p.42).

With the hiring standards of the colonial period maintained by the new government after Independence, this meant a continuing emphasis on paper qualifications rather than practical skills adapted to the needs and requirements of rural Tswana society. Apart from attaching a high premium to formal education, it also meant that the demand for skilled labour could not fully be met from the indigenous population. The government therefore relied on expatriate manpower. One consequence of this policy was that by 1977 there was twice as many expatriate public officials in Botswana Government service than the total number of all officials in the Colonial administration in 1964 (Parson 1984, p.42). As late as 1981, 30% of the top administrative, 55% of the professional and 35% of the senior technical positions were filled by non-citizens. (Parson 1984, pp.24-6; FAO 1974, pp.20-21). Botswana probably now has the world record in expatriate technical assistance workers per capita of population, most of whom are financed by the international donor community as part of their aid programmes (Isaksen (n.d.), p.12).

One of the major developmental thrusts since Independence therefore has been directed towards the expansion of the education services, and the training of staff for more specialised posts in the public sector has attracted considerable amounts of multilateral and bilateral aid from a variety of donors. The Mid-term Review of NDP5 (1983) envisaged a growth rate in the supply of educated manpower of around 7.4% between 1981-89 (World Bank, 1985, p.52). These developments also meant pressure on the government from the articulate urban middle classes for an increased level of spending on higher education, as the shortage of skilled labour and a rapidly expanding public sector meant that a strong relationship existed between the amount of schooling an individual held, his rank in the political hierarchy, and his expected level of earnings.

The strong linkage between livestock ownership, education and political status in the post-Independence state is illustrated by the example of Ngamiland, in the remote north west of the country. Endemic with tsetse flies, and most vulnerable to livestock disease, the extension of disease control cordon fences and veterinary services geared up to overseas markets had for many years effectively cut off the area from access to overseas markets via the BMC abattoir in Lobatse. According to one source, livestock owners in Ngamiland were therefore exposed to the process of commercialisation at a much later stage. Because of the generally lower level of cash income and capital accumulation, the distribution of cattle in Ngamiland is less skewed, and significantly, proportionally fewer higher level civil servants from the District figure amongst the national elite (Hinderinck & Sterkenburg 1987, p.203). With a lower level of capital accumulation and social differentiation, stockholders in Ngamiland were less likely to have been able to afford to send their sons abroad for their education.

The pressure for an increased provision of secondary and tertiary levels of education has in turn led to the emergence of a growing duality in the quality of provision of primary education. Rural primary schools are relatively neglected in terms of quality of staff and equipment when compared to urban schools, and the pass rate in the rural primary schools' examination to enter secondary education is typically only half that of urban schools (Colcough & McCarthy, 1980, p.215).

That the institutional relationships which link the school system with the labour market is the most important constraint on achieving real educational reform, is shown by the project carried out by the South African refugee Patrick Van Rensburg at Swaneng Hill school in Serowe. Van Rensburg started the "Brigade" movement in Botswana in the early 1960s and which mirrored the traditional "age regiments" raised by the tribal authorities.[1] The aims of the Swaneng Hill School experiment were to inculcate a commitment to social justice among the educated minority, and to equip them with the necessary skills and knowledge for self-development. But it went beyond this: it also aimed to make a secondary education more accessible to poorer families by requiring students to contribute in labour rather than by monetary means, and to make the school the focal point in the community. The school itself is situated on a hillside overlooking the Khamas' village of Serowe, and was built by the staff and students themselves. Though it flourished in this form for a few years, (and remains academically one of the finest schools in the country) the project itself was a failure as it did not take into consideration the prevailing spirit of individualism that had been ushered in at Independence. As other state schools operated on a fee

[1] The "age regiments" originated as a tribal mechanism for community effort.

only basis and did not require contributions of unpaid labour from their students, this caused an increasing resentment amongst the wealthier students at Swaneng able to meet their fees in cash (Colcough & McCarthy, 1980, pp.216-221).

Thus the expansion of the school system in Botswana, though making rapid progress in the provision of primary education, has done little to break down existing patterns of inequality within the community. The search for jobs remains highly competitive and the length of stay in school can be seen as playing a legitimising role in the selection of which people are to get the jobs with the highest rewards. These rewards are being increasingly channelled into the livestock sector, especially during periods of drought when the value of alternative investment strategies pale in comparison with the prospect of buying cheap emaciated cattle from the smaller traditional farmers. The very unequal gains to be made from holding livestock (because of existing economies of scale, and whether or not herds are kept on communal land) provides a key element to the analysis of poverty in Botswana. We will therefore examine more closely the dynamics of growth in the industry in the following section.

c) The Dynamics of Cattle Accumulation.

In Botswana, harsh ecological conditions and consequently a very limited supporting capacity of land is reflected in an exceptionally low average of population density which is ideally suited to pastoralism. The holding of livestock has traditionally been seen as a form of insurance against drought as it produces milk and meat for when cereal crops fail, benefits from a natural increase over time, and provides for draught power for arable farming during periods of adequate rainfall.

In many pastoral societies, the accumulation of cattle instead of increasing the herd offtake when prices are favourable, may suggest a backward sloping supply curve. This can be explained by the fact that medium sized commercially orientated producers tend to hold on to their stock if they think that the price rises are permanent, whilst the smaller traditional farmers attempt to maintain even the most tenuous links with livestock as an insurance against drought. For the larger stock owner this behaviour may increase sales volume in the long term, and for the poorer farmer may help achieve a cash and drought viable herd size (Konczaki 1978, p.59).

Thus the reluctance of some stock holders to sell cattle, both in periods of good grazing (when cattle can be fattened and realise a good price at the abattoir), and in periods of drought (when cattle are lean and weak and fetch a very low price) can be seen to be an inadequate indicator of their commercial orientation. Offtake rates in Botswana suggest a highly developed commercialism among the medium to large livestock owners able to take advantage of overseas markets, and although it accounts for only 15-20% of total merchandise exports, the livestock sub-sector represents some 80% of the agricultural sector's value added. Botswana has an international comparative advantage, not just regional, in the production of livestock. (von Massow 1982)

Historically, the size of the national herd has always fluctuated with water availability and grazing. Drought often decimated herds but there was a fairly fast recovery with the onset of new rains and fresh grazing (Oxby 1975; Sandford 1983; Livingstone 1986). From the 1930s, an accelerated growth in the drilling of deep water boreholes and vaccination against disease (especially Rinderpest, which destroyed many herds in 1896-7) greatly increased the size of the national herd. With this increase, the communal grazing of large herds

around traditional village sites became difficult due to competition from other herders, and for the larger stock owners a herd size of around 60-100 head made the use of a private borehole in or around the fringes of the Kgalagadi desert a commercially viable proposition (Hubbard 1983). Thus waterpoint creation became a major focus of both public and private investment between the 1930s and 1950s as the authorities strove to expand the virtually sole export industry and (with migrant labour remittances) the main source of tax revenue.

Peters' study of borehole syndicates in Kgatleng showed that they played a crucial role in the transformation of the commons. (Peters 1983). Because of the high initial cost of water development, boreholes were usually financed by syndicates of the wealthy tribal elite and the larger herdowners, which shifted responsibility for regulating grazing land from a parsimonious colonial administration back to the tribal aristocracy. The ideology of the syndicates was that of a form of collectivity working for the "common good", culturally expressed as collective help, mutual support and stewardship of the commons. The colonial administration thereafter concentrated on the provision of such water points further westward into the Kgalagadi and relied on syndicates for their regulation. The Resident Commissioner in 1934, Colonel Rey, made strenuous attempts to secure a grant for water development in Kgatleng as he saw the syndicates as representing the "first and only Native cooperative water scheme" (Peters 1983, p.240). As Peters remarks:

> "Borehole syndicates could be seen then as both business like and potentially profitable, and, in the provision of water "for the tribe", as a fulfillment of the colonial trust. They represented a happy merging of economic imperative and moral responsibility akin to a missionary linking of Christianity and Commerce." (Peters 1983, p.242).

From the early 1950s, Chief Molefi of the BaKgatla acceded to private, rather than syndicate, boreholes. Up to that time there had been a tribal understanding that boreholes were to be drilled only for the benefit of groups, not individuals. The colonial administration appeared to demonstrate a naive understanding of the process of privatisation and hoped that the cattle owning elite would follow their good intentions and fulfill their obligations to poorer members of the tribe. The District Commissioner Clark wrote in 1956 that

> "the chief, however, would doubtless consider the position of people outside the syndicates, since without safeguards all water and winter grazing would pass into the hands of the richer elements of the tribe". (Peters 1983, p.245).

By the late 1950s however, the colonial administration started to have serious misgivings over the role of the syndicates in development. In 1958 District Commissioner Clark commented that, since all the district's boreholes were operated by syndicates and none by the tribe, "the richer Bakgatla exercise a proprietary right over the best grazing areas as they own the water". Another District Commisioner noted in 1961 that the Kgatleng syndicates system had "degenerated into a money-making concern which ruined the veld". (Peters 1983 p.243).

For the larger herdowners, the new technology offered the opportunity to escape the resource limitations of the communal grazing areas. Under the colonial administration the money economy facilitated the translation of the "rewards of office" for the tribal elite into forms which allowed a greater privatisation of its income, whilst protecting it from the traditional claims to its redistribution. Peters (1983, p.153) remarks that it was during this period that the tendency emerged for the largest herdowners (>200 head) not to loan stock as *mafisa*.

The role of the borehole syndicates can thus be seen as one which facilitated a process of greater exclusivity of control over grazing and water sources, even though its original social organisation presented a hurdle to full privatisation. Now however, syndicates are characterised more by their exclusivity than collectivity. The exclusion of *bahiri* (sharers of grazing and purchasers of water from the boreholes) is now very common, and by 1980 there were very few *bahiri* in Kgatleng. (Peters p.283-285). This process during the Protectorate has been described as a "cycle of capital accumulation": the privileged access of the wealthy to the new boreholes helped prevent herd loss; rising prices after 1945 increased their wealth and facilitated investment in business & trading; allowed for the education of their children and access to high status, high income employment after Independence; and thus allowed further investment in livestock through syndicates and eventually through private boreholes.(Peters 1983). Seen in this light, a major element of the colonial legacy was the formation of a new cattle aristocracy which would, after Independence, gain virtual monopoly rights over access to grazing and water in many areas of the western sandveld.

Because of the economies of scale in beef production in a semi-arid environment, the wealthier herdowners have been able to accumulate enough stock to effectively propel themselves out of the traditional rural economy altogether, to become independent breeders. Now freed from the reciprocal obligations and restrictions that characterised traditional society, the wealth of the cattle aristocracy has enabled it to overcome all cultural, racial and political barriers to the future expansion of their industry. According to one Botswana newspaper report in 1987,

> "Mr. Basimanyana Masire, brother of President Quett Masire, was criticised for his meeting in Botswana with South African Foreign Minister Pik Botha in July 1987. Describing himself as a "big capitalist farmer", (Mr. Masire) said his heifers alone are worth P8 million and that it was this volume of trade that did not allow himself to confine himself to Botswana" (*Botswana Guardian*, 7 August 1987).

As we noted in the previous section of this chapter, many prominent members of the ruling BDP are themselves owners of sizeable herds. The Permanent Secretary to the President and former Governor of the Bank of Botswana said in 1982:

> "Of course, many other people worry about the skewed distribution of cattle ownership. This is not a bad thing since in Botswana cattle ranching has to be large scale to be viable because of the semi-arid conditions of this country" (Mogae 1983, p.23).

This statement may be seen as a deliberate obscuration of what it is in fact a delicate political issue and has commonly been used in Botswana to justify fundamental land tenure changes in favour of the wealthy.[5]

The introduction of the new high-yielding borehole technology effectively granted exclusive use of grazing for a wide area around the borehole site. Because of their relatively high cost (over P50,000 in 1987), the drilling of the new boreholes after Independence has been limited to the larger herders with adequate collateral, and was facilitated by the provision of cheap credit (Livingstone & Srivastava 1980; Roe 1980).

The wealthier stockholders have thus been more able to preserve their cattle through a drought than have the

[5] The ideological basis to the current land tenure changes is discussed in the next chapter, together with a discussion of its impact on the rural poor.

poorer stock owners.[6] Parsons notes the very unequal gains to be made in Botswana by different types of livestock owner, and the correlation between their access to scarce resources, economic gains and political power. In practice, this has meant that smaller herders have had to sell off their breeding stock sooner in a drought situation, because of the high mortality of smaller herds (IMDC, 1987). This has often worked to the advantage of the wealthier owners who have taken advantage of buying weak and emaciated stock for fattening, and eventual export through the BMC. Competition between calves and people for milk in the poorer families often makes calves more vulnerable to drought and disease, and the older animals less able to plough. Particularly during drought, the wealthier stockholders can increase their assets and control over natural resources such as grazing and water, at the expense of the smaller and marginal farmers. This was the area where the *mafisa* system of lending cattle for milk and ploughing purposes probably had its most profound levelling effect: by distributing the use of the larger herds, it served to preserve the existing small herds, thereby preventing the loss of the last means of subsistence open to the poor.

When, after Independence, the nationalised Botswana Meat Commission was established, legislation gave it autonomy from parliamentary control (Hubbard, 1983); policy decisions for the BMC were vested in the President through his power to hire and fire commissioners, veto any change of policy and issue directives. As Hubbard succinctly points out,

> "The legislation put ultimate control of the industry into the hands of the largest breeders, since the President and most Cabinet

[6] A large herd is more drought resistant than a small one. This was also the finding of WFP in its support of the Turkana Rehabilitation Project (Kenya).(WFP/FAO et al, 1988a, p.47.)

> Ministers were important breeders" (Hubbard 1983, p.227).

This suggests that certain elements of state policy are exercised in favour of the national bourgeoisie, as the leading members of the political elite form the vanguard of the this group. However, as the ruling party is a democratically elected one,[7] this open exercise of state power in favour of its national bourgeoisie has had to be carefully managed and held under control to provide at least a semblance of impartiality. The BMC functions therefore in the form of a co-operative, of benefit not only to the long established breeders but to both the up and coming medium sized stockholders, (whose rising incomes from government salaries have enabled them to invest in cattle), and the more marginal stockholders who make up a substantial proportion of the electorate. The BMC passes on to all breeders, irrespective of size, the enhanced profit margins enjoyed by the industry's continuing access to preferential markets, generous subsidies, and enhanced veterinary facilities. The BMC Lobatse plant remains the largest abattoir in the southern hemisphere, with an annual throughput of 220,000 head of cattle in normal years (Borton 1984, p.11).

However, it is the larger, wealthier breeders who are most able to take advantage of access to the BMC and enjoy the full range of subsidies available. (Sandford 1983, p.215; World Bank 1985). Since its inception, the most strongly represented group on the board of the Botswana Meat Commission has been the largest and mainly freehold cattle suppliers (Colcough & McCarthy 1980; Hubbard 1983; World Bank 1985). The BMC has a near monopsonistic position within the country, handling some 50-70% of all cattle slaughtered. Of the slaughtered

[7] The term is used here in a deliberately narrow sense to mean the simple process of voting in a multi-party state.

cattle actually marketed, 97% pass through BMC and of this some 95% is exported (RoB, MoA, 1980, Table 9.14).

Perhaps the main impetus behind the rise in private investment in livestock lies in the fact that beef production has become increasingly lucrative over recent years, due to preferential overseas markets (particularly to the EEC, an arrangement made for the ACP states under the Lome Convention agreement, and signed in 1976.) The higher producer prices obtained from beef exports through the BMC, combined with the salaries from newly created civil service posts, provided the wherewithal for increased borehole drilling and the purchase of breeding stock after Independence. The rapid expansion and commercialisation of the industry has resulted in a rapidly growing national herd and the attendant problems of overgrazing and increased drought risk:

> "In 1982, the average price obtained by BMC was US$315 per 100kg. of boneless beef compared to a world market price of US$239 recorded by the Commodities Division of the World Bank. This may have contributed to the overstocking of cattle and consequent poor herd management methods, and to the relative neglect of other potentially competing activities, particularly crop farming" (World Bank 1985, p.44).

This distortion in livestock producer prices has meant that livestock production has become relatively more attractive when compared with arable farming, with all its attendant risks and uncertainties:

> "An average family needing 1500kg of cereals a year, would throughout the entire period, have to work about 120 days on about 6 ha. of an adequately moist field. The same amount of cereals could have been bought from an offtake of: a herd of 30-35 around 1940, a herd of 15 in 1966 a herd of 10 in 1980, with labour requirements in adult equivalents of 120 days, 45 days and 30 days" (Opschoor 1983, p.161).

The EEC maintains a system of variable levies designed to raise the price of foreign imports (based on a notion of a "world price") to the EEC level. An exporter like Botswana, if subject to such levies, would therefore only receive the world price and not the higher EEC price. With the Lome I agreement of 1975 the ACP states received a import quota to the EEC market of 23,000 tonnes, of which Botswana was awarded 17,360 tonnes. After prolonged diplomatic negotiation, Botswana was awarded a rebate of 90% of the variable levy, in common with the other ACP states. With the 1979 Lome II agreement, a 30,000 ACP quota was declared exempt from the levies, with Botswana's share a sizeable 27,000 tonnes. This figure was also exempt from the Common External Tariff of 20%. The Lome Convention was renewed in 1984 and negotiations started for a fourth renewal at the end of 1988.

The preferential access to the EEC market can be seen as a form of economic aid in the shape of a transfer of resources from Europe to the ACP states. The eventual use of this rebate of the variable levies, however, was not stipulated at Lome and for Botswana between 1977-81, was paid back into the BMC general revenue and passed on as bonuses to producers. This aid was therefore effectively targeted at that section of the community least in need of it. Between these years it was P11 million, or twice the average development budget of the Ministry of Agriculture during the same period (Mmusi Commission 1982, Table 5.3.1.).

A cost/benefit analysis of EEC beef policy to Botswana was made by Hubbard (1983). For those livestock owners that do have regular access to BMC and the EEC market, the financial benefits are substantial when compared with other markets, as Table 2.3 below indicates. Benefits appear to have peaked around 1976-77, but declined thereafter with a reduction in sales to the EEC in 1978 and 1980 due to Foot & Mouth disease (especially in

Ngamiland, which was effectively closed to the BMC during this period). The EEC's periodic restrictions on cattle from both Ngamiland and North Central districts (which taken together form one third of total offtake, has reduced the overall levels of benefit, or rather narrowed the financial benefit to a smaller number of farmers.

TABLE 2.3: BEEF PRICES: BOTSWANA, SOUTH AFRICA AND THE WORLD 1960-81

YEAR	WORLD INDEX	SOUTH AFRICA SLAUGHTER STOCK	BOTSWANA (BMC FLOOR PRICE)	BOTSWANA [1] (LOCAL SALES)
1960	100	100	100	N/A
1965	134	131	137	N/A
1970	158	161	200	N/A
1974	296	319	434	N/A
1975	269	321	445	N/A
1976	257	349	428	100
1977	288	385	486	108
1978	330	443	460	110
1979	409	N/A	530	103
1980	453	498	626	N/A
1981	430	N/A	684	N/A

Notes: 1) Prices received for local sales not available for many years but included here to indicate trend. In 1979, the BMC floor price was some 2.7 times that of the local price. (Hubbard, p.247)

Sources: World index price: FAO *Trade Yearbook* (various years). SA prices: *South Africa Statistics 1978* and *Agrekon*, October 1981. Botswana: (BMC): *BPA and BMC Annual Report & Accounts*. Cited Hubbard (1983), p.305. Botswana local prices: MoA Botswana: *A Handbook of Livestock Statistics*, 1978 and 1980.

The growing surplus of beef in the EEC throughout the 1980s, resulting from subsidised production under the Common Agricultural Policy, has led to the dumping of surpluses on normal alternative markets for the ACP countries. This dumping of beef on to external markets since 1980 by the EEC has reduced both prices and markets

for Botswana outside the EEC and South Africa. So far, a tangible cost has not incurred, but it means that Botswana beef has become more dependent on its preferential access to the EEC and South African markets.

In one sense, membership of the SACU insulates Botswana beef against the world market. Despite the fact that the South African market fluctuates and sometimes falls below world prices, it does have the advantage that its fluctuations are usually out of phase with world price fluctuations. At these times, the quota allocated by South Africa to Botswana has been raised so that she can increase sales, even of cattle from the northern areas (such as Ngamiland) which are normally closed to the EEC market due to stringent Foot & Mouth regulations.

On the debit side, the opportunity costs of channelling scarce development funds into an industry which is already highly subsidised, already the focus of heavy domestic investment and does not require additional revenue in order to maintain investment, are considerable. But it is the social costs of commercialisation that we are more concerned with here, and how these are reflected in growing inequalities in income and control of assets. It is during an extended drought, when the size of a drought-viable herd is rising, that the real winners and losers in the industry become evident.

There appears to be a close interaction between BMC's monopsonistic position and its control by well-placed cattle owning interests. The latter have a vested interest in restricting exports through the BMC to match the existing quota to the EEC, so that prices are not "diluted" by other export prices to less lucrative markets, which would give a much lower average price to producers. This provides a possible explanation to the opposition to a northern abattoir until 1979, when

Lobatse proved incapable of coping with the drought-induced offerings, and it was realised that EEC would not accept Ngamiland beef in any circumstances. Until this time, northern producers, particularly in Ngamiland, who perhaps had inadequate finance or knowledge of how to organise direct sales to BMC,[8] had little option but to sell to middlemen such as traders at much lower net prices than would have been received at Lobatse. (Hubbard 1981, p.51). As of January 1983 an agreement was reached to accept "diluted" Ngamiland prices, and representatives of marketing co-operative interests on the BMC board. This, it should be stressed, was not a victory for the smaller farmer but rather a politically expedient move on the part of the government faced with a severe drought and the prospects of thousands of unsold cattle dying of starvation in the northern areas:

> "The winners in the system are those who secure direct access to BMC and its higher prices. Of these, the ones who stand to gain most are those who also buy cattle for speculation and fattening so they benefit both from lower up-country prices and from higher BMC prices. The losers are those predominantly small herders, with insufficient means or knowledge, or are too remote to organise direct sale to BMC, and who therefore sell at a much lower price or not at all" (Hubbard 1981, p.58).

Reinforcing the high profit margins obtained for beef is the artificially low cost of production, maintained through an extensive range of government subsidies. These tend to favour the larger freehold farmer as they are aimed at improving the (private) on-farm infrastructure, such as the construction of dams, boreholes, and fences.

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[8] Access to the BMC is on a quota basis and requires some forward planning. It also involves considerable expense to transport cattle from the north to Lobatse. The much slower rate of commercialisation in Ngamiland has already been noted in the previous section of this chapter, where it was suggested that this was reflected in the small number of Ngamiland breeders in the political elite. The same argument could be applied to the membership of the BMC board.

Because of their very nature, many of these subsidies can not be applied to the type of communal grazing carried out by the majority of Batswana farmers. Moreover, any subsidy is irrelevant to those who have lost their cattle due to drought, or never owned any in the first place. A Presidential Commission set up in 1982 noted "it can be said with certainty that there is a very substantial net subsidy to the cattle industry (Mmusi Commission 1982, p. A26). This confirmed an earlier Ministry of Agriculture estimate that subsidies make up 55% of the production cost per livestock unit on Botswana (World Bank 1981, p.21). The distortion in livestock producer prices is reinforced by an ineffective taxation system. In the absence of cattle ownership records, tax avoidance is common and again works in favour of the larger stockholder (World Bank 1985, p.45-6).

Taxes during the colonial period on cattle revenues constituted at least 20% of government revenue from domestic sources; the rest was derived from the 1910 Customs agreement with South Africa. By contrast, the industry now only provides between 5% and 10% of government revenue. During the Protectorate, revenues from the industry were usually double those of recurrent expenditures, but now state expenditures on the industry exceed tax revenues (Hubbard 1983, p.270). The industry now contributes a declining proportion of public revenue while attracting an increasing amount of public expenditure as infrastructural support for private investment. The more visible of these include veterinary and disease control cordon fences and requisites, stock route maintenance, breeding and management research, bull purchase subsidies, artificial insemination subsidies, and water point subsidies. The industry has also attracted World Bank loans for implementation of the new land tenure changes, which have been heralded as a major

breakthrough in land use planning.[9] Though the BMC does pay tax to government, this hardly offsets the wide range of available subsidies (Hudson 1981, p.68). With the key exogenous factor in private cattle accumulation being the availability of investible funds, access to the EEC market has removed the only obstacle to accumulation. This explains the rapid growth in the national herd size and the consequent ecological damage, the economic cost of which falls most heavily on the marginal farmers who have not benefited from land tenure reform and are still tied to the overgrazed communal areas.

The World Bank noted in 1983 that the range carrying capacity will probably limit the size of the national herd to around 3.25 million head (World Bank 1983). However, this figure may be optimistic as serious range degradation had already occurred in many areas (particularly around large boreholes) and was the rationale for the Government's announcement of the Tribal Grazing Land Policy (TGLP) in 1975. The public and private investment in establishing boreholes for livestock and then using highly subsidised and imported fodder has effectively pushed the range carrying capacity beyond its natural limits and risks permanent degradation of the range (UNDP et al 1985, p.25). Prior to the sinking of the boreholes, the shortage of water preceded the degradation of the range, and effectively limited overgrazing.

Desertification of the grasslands, once triggered, can become a self-reinforcing process. Reduction in plant cover due to over grazing, leads to soil erosion, loss of fertility and water holding abilities. Fewer new plants are produced and if these are in turn destroyed by excessive numbers of cattle, the process is accelerated. If the accumulation of livestock is continued and the

[9] See the next chapter on the Tribal Grazing Lands Policy (TGLP).

state of affairs gets progressively worse, there is no built in mechanism in the existing socio-economic structure to cope with the problem. With private ownership of cattle and communal ownership of land no communal basis for action exists.

Less well recognised is the possible environmental effects caused by the use of pesticides in Botswana, particularly for tsetse eradication, and usually at the request of influential beef exporters. Dieldrin, a powerful pesticide chemically related to DDT is currently being supplied to the country by Royal Dutch Shell in South Africa and is used for ground spraying. Dieldrin has been proscribed by most western governments and is banned for agricultural use in South Africa itself (United Nations, 1986). Aerial spraying using the chemical endosulfan has been used over 29,000 square kilometres of the Okavango Delta in Ngamiland, and may damage the delicate ecosystem of the region (*Botswana Daily News*, July 2, 1987). This chemical is known to have deadly effects on fish stocks (United Nations, 1986). According to the Chief Tsetsefly Control Officer, Mr. Charles Wiggett, speaking at the Southern African Regional Commission for the Conservation and Utilisation of Soil,

> "they (the tsetse eradication team) had not looked into the long term effects of the chemicals they were using but would continue to monitor its effect on the environment after covering the whole area" (*Botswana Daily News*, July 2, 1987). (My emphasis).

These efforts to increase the grazing area available for livestock without a corresponding effort to improve the system of range management, can be seen as a prime example of the "technical-fix" approach to development. Its application to the Okavango Delta may have serious effects on the wildlife in the area which currently attracts some 50,000 tourists per year.

In his study of the beef industry in Botswana, Hubbard draws parallels with other beef producing countries where soils and climate are inferior for both arable and livestock production, and where the exporters typically have low populations. Examples of this type are the Central American states, the latifundia and humid forest zones of the small South American states, and the waterless savannah of some African states.

Whereas in earlier, fully colonised temperate zones, rising domestic demand for beef (due to the general rise in incomes) had led to the decline of beef exports, and consequently to the growth of imports, it is rising population growth in the "new exporter" countries that has tended to outstrip increases in cattle production. Hubbard suggests that this trend is now causing social conflict in exporting countries of Central and South America, Argentina and Kenya, and is likely to do so in the near future in Mexico, Ecuador, El Salvador, Panama, Bolivia, Paraguay, and Guyana, all of which will be net importers by 1990 (Valdes & Nores 1978, p.17). Botswana's similarity with other beef producers may not be immediately clear. For example, the trend towards an increase in social conflict, due to rising population, has not become a serious issue as the population stood at only 1.04 million in 1984. As commercial pressures for exclusive use of large tracts of grazing continue, however, this may change in the near future. There is already the basis for a growing social conflict in Botswana associated with the livestock industry, which has yet to be articulated.[10] Just as expansion of beef

[10] The absence of any widespread, overt grievance over the present land tenure changes does not mean that the basis for social conflict do not exist. Lukes (1974 p.24) remarks that "the most insidious form of power...prevents people from having grievances by shaping their perceptions, cognitions and preferences in such a way that they accept their role in the existing order of things, either because they can see or imagine no alternative to it, or because they see it as natural and unchangable...". The fact that many larger herdowners who benefit from the TGLP are from the tribal aristocracy lends a certain legitimacy to their actions.

production has led to the displacement of populations in Brazil and Paraguay which has been well documented (Shane, 1980, p.28), a similar trend is occurring too in Botswana as marginal groups are expropriated of their lands and subsistence base to make way for private cattle ranches. With a population growth rate that stood at 3.7% in 1984, and a projected population size of 2.6 million in the year 2011, pressure on land use and grazing is likely to rise.(RoB, MoH 1987, p.1).

The commercialisation of the livestock industry in Botswana, therefore, has been a process which has been instituted by, and on behalf of, the wealthier stockholders, many of whom hold high government office. Though livestock was superseded as the leading sector of the economy by minerals (and by the government itself through its vastly increased SACU revenues) after 1970, both these new sources of revenue have been channelled back into livestock via the medium of public sector salaries and subsidies. The present expansion of this sector is threatening not only serious ecological damage to the veld, but to the subsistence base of many marginal groups. Because of the labour extensive nature of pastoralism, the capitalist transformation of cattle production is destroying rural employment, not creating it. This has obvious implications for the rural poor, who possess no alternative avenues for employment. In the next chapter we will examine the structure of rural poverty, and the impact of the land tenure changes that the commercialisation of livestock has brought into being.

IV

POVERTY AND INEQUALITY IN RURAL BOTSWANA

In this chapter we examine the nature of rural poverty in Botswana, and the impact on the poor of the pattern of economic growth since Independence. We will seek to establish the basis of a causal relationship between these developments and both the incidence and extent of rural poverty in Botswana. We will argue in particular that the pattern of economic growth established during the colonial period and built upon after Independence has destroyed the fabric of traditional society and ushered in a new era of economic individualism. This has in turn brought about a breakdown in the redistributive mechanisms of tribal society, and a growing polarisation in the ownership of productive assets such as livestock, land and water. This ongoing process has led directly and indirectly to a growing immiseration of an increasingly significant proportion of the population who are now dependent on aid relief for the greater part of their subsistence needs.

Two main contributory factors to rural poverty in Botswana may be distinguished. In the first may be grouped a series of natural, environmental constraints such as climate, soil quality and surface water availability, acting upon the subsistence farmer and preventing him from producing a surplus in all but exceptional years of heavy rainfall. In the second factor, there is a complicated matrix of legal, social, political and economic forces at work which are often mutually reinforcing and act to keep most households at or near subsistence level. These include amongst others, the existing levels of wages and incomes in the rural areas, the incomes policy of the government, the control

or ownership of productive assets, and access to employment and education. Taken together these forces determine the power of the individual household or group within society to command a range of goods and services to meet its subsistence needs (Sen 1981).

Though both may involve a loss of productive assets, the distinction between these two sets of influences on the individual household or group is a crucial one. In the past, redistributive mechanisms had evolved in traditional society and had the effect of minimising or spreading the worst aspects of natural disasters such as drought. The *mafisa* system of lending cattle played an important role in this regard, and drought involved a communal loss to the tribe as well as a loss to the individual household. By contrast, modern droughts have increasingly involved private, not communal loss, and modern borehole technology has ensured that larger herds are more "draught-proof" than those of the smaller stockholders. With the increasing commercialisation of livestock, and the competitive struggle for control of assets such as water and land, one man's loss has become another man's gain. What was once the quintessence of traditional society, now marks its passing away, and threatens the immiseration of its people.

a) The Structure of Rural Poverty in Botswana.

We start first by looking at the group of climatic and environmental factors acting upon the arable sector in Botswana, and examine some of the constraints limiting cereal production and food self-sufficiency.

The type of agricultural activity carried out in Botswana varies according to the system of land tenure under which it is carried out. There are three main land tenure systems: state owned lands (47%), tribal lands (49%), and

freehold farms (4%). State owned land is controlled by the Ministry of Local Government and Lands (MLGL) and may be leased by State Land Boards to commercial ranchers or farmers on a leasehold basis. The Pandamatenga region of Chobe District (see Map 1) falls into this category and is currently the only sizable area of commercial dryland farming in the country. Most of the cultivable tribal lands are owned communally and administered by the Tribal Land Boards, though some areas suitable for livestock are now available for grazing on a leasehold basis.[1] The freehold areas are largely situated along the eastern and western borders and comprise around 30,000 sq.km. They are farmed by 360, mainly expatriate, families. The 150 commercial larger farms (both freehold and leasehold) account for roughly 2% of the total area planted in the country, 9% of the total area harvested, 35% of the total production of the main cereal crops (RoB, Rural Development Council, 1985, p.3), and hold about 15% of the livestock (World Bank 1985, p.75).

Communal tenure of the tribal areas theoretically entitles every household to a piece of land of a size sufficient to meet his family's subsistence needs. However, a 1974 survey by FAO found that 13% of the households sampled held no land and that only 45% considered their land holding sufficient to meet their subsistence needs. Sufficiency in land was defined in terms of having access to viable plots with reasonable levels of grazing and water (FAO 1974, p.6). With population growth estimated at 3.7% in 1985, landlessness and land shortage are likely to have increased since the 1974 survey (World Bank 1985, p.16).

Although it had only an 8.5% share in GDP in 1982-3, the agricultural sector remains a major source of livelihood

[1] An analysis of the recent land tenure changes under the Tribal Grazing Lands Policy is provided later in this chapter.

for some 80% of the total population, or around 85,000 households (World Bank 1985, p.75). The overview that follows therefore serves to paint a picture of the type of agriculture most rural households have to rely upon in Botswana for their basic subsistence needs.

In the 1930s Botswana was virtually self-sufficient in food grain production (UNDP et al, 1985, p.12), and in the 1940s and 1950s some above average years allowed for the net export of cereals (FAO 1974, p.24). However, a rapidly declining mortality rate since the late 1950s, due largely to improvements in health care and diet[2], has reversed this cereal self-sufficiency and the country's present domestic production meets only about 25% of demand in years of average rainfall, and even less in drought years. "Normal" rainfall allowed for a near self-sufficiency of cereals, whilst "bad" years resulted in serious shortfalls, and the consequent need for increased imports.

The value of output in arable agriculture (and therefore the level of income for subsistence farmers) is not accurately reflected in Botswana as it is included with livestock in the National Accounts. Between 1971-3, the rise in international price of beef was reflected by a doubling of the value of meat production at BMC, and in most years since Independence, stock increases have represented one fifth of total agricultural output - hence there is a danger of misrepresenting the amount of growth that actually took place in the arable sector in the decade of good rainfall after Independence. In the event of drought many of the cattle (particularly those belonging to the smaller herders) actually die, so growth in agricultural output as reflected in the National Accounts is really not a good indicator of the welfare of

[2] Improvements in the nutritional status of children may have been due to the existence of food aid programmes in the country since the early 1960s.

the rural poor. Between 1965 and 1978, 90% of gross capital investment in agriculture has been in the growth of the cattle herd (Colcough & McCarthy 1980, p.64).

There are three main forms of arable agriculture practised in Botswana: dryland farming, which remains the dominant category for climatic reasons; irrigated farming, which is mainly restricted to the freehold areas along the Limpopo River in the east; and *molapo* farming, which refers to the traditional practice of cultivating on the basis of flood recession along river beds and channels. Because of the lack of rain and groundwater supplies, most arable farming carried out in Botswana is necessarily of the dryland type. It is estimated that only 3% of the country's total land area receives enough rainfall for this type of farming (FAO 1974, p.17). The pattern of rainfall up until the end of January determines, in connection with the individual farmer's perception of his risk and family needs, the extent of ploughing and planting. The pattern of rainfall thereafter determines the yield obtained during the harvest. Some 70-80,000 households carry out subsistence dryland farming on an average holding of around 4-5 hectares. The area actually cultivated however is much smaller, being around 75% of this figure, with only about 25-75% of this latter figure actually harvested, depending on the rainfall (World Bank, 1985, p.8). The main staple crops grown are sorghum and maize (80%), beans (10%) and millet (5%), with the remaining area including melons, groundnuts, sunflower and vegetables. Mean yields of maize and sorghum are typically 200-300 kg/hectare, but are considerably less than this is drought years.

Compared to other African countries, Botswana has one of the least promising climates for dryland farming, (i.e. relying solely on rainfall for its water supply), with some 65% of the total land mass existing within the 400-

600mm. rainfall zone (compared to no more than 25% in other countries). Even here, non-irrigated farming is extremely risky as there is not a single month in which rainfall exceeds the potential evapotranspiration rate (Norman 1983). Taken overall, the potential rate of evaporation at 1800mm. per annum is some four times the average rainfall level (Khupe 1983).

The crop cycle begins in November or thereafter with the arrival of the first heavy rains. Families then migrate to the lands for ploughing. Six to eight oxen are required for a ploughing team, and if the oxen are weak from the lack of grazing, the household has to wait until grazing has improved and they have recovered their strength. Planting is shared by men and women, whilst weeding, bird scaring, harvesting and threshing is done solely by the women. The households return to their villages in May or June, or sooner if water availability is low at the lands area. The production of households without cattle is significantly lower than that of households with cattle (FAO 1974), and these disadvantages are cumulative. Though they may be able to borrow oxen and are therefore able to plough, it is usually too late to achieve significant yields.

Few dryland farmers, even in years of normal rainfall, perceive crop production as a way of producing a marketable surplus. Rather they attempt to meet as much of their subsistence requirements from it as possible and this varies directly with the level of rainfall. The inter-seasonal variability of rainfall also means that although improved management techniques and technological inputs are still significant, luck still plays a disproportionate role in achieving a economic yield: in a dryland situation, no amount of improved arable technology can as yet produce a food crop that overcomes the absence of rainfall. Consequently, farmers have adopted a risk minimisation strategy and inputs of

capital and labour are low. Use of fertiliser, whether chemical or in the form of manure, is limited to less than 5% of farmers (RoB, Rural Development Council 1985, p.3). Despite these constraints, in years of above "normal" rains farmers can still occasionally manage to produce around 60,000 mt of sorghum and maize per annum. During 1973/4 and 1975/6 Botswana produced in excess of 100,000 mt from dryland production because of exceptionally heavy and well distributed rains (World Bank, 1985, p.49).

However, a realistic view must be that future prospects for developing this type of agriculture within the existing land tenure structure are extremely limited, as irrigation by deep borehole and diesel pump of individual smallholdings is generally thought not to be economically feasible. Any extension of dryland farming with supplementary irrigation would require a far greater commitment by the Government to the smaller farmer than is presently the case, and probably the combination of existing private holdings into larger farms run perhaps on a cooperative basis. The Government's present investment priority, however, is directed more towards the larger private or state owned farms, and particularly towards livestock ranches:

> "Water development for livestock has and is taking almost complete precedence over irrigation for crops" (UNDP et al 1985, p.129).

Probably the only strategy for most rural households in the short and medium term is to adopt a "mixed" farming technique whereby in the event of rain failure crop residues can still be used as fodder for livestock. The arable/livestock linkage also exists in relation to growing fodder crops and using kraal manure as fertiliser. This approach may also have a bearing on relieving communal grazing lands, which are already at near saturation point, and allow the small farmer to

maintain a certain level of income when the rains fail (Hunter 1983, p.30). However, the mixed farming approach may already be out of reach for a growing section of the rural population, owing to the high cattle mortality during periods of drought and the already skewed ownership of cattle.

Molapo cultivation is carried out on the basis of flood recession along river beds and channels, and is done typically on small plots of around 1 to 3 hectares. This type of crop production is limited to the northern area of Ngamiland, and at present only about 300-400 households are currently engaged in this form of agriculture, due to papyrus blockages around the fringes of the perennial Okavango swamp. Yields are typically three times higher than those generally obtained from dryland farming (RoB, Rural Development Council, 1985, p.20).

Commercial irrigated agriculture is beyond the reach for most subsistence farmers because most rivers in the Botswana are ephemeral in nature and therefore can not be effectively used for irrigation. Of the perennial rivers that show some potential are the Chobe, the Okavango system including the Boteti River, and the Limpopo, which often becomes merely a series of pools during the dry season. Borehole extraction is also possible from the sand rivers which flow sporadically but which store substantial amounts of water in the sand bed during the rainy season. These are mainly situated in eastern Botswana and flow into the Limpopo, eg. the Tati, Shashe, Motloutse and Lotsane rivers. Boreholes are expensive to run and maintain and therefore generally restricted to human or livestock use, or used on an extensive scale for arable cash crops in the freehold farm areas only. The topography of Botswana is generally unsuitable for dam construction on any scale. A possibility exists for small scale dams in southern areas but these would have a small

catchment area able to irrigate only 5-10 hectares (Wiles 1983, p.11).

The low level and unpredictable nature of rainfall in Botswana makes it unlikely that HYV seeds will be adopted on a large scale, because one of its main requirements for success is an abundant supply of water.[3] Developing improved seed varieties which are both drought resistant and responsive to fertiliser has been largely disappointing, and for Botswana, any strategy for dryland farming will necessarily involve modifying the plant to fit the environment rather than the other way around (Norman 1983, p.63).

The use of HYV technology and improved techniques on large scale, highly mechanised and irrigated farms in the Tuli Block area could increase cereal production levels and lessen the need for imports. This has not happened however because the free movement of highly subsidised South African grain (due to Botswana's membership of the SACU) makes domestic production uneconomic.[4] Most farms in the Tuli Block (including state owned farms) therefore grow vegetables or citrus fruits and have their main markets in South Africa. The adoption of a policy that would encourage a switch to cereal crops would have to set minimum producer prices at a level to provide an adequate support for the traditional dryland farmer, which would effectively mean that the irrigated farms would be highly subsidised and uneconomic when compared with the cost of importing grain from South Africa.

[3] With the notable exception of countries such as Kenya and Zimbabwe, the introduction and use of HYV in Sub-Saharan Africa has not taken place on any serious scale and even in Kenya, agricultural output has been poor in recent years. See the papers by Thirtle (1988) and Lawrence (1988).

[4] Most commercial cereal production is therefore grown under rainfed conditions which although it has lower yields, also has lower input costs. Access to cheap cereal grains from South Africa tends to benefit the poor in times of drought (when domestic production can fall dramatically) yet is a disadvantage during periods of above average rainfall when surpluses may be produced. This is one reason for the grain purchasing strategy of the Botswana Agricultural Marketing Board, which is examined in Chapter 7.

Irrigation on any large scale will not be possible for some time to come and this leaves us with the fact that the majority of farmers will still be reliant on rainfed (i.e. dryland) agriculture for the foreseeable future.

Climatic and environmental factors play an important but not exclusive role in determining the nature and extent of rural poverty in Botswana. Several studies have drawn attention to the fact that though periodic drought is not a new phenomenon in Botswana, the available evidence suggests that it did not produce the degree of social differentiation that can be witnessed today (Schapera 1943, 1947, 1970; FAO 1974; Parson 1974; Parsons 1977; Cliffe & Moorsom 1979; Picard 1980, 1981, 1987; Brown 1983; Watanabe & Mueller 1984; Cliffe et al 1988). Rather, they stress the importance of the unequal access to sources of income and productive assets that so characterise modern Batswana society, as being the major contributory factors to rural poverty.

With the arid climate of Botswana making arable agriculture a risky business in all but exceptional years, the most productive asset held has always been livestock. The ownership of cattle, however, is becoming increasingly skewed, with just 5% of rural households holding half the national herd by 1974 (RoB, CSO, 1977, p.111).

In the Rural Income Distribution Survey (RIDS) of 1974, households with more than 40 head were found to own 64% of all cattle. More recent agricultural surveys in 1980 and 1981 by the Ministry of Agriculture found even higher proportions of total cattle numbers in larger herds: 76% of cattle in herds of over 40 head and 62% in herds of over 60 head. Colcough & Fallon, writing in 1983, found income directly correlated with cattle ownership, and that figures on cattle distribution may be used as a

proxy for social differentiation (Colcough & Fallon 1983, p.127-153; RoB, CSO, pp.97-100).

With the drought viable herd size estimated at 20-25 head,[5] the RIDS survey of 1974 found that 80% of rural households held less than 21 cattle (RoB, CSO 1977, p.55). The cash viable herd size has been estimated at between 30 - 40 head so it is clear that only a minority of cattle owners benefit from the low taxation and high subsidies going to the industry (Carl Bro International 1982). Moreover, there is a growth in both relative and absolute terms of the number of households owning no cattle at all. Table 2.4 below shows the proportion of

TABLE 2.4: PROPORTION OF RURAL HOUSEHOLDS PARTICIPATING IN ARABLE AGRICULTURE WITHOUT OWNING OR HOLDING CATTLE (1968-76)

Survey Year	No. of Agricultural Households (1)	Owning no Cattle	Holding no Cattle
1968-9	48000	N/A	29%
1970-1	52000	25%	23%
1971-2	64000	32%	30%
1974-5	80000	37%	32%
1975-6	80000	N/A	36%

Notes: (1) Estimate of the number of households which engaged in agricultural production in each year, as given by each survey.

Sources: RoB, MoA, *The 1968-69 Agricultural Survey, 1970*, p.30; *The 1970-1 Agricultural Survey*, 1971, p.29-30; *The 1971-2 Agricultural Survey*, 1973, p.53-4; G.C. Bond, *A Report on Livestock Marketing*, 1975, p.3; *Agricultural Statistics, 1977, 1978*, p.19.

[5] Vierich (1979) estimated the drought viable herd size at 22 head. Bailey (1983) however puts the size of herd required for full independence in oxen draught power as 35-40 head.

rural households without cattle during the period 1968-76, but still participating in arable agriculture, according to the various surveys conducted during that period.

For the poorer households without cattle, anything less than good rainfall mitigates against participating in arable agriculture, and these households drop out of the survey. Therefore such a survey probably underestimates the total proportion of households without cattle. The difference between the two columns show that the current redistributive effect of the *mafisa* system is low (only about 2%). Moreover, although about 10%-20% of the national herd is held under the *mafisa* system (FAO, 1974, p.66) it is predominantly those families who already own cattle that benefit. The estimated total number of rural households not owning cattle (whether or not they are still participating in agricultural activities), is shown overleaf in Table 2.5 for the period 1970-81, again according to the various surveys conducted during the period.

Though the ownership of smallstock such as goats and sheep is much less skewed, with 75% of farming households estimated as having some smallstock in 1974-5 (RoB, MoA, 1978, Table 19), the number of smallstock held is positively correlated with the ownership of cattle (Konczacki 1978, p.86; FAO 1974, p.68). Smallstock are an important source of protein for rural households, especially for those without cattle, as they are more drought resistant. Where kept in large numbers however, they are exacerbating the problem of land conservation around the villages and watering places.

Livestock provides an important food supply. According to rough estimates the people in the Kgalagadi area consume 36.5 kg. per head per year from domestic animals and the consumption of milk is at least 200 litres per head,

presumably because of the shortage of cereals. During periods of drought all Batswana have historically relied on meat and milk for the major part of their diet. A corresponding estimate from FAO for selected East African countries is 11.8kg of meat per head. (Cole 1971, p.193).

TABLE 2.5: PROPORTION OF TOTAL RURAL HOUSEHOLDS NOT OWNING CATTLE (1970-1981)

Survey Type	Year of Survey	Percentage of households not owning Cattle
Agricultural Survey[1]	1970-71	30%
Rural Income Distribution Survey[2]	1974	45%
National Migration Study[3]	1980	50%
National Census[4]	1981	60%

Sources:

1) RoB, *Agricultural Survey, 1970-1.*
2) RoB, CSO, *RIDS*, 1977.
3) RoB, CSO, *The National Migration Study, 1980*, cited in World Bank, (1985), p.42.
4) Republic of Botswana/UNICEF, *The Situation of Children and Women in Botswana*, Gaborone 1986, p.43.

The middle and poor peasantry are reliant on urban incomes for maintaining their herds, but their cash inputs are seldom sufficient to enable them to increase their herds to the rich peasant level of more than 40 head (Hubbard 1983, p.89). The real benefactors in the industry are the freehold farmers, who enjoy considerable economies of scale. Numbering only about 360 families, they own about 15% of the national herd and supply 50% of the cattle entering BMC, but perhaps as much as half of these are purchased from others and fattened on the freehold farms (USAID 1976).

Hubbard suggests that there is a strong probability of substantially increased accumulation at the top end of the cattle distribution, especially during periods of drought, when cattle mortality amongst smaller herds is proportionately higher than in larger herds. Larger stock holders were much better able to sustain their herds through the drought periods of the mid-1960s, and so generate savings during the rapid rise of cattle prices during the period 1970-4, when Botswana gained access to the lucrative EEC markets. They were able to invest in water and stock, therefore increasing their relative control of land and proportionate ownership of the national herd (Hubbard, 1983, p.90). With ownership of livestock closely correlated to occupational status and wealth, Cooper attempted a definition of social class in Botswana in 1983. Table 2.6 overleaf shows these categories, with some additions by Hubbard in the same year.

Larger stockholders are also at an advantage when it comes to gaining access to credit for farm improvements. A paradoxical situation exists within Botswana's financial sector: while the commercial banks are laden with excess liquidity, most small businessmen and farmers without land as collateral can not get any or enough finance (Makgetla 1982; World Bank 1985, p.53).

According to the financial advisor to Barclays Bank (Botswana) Limited,

> "...97% of our farming advances are to commercial farmers and 3% to traditional farmers. We lend more to the commercial sector because of the availability of tangible security. The advances to commercial farmers are mainly tied into beef cattle production while a small proportion is for irrigation, dryland farming and others" (Seitshiro 1983, p.95).

TABLE 2.6: SOCIAL CLASSES DEFINED IN TERMS OF EMPLOYMENT, CEREAL PRODUCTION AND CATTLE OWNERSHIP

CLASS CATEGORY	ESTIMATED % OF HOUSEHOLDS	OCCUPATION TYPE	LANDS (CROP AREAS)	CATTLE
Very Rich.	5%	Freehold ranchers TGLP leaseholders	Cash Crops mainly exported to SA.	Very large herds, breeding ranches.
Rich peasantry	10%	Skilled and educated	15 to hundreds of bags. Surplus. Hired labour.	Herds of 40+ Hired herding.
Middle Income peasantry	50 - 60%	Semi and unskilled	15 bags or less. Household labour.	Herds of 1 - 40 Use of relatives' mafisa herd.
"Lumpen" peasantry and proletariat.	25 - 30%	Domestics, shop assistants petty self-employed and unemployed	Seldom have land.	No cattle.

Source: Adapted from Cooper, D. "How Urban Workers in Botswana Manage their Cattle and Lands: Selebe-Phikwe Case Studies", NMS Working Paper No.4, June 1980. CSO, Gaborone, with additions suggested by Hubbard, 1983, p.88. Note: Bags are of 50kg. size.

In a similar way, both the Botswana Development Corporation (BDC) and the National Development Bank (NDB), created primarily to serve the rural areas, have since their inception, come under criticism for failing to met the needs of the smaller farmer (*Botswana Daily News*, February 25, 1986). The BDC in particular remains heavily committed to large scale irrigated farming, and the whole of its P5.49 million investment in the agricultural sector in 1986 was confined to its own farms and ranches in the Tuli Block and Chobe areas, which together employ only 286 full time workers. BDC's funding in the agricultural sector in 1986 was just 9% of the Corporation's total investment (BDC 1986).

There are other structural reasons for the growing social differentiation in Botswana which relate closely to the nature and function of the State. We have already shown that the State has been instrumental in the process of commercialisation in the livestock industry and have suggested that this was because of the close economic relationship it has with the national bourgeoisie. This relationship also extends to the regulation of government wage and salary scales in favour of the urban elite and to the detriment of the rural poor. We will now examine the Government's incomes policy since Independence and its effects on the distribution of earnings.

In Botswana, inequalities of income and access to salaried employment can be seen historically as both a cause and result of an existing maldistribution of assets. Active racial discrimination in the selection of government employees by the colonial administration had created a two-tier system of salary scales, which were entrenched in line with those existing in South Africa by the early 1960s. Botswana thus inherited a civil service salary structure at Independence which was at the time one of the most unequal in Africa (Colcough & McCarthy 1980, p.184).

In the early years after Independence, the BDP appeared committed to a policy of reducing the prevailing inequality in formal sector employment, on the principle that all employees should be paid a minimum living wage, and that average rural wages should not lag behind minimum urban wages (RoB, *NDP 1968-73*, p.9). This policy was reaffirmed in the NDP 1970-75:

> "no employee...should be required to work for less than a minimum wage which enables him to clothe, feed and house himself and his immediate family sufficiently to maintain good health. In this respect minimum wages paid by Government in different areas for different

> work are intended as a guide for the private sector" (RoB, *NDP 1970-5*, p.13).

Wage Councils were established to take account of what would be a wage that would provide an acceptable standard of living for a worker and his family on the basis of available Poverty Datum Line (PDL) studies. The commitment to increasing income equality was confirmed in 1970 when a salaries review Commission reduced the salaries of senior Government posts by 7%. Increases were made in the lower clerical grades, but less than the cost of living increase since 1964. The only group to make a net gain were unskilled labourers (RoB, 1970).

Though Wage Councils established the need for minimum wage legislation in 1973, it was significant that no attempt was made to establish a minimum wage in agriculture. The previous year it had been declared that

> "there should be no statutory minimum wage covering <u>all</u> unskilled workers (RoB, *Government Paper No.2 1972, p.5*). (my emphasis)

In the election year of 1974, the government came under pressure to spend some of its newly found mineral revenues to pay for rapidly increasing urban housing costs, and also faced general elections in the same year. Unskilled manual grades received a 150% rise in wages, skilled manual and junior clerical grades received from 97% and 42% increases respectively, whilst Permanent Secretaries received 23%. The ratio of salaries at the top and at the bottom of the service was therefore effectively halved (Colcough & McCarthy 1980, pp.186-7). Since 1974, however, these income differentials have been eroded somewhat, with higher increases given to the more senior posts (Ibid., p.188).

In 1977 an official minimum rate was fixed for all formal sector employment, equivalent to 67% of the government's

own minimum rates. At the time this represented an increase of 43% for construction, manufacturing and transport sectors, and 100% in the trade and catering sectors, with rates in the mining sectors already above this minimum level (Ibid., p.270).

These developments, because they affected mainly urban and middle class salary scales, did not apply to the informal rural sector in which the majority of the population subsisted. It thus served to widen the urban-rural income gap still further, and seemed at variance with the white paper statement on incomes policy two years before, in which it was stressed that constraint would be shown in order to avoid a growing disparity with rural incomes (Colcough & McCarthy 1980, p.184).

The Government feared that the mining development might

> "give rise to a new group of unskilled employees in the modern sector of the economy with a standard of living substantially above that of the rural sector where the vast majority of the population must continue to seek their livelihood (RoB, *NDP 1970-5*).

This policy allowed wage levels in the rural sector to decline throughout the 1970s and early 1980s relative to those in the formal and public sectors. The income of those involved in herding cattle is a case in point. These herd boys, usually youths from poor families and with little or no formal education, are about 21,000 in number. They receive payment for their herding services in cash and in food. A study in 1984 found that cash wages of herders in the Southern District ranged from P0 (sic) to P35 per month, and that while some 83% received food supplements of some kind, the average wage rate was equivalent to about P25 per month, substantially below the lowest wage rate existing in the public sector (Jansen 1984). By comparison, the minimum *daily* wage for industrial class employees in mid-1987 was around P7.40.

This increasing divergence in incomes has been exacerbated by a regressive system of tax legislation since 1976-7, partly due to political pressure from increasingly articulate urban classes and the growth in strength of the civil service unions. According to the study by Colcough & McCarthy, those individuals earning over P10,000 p.a. enjoyed a reduction in tax during this period of around 10%. This tiny group controls a large proportion of the agricultural capital and are in receipt of perhaps 20% of the total personal income (Colcough & McCarthy, 1980, p.201). From this point of time onwards, income tax was no longer used in pursuit of income redistribution from the rich to the poor.

The lack of a statutory legal minimum wage in the rural areas can be explained, at least in part, by the resistance that would undoubtedly come from the larger cattle owners who collectively form the main power base of the ruling BDP (Borton 1984, p.13). A legally enforced statutory minimum wage would probably also have deleterious effects on levels of employment levels, already threatened by the current establishment of TGLP ranches.[6]

One of the major themes of this study, the importance of which we consider vital in identifying the root causes of poverty in rural Botswana, is the changing socio-economic role of livestock. Apart from its traditional role as a source of social status and prestige, cattle ownership in Botswana has always had important productive and ecological linkages within the arable sector in that it provided draught power for ploughing and kraal manure as a natural fertiliser. For many rural households livestock provided the only insurance against drought and crop failure. Herd size could be increased during years of high rainfall and good grazing, whilst in lean years,

[6] Fenced ranches require less hired labour as the movement of the cattle is restricted.

cattle can be sold for the purchase of imported grain or slaughtered for meat.

However, with the introduction of a cash economy and the growth of commercial markets during the Protectorate, there developed a fundamental change in the socio-economic role of holding livestock. With the continuation of this process of commercialisation after Independence, there emerged an increasing duality within the sector: whereas formerly the holding of livestock was integrated with the domestic subsistence economy, modern cattle raising is now increasingly undertaken outside the domestic economy as part of a commercial enterprise.

This duality is now characterised on the one hand by a growing number of subsistence farmers owning few or no cattle, and on the other, by new capitalist entrepreneurs with their own boreholes and increasingly, with their own freehold ranches. This process of commercialisation has provided a major contributory factor towards the gradual disintegration of community bonds and obligations (Raynaut 1977).

With these commercial pressures, the linkages that traditionally existed between livestock and arable agriculture are now being severed, along with the traditional redistributive mechanisms of *mafisa* and *majako*. As we have already seen in the introductory chapter, the *mafisa* system enabled non-owners of cattle to borrow draught oxen for ploughing, and also provided a source of milk for rural households. Because of the low level and variability of rainfall in Botswana, the key management factor in dryland arable agriculture is the ability of farmers to undertake timely operations for clearing land, ploughing, planting, and weeding, in order to make the maximum use of water available for plant growth. An FAO study of 1974 found that the timely access to draught oxen was a critical constraint to the size of land

actually cultivated and that those farmers with adequate draft oxen ploughed on average 70% more land than those without (FAO 1974, p.7). A World Bank report of 1985 noted that only 38% of all farmers owned enough oxen for ploughing, and that this scarcity is made worse by the prevailing high opportunity cost of using them as draught animals (World Bank 1985, p.79). Hitchcock's study of the western sandveld in 1978 revealed several cases of default in *mafisa* obligations by livestock owners existing over many years (Hitchcock 1978, pp.318-322).

Majako relationships and obligations (which involved a mutual exchange of labour and was characteristic of the pre-colonial cashless society) have also started to break down or develop into dependency relationships in a progressively differentiated society (Vierich & Sheppard 1980, p.43). Foodstuffs traditionally distributed free to the needy until quite recent times, such as milk and vegetables, are now commodities to be bought and sold as part of an ever increasing commercialisation of the economy (FAO 1974, p.16).

The sweeping land tenure changes introduced in the late 1970s and which form the basis for the future "rationalisation" of the livestock industry, now threaten the very subsistence base of rural society. In the next chapter we examine the ideological foundation of this Tribal Grazing Lands Policy, and its implications for those poor and marginalised groups it originally purposed to benefit.

b) <u>The Tribal Grazing Lands Policy</u>.

The introduction of the Tribal Grazing Lands Policy in 1975 was the first example of land use planning on any scale in Botswana. It also represented the first attempt to change the traditional communal land tenure in favour

of the establishment of commercialised ranches, run by large livestock owners and having exclusive rights to grazing and water within the boundaries of the land allocated to them. For this reason alone it is of great historical significance to the Batswana, and is in some respects a process similar to the enclosure of the Commons in England in the eighteenth century. It is also significant to the purpose of our study as it reflects the pattern of investment in livestock since Independence and the way in which owners of capital have sought ways of protecting their investment by securing exclusive access to land, water, and grazing and legal protection against encroachment by other herders. More than any other legislation since Independence, it illustrates the close links that exist between the government, the state bureaucracy, and the livestock industry.

The introduction of the TGLP was intended as a resolution of the contradiction that had arisen between the new forces of production as represented by the modern livestock industry, and the last vestiges of the traditional relations of production, as represented by the communal tenure of grazing land. This process, if carried to its logical conclusion, may result in the gradual disappearance of the independent existence of many minority ethnic groups in Botswana, and the further impoverishment of the broad mass of the rural population. (Cliffe & Moorsom 1979; Colcough & McCarthy 1980; Hubbard 1983, 1986).

The traditional expansion of cattle grazing areas in Botswana was through the geographical extension of a fundamentally unchanged system of cattle production. Before the introduction of deep boreholes in the Kgalagadi, for example, its use had been limited to seasonal grazing when rainwater had accumulated in the

pans.[8] This had enabled the range to recover during the dry season, when cattle were returned to the eastern hardveld.

The introduction of deep borehole technology in the 1930s, the formation of borehole syndicates, and the commercial development of the livestock sector removed the natural constraint of water availability and allowed for a rapid increase in the national herd after Independence. Theoretically, the borehole syndicates prevented no one from joining but in practise the high cost of borehole maintenance ensured that they were dominated by the larger herd owners, often with family affiliations with the chief and with growing political aspirations. In Kgatleng, those men who had sufficient education in the 1940s (i.e. were from families wealthy enough to send them to school) to train as borehole mechanics are all today successful business men and cattle owners. Such jobs conferred great prestige and a generous income in those days, close ties with the chief and the cattle owning elite, and represented one of the few means of gaining access to a cash income, in addition to the practice of commercial cattle husbandry. (Peters 1983, p.271-2). In 1979-80, nine out of ten councillors in Kgatleng District were syndicate members; two of them also owned their own borehole, as did the tenth member. (Peters 1983, p.314).

In Kgatleng District, where borehole syndicates were first established, conflict has often arisen over grazing rights around boreholes drilled near rivers. Around boreholes sunk near ephemeral or seasonal sources, grazing by "outside" (i.e. non-syndicate) herds is usually only temporary, but around the more permanent water sources other herds may graze for many months

[8] Naturally occurring land depressions which collect rainwater.

(which under tribal law they are perfectly entitled to do). This has however caused a conflict of interest with syndicate members who have sought to evict non-members through the Land Boards. (Peters 1983, p.292-3). Peters notes that in 1979-80 all five members of the Kgatleng Land Board had access to syndicate or private boreholes, and in a number of cases "their opinions clearly coincided with those generally favoured by syndicate members and private borehole owners". Peters 1983, p.316. A water point survey in 1981 found that in Eastern Botswana 60% of all boreholes were owned by individuals or syndicates. (Fortmann & Roe 1981, p.68)

During the initial formulation of the TGLP, it was proposed that the new land use plans offered the opportunity for syndicates to incorporate their *bahiri* (those herd owners who had traditionally grazed in the area and were buyers of water from the borehole) into the syndicate. This was firstly resisted by the syndicates who then proceeded to get rid of as many *bahiri* as possible, and borehole syndicates are now increasingly characterised by the exclusivity of their membership. The *badisa* (the traditional tribal herd overseers or guardians) responsible to the Chiefs for the regulation of the range had now become the private owners of the land themselves.(Peters 1983, p.285,339).

By the late 1960s, overgrazing (due to the concentration of large herds around the deep boreholes sunk by the colonial administration) had already resulted in serious land degradation and soil erosion in several areas of the eastern hardveld, where the majority of the population lived and raised livestock. Partly in response to the overcrowding in the eastern areas, the wealthier stockholders moved their herds west. The system of seasonal movement began to break down and the Kgalagadi began to be used all the year round, with attendant risk of overgrazing.

A team of consultants commissioned by the Botswana government in 1973, and whose recommendations on the establishment of commercial farming was to lead directly to the formation of a new Tribal Grazing Land Policy, observed that a land rush of sorts was occurring in Botswana through the allocation of borehole drilling rights (Masalila 1983, p.153). Whereas before the process of commercialisation began to develop, aggregate cattle accumulation did not impinge on the process of production, (being rather an essential element of arable agriculture), new and lucrative markets for beef had now begun to alter the social relations in land.

The consultants went on to note:

> "It is true that the present legal, administrative and economic system has a built in bias in favour of those who are already better off while neglecting or impeding others. Those who are better off are able to establish themselves with boreholes, exploiting the communal tenure system to obtain free and virtually exclusive access to grazing, while those with smaller herds are confined to overgrazed areas where each man competes with his neighbour for a diminishing resource... agricultural extension is enmeshed in a system which services a small privileged clientele to the neglect of those whose need is acute" (Chambers & Feldman 1973, p.3).

A contradiction had arisen between the existence of communally held land and privately owned cattle which the system of syndicates, with their open form of membership, could not hope to solve. While the tendency to enlarge herds as an insurance against drought made economic sense on an individual basis, the totality of these individually sensible actions was producing a social and ecological crisis. Such arguments form the basis of the "Tragedy of the Commons" paradigm popularised by Hardin, and focuses on the concept that communal grazing lands

inevitably creates a conflict between private and social interests:

> "Ruin is the destination towards which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all" (Hardin, 1968, pp.1244-5).

The root of the contradiction lay, not in the private ownership of livestock (which was seen, not in its historically specific context, but as something wholly natural and universal), but in the communal ownership of land. Hence:

> "An asset commonly owned is economically inefficient in that it tends to be over-used, unlike assets subject to more restrictive property rights...a good which is free for the individual becomes a scarce good for the society. Sooner or later it will be imperative to regulate the use of common pasture, if that use is to continue" (Konczacki 1978, p.54-55).

The solution, at least as the team of consultants saw it, was to regulate the use of the communal grazing lands by encouraging the process of commercialisation. By zoning some areas of the country commercial, and leaving others reserved for communal use, the regulation of grazing land thus became synonymous with privatisation. It was envisaged that rangeland improvements would henceforth be undertaken either by entrepreneurs, or by government agencies within a national development programme:

> "a basic principle of any effective land and livestock policy must...be the identification of individual stockholders of groups of stockowners with exclusive rights to particular land surfaces (Chambers & Feldman 1973, p.124).

The weakness of Hardin's argument is that it makes *a priori* assumptions about the nature of pastoralists and paints them as profit maximisers, without regard to other

pastoralist groups or even that group of which they are members. Several studies have shown that the ideological basis of the "Tragedy of the Commons" theory is unhistorical and not based on empirical evidence from pastoralist societies. One of the main points of the theory concerns the apparent reluctance to control livestock numbers, with the risk of overgrazing and range degradation. Maximising herd size in good years and accepting the risk of stock losses in drought years may be in fact be a economically rational strategy in a drought prone environment. A larger herd is more drought resistant than a smaller one and can recover faster with the onset of the rains. (Oxby 1975, p.7; Livingstone 1986). For the first few years after a period of drought, cattle populations can increase at the rate of 26% per annum, though in more normal years the average rate is around 11%. (Sandford 1983, p.76). While the consensus appears to be that serious range degradation has occurred around many deep boreholes, it does not necessarily follow that a communal form of pastoralism is ecologically unsound. Sandford (1983, pp.13-14) notes that it is very difficult to assess the range carrying capacity and optimum level of stocking so as to avoid range degradation, and Dahl & Hjort (1979, p.40-41) found that pastoralists in Botswana generally felt that range degradation was not due to overgrazing but rather a cyclical phenomenon that occurred during periods of drought.[9]

A second criticism of the "Tragedy" theory is that it assumes that pastoralist societies have not, and can not, devise or impose appropriate rules of behaviour on their individual members. However, complex rules regarding livestock exist not only in Botswana but all over sub-

[9] Neither in the USA or Australia have systems of property rights akin to private ownership led to a control and stabilisation of livestock numbers at the level at which range scientists believe to be right. (Sandford 1983, p.17, 122).

Saharan Africa in relation to marriage, inheritance and land use which shows that this is a false assumption. Past and present societies have successfully regulated the grazing of the commons (Hubbard 1983; USAID 1986). One example of such regulation is among the mainly pastoralist Dassenech of South West Ethiopia, where livestock populations are kept stable by regular slaughtering. (Sandford 1983, p.121).

The plight of the Turkana pastoralists of northern Kenya has been cited as being representative of the "Tragedy of the Commons" paradigm in an East African context. Having a similar climate and erratic rainfall patterns to Botswana,[10] Turkana District has some of the driest and most drought-prone areas south of the Sahara. As a consequence, the semi-nomadic pastoralists of Turkana face many of the same problems as those of the marginal farmers and cattle herders in and around the Kgalagadi Desert of Botswana.[11]

Like the Batswana, the Turkana peoples have a high rate of population growth, and this is combined with expanding livestock herds which could, it has been argued, lead to the depletion and destruction of the natural resource base, eventually causing widespread desertification, poverty and prolonged famine. Such fears have served to justify the movement and settlement of some Turkana clans away from their traditional grazing lands, and the creation of large scale commercial ranches.

However, there seems little evidence that traditional Turkana land use practices are inherently destructive to

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[10] About 96% of Turkana is very arid and around 58% of the district has an average rainfall expectancy of less than 400mm per annum. (WFP/FAO et al, 1988a, p.18.)

[11] In the drought period of 1979-80, it has been estimated that up to 80% of all stock perished. (WFP/FAO et al, 1988a, p.60). WFP estimates in 1984 indicated that some 57% of families in the district had already suffered destitution to varying degrees, whilst the balance of 43% held stock at a level of high drought susceptibility. (WFP/FAO et al, 1988a, p.55)

the environment.(WFP/FAO et al, 1988a, p.43.) Turkana pastoralism is well adapted to the low ecological potential of the region, and also exhibits risk-sharing techniques similar to those that exist in Botswana, such as herd mobility, split-herd management and mutual support networks. (WFP/FAO et al, 1988a, p.45) The mobility of the Turkana herds can be considered fundamental to the self-sufficiency of the pastoral system and it is when this mobility is restricted by settlements that the surrounding area becomes more susceptible to drought and erosion. Even here, recent survey work indicates only limited damage in the vicinity of settlement concentrations. (WFP/FAO et al, 1988a, p.45)

In Botswana itself, Schapera documents such regulation of the commons in Tswana societies (Schapera 1943, Ch. XII). The traditional pastoral system on communal land did have fairly well demarcated areas for each group of pastoralists, with livestock from other groups restricted in access to grazing and water. However, reciprocal arrangements were made with other groups to share grazing and water in cases of emergency such as the drying up of a water supply. This allowed for considerable flexibility in times of stress or disease. (Sandford 1983, p.116). Devitt's study of Botswana in 1982 also argues that communal grazing can exist with some control over range and livestock numbers, and that it is only by maintaining traditional forms of land tenure that the interests of the poorest may still be preserved (Devitt 1982). Where rainfall is unreliable in both time and space, livestock need to be able to wander over huge areas of land to wherever grazing is better at a particular time, and any restrictions on such movements by fenced ranches can only harm the smaller herd owner.

Alternative tenure systems have been put forward for Botswana's communal lands. Reynolds, writing in 1977,

suggested that tribal grazing land be turned over to a public company in which each tribesman would have a single inalienable share (Reynolds 1977, p.12-19). The company would assess each year the grazing potential and then auction off the grazing rights. In this way the land would earn an economic rent which would accrue, through dividends, to the traditional holders of grazing rights whether or not they actually owned cattle. Such an economic rent would have to be very low as land at the moment is seen as a free good. If land was divided up individually, holdings would be economically small, a market in land would develop, and land ownership would soon become as skewed as is cattle ownership at present.

But the communal tenure of land in Botswana has been criticised not only on ecological grounds. It has been argued that the private control of resources is inherently more productive than communal control and for an example of this we need only look so far as the freehold farms, which supply most of the export quality beef to the BMC. However, this argument is rejected by Hubbard, who found that in 1979-80 most freehold farm herds exhibited no significant superiority in herd productivity (in terms of unit cost) compared to communal herds of comparable size. Only the few largest freehold farms were clearly more productive, and these clearly had economies of scale when it came to using advanced breeding techniques. It is farm size not the system of land tenure that determines productivity differences and effective innovation (Hubbard 1982, p.62-74).[12] This view is supported in a later study by Mazonde, who observed that productivity of the fenced Tuli Block freehold farms was no higher than that at cattle posts on communal lands. Also, many freehold farmers had still not reduced the level of overstocking.(Mazonde, 1987, pp.12,338,342).

[12] Productivity was measured in terms of unit cost of production.

In most pastoralist societies, where capitalist and traditional systems are compared in terms of the dietary calories which they produce for human consumption, results tend to favour the traditional. Commercial ranches use less labour while traditional system feed their labour directly through the produce of the pastoral enterprise, particularly in the supply of milk. (Sandford 1983, p.123; Mazonde 1987). In monetary terms however the reverse is probably true, though Sandford notes that this may be because the capitalist enterprises have through the political process or manipulation of the marketing system, managed to gain access to higher prices for their output. (Sandford 1983, p.123). In Botswana's case, this would certainly apply to the larger herdowners' access to the EEC market.

The World Bank, which was responsible for the financing of Botswana's TGLP and similar commercial livestock projects elsewhere in the sub-Saharan region, has stressed that

> "the key factor determining the efficiency of an enterprise is not whether it is privately owned but how it is managed" (World Bank 1983; Mosley 1987, p.39),

although operationally the World Bank has usually equated efficiency with privatisation. As we will see later in this section, TGLP farms have been usually run by absentee owners and few have adopted significant managerial innovations (Odell 1981). Sandford (1983, p.139) considered that most TGLP ranch holders were "incompetent" farmers.[13]

The TGLP was heralded not only as a way forward to increase the productivity and carrying capacity of the

[13] Hitchcock found that in Central District, only 65% of water points (85% of which were boreholes) were functioning, with 19% completely abandoned and 16% temporarily broken down. (Hitchcock (1978), pp.143-75).

range, but also as a way of redistributing the benefits to be derived from the livestock industry, as it would encourage the wealthier stockholders to quit the overgrazed commons altogether. The TGLP was first announced in 1975 by the late President Sir Seretse Khama, who pointed out that the overgrazing problem was not only causing damage to the fragile ecosystem of the Kgalagadi, but that it threatened the very fabric of tribal society:

> "What is worse is that it is leading to a widening gap between the rich and the poor...this trend is totally against our national principle of social justice. If development does not benefit all of Botswana, it is not the kind of development we want (Khama 1975).

The TGLP promised on the other hand

> "to stop overgrazing and degradation of the veld; to promote greater equality of incomes in the rural areas, and to allow growth and commercialisation of the livestock industry on a sustained basis" (Chambers & Feldman 1973).

It also promised

> "...improved grazing and livestock management, much more money, better distributed to more people (RoB, *Government Paper No.2*, para. 10, p. 11 and Title of Part III, 1975).

The TGLP was thus launched with the avowed aims of maintaining the carrying capacity of grazing land, improving herd management techniques, and reducing the excessive inequality in the distribution of cattle ownership and income. It established for the first time an integrated land use plan as a part of an overall development strategy, and set in motion a whole series of investigative surveys and legislative actions (Masalila 1983, p.154).

It was considered that improved range management could not be introduced on communal lands, and the possibility for increases in productivity was limited to the freehold and leasehold ranches. The original plan called for the demarcation of tribal grazing land into three zones, namely commercial, communal and reserved areas. One of the central tenets of the TGLP was that the commercialisation of certain areas of tribal land would foster in the mind of the individual commercial farmer an appreciation of the need for conservation and improved range management, together with an appropriate level of stock ownership. The farmers would move out of the communal areas altogether and thereby ease the overgrazing problem, allowing the remaining smaller herd owners to increase their own stock. As a result of the declaration of the TGLP, a nationwide zoning exercise was conducted with newly appointed District Officers (Lands) attached to the District Administration carrying out surveys and drawing up tentative land use plans and maps. Data was collected primarily on water source distribution and the nature of the grazing available. It was recognised that certain safeguards had to be established when zoning commercial areas.

The District Land Boards were therefore instructed to:

> "decide how much land is left for commercial development after taking into account communal, reserved, and national needs...it is also essential that Land Boards should bear the interests of the poorer people constantly in mind, especially when considering how much land should be reserved for future use, when working out ways to help groups of smaller stockholders, and in collecting rents to use in developing the communal areas (RoB, *White Paper 1975*, sections 11 & 17). (my emphasis)

In the commercially zoned areas, which it was anticipated would comprise about 10% of the total areas demarcated, land would be provided for around 700-900 leasehold

ranches, each of 6400 hectares (64 sq. km. or 25 sq. miles). Individuals or groups would have exclusive rights to grazing and water, herd ownership would be controlled and modern management techniques encouraged. For this to be effective, commercial farms would need to be fenced - itself a departure from traditional tribal tenure which forbade the erection of fences as land was inviolable and the common property of the tribe.

That the concept of private control land was still alien to most Batswana up until as late as 1970 (i.e. three years before the White Paper of 1973) is shown by the following extract from a speech made by Quett Masire, then Vice-President, now President of Botswana:

> "we should agree that whilst individual fencing of grazing is quite indefensible, communal fencing should not only be permitted but encouraged. If the people who live in a particular area are willing to co-operate in the erection of fences leading to communally organised grazing control, much larger numbers of cattle may be safely accommodated within a given area (Masire 1970, quoted in Hitchcock 1978).

What makes this speech rather remarkable is that President Masire owns freehold farms himself, including one of 50,000 hectares (123,550 acres) in the Ghanzi Farms Block (see Map 1). It appears that until the TGLP was formally introduced, though it was not acceptable to fence communal land, owning and using communal land privatised by the previous colonial administration was.

In the communally zoned areas, individual herd size would be limited to improve range management and groups of farmers encouraged to develop water supplies. The rent collected from the commercial farms would be used to help develop the communal areas, and was thus seen as a means of reducing the existing income disparity between the two groups of stockholders.

The TGLP guidelines stipulated that certain areas of communal land be set aside for future use. In these reserved areas,

> "suitably large areas of grazing will be reserved and guaranteed for future use by those who only have a few cattle at present." These reserved areas were to be set aside as a "safeguard for the poorer members of the population" (RoB, *Government paper no. 2* (1975), p.6-7). (my emphasis)

In 1978, a meticulously detailed survey was carried out on the TGLP by Robert Hitchcock, then an official working in the Remote Area Development Programme of the MLGL. The survey was based on the Western Sandveld of Central District, the largest commercially zoned development area in Botswana. His findings cast considerable doubt both on the developmental aspect of the Policy and its claim to be helping the poorer stockholder (Hitchcock 1978, p.388). Hitchcock's basic criticism of the initial zoning exercise was that the District planners had neglected to demarcate the reserved areas, choosing to leave them "blank" and intended for future demarcation as either commercial or communal areas. The "safeguards" had thus been dispensed with. This criticism was justified, when five years later, the future Permanent Secretary of the MLGL Ambrose Masilila noted that no land whatsoever had been zoned as reserved (Masalila 1983, p.155).

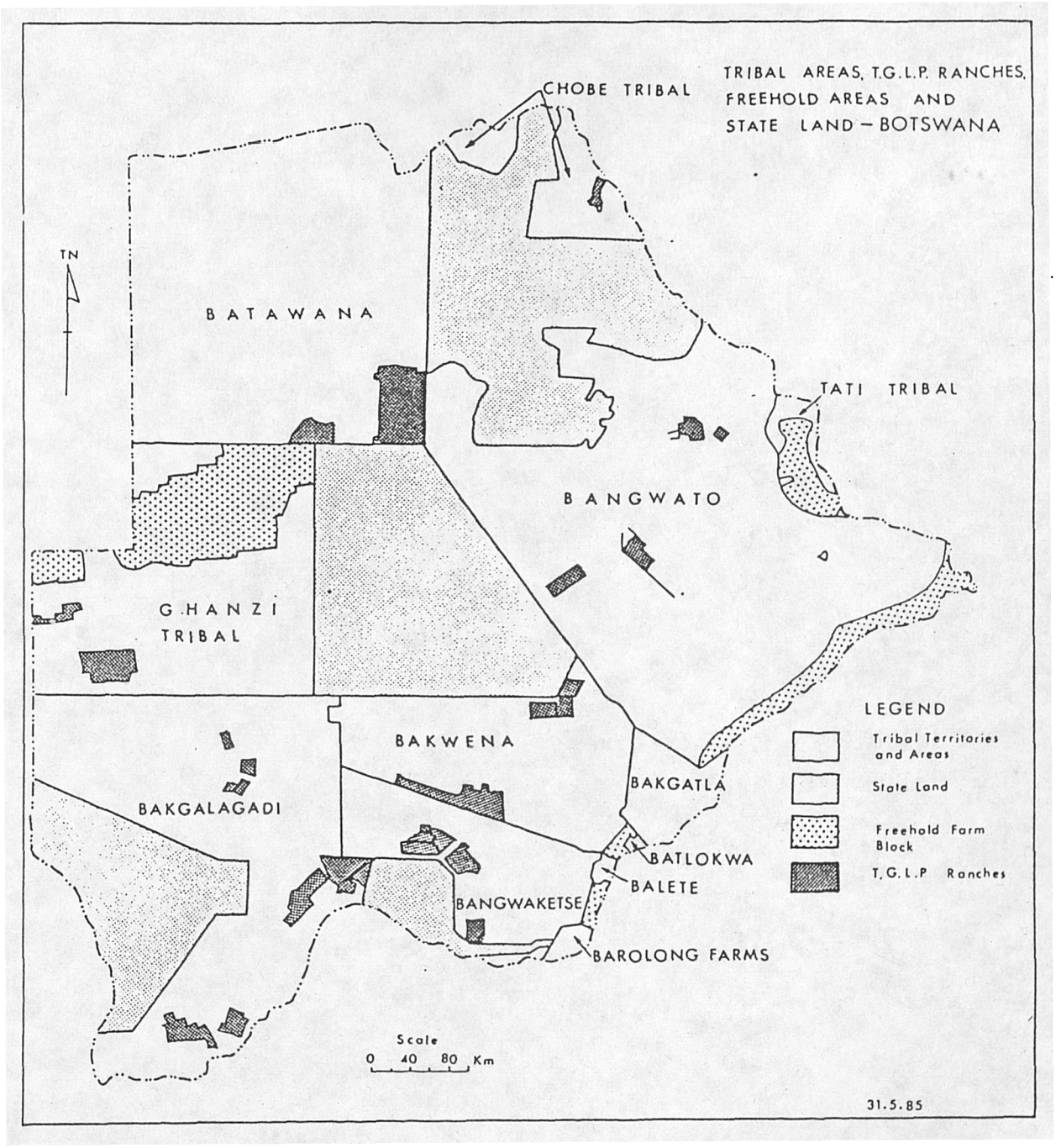
Hitchcock showed that it was obvious from an early stage of the zoning exercise that one of the main assumptions of the TGLP was incorrect: far from being completely unused and devoid of water, the proposed commercial areas of the western sandveld were already occupied and held many water sources. A later analysis (1981) of the allocation and leasing situation under the TGLP confirmed that Hitchcock's earlier findings held true for other areas of the country: the majority of the areas demarcated as commercial ranches were already grazed

communally both by the applicant for the lease and other, smaller farmers. The areas also contained substantial numbers of hunter gatherers, mainly *Basarwa* (Hitchcock 1978, p.6).

Hitchcock's report found that most of the government and local council boreholes drilled in the 1960s had been handed over to private individuals. At the time of his report, less than 5% of the total number of boreholes were owned by Government or Council (Ibid., p.192). This is confirmed by the USAID study of 1986 (USAID 1986, p.107). Writing in 1980, Colcough & McCarthy found the distribution of boreholes in the Western Sandveld highly significant. The fact that they are conventionally not sunk within 8 km of each other, meant that each borehole effectively controlled over 60sq. km. of grazing land. Thus between 1971 and 1974, no more than 500 individuals acquired *de facto* grazing rights over nearly a quarter of the whole of Central District (Ibid., p.117). The TGLP was serving to provide these farmers with *de jure* rights to the grazing land they already had exclusive use of. Since the Government had no intention of depriving anyone of his or her borehole, farmers with pre-existing water sources were deemed to have de jure commercial rights to their land held de facto already (Masalila 1983, p.155). Existing land now demarcated as commercial is shown on Map 2 overleaf. Hitchcock (1978, p.399) found that most of the water source owners were wealthy with large herds, and significantly, some held high positions within Government service. All were non-resident farmers (Ibid., p.206). This gives some credence to our proposition that the state is not an impartial arbitrator in the development process, and to Picard's remarks to the effect that the State in Botswana functions as the vanguard of the national bourgeoisie:

> "From the results of a study in 1975 of the attitudes of civil servants toward the proposed new land policy (TGLP), it was clear that

Map 2: TGLP Ranches in Botswana.



> bureaucrats understood their socio-economic status and the extent to which they would or would not benefit from policy positions" (Picard 1980, pp.313-356).

The naive assumption that the areas to be zoned commercial were in fact virgin land and devoid of water was in itself a serious omission of the TGLP. It was estimated in 1985 that in Kgatleng District alone, approximately 20% of the cattle owners had de facto control of 64% of the total grazing area because they had sole access to water from boreholes. (NIR, 1985). With water such a valuable commodity in an arid climate, its exclusive control by individuals can effectively deprive others of their means of subsistence. (Sandford 1983, p.64; Arntzen 1984, pp.38,95-108)

Another criticism mentioned in the 1978 survey concerned the proposed "developmental" aspects of the TGLP, and designed specifically to help the poorer farmers. This stated that the rent from the commercial areas should be used to help develop the communal areas (RoB, 1973).

However, as the rent was fixed at a sub-economic rate of P0.04/ha. per annum, or around P256 per ranch (Hubbard 1983; World Bank 1985), and would not be collected for the first three years of the lease (to allow individuals to develop their ranches) this would have a negligible developmental impact on the communal area farmers (Hitchcock 1978, p.8). In practice, the lease for TGLP ranches comes very close to being freehold in so far that non-payment of rent is not a condition for cancellation of the lease.

As Hitchcock points out, most anthropological studies agree that the *Basarwa* still maintain clearly defined territorial rights which are recognised by the various hunter-gatherer bands (Hitchcock 1978, p.243 & 246), and that contrary to public opinion in Botswana, mobility is

not dictated by the movements of game. Groups tend to stay in limited areas where the various sources necessary to sustain them can be found (Hitchcock 1978, p. 236).

Ignorance of the hunter-gathering lifestyles of the *Basarwa* has led many Government officials to see them as purely nomadic by nature without the need for established land rights or usage. The Litigation Consultant for the Attorney General's Chambers, for example, made the following statement in a reply in 1978 to a letter of enquiry from the MLGL (Hitchcock, 1978, p.242):

> "The right of the *Masarwa* to hunt is, of course, very important and valuable as hunting is their main source of sustenance...without much clearer information it is impossible to give a confirmed opinion about the *Masarwa*. Tentatively, however, it appears that the true nomad Masarwa can have no rights of any kind except rights to hunting."[14] (my emphasis)

This statement is indicative of the type of treatment the Basarwa may expect to be given by commercial farmers once the TGLP is fully implemented. In fact there are very few "pure" hunter-gatherers left in Botswana, and most Basarwa have now adopted a semi-sedentary lifestyle in cattle post areas where they are employed as herdsmen by the water source owners. A major reason for this development towards a more sedentary existence has been the impact of increased stocking rates on wildlife and wild plant food resources. There appears to be a correlation between increased stocking rates and a reduced incidence of hunter-gathering: as perennial grass species are grazed out by cattle, they tend to be replaced by annual species as well as by woody shrubs and trees which displace the herds of game.(Hitchcock 1978, p.269).

[14] The term "Masarwa" is generally considered derogatory to the Basarwa.

Another factor influencing the availability of game to traditional hunter-gatherers has been the erection of cordon fences, particularly since the 1970s, when Botswana gained preferential access to the EEC market. Since beef imported into EEC member states must be certified free from Foot and Mouth disease, the whole of the country has been divided into stock control zones. This has had severe effects on the movement of migratory wildlife, particularly during the drought when animals will travel many kilometres to waterholes, only to die a lingering death impaled on the cordon fences (Hitchcock 1978, p.269; Owens 1985; Ross 1987, pp.228-230).

Hunting and gathering is still carried out by the *Basarwa* (and other Batswana) but on a more limited scale, and is no longer the main source of sustenance. It is combined with small scale arable farming at the cattle posts using kraal manure for fertiliser.

Hitchcock found that of these residents in the cattle post areas, less than 1% own herds of an economically viable size (i.e. less than twenty head) and 75% do not hold any livestock whatsoever, a much higher figure than in the RIDS survey of 1974 (Hitchcock 1978, p.402). He noted that cattle post owners were reluctant to let their animals be used for ploughing, and that in two cases herders had been beaten for doing this (Ibid., p.324).

Basarwa cattle post employees in the Western sandveld earned on average less than one fifth of urban wage labourers (Hitchcock 1978, p.315) and in many cases payment was irregular, with 23% of those interviewed by Hitchcock having received no payment at all for six months (Ibid., p.320). In some cases an existing symbiotic relationship between cattle post owner and the *Basarwa* had degenerated into a master-serf situation and the residents receive no payment for their labour save the milk of the cattle they look after. Hitchcock (1978,

p.318) found two cases where parents had had children forcibly taken from them by the cattle post owner, presumably for use as domestic servants.

Virtually all of the cattle post owners interviewed by Hitchcock said that they wanted to reduce the number of people on their ranches once they got leasehold rights. Fewer numbers would be employed and more use will be made of skilled outside labour (Ibid., p.330 & 376). Many said they wanted to evict "squatters" off the land. Others said they wanted to make their employees live outside the ranches, coming in only for labour:

> "Practically none of the water source owners said they would allow their employees to keep livestock on the borehole or to grow crops there. What this means in essence, given the fact that few plan to do any improvements on the ranches, is that the primary reason water source owners want a lease under TGLP is so that they can force people off the land" (Hitchcock 1978, p.380).

Thus the TGLP decision to give exclusive access rights to water sources on the individual ranches appears to have be at odds with the White Paper statement in 1975 that:

> "No commercial lease will be given over any existing borehole until satisfactory watering arrangements have been made for owners of all stock currently using that borehole if any of them are to be excluded from the commercial lease (RoB *White Paper, 1973*, 14, para 42, rule i).

By 1980, the need for some protection for those threatened with eviction was recognised. In some cases there was dezoning of individual ranches from commercial status where contesting claims to the land made compensation too thorny an issue. However, in these cases, opposition usually came from competing stockowners rather than from the *Basarwa*. Where compensation was paid

it was usually in kind (by allocating land elsewhere), though some payments were made in cash by the Land Boards. These payments ranged in size between P40 and P370 for outright dispossession (Picard 1987, p.256).

If we hold as our premise the view that development in its broadest economic sense should be synonymous with the elimination of poverty and deprivation, wherever it exists, and that development efforts should be directed primarily at the welfare of the poorest sections of society, then the TGLP has had a negative effect on development. Instead, it has been a costly experiment in land planning designed by and on behalf of, the wealthiest livestock holders in the country.

The World Bank financed Livestock II Development Project which established the TGLP cattle ranches on a leasehold basis, cost some P8 million between 1978 and 1984 (Holm & Morgan 1985, p.469), and may be seen as one form of aid targeted more at the rich than at the poor.

The main aim of the TGLP, which was to move the larger cattle owners out of the overcrowded communal lands, has not been met (Hitchcock, p.156). Rather the opposite has been the case: the larger owners have been given their own private pieces of communal land, complete with borehole, whilst the smaller stockholders not having leasing rights have been effectively displaced by being denied access to water. These displaced farmers often have no other recourse than to move back to the already overgrazed communal areas (Hitchcock 1978, p.9).

The experience over the period since TGLP was first implemented has shown that the primary problem of overgrazing and range degradation has not been solved, either in the communal areas or on the commercial ranches themselves. No effective stocking limits were ever introduced for the commercial ranches. Legally the

ranchers are supposed to limit their herds to 400 cattle and the government had the right to impound cattle above this figure. However, this has never been implemented. Because the TGLP farmer still has formal rights of access to communal grazing lands, a common strategy has been for ranch holders to increase their herds and use ranch grazing only when communal grazing is poor or exhausted, or conversely, to start using communal areas when their own overstocked ranches are depleted.

The Permanent Secretary of the MLGL acknowledged in 1987 that this was a problem "as old as the programme itself", and was doubtful that the target of 1000 ranches would be realised because there had been a lot of dezoning as people object to the establishment of ranches.

By May 1987, a total of 337 ranches each of 64sq. km. had been established, 238 on tribal land and 99 on state land, of which 89 were situated in Ghanzi (*Botswana Daily News*, May 27, 1987). Those residents still allowed to remain on TGLP ranches now have no recourse to the tribal authorities when the owner's cattle damage their crops. As the land is now officially a grazing area only, no planting should have been carried out in the first place (Hitchcock 1978, p.349 & 356). This situation appears at variance with Botswana's avowed goal of promoting self-sufficiency in food production.

The communal lands element of the TGLP has not been particularly successful either, as this zone remains overcrowded and over grazed (as the larger herds which should have been moved permanently to the commercial areas are still allowed to graze there). There remains the need for a greater emphasis on land and water use planning that takes into consideration the fact that at least 45% of rural households do not own any cattle, and that almost two thirds of the total number of traditional farms, holding nearly half of the traditional farm land,

have between zero and twenty head of cattle (World Bank, 1985, p.42).

The TGLP is now popularly perceived as benefiting only a relatively small number of wealthy stockholders who have been successful in receiving the limited number of leases (Ibid., p.88). In essence, what the TGLP means for many present residents of commercial areas is that they could in all likelihood be forced to leave their present homes and that they will no longer have access to the ranch areas for their subsistence and production purposes. Far from reducing the gap between the rich and the poor in the rural areas of Botswana, the TGLP has the potential of increasing that gap and may, unless careful steps are taken, result in massive dispossession, increased dependency, and more widespread poverty.

Central to any development policy is the issue of the allocation of land and water rights. In Botswana, the development and utilisation of water resources can not be divorced from land use and development policies.
The uncontrolled private or public exploitation of water resources can have disastrous effects on fragile land resources and inevitably accelerate an unequal distribution of other resources such as cattle and land (FAO 1974, p.8). With a fixed resource such as land, one person can have more only if another has less.

The establishment of private ranches by the enclosure and fencing of common lands has included the expropriation of some residents who have previously farmed and grazed the areas prior to their demarcation as leasehold areas:

> "the policy's objective of bringing socio-economic development in rural areas has not been realised but has instead brought a form of dispossession and alienation from the land for the poorer segments of the rural population (Molomo 1986).

Although Hitchcock's warned that "literally thousands of people face the prospect of dispossession" (Hitchcock 1981), other studies do not see any reason for conflict:

> "..many of the cattle poor have fallen out of the rural economy at the same time as a handful of the cattle rich have risen out; the rich escaped the commons altogether, out to the Kgalagadi sands where only boreholes yield water. This is why there is so little hostility between the rural rich and rural poor in Botswana: the former's wealth is not extracted from the latter, but rather accumulates independently through the natural growth of cattle (Duggan 1983, p.130).

This is a crucial point. The change in the structure of land tenure represented by the TGLP has not simply left the poor behind in the development process, at a point where historically, they have always had to survive. Rather it represents, under the guise of a "rationalisation" of the industry, a direct attack on the very subsistence base of those very marginal groups it was ostensibly designed to protect. Those ethnic minorities living in the remote areas now scheduled as commercial are now faced with the possibility of total dependency on government welfare (in the shape of food handouts) for their very survival. Our analysis of the food aid distribution to these groups in Chapter Five illustrates how the government has failed to adequately respond to these needs.

The fact that few cases of outright conflict have been documented to date does not necessarily mean that none exists; rather it illustrates that those groups currently faced with the loss of their subsistence base have little political representation through which to voice their opposition. It also shows the essential fragility of the democratic process for these poor and marginalised groups. Hitchcock's survey of the commercially zoned areas of the western sandveld in 1978 showed that a very

real conflict of interests did in fact exist, but was rarely brought to the traditional court or *kgotla*. He found that in four cases, redress at the *kgotla* was impossible for the residents, as the cattle post owner was also the overseer at the court (Hitchcock 1978, p.368).

If we share with Nicos Poulantzas the view that power can be defined as "the capacity of a social class to realise its specific objective interests" (Poulantzas 1973, *Political Power and Social Classes*, p.104), then the following statement aptly describes the essence and significance of the TGLP, and the present pattern of economic development in Botswana:

> "We have had enough of "going to the people". Consultation takes too much time. We should abandon it. We need to go ahead. All this discussion and planning is getting in the way of development. *Basarwa*, if they are in the way, should be got out of the way so that we can put up our fences."[15] (my emphasis).

c) Rural Employment, Incomes, and the Impact of Drought.

In the previous two sections of this chapter, we examined some of the structural characteristics of rural poverty in Botswana, such as the distribution of productive assets, and emphasised that a major contributory factor of rural deprivation was the skewed ownership of livestock. We noted too the effect of the land tenure changes on marginal groups such as the *Basarwa*, and suggested that poverty has non-economic dimensions too, including inequalities before the law. In this section we examine how this unequal access to and control of productive assets is reflected in existing rural income and employment levels. We look at the nature and spacial

[15] District Official at a special LUPAG meeting in Serowe, 26 Jan. 1977 cited in Hitchcock, (1978), Introduction, p.xix.

distribution of rural poverty, and the cumulative impact of recurrent drought on livestock and agriculture.

At the time of Independence in 1966, Botswana was among the poorest countries in the world, with a per capita annual income of around US$80 (Borton 1984, p.6), and having virtually no infrastructure or skilled manpower to aid in its future development. The livelihood of more than 90% of the population depended on the underdeveloped rural economy, and a 1967-8 agricultural report found that some 10% of the population had no visible means of support whatsoever (RoB, *NDP 1970-5*, 1970, pp.12-13). Since that time, despite the rapid growth of the economy, the ownership of livestock has become progressively skewed, migrant labour opportunities have diminished, traditional redistributive mechanisms have all but disappeared, and the rural population has grown considerably.

With the country only recently emerged from a prolonged and severe drought, there is every reason to believe that the incidence and severity of rural deprivation has increased, not diminished, and that a significant proportion of the rural population are now dependent to some extent on government assistance.

There are at least two distinct interpretations of "absolute" poverty. The first is based on a definition of a nutritional norm, i.e. whether an individual has a sufficient intake of calories, proteins, and essential minerals, to maintain health, and excludes such things as access to public services such as education and health care (World Bank 1980; Oommen 1983, p.36). Though this definition is a very narrow one, relatively high levels of malnutrition amongst rural children even in non-drought years, would indicate that a fair proportion of

households could be accommodated even within this category.[16]

A second and less narrow definition, on which we will base our own interpretation of absolute poverty, uses the concept of a Poverty Datum Line (PDL), which indicates whether an individual has sufficient income to obtain a minimum "basket" of food, clothing, shelter, education and health care. This is the method used by the government of Botswana in its own surveys of rural poverty. Since 1980 such analysis has included the concept of an Income Gap Ratio, which measures how far, on average, the income of those in absolute poverty falls below the PDL. A ratio of 0.44 for example indicates that the average income of the group is 44% below PDL.

The latest national survey of rural poverty in Botswana available in published form is the Rural Income Distribution Survey (RIDS) conducted in 1974-5. Another similar study of rural household income is currently being prepared which will not only provide an updated estimate of rural incomes and their sources, but also examine the ways in which levels and sources of incomes have changed over the last decade. This is likely to be published some time in 1990.

As a consequence, much of the post-1975 data on incomes and employment used in this and subsequent sections is based on local studies and field observations, which are somewhat limited in value as they can not accommodate inter-regional differences in both employment opportunities and other income generating activities. These inter-regional differences are significant on two counts: the first is the variation in the resource endowment between districts, with rainfall higher to the north and east. Secondly, basic services, communications

[16] Malnutrition rates are examined in detail in subsequent chapters on the drought relief programme.

and formal sector employment opportunities are greater in the villages of the eastern hardveld and along the line of rail towns. By contrast, the western and southern areas of the country in and around the Kgalagadi are sparsely populated and lack much of the basic infrastructure needed for employment creation. However, as personal field observations were carried out in all regions of the country during the period 1985-7, the comments mentioned here can be considered indicative of general trends.

Watanabe & Mueller (1984, p.115) provided a profile of rural poverty in Botswana by the analysis of RIDS data, which was based on monthly surveys of 950 randomly selected households in 20 rural areas. They found a mean per capita income of $225 with a Gini co-efficient of 0.52%, indicating a high level of income inequality. The poorest 40% of households received 12% of total rural income, whilst the richest 20% received 58% of income (RoB, CSO, 1977, p.84-8). The per capita GNP in 1974 was $370 (see Table 2.1) which illustrates the danger of seeing GNP as an adequate indicator of either average income or overall social welfare.

Five groups of households were formed ranging from those which had less than 50% of the income required for a reasonable standard of living to those whose incomes exceeded this standard by 50%. This classification of rural households by income relative to basic requirements was based on the rural PDL developed by the Central Statistics Office in Gaborone. This PDL estimated the income requirements of the individual household for food, clothing, housing and durables, and took into consideration household size, sex and age composition. This was then compared with the gross income available to the individual household (including gifts and transfers) to obtain a Poverty Income Ratio (PIR) which indicated the degree to which individual households' income met its

basic requirements. The results of this analysis are shown below.

TABLE 2.7: RURAL INCOME DISTRIBUTION SURVEY (1974-75)

Poverty Income Ratio Categories	% households
1. Less than 50% of income necessary to meet Poverty Datum Line	22.2%
2. Between 50% and 74% of income necessary to meet Poverty Datum Line	15.5%
3. Between 75% and 99% of income necessary to meet Poverty Datum Line	17.2%
4. Between 100% and 149% of income necessary to meet Poverty Datum Line	19.6%
5. Over 150% of income necessary to meet Poverty Datum Line	25.5%

Source:

Based on Watanabe, Barbara & Mueller, Eva, "A Poverty Profile for Rural Botswana" in *World Development: Vol.12, No.12.* February 1984, using RIDS data.

Because of the possibility of some income being under-reported (estimated by the CSO at around 6%), Watanabe & Mueller suggested that category 3 comes close to meeting basic minimum needs, whilst categories 1 and 2 clearly represent genuine poverty groups. Watanabe & Mueller concluded from their analysis that the basic problem of rural poverty in Botswana was the maldistribution of assets (including human capital) available to the lower PIR groups. The proportion of households in the lowest PIR group not owning any cattle was 80% and 18% in the highest group, while the ownership of small stock was shown to increase with income status (Watanabe & Mueller 1984, p.118). A similar analysis of RIDS data by Colcough & Fallon in 1983 showed the extent to which household incomes were influenced by cattle ownership.

Cattle provided 13% of the income of the poorest group yet 40% of that of the richest groups. The difference in ownership of farm equipment was also very marked between the PIR groups, as income in excess of subsistence needs enabled individual households to acquire additional productive assets such as education, cattle and tractors.

Whilst not having an education did not necessarily condemn a household to poverty, having a high level of education greatly enhanced the chances of an adequate income (Watanabe & Mueller 1984, p.118). This appears to confirm our earlier suggestion regarding the strong links between education, public sector employment and ownership of livestock.

Though the poor in Botswana are not a homogeneous group of people, there are certain common characteristics which are mutually self-reinforcing and promote a perpetual cycle of deprivation. Most studies on rural poverty in Botswana consider that it is feasible to extend the definition of the rural poor beyond that of income levels alone, by looking at the ownership of cattle and herd size, because of the critical importance of livestock both as a source of wealth and for arable production. Cattle ownership and wealth are highly correlated and the group which owns no cattle generally suffers from absolute poverty (Colcough & McCarthy 1980, p.111).

Non-cattle owners tend to have lower arable production because of reduced access to drought power. The farm areas ploughed by the poor are lower because of the difficulty in hiring cattle for timely ploughing, and thus average crop production is lower. According to one government survey in 1971-2 (RoB, MoA 1973), only 9% of non-cattle owners have access to *mafisa* cattle, and it is highly likely that this figure has decreased due to the changing socio-economic role of cattle which has heightened the opportunity cost of using draught oxen.

Without ownership of cattle they have little access to rural credit because cattle or other fixed assets are required for security. For the same reasons they have generally not benefited from agricultural extension facilities which have usually been directed towards the cattle owner and/or producer of an arable surplus.

Amongst the poorer groups, (categories 1 and 2 in Table 2.7) over 43% are female headed households and have to manage without a permanent source of male labour. They therefore suffer from absolute shortages of labour at ploughing time. Poor households are more likely to he headed by a woman and to have a large number of children under the age of fifteen. (Watanabe & Mueller 1984, p.116-118). All non-cattle owners suffer from greater poverty because cattle are a major source of income, and are more vulnerable in periods of drought because cattle and small stock represent a reserve of food and wealth. Although malnourishment can occur in all socio-economic groups, there is a small but persistent tendency for children to be more at risk amongst households with the fewest cattle (Vierich & Sheppard 1978, p.61).

The Colcough & Fallon study of 1983 indicated that the proportion of rural households living below the Poverty Datum Line had risen significantly since the RIDS survey of 1974. Wage rates in the formal agricultural sector were low, particularly in the freehold farms of the Tuli Block and Ghanzi areas. A nutrition survey carried out in Ghanzi in 1984 indicated that wage rates in agriculture were between P10 and P30 per month, with a food ration which varies from nothing (on a farm where the wage rate was "not fixed") to 60kg. of maize meal per month (Olofsen 1984).

A close study of the trends in the ownership of cattle and cultivation of arable farms by Cliffe & Moorsom in 1979 came to the conclusion that a process of

proletarianisation and immiseration was gripping the countryside. This is a view shared by Dahl & Hjort, whose study in the same year compared this process in Botswana with that of Maasailand in Kenya. (Dahl & Hjort 1979, p.32).

Other studies see that a certain level of inequality may be a necessary precondition for economic growth and development, and Holm & Morgan (1985, p.463) claim that the government of Botswana is openly committed to accepting such an approach. In his study of pastoralism in sub-Saharan Africa, Konczaki argues that the prevailing pattern of wealth and income distribution in African societies dependent on animal husbandry is one of inequality, and that the availability of a marketable surplus may be related to the degree of inequality in the distribution of ownership of cattle, given the intensity of the desire for security provided by livestock (Konczaki 1978, p.51). In what is essentially a functionalist argument, Konczaki appears to justify a certain element of inequality as being necessary for the production of a surplus. Families with a large number of animals, he notes, would be more willing to sell their cattle than smaller herders, and thus implicitly, are necessary for the process of commercialism, (Ibid., p.49). which is seen by some as the universal panacea for the poor in the developing world.

Konczaki recognises the redistributive mechanisms in traditional society for eliminating those either too rich or poor, which historically produced a considerable degree of homogeneity (Konczacki 1978, p.253). But he then turns this basically egalitarian process on its head to justify a growing inequality in more modern times. Firstly, he says, the elimination of the poorest by the process of commercialism puts the resources previously used by their livestock, such as pastures and water, at the disposal of those who can make "better" use of them.

Secondly, further impoverishment of the poor creates a supply of cheap labour for the benefit of those pastoralists who need it to tend their growing herds. Intensified commercialisation, by stimulating production for the market, increases the opportunities for investment within the pastoral community, which now retains its wealthiest members instead of eliminating them (Konczacki, p.53).

The theory espoused by Konczacki can be seen as one more ideological justification for land tenure changes such as the TGLP, which he welcomed. However, it does not account for, but merely recognises, the existence of social differentiation, and neglects the role of force and coercion (political and economic) in establishing and maintaining the existing social structure. Also, the fencing of TGLP ranches will tend to reduce employment levels, not increase them, and the benefits of increased production will accrue to the stockholders, not the dispossessed.

Though formal rural employment has actually grown since Independence faster than the labour force and the proportion of the rural labour force with regular jobs doubled from 2.5% in 1964 to about 5% in 1975, the available evidence suggests that this employment has been largely gained by the members of wealthier households, those with a greater access to education, and those living in the larger villages (Colcough & McCarthy (1980), p.194).

Many of the new jobs have been in Government service in the larger villages which are the main centres for the district administration. During the 1980's drought, the relief programme itself created many new opportunities for employment at the District level in the newly created Food Resources Department, and at the District Councils. However, many of these jobs were given to retired

government officers who were themselves well established figures in the livestock industry. Table 2.8 below shows the structure of formal sector employment by economic activity, for the period 1975-83.

TABLE 2.8: FORMAL SECTOR EMPLOYMENT BY ECONOMIC ACTIVITY 1975-83 (THOUSANDS)

	1975	1981	1982	1983	Annual Growth Rate % 1975-81	1981-83
Agriculture	4.3	4.8	4.2	4.5	1.8%	-3.2%
Mining & Quarrying	4.5	7.3	7.1	7.2	10.3%	-5.7%
Manufacturing	3.8	6.4	7.2	9.8	9.1%	23.7%
Construction	9.0	15.2	13.6	9.6	9.1%	-20.5%
Trade	10.3	15.3	16.6	15.3	6.8%	-
Education	4.4	8.4	9.3	9.9	11.4%	8.6%
Government	14.8	25.8	26.7	29.0	9.7%	6.0%
Other Services	6.2	14.2	15.5	15.2	13.7%	6.5%
Total Formal Sector:	57.3	97.4	100.2	100.5	9.2%	1.6%
As % of Total Labour Force:	18.7%	21.7%	21.4%	20.7%		

Source: World Bank (1985), p.17.

The employment incomes from the poorest groups is largely from seasonal work in agriculture, and directly related to rainfall levels and levels of output. In arable agriculture, employment did show a modest increase up to 1980 where there was normal rainfall levels but far less than the average increase in the rural labour force (UNDP et al 1985, p.22). The World Bank estimated in 1985 that some 110,000 people (26% of the labour force) were "economically inactive", and this figure no doubt rose as the drought deepened in intensity after 1985.

In the livestock sector employment opportunities have largely stagnated. The growth of the national herd since the late 1960s will have increased employment but this is likely to have been offset by the concentration in

livestock ownership and the prevailing economies of scale of the larger herds.

On the one hand, in the communal grazing areas the range carrying capacity has almost been reached or exceeded and on the other hand, commercial ranches now need less labour after fencing. Boreholes have displaced labour with capital as there is less need for the cattle to trek between various water sources. (Peters 1983, p.335). Evidence from field studies of the TGLP such as that by Hitchcock (1978) suggest that once a farm is fenced, herds also require labour of a more specialised kind not common amongst the rural poor. President Masire's Ghanzi farm for example, has a British manager. He is employed by South African business interests who have leased the farm from the President.[17]

Although this study is primarily concerned with poverty amongst the 80% of Botswana's population living in the rural areas, and deriving an existence from small scale subsistence farming, or seasonal labouring work, some interesting comparisons and contrasts may be made here with urban poverty.

Though job creation in the formal sector in urban areas has risen since Independence, it has not kept pace with the rise in the working age population. In 1981 around 9-10,000 new jobs were created compared with some 17,000 new entrants to the labour market (Salkin 1985). With rapid urban migration, the proportion of the urban population in formal sector employment has declined since the early 1960s, though supported to some extent by an increase in the proportion of informal sector employment. This has meant that an income gap between the formal and informal sectors has developed due to the government's wage and salary strategy since 1974. Thus income

[17] Personal conversation on a field visit to the farm on 23rd. September 1987.

distribution in the urban areas has probably grown worse, as minimum wage legislation has not helped the informal sector workers.

The cluster of characteristics needed for eligibility for the more skilled or remunerative jobs in the formal sector themselves tend to be correlated with household incomes and wealth; thus there is a tendency for the already wealthy urban households to have the most remunerative employment. Urban households tend to be smaller, older, better educated and include more males of working age than either the rural or national average (RoB, CSO 1974). An urban study carried out by the CSO in 1976 found that:

> "At least 36% (and possibly up to 47%) of the total urban population of 90,000 live below the effective minimum level of subsistence in the urban areas" (RoB, CSO 1976, p.9).

For data on income distribution in urban areas we have to return to the RIDS survey of 1974. Here, it was estimated that the poorest 12% of urban dwellers received only 1.2% of the total income, with the richest 12% receiving 36% of the total income (UNICEF 1986, p.39). By comparison with urban figures, RIDS data for the rural areas found that 45% of rural households lived below the PDL and that the richest 10% of households received 42% of the total income (RoB, CSO 1977, p.84).

However, a comparison between urban and rural poverty is problematic because of the inadequacy of existing methods of measurement already mentioned. A PDL for urban dwellers that included modern housing costs for example would not be directly comparable with rural areas, where rondavels are still traditionally built out of mud, trees and thatching grass, by the household itself, on a plot allocated by the Land Board at zero cost. A more meaningful comparison may be achieved by examining the

income structure between rural and peri-urban populations.[18] Table 2.9 below shows that although median household incomes in the peri-urban areas were lower than that in the rural areas, per capita income was slightly higher due to smaller household size.

TABLE 2.9: HOUSEHOLD INCOMES IN RURAL & PERI-URBAN AREAS: 1974. (Pula per annum)

	Rural	Peri-Urban
Median household income:	630	438
Average family size:	6.5	4.25
Median per capita income:	97	103

Sources:

RoB, CSO, A Social and Economic Survey in Three Peri-Urban Areas in Botswana, 1974 and *RIDS*, 1977.

Also usually more than one member had a job and the prospects for finding employment were greater than in the rural areas. Most important of all was that in the peri-urban areas, incomes (like the majority of urban incomes) were "drought proof", as they were not directly dependent on agriculture. The rural poor, who neither own nor have access to livestock, are particularly vulnerable to seasonal scarcities of both jobs and food. Unlike the urban and peri-urban dwellers, their incomes and employment are highly dependent on the vagaries of the weather. But drought does not affect all people equally; some households are more "drought resistant" than others and it is the wealthier stockholders (often urban dwellers themselves) who can therefore take full

[18] The peri-urban areas around Gaborone, Francistown, Lobatse, and Selebe-Phikwe are typical squatter areas which have sprung up in recent years with the growth in the towns.

advantage of falling prices for cattle and wages as the effects of a prolonged drought are keenly felt.

Several studies (Watanabe & Mueller 1984; Brown 1983) have noted the particular vulnerability of women in Botswana to drought and the long term effects of poverty. They see an improvement in their situation as being synonymous with development in any real sense of the word and necessary if the "demographic transition" from high to low fertility and mortality is to be achieved.

Migrant labour opportunities have weakened tribal and kinship obligations both in regard to ploughing activities and the provision of food to needy relatives, and led to predominantly maternal headed households (FAO 1974, p.9). In the past, widows were normally taken in by the husband's brother or other kin but this system is now not generally operative. A National Migration Study in the early 1980s found that 23% of all households (rural & urban) were headed by women. (Cliffe et al 1988, p.48)[19]

Up to 1950, some 16 to 18% of the entire population in the south and east of Botswana were absent as migrant workers. This caused a chronic level of stress on cattle production relations at home, as all responsibility shifted to the old and predominantly female headed households. It also had an adverse effect on arable agriculture because of the shortage of labour (Massey, 1980, pp.110, 116; FAO 1974). In a study of Maasai pastoralists in Kenya, Talle argued that the growing commercialisation of livestock has reduced womens' control over food resources and undermined their traditional role in the household. (Dahl, 1987). It has probably also been partly responsible for the increase in unmarried mothers, prostitution, and the spread of debilitating diseases such as syphilis and tuberculosis

[19] In Africa as a whole, female headed households comprise about 22% of all households (WFP 1985d, p.1).

(Parson 1984, pp.24-6; FAO 1974, pp.20-21). In the 1940s, 23% of unmarried women of age 15-54 had borne children, while in 1978 the figure was 54%, and as a consequence there was an increased reliance on the mother's grandparents to look after the children. The fathers however tend to remit more of their earnings to their own parents than to their wife or girlfriend and children. Some 42% of malnourished children received no remittances or other support from their fathers, and female children run a greater risk of nutritional deficiency. (Cliffe et al 1988, p.48, 50.)

With labour migration to the mines of South Africa a way of life for generations, and then urban migration to towns in Botswana as new job opportunities opened up in the 1970s, women are now more isolated both economically and socially. Studies in Shoshong (Central District) in 1972 indicated that 30% of the women over the age of 15 were unmarried mothers, one third of all households were effectively headed by women, of which three quarters were by widows or single women, and the other quarter had the male head absent, usually at the mines (FAO 1972, p.32-3 and Appendix IIB). Thus remittances from relatives remain very important for this social group.

With regard to the spatial distribution of poverty, it was seen to be highest among freehold farm employees (66% below the poverty line) at the time of the 1974-5 RIDS survey (RoB, CSO, 1977). A 1980 study found that the proportion of rural households living below the PDL had risen since the RIDS survey of 1974. The results of this study are given in Table 2.10 overleaf.

Several points need to be made here. First, the Barolong Farms (along the southern border with South Africa) is one of the few small scale farming areas of the country where regular crop surpluses can be produced. As a consequence, households are relatively better off there

than most rural households (Watanabe & Mueller 1984, p.118).

By contrast, the table indicates that those employees of large scale commercial freehold farms have a level of absolute poverty which appears to have increased.

TABLE 2.10: PROPORTION OF RURAL HOUSEHOLDS IN "ABSOLUTE" POVERTY BY AREA.

AREA	% with income below PDL	Income Gap Rates
Small village	54.5%	0.44
Barolong Farms	22.5%	0.25
Large villages	46.5%	0.43
Refugees	92.5%	0.53
Freehold Farm Employees	72.4%	0.33

Source: Colcough & McCarthy, (1980).
Notes: These refugees were mainly fleeing from the civil war in Zimbabwe at the time. Since then, the living conditions in the established camps run by the Lutheran World Federation have been much improved.

The National Migration Study of 1981 seems to confirm this:

> "...NMS data suggests that many freehold farm residents are divorced from communal area economies. As a result, their poverty could be considered deeper than that of the poorest communal area residents'" (Wylie 1981, p.39).

There are about 5200 freehold farmworkers whose average wage levels in 1984 was calculated at P66.10 per month in cash or P80.39 if payments in kind are taken into consideration (RoB, *Employment Survey* 1984).

My own field observations in 1986, however, revealed wages of between P33 and P50 per month at Seleka Ranch for an 11 hour working day. An anthropological study of the freehold Tuli Block farmers in the same year appears to confirm these figures for the vast majority of workers: monthly wage levels of P180 for a driver/foreman, P80 for a shop assistant, P50 for domestic servants, and P20 for herders and fence repairers (Mazonde 1987, p.172.) Both field observations found that the farm employees were also provided with a 12.5 kg.bag of maize meal per month, but in the case of one individual at least, drought relief maize meal (25kg. per month) was being given by the ranch manager as a supplementary ration. There seems therefore to be some evidence that donated food aid commodities are being used to subsidise existing low wage rates, at least for some categories of freehold farm employees.[20]

Mazonde also found that on the European owned farms (unlike the Tswana owned ranches), the workers were not allowed to drink the milk of the cattle as it would "reduce the value of the breeding stock". He notes that the provision of the maize meal instead of an equivalent value in cash was made because of the farm owners' concern over the physical strength of their workers, which "was exploited to the full". (Mazonde 1987, p.174).

These wage levels on the freehold farms fall far below minimum wage rates in the Government sector. Full time farm workers are of concern because at their present levels of income it is doubtful that they can provide adequately for their families. At one freehold farm, Talana Farms, despite "full" employment and zero destitution, the malnutrition rate amongst pre-school

[20] Based on personal field observations in the Tuli Block freehold farms, Bobirwa Sub-District, 14 September 1986. The employee in question was a health assistant at Seleka Ranch. The exchange rate at that time was around £1 = P3.00.

children was very high at over 40%. Twenty six children out of a total of sixty three registered were underweight.[21]

Both Seleka Ranch and Talana Farms are border farms owned by the Botswana Development Corporation (BDC), a Government parastatal company. Despite this, incomes and living conditions on the farms is not well known. However, it was reported in the *Botswana Daily News* in early 1987 that the manager of Talana Farms, a former Rhodesian Army Scout, had been deported from the country for allegedly mistreating his employees and for security violations involving the South African army.

As people's command over productive assets and income falls, their ability to command food also declines, even though the amount of food in the region may have only fallen moderately, or not at all. For example the recent expansion of cash cropping in the freehold areas of the Tuli Block has increased the overall aggregate wealth of the country but at the same time contributed towards a decline in the entitlement of the population working on the farms. The poor therefore become dependent on government assistance and food handouts because their sources of income have contracted or disappeared altogether.

Since 1980 Botswana has been characterised by a series of droughts of unprecedented duration and severity, the cumulative effect of which has been to expose the extent of poverty already existing in rural areas, and intensify the degree of deprivation amongst the people. The vulnerability of the rural economy to drought has led to declining employment opportunities and incomes, made manifest by a dramatic fall in cereal production and an

[21] Ibid. The wife of the British manager at Seleka Ranch wondered why the Food Resources Department delivered drought relief rations to the Talana Farms as the children were already "well fed and healthy".

increase in cattle mortality, particularly amongst smaller herds. In periods of drought, opportunities for employment under the *majako* system are almost completely eliminated. As most households participating in *majako* are unlikely to own cattle or cultivate land, they are the hardest hit.

This has led in turn to a corresponding rise in the proportion of the rural population dependent on food aid relief of one kind or another, provided through either multilateral or bilateral aid programmes, or by the Government's own purchase of food on the world market.

Table 2.11 overleaf examines the impact of the drought on livestock slaughter rate, death rate, annual offtake and calving rate. One of the most damaging results of the 1982-88 drought has been the extent of livestock death. Dahl & Hjort's study in 1979 showed that livestock owners with an outside income have a more drought-proof herd, have a greater "recuperative power" and are therefore able to recover faster after drought.

Increased involvement in the livestock industry by commercial farmers using communal land makes the traditional sector more vulnerable to drought due to increased competition for scarce grazing, and leads to growing inequalities in wealth between the traditional and modern sectors. In this sense, the commercialisation of the industry is having a definite immiserising effect on traditional farmers.

Raynaut (1977) notes that one corollary of the growth of commercial relationships is the breakdown of collective ties, and an increased vulnerability to the effects of drought. Sen (1981) similarly attributes the impact of drought in the Sahel in the early 1970s to "the increased vulnerability arising from the growing commercialisation of the (Sahelian) economy".

TABLE 2.11: IMPACT OF DROUGHT ON CATTLE SLAUGHTER RATE, DEATH RATE, ANNUAL OFFTAKE & CALVING RATE

Year	1979	1980	1981	1982	1983	1984	1985[1]
Cattle Population ('000)	2840	2911	2967	2979	2818	2685	2459
Slaughter ('000)	N/A	227	237	242	294	264[1]	298
Average Death Rate (%)[2]	9.8%	12.2%	12.1%	15.2%	16.3%	18.0%[1]	21.0%
Annual Offtake (%)	10.2%	7.8%	8.0%	8.1%	10.4%	9.8%[1]	12.1%
Calving Rate (%)	N/A	58.70	57.00	59.60	52.30	53.60[1]	54.50

Sources:

RoB, MoA and MFDP, Botswana Agricultural Statistics, 1979-81 and Botswana Agricultural Census, 1982-4. Cited Holm & Morgan (1986), p.465.

Notes:

1) Data added or updated by MFDP but not yet published.
2) Average for all sizes of herds.

Commercial farmers are also better able to gain access to certain resources (such as credit for water development, banking or transport) to de-stock animals in the early part of the drought. Devitt (1977) compared the strategies in times of drought of three groups in the Kgalagadi Desert of Botswana and Namibia: *Basarwa, BaKgalagadi* pastoralists and white ranchers. He noted the flexibility and ease with which the white ranchers could adapt to drought conditions by controlled rotational grazing and rapid de-stocking to convert livestock into cash when drought strikes.

Death rates in cattle herds up to 10 head rose from 30% in 1982 to 54% in 1983 (RoB, Rural Development Council, 1985 p.4), and in 1984-5, the last year for which data is available, the mortality rate for herds of less than 10 cattle soared to 86% (IMDC Jan-Feb 1987). The smaller herd owner sees most of his cattle starve to death during

the drought, or sells his animals to the larger owners. In either case, the wealthier owner increases his wealth and, we would argue, his political power, relative to the smaller herd owner. It is this relative difference in economic and political power than maintains an increasing proportion of the poor in absolute poverty. In this way, drought itself tends to intensify the maldistribution of cattle ownership (Thomson 1971, p.124-5).

Sen (1981) notes that it is only in times of crisis such as drought and famine that the differential power of groups to exercise prior claims to scarce resources becomes manifest, the richer more powerful members being able to acquire or maintain control over the goods essential to survival. In Africa, as for many other regions of the developing world, per capita food production has a particular significance to any discussion of poverty, but not an absolute one. A fall in per capita food production per se does not go very far in explaining poverty, or hunger, or the increased reliance of a growing section of the community on government welfare assistance. Indeed, many developed nations are deficient in cereal grains and are net importers of food, yet few of their citizens are actually starving.

The problem is that in Africa a decline in food is closely linked with a decline in entitlements because the incomes of so many come from growing food, and there is no counterbalancing rise in the output of industrial goods. In Botswana, because of the skewed ownership of cattle, arable production is inextricably linked to rural incomes and individual sustenance, even though in good years cereal production remains largely subsistence in nature and few households manage to produce a marketable surplus. In drought years, households have to buy a larger proportion of their cereal requirements on the market, (when as net buyers of food, their real

TABLE 2.12: BASIC INDICATORS RELATED TO AGRICULTURAL PRODUCTION (ALL CROPS) (1979-1987)

	1979-80	1980-1	1981-2	1982-3	1983-4	1984-5	1985-6	1986-7
Households with land	70240	70800	71000	60900	59180	55800	N/A	N/A
Households planting	65735	68650	57000	48200	51220	55300	N/A	N/A
Households harvesting	54630	57545	23400	11230	19040	30050	N/A	N/A
Percentage of planting households harvesting	83%	84%	41%	23%	37%	54%	N/A	N/A
Basic crop production (mt)	46000	55000	19000	15800	8400	20000	22200	21300
Area planted (hectares)	287000	290000	204000	229000	203000	211000	243000	310000
Area harvested (hectares)	205000	210000	69000	64000	67000	98200*	N/A	N/A
Average production per planted hectare (kg)	160.27	189.66	93.14	69.00	41.38	94.79	91.36	68.71
Estimated value of crops produced (Pula millions)	15.25	19.10	8.85	4.47	2.32	5.62*	N/A	N/A
Estimated income from crops per planting household (P.)	232.00	278.22	155.26	92.74	45.29	101.63*	N/A	N/A
Freehold farm employment	4300	4800	4200	4500	5400	6000*	N/A	N/A
Family labour in agriculture	186700	188400	163000	139000	139500	149600*	N/A	N/A
Labour hired in agriculture	60200	74700	52100	47550	46650	70300*	N/A	N/A
Total labour engaged	251200	267900	219300	191050	191550	225900*	N/A	N/A
Average annual rainfall (mm)	513	577	359	340	325	310	329	368

Sources:

a) Household and employment data based on Rural Development Council, National Food Strategy, MFDP, Gaborone 1985.
b) Production and area planted data based on Agricultural Statistics, MoA, 1978-86.
c) Values of crops based on same source as (a), but using updated data from Agricultural Statistics, MoA, 1978-86.
d) Rainfall based on national average. Data from Dept. of Meteorological Services, Ministry of Works and Communications, 1978-86.

Note: An asterisk (*) denotes provisional data from MFDP not yet published.

TABLE 2.13: LIVESTOCK AND CROP LOSSES DUE TO DROUGHT: 1983.

Livestock.		
1. Cattle.		
Deaths in normal year (1981)	359,000	
Deaths in 1983	458,800	
Cattle lost due to drought	99,800	
Average value per head	P180	
Total income loss:		P18,562,800
2. Smallstock (Sheep,goats,poultry)		
Total income loss		P2,000,000
3. Total Loss for Livestock		P20,562,800
Crops.		
Total production of food in a normal year (mt)	60,000	
Total production of food crops in 1983 (mt)	14,425	
Decrease in crop production	45,575	
Average value per metric tonne	P290	
Total Loss in income for crops		P13,216,750
TOTAL LOSS IN INCOME FOR LIVESTOCK AND CROPS:		P33,779,550

Source:

MFDP, *Botswana Agricultural Census*, 1983. Cited Holm & Morgan, (1986), p.467.

consumption becomes highly sensitive to food prices), or rely on government handouts of food. Table 2.12 on page 169 above gives the basic indicators for all crops for the period 1979-1987. The effect of drought on farmers' expectations of yield, actual production levels and household income during the drought years of the 1980s is

very clear. Though the total area actually planted has been generally well maintained, the low areas actually harvested illustrate the importance not just of an adequate rainfall, but of its timeliness (compare rainfall data for 1983-4 and 1984-5). What the table indicates more than anything else, however, is the risk involved in dryland arable agriculture, and how unfavourably it compares with livestock, given a drought viable herd size and the prevailing high prices.

An estimate of the financial cost of livestock and crop losses was made by Holm and Morgan for 1983, and is shown in Table 2.13 on page 170 above. These figures represent a loss of one third of the total income produced from agriculture in 1983. A 1985 report prepared jointly by various UN agencies for the Interministerial Drought Committee (IMDC) of the Ministry of Finance and Development Planning attempted to assess what the underlying trend in rural incomes would have been if the drought had not intervened in 1981. Though they admit their methodology is rather speculative and uses data from estimated rural incomes in 1981 and 1985 based on sectoral growth assumptions, their findings in Table 2.14 shown overleaf confirm that the pattern of economic growth since 1980 would have left the vast majority of the population with declining incomes even without the intervention of drought. The analysts are at pains to point out that this theoretical growth rate of 6% per annum is almost entirely due to price increases for livestock and cereals introduced during the early 1980s, and that it is unlikely that price rises could have been sustained at the same high level as existed during 1981-3 (UNDP et al 1985, p.19).

Secondly, there is no suggestion in their report that the number of new jobs available in the rural areas would have kept up with population growth (UNDP et al, p.21).

TABLE 2.14: HYPOTHETICAL STRUCTURE OF RURAL INCOME IN 1985 WITHOUT DROUGHT

	1981 Pula/ Month	(EST.) Share (%)	1985 Pula/ Month	(EST.) Share (%)	ANNUAL CURRENT GROWTH(%)	ANNUAL REAL GROWTH(%)
EMPLOYMENT	35.1	24.4	57.2	22.2	13.00 (1)	3.50
LIVESTOCK	41.8	29.1	95.1	36.9	22.80 (2)	12.50
CROPS	8.6	6.0	18.8	7.3	21.60 (3)	11.40
GATHERING	5.0	3.5	6.4	2.5	6.50 (4)	-2.70
HUNTING/FISHING	3.0	2.1	3.9	1.5	6.50	-2.30
TRADING	5.0	3.5	7.3	2.8	10.00	0.10
MANUFACTURING	4.3	2.9	6.3	2.4	10.00	0.10
SERVICES	4.4	3.1	6.4	2.5	10.00	0.10
TRANSFERS	12.2	8.5	19.4	7.5	12.30	2.80
OTHER INCOME	24.2	16.8	37.0	14.4	11.20	1.80
TOTALS:	143.6	100.0	257.8	100.0		6.00

NOTES: The following assumptions were used in modifying possible rates of "drought free" income growth:1) Sectoral growth assumptions remain unchanged. Differences in the real value of income arise from a decline in inflation. 2) Growth in average income between 1978 and 1982 in Farm Management Survey Farms. (MoA, Farm Management Survey Results: 1982 Survey, March 1983.) 3) Average annual increase in crop prices between 1981 and 1984 was 19.2%. To this has been added 2% per annum for growth induced by Government, for example ALDEP. 4) As for (1) for remainder of table. 5) Inflation assumed to be 9.2% p.a. (CSO, Cost of Living Index, July 1985.)

They conclude:

> "the growth rate indicated (in Table 2.14 above), if it is credible at all, would almost certainly have been confined, at most, to less than half of the rural population...these increases would have been offset by an increasing polarisation between those who owned cattle in herds of a "viable" size and had access to land and those who did not. On the basis of general experience this would suggest that the incomes of the poorest families would have declined throughout" (UNDP et al 1985, p.21).

Considering the severity and duration of the 1982-88 drought, the situation since the UN report has most probably grown worse. Drought, then, serves to hasten a pre-existing process of immiserisation which we consider has gone hand in hand with the process of commercialisation in livestock. This background of social, political and economic change, plus the fact that participation in both the arable and livestock sub-sectors is stagnant and that population increase significantly exceeds rural employment growth, suggest that

> "on average rural incomes are probably declining in real terms, and those of the poorest most sharply, irrespective of the effects of drought (UNDP et al, p.16).

Assessing the extent of poverty in absolute terms remains problematic, and our intention here has been to indicate general trends. However, Colcough & McCarthy (1980) estimated that some 54.5% of people in smaller villages, and some 46.5% of people in larger villages, existed below the PDL (see Table 2.10). Given the intimate relationship that exists between the ownership of cattle, agricultural production and incomes, and the impact of the 1982-88 drought on mortality rates amongst small herds, it is highly likely that these estimates have now been exceeded.

SECTION C

THE 1982-88 DROUGHT RELIEF PROGRAMME AND LONGER TERM STRATEGIES FOR HOUSEHOLD FOOD SECURITY

V

DROUGHT RELIEF PROGRAMMES AND PROJECTS

Drought occurs with alarming regularity in Botswana. Sandford estimated that a serious drought affecting grazing conditions could occur in one year in every five around Gaborone, and in one year every four around Francistown (Sandford 1979).

Using a method developed by the Australian Meteorological Bureau, Austin & Macdonald estimated that "major stress" could be expected in two years out of every ten in Gaborone, and four years in every ten in Francistown (Austin & Macdonald 1980). On this basis, it is clear that drought is a way of life in Botswana, and it is for this reason in particular that preceding chapters have stressed the importance of traditional redistributive mechanisms, and the significance of their decline and replacement by a impersonal cash nexus. Traditional responses to drought in the past have included the storage of surplus grain in good years by the village Chiefs, and the use of the tribal herds as meat when the crops failed (Borton 1984, p.18). When climatic changes caused village streams and wells to dry up, the whole village would move on to another site,[1] but the modern pattern of settlement has now become fixed and reliant on deep boreholes.

We have also seen in previous sections the importance of the arable-livestock linkage to the existence of the

[1] Earlier this century, Khama III and the whole of the Bangwato tribe moved west from their existing base at Old Palapye to establish a new village at Khama's cattle post at Serowe. It is now reputed to be the largest traditional village in sub-Saharan Africa.

rural economy, and that it was the growing polarity in the ownership of livestock, together with the decay in its traditional socio-economic role, that had exposed an increasingly large section of the rural community to poverty and destitution. As these redistributive structures have gradually disappeared, along with many of the other socially cohesive forms of communal activity, their welfare role has had to be replaced by government institutions and foreign aid organisations.

In this third section of the study, we shall be examining the nature of these institutions, which were first established in Botswana just a few years before Independence, and since then have evolved through successive droughts and a long process of co-operation and collaboration with the various aid agencies. Their primary role since this period has been the provision of supplementary rations to food deficit households and individuals, using donated food from the international community. In the extensive drought of the early 1960s, for example, some 25% of the population had received supplementary rations donated by the World Food Programme, and after Independence Botswana was to continue with this form of relief programme in non-drought years, albeit in a reduced form.

It is therefore somewhat of a misnomer to describe the current aid programme as simply "drought relief" - rather it is an ongoing programme that has ran continuously in one form or another for over 20 years and is simply thrown into higher gear with the recurrence of the next drought. However, as much of the primary data used in this section of the study was collected during a period of severe drought, we will continue to refer to the programme as "drought relief".

That the continued existence of a human relief programme is still considered necessary in Botswana even in non-

drought years, and despite the rapid growth since Independence, should therefore be seen as an indication of a much wider malaise in the economy than can be explained solely in terms of "drought". A study of the drought relief programme should therefore be set against the background of declining rural incomes and employment levels (relative to the public sector), the emergence of new class structures and the current changes to the system of land tenure that the latter has brought about. Seen in this light, periods of drought serve merely to highlight the extent of a growing poverty and deprivation, and accelerate a process of immiserisation for some marginal groups that has itself becoming institutionalised. This section attempts to do two things. First, it examines which elements of the programme have in fact helped to alleviate rural poverty, and those that have simply served to provide subsidies for the wealthier cattle owners. Secondly, it discusses which elements of the programme, if any, can be expanded and built upon to effect a transition from "relief" to a form of "development" that can be enjoyed by all.

a) <u>The Evolution of the Drought Relief Programme</u>.

The prolonged drought which started in 1960 and which would reduce the national herd by one third over the next six years (Borton 1984, p.26), signified the country's first attempt at relief efforts on a large scale. The Colonial administration's lack of contingency planning throughout the years of relatively good harvests during the 1950s had left it ill-prepared to mount a large scale response to the drought, and it was not until August 1965 that the relief operation was fully underway. It consisted of food distribution for specially registered destitutes and various Food for Work Projects, mainly dam construction and roadworks. Assistance came from various sources including WFP, the US and British Governments,

OXFAM, the World Council of Churches and the Red Cross. The administration of the relief programme in the field was carried out by Community Development Staff, operating within a specially established Relief and Rehabilitation Unit, and assisted by 17 IVS and Peace Corps volunteers.

This period marked the start of WFP's Project 324 which was to be later extended and enlarged and today forms the major component of the food aid programme in Botswana. Though the relief operation mounted in the 1960s drought was small and slow to get off the ground, it did provide some of the basic infrastructure and administrative skills needed for future droughts. Food storage depots were constructed in the larger villages, a total of 230 ration distribution points were established throughout the country, and many of the district officials who were later to become the country's most senior politicians received a basic exposure and training in coping with large scale relief projects. However, as we will see in subsequent sections, these skills were to be applied more at the Ministerial level (particularly within the MFDP), in negotiations with aid donors, rather than in the practical mechanics of running the drought relief programme at the District level; this was to have serious detrimental effects on the overall management and effectiveness of subsequent drought relief programmes.

In the years between the long drought of the 1960s and the short but sharp drought of 1979-80, several structural changes had been made to the administrative machinery set up for future relief programmes. During 1973-4 the responsibility for the delivery of food to the distribution points and project sites was shifted from the Community Development Department to the newly created Institutional Food Programme (IFP), located within the MLGL.

The MoA set up its own internal working group to

> "develop a long-term programme for contingency planning for dealing with *livestock* under drought conditions" (Borton 1984, p.32). (my italics)

A long-term strategy for dealing with *human beings* under drought conditions was devised some three years later in 1977 on the recommendation of the Sandford consultancy which called for the establishment of

> "an information system, which gives warning of incipient droughts, and which triggers off successive (as the warnings get more intense) semi-automatic responses to set the machinery of drought relief in action." (Sandford 1979).

An Interministerial Working Party on Drought was soon created in the MFDP in response to these recommendations, with sub-committees in both the MoA and MLGL, thus setting the basic committee structure for dealing with drought relief which has lasted until the present day. However, though a theoretical framework had now been established for dealing with drought, little had been done to improve the ability of the government to put this into practice in the field, as would soon become painfully obvious.

The failure of the 1978-9 rains caused a sharp drought with cereal production plummeting to less than 10% of normal levels (see Table 3.16). Ngamiland in the north west of the country was particularly hard hit as a foot and mouth outbreak had effectively cut off the area from the lucrative EEC market. The emergency relief programme was set into motion in June 1979 with IFP responsible for food distribution on a national basis. Within the first four months it was clear that IFP's performance in this regard left much to be desired, with cereal distribution being only about 26% of requirements (Borton 1984, p.35). This was first attributed to transportation problems by

IFP until it emerged that IFP had been basing their distribution on pre-drought beneficiary figures rather than estimated drought requirements prepared by the Central Statistics Office (Borton 1984, p.36).

Two factors contributed significantly to the poor performance of IFP during this period. The first was the structure of the programme at the central government level. The existence of three separate working groups from different Ministries, the first drawn from the MoA and responsible for livestock relief, the second drawn from the MLGL and having executive power for the human relief programme, and the third (now the IMDC) an advisory committee from the MFDP but controlling funding for the relief programme as a whole, created problems over the division of responsibility for planning and implementation of the various relief measures. This resulted in confusing and often contradictory statements and directives being sent to the Districts. Most important of all, the IFP was excluded from most of the joint meetings and thus forced to play a subsidiary role where, as the department directly involved in distributing drought relief food, it should have been taking most of the initiatives.

The second factor was the institutional changes made to the Civil Service in 1976-7. At this time the Government rationalised its procurement, handling and issuing of supplies and established a centralised Department of Supplies within the MFDP. A trained cadre of Supplies Officers was created with its own schemes of service and training, and IFP staff became part of this new cadre. What this meant in practice was that the procurement, storage and distribution of food rations both in drought and non-drought years became just another Supplies activity, and its prime importance to human nutrition and survival became a subsidiary consideration often ignored during the course of the drought.

On an operational level, these changes meant that IFP staff in the Districts who were directly accountable for distributing the food rations were no longer under the full control of the IFP Head Office in Gaborone. The Department of Supplies was now responsible for their recruitment, transfer and promotion and this was often carried out without reference to either the wishes of IFP in Gaborone or to the needs of the programme. It also had a significant impact on the quality of staff working within IFP, as the training courses run by the Department of Supplies were orientated more to correct form filling and accounting procedures rather than directed towards the needs of an emergency drought relief situation. These deficiencies were to remain largely unresolved well into the 1980s.

At the District level, Drought Committees were formed with regular meetings attended by Council members and representatives from all the Government departments involved in the administration of the relief programme, and chaired by the District Commissioners.[2] They were in effect sub-committees of the District Development Committees which had been introduced in 1970. The Drought Committees had three main functions. First, at the beginning of the drought Food for Work projects would be presented and discussed before being sent down to the MLGL in Gaborone for formal approval and the release of funds. The second function was to monitor each element of the drought programme, with each government department presenting a written progress report to the committee which was then discussed before being accepted or rejected. Thirdly, the Committee would decide on disbursements needed from the Quick Action Fund, provided by central government to help break bottlenecks in the system. The effectiveness of the District Drought Committees varied considerably between the Districts, and

[2] Personal observations as member of Central District Drought Committee, 1985-1987.

in all cases was hampered by the lack of accurate and concise directives from central government.

Following the end of the drought an evaluation of the programme was commissioned by the Ministry of Finance and Development Planning. In their study, the evaluation team looked at the management of the programme at the District level, and particularly at the role performed by the IFP. The main criticisms of their report concerned the overall managerial capacity of the Department, its inadequately trained staff (particularly at the District level), and its generally poor performance in moving the drought relief food at the right time and in sufficient quantities:

> "IFP depots in the remoter districts had particular problems in communicating with their line of rail depots and even these had problems communicating with Gaborone. Letters from the remote districts could take weeks to arrive and one letter from Ghanzi requesting more supplies of food urgently, took two months to reach Lobatse. Telegrams were frequently used but even these could take several days. Telephoning was usually unsatisfactory because the person being called was frequently out of the office, and no one was delegated to stand in for him. Urgent requests for additional food supplies to be sent to the districts were often delayed. Reporting was slow and erratic, whereas, because it was a relief programme, it should have been fast and efficient. Late arrival of IFP Depot stock reports hindered Government's ability to monitor the food situation and to plan the purchase and delivery of future consignments of food." (Gooch & MacDonald 1981, p.49).

In their summary of IFP's performance, the authors of the report concluded:

> "Distribution of food between depots and to final destinations was characterised by unplanned, uncoordinated and wasteful delivery systems. As a result people suffered unnecessarily. Insufficient and at times

> incorrect instructions to staff, inadequate staff control and discipline, and failure to respond to the emergency needs of the relief programme all indicated the critical need to improve radically the management of the organisation. That this was not done is, in our opinion, the greatest single failure of the 1979-80 relief programme" (Gooch & MacDonald 1981, p.70).

Among the many recommendations of the Gooch and Macdonald report were three that were to reshape the future strategy of drought planning and implementation in Botswana at both the centre and the district levels. The first recommendation concerned the administration of the drought at the central government level, where it was felt that the main executive committee should be situated in the MFDP, where it would receive proper funding and form an essential element of any future National Development Plan. Henceforth, drought relief would no longer be seen simply as a peripheral activity or temporary emergency programme, but as part and parcel of an overall development strategy.

The second was that IFP should be dismantled, and that responsibility for food distribution at District level should be transferred to the District Administration. A small but dynamic unit would be created in the MFDP whose role in future droughts would be concerned with procurement of aid commodities and financial assistance from donors, purchasing on the open market, and shipment of all food commodities to the railhead storage depots, from whence it would become the responsibility of the District Administration. This unit was to emerge as the Food Resources Department in 1982, but would remain situated however, within the MLGL.

The third recommendation was that greater emphasis should be given in future droughts to labour intensive employment projects. These would replace the prevailing

system of Food for Work projects (which were seen as demeaning for the participants and were difficult to manage logistically) with payments in cash. Less emphasis would be given to free food distribution, which was seen as likely to be increasingly characterised by dependency effects, particularly if the drought was a prolonged one.

As the team of consultants' recommendations were still being debated by Cabinet and before the Ministries concerned had been informed of the outcome, it had become clear that the 1981-2 rains had failed over much of the country, and that therefore Botswana had yet another drought on its hands.

The drought of 1982-88 was to prove one of unparalleled duration and severity, and required from the outset a massive expansion and restructuring of the current relief programme. The first step was the creation of the Food Resources Department (FRD) which became the government body directly responsible for the procurement and distribution of relief food on a national level, for all programmes except that of the Remote Area Dwellers'. It became also the main administrative body for the movement of relief food in the Districts, though overall responsibility for food delivery remained with the District Councils. Commodities destined for distribution to the RADs programme continued to be purchased and stored by FRD but the actual distribution to the settlements was to be carried out by the Remote Area Dwellers' Officers (RADOs), who formed a separate Department within the same parent Ministry.

The pattern of drought relief which was established in the 1979-80 programme was continued and had five main objectives (RoB, IMDC March 1985).

I. The supplementation of food supplies as a preventative measure to reduce the incidence of, and

forestall rises in, malnutrition amongst those groups considered highly at risk. These comprise the old and infirm, pre-school children, pregnant and lactating women, TB patients, destitutes, primary school children, and those living in remote areas without access to normal services;

II. The supplementation of rural incomes in order to compensate in part for production lost due to drought;

III. The rehabilitation of actually malnourished children through direct feeding on site at health facilities;

IV. The securing of water for human consumption as and when required;

V. The alleviation of the effects of drought on livestock, and the provision of assistance to arable farmers to increase their ability to regain productivity during the immediate post-drought recovery period.

The implementation of the programme had four primary elements, the first and largest of which was the system of free food distribution for rural and urban groups thought to be nutritionally at risk, and to all primary school children. The second was a much expanded employment scheme in the rural areas providing short term income to replace that which had been lost during the course of the drought. The third element was the provision of boreholes for the supply of human drinking water where domestic sources were threatened or had already dried up. The final element of the drought relief programme was the introduction of various agricultural subsidies aimed both at preserving rural incomes and assets, and at the preparation of arable land ready for the post-drought recovery period. The first two

components are administered by the Department of Food Resources (MLGL), the third by the Ministry of Agriculture (mainly the Departments of Field Services and Animal Health), and the fourth by the Department of Water Affairs in conjunction with the District Councils, the latter also having responsibility for the local coordination of the LBRP.

Expenditures on the individual elements of the drought relief programme are shown below for the period 1982-3 to 1985-6, and show both the Government's and the donors' share of expenditure.

TABLE 3.1: EXPENDITURE ON DROUGHT RELIEF IN BOTSWANA: 1982-83 TO 1985-86 (CURRENT PULA)

Activity	Govt. Exp.	Donors' Exp.	Total Exp.	Donors Share (%)
Food Supplies	10,075,624	874,023	10,949,647	7.98%
Labour Based Relief Projects	22,762,426	653,666	23,416,092	2.79%
Food Resources Dept.	4,472,773	471,050	4,943,823	9.53%
Agriculture & Water Relief	5,525,578	82,899	5,608,477	1.48%
Cattle Purchase Scheme	2,998,500	0	2,998,500	0.00%
Destumping of Fields	4,062,295	0	4,062,295	0.00%
Cattle Feed Subsidy	6,348,328	0	6,348,328	0.00%
Seed Subsidy	3,058,644	1,314,724	4,373,368	30.06%
Draught Power Subsidy	4,341,526	2,000,000	6,341,526	31.54%
ARAP[3]	11,810,283	0	11,810,283	0.00%
Recurrent Costs	11,274,893	0	11,274,893	0.00%
Other[4]	1,024,528	1,548,206	2,572,734	60.18%
TOTALS:	P 87,755,398	6,944,568	94,699,966	7.33%

Notes:

1) Food Supplies are those purchased by FRD to supplement donated commodities, usually to cover an unexpected shortfall.
2) Includes FRD recurrent costs.
3) Accelerated Rainfed Agriculture Programme. See Text.
4) This category covers the building of storage facilities.

Source: IMDC, Ministry of Finance & Development Planning, May 1988.

It is significant, considering the donors' often expressed concern over the possibility of dependency effects of free food distribution, that their financial contribution to LBRP expenditures remained negligible throughout this period. This situation was to change somewhat during the 1986-87 programme however, with some bilateral food donations being "monetised" and used by the Government to help finance the LBRP. A breakdown of international aid donations for the 1986-87 year is provided later in this section.

b) Livestock, Agriculture and Water Projects.

A cattle purchase scheme for the smaller stockholder was first introduced in 1977, and originally intended to compensate farmers in Ngamiland for the loss of access to the Botswana Meat Commission.[3] In 1983 the scheme was expanded to other parts of the country and took on new objectives. First, by offering a fixed price for animals whatever their condition it provided a form of income support for farmers during the period of drought when they would otherwise be faced with declining prices, due to the increased number of animals offered for sale. Secondly, it provided a way of relieving communal grazing lands, the carrying capacity of which is seriously reduced during periods of drought.

The slaughtered cattle are used to provide meat for the children at primary school. It should be stressed though that it does not form an integral part of the school feeding programme, but is essentially a programme of income support for the smaller herd owners unable to provide supplementary stock feed for their animals during the drought, and who are consequently facing the total

[3] Because of the high incidence of Foot and Mouth disease in the District, the EEC had banned all imports of beef from the area thus effectively prohibiting its slaughter at BMC, and limiting its sale to the domestic market.

loss of their herds. Meat obtained under this scheme was not made available to children attending health facilities, even in the same village, as they were supposed to buy meat from Council funds provided for that purpose. As we will see in subsequent sections, this omission led to the development of an anomalous situation in many villages, whereby the very children most in need of the extra protein that meat could provide were the least likely to receive it.

As the project ran in 1986-87, it clearly had short term benefits to the rangeland, smaller stockholders and to the quality of diet faced by the primary school children. However, the programme was more successful in some areas than in others. In places where rainfall had shown some improvement, the sale of cattle under this scheme practically stopped all together as farmers anticipated a rapid recovery of grazing. In other areas, farmers thought that the price offered (P100 from 1985-87) was too little and hung on to their cattle in the hope that the drought would break.[4]

With the closure in 1987 of the Northern abattoir in Maun (Ngamiland), due apparently to the high prevalence of diseased animals in the area, it was soon evident that the number of cattle offered for sale far exceeded the

[4] WFP assisted relief programmes for pastoralists in Turkana District (Kenya) adopted a more comprehensive approach to destocking. When the established Early Warning System warned of impending drought, auctions were organised by the local authorities to effect a rapid reduction in stock, with pastoralists informed through Chiefs of the venues and dates of the auctions. Transactions are completed in cash.(WFP/FAO et al, 1988b, p.21) and livestock owners are paid the current market price for their animals, minus a deduction for transport costs to the nearest market. Previously, livestock had been sold on a barter basis, often to Somali traders who then resold the animals through government auctions or transported them to markets outside the District. It is considered that the scheme has had a stabilising effect on the market and thus avoided a drastic fall in prices and incomes for the pastoralists. (WFP/FAO et al, 1988b, p.31)

budget allocation for the District under the scheme. Literally thousands of cattle died where they fell, finally succumbing through hunger or disease and simply without the strength to raise themselves onto their feet. In November of that year in Maun itself, with the Okavango River still in flow, cattle were seen collapsing along its banks and into its waters, graphically illustrating that the major cause of livestock death in Botswana during drought is not lack of water, but lack of grazing. In 1987-88, it was estimated that in the Maun and Lake Ngami areas alone, 17,290 cattle starved to death (IMDC, *Drought Assessment Tour 1988*, p.4). The smaller owners lost their herds simply because they were unable to buy stockfeed, even when provided by government at highly subsidised prices.

Stockfeed is usually bought and trucked in from South Africa and is made available at subsidised prices through a network of Livestock Advisory Centres (LAC) in the major villages. Herd owners with sufficient quantities of available cash usually buy up the stockfeed as soon as it arrives at the LAC and transport it to their cattle posts at weekends using their own trucks or those borrowed from other stock holders. The smaller farmers may travel to the LAC from more remote villages by donkey cart for their supply, if they are able to afford it, and have had sufficient warning that the stockfeed has arrived.

> "The current system of subsidising stockfeed must be considered to have completely failed in the objective of preventing cattle mortality, mainly because of the difficulty small farmers have in obtaining the feed, as well as reluctance to invest in feed faced with the very high mortality rates in small herds...the failure of the current system - by which farmers have unlimited access to highly subsidised stockfeed which is nearly all purchased by large scale operators - is twofold: not only does it fail to assist the small herd owners who need it most, but it encourages overstocking by large owners at a

> time when it is more logical to sell more cattle in order to allow a recovery of the veld" (IMDC, *Report of the First Drought Assessment Tour*, Jan-Feb. 1987).

Another subsidy which ran concurrently with that of stockfeed was the cattle vaccination programme, where free vaccine (particularly against botulism and anthrax) was made available to all stock holders. Unlike the Cattle Feed Subsidy, strenuous efforts were made to ensure that all herd owners, large and small, received the vaccine services, possibly as it was in the rich herders' interest that their poor neighbours' cattle remained free from disease.

Many farmers faced with a succession of drought years are forced to consume their supply of seeds for the following planting season (FAO 1974). The Seed Distribution Scheme was designed to provide free seeds at the beginning of each season so as to ensure that this deficiency in indigenous seed stocks did not present itself as a binding constraint on cereal production once the drought was over. In the 1987-88 season, over 527,000 packets of seed were distributed nationally (about 5204 mt.) (IMDC 1988, p.4). To date, most of the country's national seed stocks have been purchased outside Botswana but it is envisaged as part of the government's National Food Strategy that the country should produce its own seeds, which can therefore be developed and tested under naturally occurring drought conditions (RoB, Rural Development Council 1985).

Grants were also made available under drought relief for farmers who wished to "destump" their fields (i.e. remove bushes and tree stumps) to facilitate the use of mechanical planters and potentially increase the productivity of their holdings. As the process was a labour intensive one it was envisaged that it would also

provide some income support for the rural poor and at the same time prepare fields for the growing season.

It is believed that most farmers hire out at least part of the work to agricultural labourers, though it is not clear what proportion of the grant is passed on in this way. However, one study estimated that the total number of beneficiaries was three or four times the number of grants given (UNDP et al 1985, p.74). In the 1986-87 period, some 4947 farmers took part in the scheme at a total cost of P948,611, making a per capita subsidy of P191.75, or, assuming that the work was hired out and the full subsidy passed on as wages, between P63 and P48 per labourer. In the 1987-88 drought year (April 1987-January 1988), some 5057 farmers participated at a total cost of P1,347,940, giving a per capita subsidy of P266.55 per farmer. Again, assuming that the work of each farmer was completed by 3-4 agricultural labourers, this would have provided incomes of between P89 and P67, again assuming that the full value of the grant is passed on by the farmer. These figures therefore do not represent a very substantial income when spread over the year.[5]

Given the critical problem of lack of access to draught power to ensure timely ploughing, farmers without adequate means to plough are subsidised by the Government up to 85% of the cost of hiring draught oxen or mechanical services, up to a maximum of three hectares. The project was started in 1983 to assist small farmers and from its first year of operation the target was to assist 30% of the arable farming households and 50% in the second year. However, in 1984 only 11,000 households were assisted out of a total of over 70,000 eligible (UNDP et al 1985, p.73). The participation rate rose dramatically with the good rains of 1987-88 to 26,149 farmers. Even this figure is considerably less than the

[5] Calculated from data in IMDC (1988), facing page 4.

number of farmers without access to cattle of their own or obtainable through the *mafisa* system (see Chapter IV) and varies considerably by region. For example, whilst there was over 7000 participants in Southern District, there were only 36 in Ghanzi, and in Kgalagadi District, only 11 farmers participated (IMDC, 1988, p.4).

A corollary to this is the expenditure pattern on the Row Planting Subsidy, the application for which only becomes feasible after the clearance of the individual farmer's field. In this case Southern District had over 3000 recipients of the subsidy, with Ghanzi and Kgalagadi having just 1 and 4 respectively (IMDC 1988, p.4).

This subsidy has certainly preserved some farmers' fields from being completely abandoned during the drought, but its benefits have not been evenly distributed. In a drought situation, it is questionable whether the scheme has contributed significantly to the incomes of the smaller farmers, as the lack of rainfall after ploughing largely determines the yield of the crop, and can negate any benefits of having access to draught power. With the considerable sums being spent on this subsidy scheme (over P5 million in 1987-88), it has however served to increase the incomes of those farmers with several oxen to hire out under the scheme, and the wealthier individuals who own tractors.[6] These are the very groups able to take advantage of low livestock prices during the drought and buy weakened animals from the smaller farmers for fattening at their own cattle posts, before selling through the BMC.

The effectiveness of the various agricultural drought relief measures is rather difficult to assess, and little survey work has been carried out to determine the

[6] Over P70,000 was paid to a Mr. Robert Frans Schroder of Lobatse in 1985 for the hire of his tractors under the scheme. He was subsequently charged for obtaining the money by deception. (Botswana Daily News, January 22, 1987.)

identity of the main beneficiary groups. The field clearance scheme has been in effect an extension to the LBRP programme and will undoubtedly have provided short term income for a considerable number of otherwise unemployed people. The Draught Power and Seed Subsidies have helped remove some of the major input constraints facing poorer farmers but their real contribution only manifests itself in a non-drought situation: with poor rains, they provide neither crops or income, except for the wealthier farmers with tractors or spare teams of oxen to hire. Similarly, the Cattle Feed Subsidy and Cattle Purchase Schemes have been of benefit only to cattle owners; the former mainly to the larger stockholders with sources of cash to buy the feed and the latter for the poorer farmers as a compensatory package for their animals that would have otherwise simply starved to death.

The low yields obtained by small farmers even in years of above average rainfall means that arable agriculture can be relied upon by most households as only one of several sources of subsistence. Per capita production of cereals has never exceeded more than 63kg/head since the mid 1970s and during the 1982-88 drought was below 20kg/head (RoB, Rural Development Council 1985, p.4). In this sense most arable agriculture can be seen as a residual activity. This suggests that drought relief measures directed solely at dryland crop production of the smaller farmers may be less effective in producing a regular income in the longer term than alternative strategies aimed more at preserving their herds.[7] We will be returning to this issue in the final section of this study.

The Water Development Programme served to augment during periods of drought both the District Councils' and the

[7] A similar conclusion was reached by a UN mission to Turkana District in Kenya.(WFP/FAO et al, 1988b, p.115)

Department of Water Affairs' own regular water development work, and had two components. The Councils were provided with grants to enable them to provide emergency supplies of water to smaller villages and settlements where the existing supplies were in danger of drying up. This usually took the form of bulk transportation of water by tractor driven bowser, the purchase of diesel pumps, tools and spare parts. The second component of the programme was the provision of funds to accelerate the implementation of existing projects run by Water Affairs, and involved the siting of new boreholes and the construction of water reticulation systems. The capacity of Water Affairs was greatly enhanced by the donations of air and rotary drilling rigs by USAID and SIDA at the beginning of the drought and worth over P2,000,000, although this increased drilling capacity was to put a severe strain on the siting teams. During 1983-84 an average of two out of three of the boreholes drilled by the Department proved blank (Borton 1984, p.90).

Apart from human water supplies, funds were also made available to groups of farmers (including syndicates, management associates and cooperatives) wishing to improve and develop irrigation systems for agriculture or livestock. However, the great bulk of funds granted so far have been used to improve water sources for livestock (UNDP et al 1985, p.71).

c) <u>The Vulnerable Groups' and Schools Feeding Programmes</u>.

After 1974, a new approach was adopted towards solving the problems of rural health care provision, which was later to have a direct influence on the distribution of relief rations during periods of drought. Using the substantial mineral revenues which had just began to come on flow, the government launched its Accelerated Rural

Development Programme (ARDP) and started the construction of health facilities throughout the country, whereas previously they had existed only in the major villages (see Table 3.2 below). Between 1973-6 60% of capital expenditure in the health sector was directed towards rural health facilities and by 1975 some 80% of the population lived within 10 miles of a facility (Colcough & McCarthy 1980, p.223).

TABLE 3.2: THE DEVELOPMENT OF HEALTH FACILITIES IN BOTSWANA, 1973-86

Facility Type	1973	1976	1986
Hospitals	7	7	12
Health centres	5	7	14
Clinics	45	64	116
Health Posts	20	280	482
TOTALS:	77	358	624

Notes:

1) Government facilities only.
2) Includes about 235 mobile facilities (mobile stops).

Sources:

1) RoB, *National Development Plan*, 1973-78, Part 1., 1973 and CSO *Medical Statistics 1976*, Medical Statistics Unit, MoA, 1976.
2) Food Resources Department, *Quarterly Progress Report*, WFP programmes, Jan-March 1986.

The main thrust of this new initiative was directed towards the provision of a basic level of health care for everybody in the shortest possible time, and was a radical departure from the previous approach, which was by its very nature inaccessible to the majority of the people. The development of rural health centres was to have an important influence on the structure of

subsequent drought relief operations, as henceforth the health facilities were also responsible for the distribution of relief rations. Drought relief food is now distributed at the health facilities by the resident Family Welfare Educator (FWE), who is assisted by a ration clerk in the larger units. Especially in the smaller and more remote areas, this system has two distinct but related advantages as far as the effectiveness of the drought relief programme is concerned: first, attendance at the health facility is greatly improved and pregnant mothers can receive ante-natal care whilst their other children are receiving food and being, at the same visit, assessed for their nutritional status. The dramatic rise in the attendance of pre-school children at health facilities (from 40,000 in 1980 to over 160,000 by 1986), was probably due more than anything else to the fact that food rations were collected there. The progress of TB patients undergoing long term medication can also be monitored more effectively if they can be relied upon to attend the facility regularly for their food rations. Second, the link between health and an adequate diet can be developed conceptually within the village community, and those children nutritionally at risk can be recognised and treated at an early stage within the community itself.

The typical village Health Post is usually a one or two roomed structure manned by the FWE, who is selected in rural areas by the Village Development Committee (VDC) and the village community as a whole (in urban areas this is not always possible and FWEs are rotated). FWEs are given about twelve weeks training in basic preventive health care, nutrition and hygiene, and receive only a modest salary. They are visited regularly by regional health staff.

Clinics are permanently staffed by trained nurses and include consultation rooms, a dispensary, and beds for

the observation of maternity cases. Health Centres offer more ancillary services than the Clinics, a larger maternity ward, and a few inpatient beds. Mobile Stops (included in Table 3.2 in the Health Post category) are situated in the more remote areas and have no permanent staff. As their name suggests, they are visited by clinic staff on a mobile basis, usually once a month, and it is at this time that food rations are distributed.

Botswana is divided up into Health Regions based more on population size than geographic area and which therefore often cut across sub-district boundaries. Each RHT is headed by a Regional Medical Officer who is a qualified medical practitioner and is responsible for the administration of medical care provision within the Region. A Regional Health Educator and Nutrition Officer (RHENO), is responsible for the implementation of the Nutritional Surveillance system in all health facilities, collects and collates their monthly reports, and then sends them to the Nutrition Unit in Gaborone. The data is then analysed by computer at the CSO and the results used by the EWTC and its parent committee, the IMDC, as a basis for policy formulation during the drought. The RHENOs also play an important training role for FWEs at sub-district workshops and in the field, and in the organisation of Direct Feeding.

Supplementary food rations have been available in since Independence to primary school children, pregnant and lactating mothers, TB outpatients and for medically selected children under five years of age. After 1982, medical selection of beneficiaries was dropped in drought afflicted rural areas, and two extra categories of beneficiary were included: non-school going 6 to 10 year old children, and "temporary" destitutes, i.e. those who had been rendered without visible means of support due to the effects of the drought, but who were expected to recover those means once the drought had abated. These

individuals are categorised as "Group B" destitutes to distinguish them from the "permanent" or "Group A" destitutes, who have always been eligible for Council relief funds. This latter group are mainly the old and infirm without any visible means of support and having no relatives to support them. They currently receive, in addition to the normal food rations, a sum of P30.00 per month which they can spend on essentials at a Council approved store in the village. Both groups of destitutes are selected by the VDC, Social Welfare Officer (SWO) and village extension workers. As the drought deepened in intensity after 1982, many "temporary" Group B destitutes were in fact re- classified into Group A "permanent" status.

Another category of beneficiary - the "Remote Area Dwellers" (or "RADs" as they are commonly called) - was created for those populations living outside organised village settlements, in areas not served by the usual range of social services such as schools and health facilities. A "Remote Area Development Programme" (RADP) was set up as a separate department within the MLGL and developed primarily to cater for the needs of the *Basarwa*, who formed the main ethnic group amongst the RADs.

Those beneficiaries living in areas classified as urban (Gaborone, Francistown, Lobatse, Selebe-Phikwe and Jwaneng), continued to be medically selected and in addition, received a much smaller ration than those in the rural areas. No destitutes or six to ten year old children (not registered at school) were eligible for rations unless medically selected. This disparity in ration levels was felt justified by the Nutrition Unit of the MoA because urban dwellers generally have a much greater opportunity for obtaining work (at least of a temporary nature) than their rural counterpart, and therefore their incomes are likely to compensate for the

smaller rations. In addition, urban dwellers have access to a greater range of social services than those normally available in rural areas, and what work they are able to obtain is usually "drought-proof". Finally, it was thought that discriminatory ration levels would help to slow down the rate of urban migration, already at a high level. Tables 3.3 and 3.4 on the following pages show the various ration levels and nutritional requirements for each beneficiary group, during the drought 1982-88 period.

Starvation in Botswana is seldom a dramatic and acute phenomenon. It is a cumulative and often insidious process which can manifest itself in a number of life-threatening diseases long before it reaches the terminal stage. It is these diseases, rather than the immediate lack of food, that is usually the actual cause of death. The group most at risk from these diseases (which include measles and chicken-pox) are young children, particularly those under five years of age. Chronic malnutrition in the very young, even where no apparent disease is evident, can result in severe physical and mental retardation which is irreversible, and it is for this reason that most relief efforts are directed at children.

The nutritional status of children is not only of intrinsic importance but also a critical indicator of the nation's health, as most households with underweight children also have other family members equally at risk. Since 1978, statistics on the incidence of malnutrition prevailing amongst children aged from six months to five years have been collected through monthly weighing at health facilities throughout the country, and the sample size grew to around 120,000 by 1984. For the purpose of the Nutritional Surveillance programme, malnutrition is defined in terms of being below 80% of the expected weight for age according to the Harvard standard, and

TABLE 3.3 : DAILY RATION LEVELS FOR SCHOOLS, VULNERABLE GROUPS, AND REMOTE AREA DWELLERS[1]

BENEFICIARY GROUP	ICSM/ M/MILK	VEG. OIL	DSM	SORGHUM GRAIN	SORGHUM MEAL	BEANS	MAIZE MEAL	SUGAR
URBAN VULNERABLE GROUPS (BASIC RATION)	80	15	-	-	-	-	-	-
RURAL VULNERABLE GROUPS (BASIC RATION)	200	25	-	-	-	-	-	-
UNDERWEIGHT CHILDREN (<80% WEIGHT FOR AGE)[2]	200	25	-	-	-	40	-	-
UNDERWEIGHT CHILDREN (<60% WEIGHT FOR AGE)[3]	-	60	80	-	-	-	-	50
URBAN SCHOOLS[4]	-	15	10	-	100	60	-	-
RURAL SCHOOLS	-	15	10	140	-	60	-	-
REMOTE AREA DWELLERS[5]	-	30	-	-	-	117	417	-	-

Notes:

1) Take home rations for Vulnerable Groups' and RADs usually provided on a monthly basis. Rural schools' rations during term time provided as cooked meal, with rations for weekends and public holidays provided in dry take home form.
2) This ration is provided in cooked form to all malnourished children up to age of five years in addition to the basic take home ration. Those children under 60% weight for age however, are not supplied with beans.
3) This ration is provided in the form of a drink called "Disco Milk" in addition to the basic take home ration and the extra cooked ration shown in (2) above.
4) Urban schools do not receive rations at weekends and holidays.
5) This works out at 1 litre of oil, 12.5Kg. maize meal and 3.5kg. of beans monthly.

Source: RoB, Food Resources Department, 1986.

TABLE 3.4: RATION TYPES AND NUTRITIONAL VALUE TO VULNERABLE GROUPS BY CATEGORY (RURAL/URBAN)

BENEFICIARY CATEGORY AND RATION TYPE (URBAN OR RURAL)	DAILY REQUIREMENT OF NUTRIENTS (AVERAGE) ENERGY (kcals)	PROTEIN (grams)	VALUE OF THE NUTRIENTS SUPPLIED IN EACH RATION ENERGY (kcals)	PROTEIN (grams)	PROPORTION OF REQUIREMENT MET BY EACH RATION (%) ENERGY (%)	PROTEIN (%)
PRE-SCHOOL CHILDREN						
(BASIC URBAN RATION)(1)	1830	29	437	16	23.88%	55.17%
(BASIC RURAL RATION)	1830	29	982	40	53.66%	137.93%
UNDERWEIGHT <80% W/A(2)						
(BASIC & COOKED RATIONS)	1830	29	2099	88	114.70%	303.45%
UNDERWEIGHT <60% W/A(3)						
(BASIC & COOKED RATIONS)	1830	29	2987	108	163.22%	372.41%
PREGNANT WOMEN (4)						
(BASIC URBAN RATION)	2500	54	437	16	17.48%	29.63%
(BASIC RURAL RATION)	2500	54	982	40	39.28%	74.07%
LACTATING MOTHERS(5)						
(BASIC URBAN RATION)	2500	65	437	16	15.89%	24.62%
(BASIC RURAL RATION)	2750	65	982	40	35.70%	61.54%
6 TO 10 YEARS NON-SCHOOL (RURAL AREAS ONLY)(6)	2395	39	982	40	41.00%	102.56%
TB OUTPATIENTS(7)						
(BASIC URBAN RATION)	3000	53	437	16	14.57%	30.19%
(BASIC RURAL RATION)	3000	53	982	40	32.73%	75.47%
DESTITUTES A & B (RURAL AREAS ONLY)(8)	3000	53	982	40	32.73%	75.47%
REMOTE AREA DWELLERS(9)	3000	53	2140	59	71.33%	111.32%

NOTES:

(1) Requirements for all pre-school children based on an average age of 4-6 years.
(2) This includes both take home and cooked rations.
(3) This includes take home and cooked rations, plus the provision of "Disco Milk".
(4) Requirement based on the last half of pregnancy. Pregnant mothers get a ration from the day they are certified pregnant until the day they deliver.
(5) Lactating mothers receive their ration for 12 months from delivery.
(6) Requirements based on average of 7-9 and 10-12 year old groups.
(7),(8),(9) All beneficiaries assumed to be adult males.

Source: Adapted from the FAO Nutritional Studies, Handbook No.28, FAO, Rome 1974.

severe malnutrition as being below 60% of the expected weight for age. This forms the basis of Botswana's Nutritional Surveillance System and is used as a reasonable indicator of welfare and of nutritional status over time. The results are compiled by the Central Statistics Office (CSO) and used in the Early Warning System for monitoring the effects of drought conditions. The Health Status Evaluation Programme of 1984 was based on the survey used by the National Surveillance System amongst children of under five years of age, but was extended in its scope to include adults. Almost 30% of all people included in the study were moderately underweight, 10% of the adults suffered from protein-energy malnutrition and 16.7% were anaemic:

> "Overall, intake of staples (cereals) was considered adequate, although, given the drought, dependence on the relief programme for these commodities was high. Intake of protein food was barely sufficient, and comprised a limited range of foodstuffs, mainly beans and meat, with fish and eggs in some places. Young children in particular tended to lack access to protein foods. Milk consumption was clearly inadequate, and again depended considerably on the inclusion of milk in relief rations. Finally, intake of vegetables and fruit was grossly inadequate, with only about 30% of people found to be commonly eating vegetables, and most of which were wild plants. This finding relates to the fairly high prevalence of anaemia" (RoB, Rural Development Council, 1985, p.5).

In Botswana, there exists a persistent level of malnutrition in just over 25% of children under five years of age, even in non-drought years, implying that a sizeable proportion of rural households experience chronic food deficits related to low incomes and lack of assets. Though the prevalence of malnutrition even in non-drought years suggests that the problem is structural, the level of severity is relatively low in

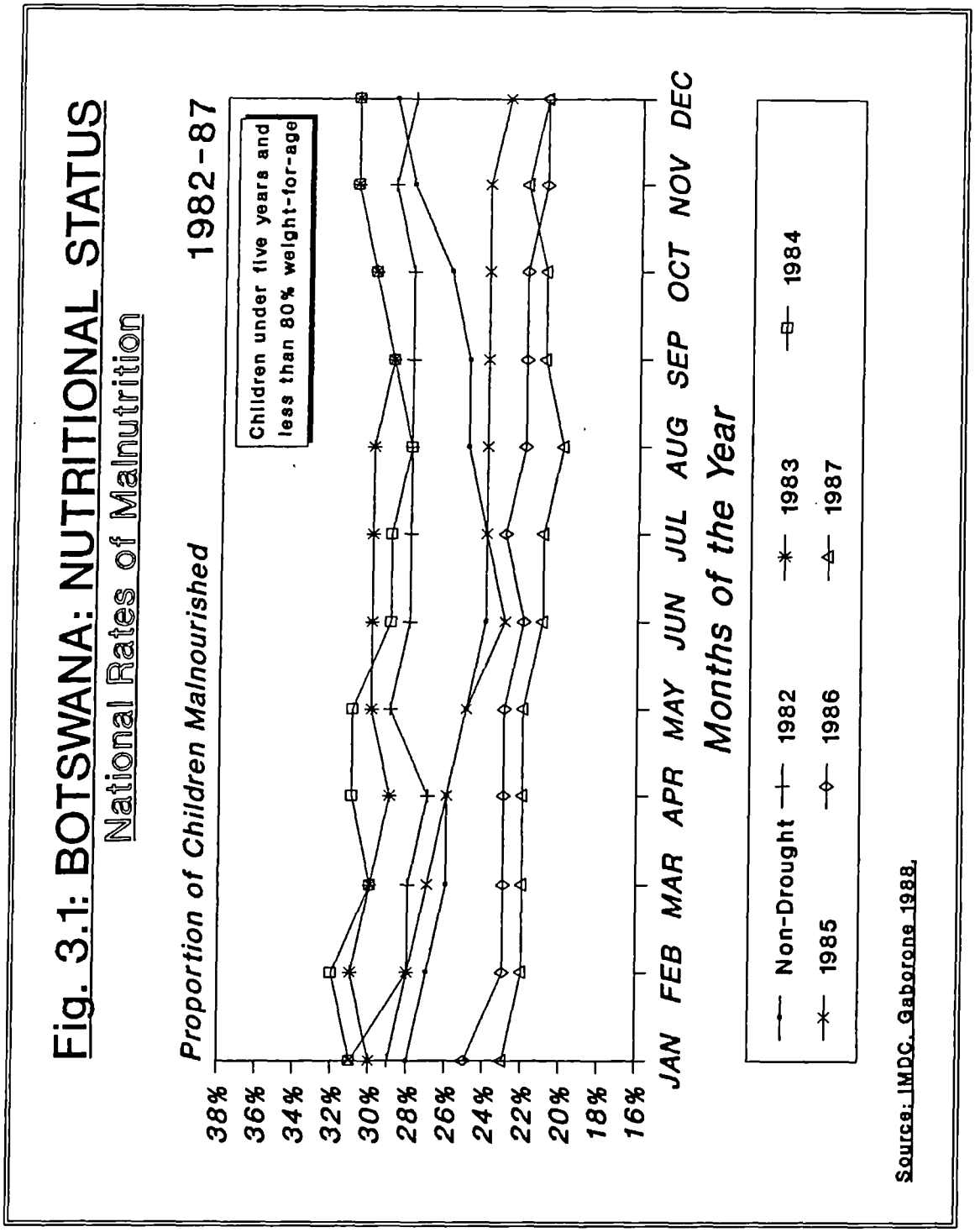


Fig. 3.1: BOTSWANA: NUTRITIONAL STATUS
National Rates of Malnutrition
1982-87
Proportion of Children Malnourished
Children under five years and less than 80% weight-for-age
38%
36%
34%
32%
30%
28%
26%
24%
22%
20%
18%
16%
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
Months of the Year
Non-Drought
1982
1983
1984
1985
1986
1987
Source: IMDC, Gaborone 1988.

comparison with other Sub-Saharan countries (RoB, Rural Development Council 1985, p.6). In the fourth year of drought (i.e. 1985-86) the Nutritional Surveillance System recorded about 1000 children registered at health facilities of less than 60% of their expected weight for age, and other reports suggested that the total number did not exceed 2000 nationally, or about 1% of this age group (RoB, Rural Development Council, 1985, p.6). Figure 3.1 on the previous page shows the average incidence of malnutrition nationally amongst children under five years of age over the drought period of 1982-87. It indicates the percentage of children *registered* at health facilities who were below 80% of the expected weight for their age, including those under 60% weight for age.

During non-drought periods, the pattern of malnutrition (here represented notionally on a three-year average of "normal" years) usually shows a seasonal variation of about 4%, on average being between 24% (immediately after harvesting) to 29% in December, after planting but before the early ripening crops are sown. It is clear from the graph that the rates of malnutrition amongst the under fives rose during the period 1982-84 despite the considerable expansion of the supplementary feeding programmes, and the seasonal recovery seen in the post-harvest period (around June-July) in non-drought years is absent. A significant decline in the incidence of malnutrition is indicated after 1985, with rates falling to below non-drought levels throughout the rest of the period through to the end of 1987. Changes made to the Nutritional Surveillance system during 1984 has meant that for year to year comparison purposes, data collected after 1985 was adjusted by the CSO. The rates of malnutrition shown in the following graphs were supplied by the IMDC and reflect these adjustments.

These aggregate figures obscure marked regional variations in rates of malnutrition. Higher rates were

observed in the remote areas, small villages, lands areas and cattle post settlements, and rates appeared to be higher in some Districts than in others. With the national rate at 29-31% in 1984, for example, Ghanzi, Kwaneng, Southern and Kgalagadi Districts had a recorded incidence of malnutrition of 32-42% for most of the year (RoB, Rural Development Council, 1985, p.5).

One factor at work here which we have noted in the General Introduction is the variance in rainfall patterns and climatic conditions which in the drier zones can inhibit arable agriculture and limit the type of crops grown:

> "Remote areas of Kgalagadi, Ghanzi, and western parts of Kwaneng and Southern Districts have serious problems with the availability of fresh fruits and vegetables. This situation therefore raises questions about the mineral and vitamin adequacy of the diets of children there (IMDC, *Drought Assessment Tour Report*, Jan.- Feb.1987, p.2).

But citrus fruits and vegetables <u>are</u> grown in Botswana on a commercial basis, in the Tuli Block along the eastern border with South Africa, to where most of the produce is exported. Though these items remain readily available in the larger villages in the eastern hardveldt, and on a limited scale in the more remote areas mentioned above, the cost of transporting them to the latter is high and they are usually prohibitively expensive for most households.

This, and the regional differences shown in Figures 3.2 to 3.5 shown on the following pages, reinforce the view touched upon implicitly in earlier chapters, that the inadequate nutritional status of many households in Botswana is more a function of overall income levels than determined solely by regional arable *production* or *availability*.

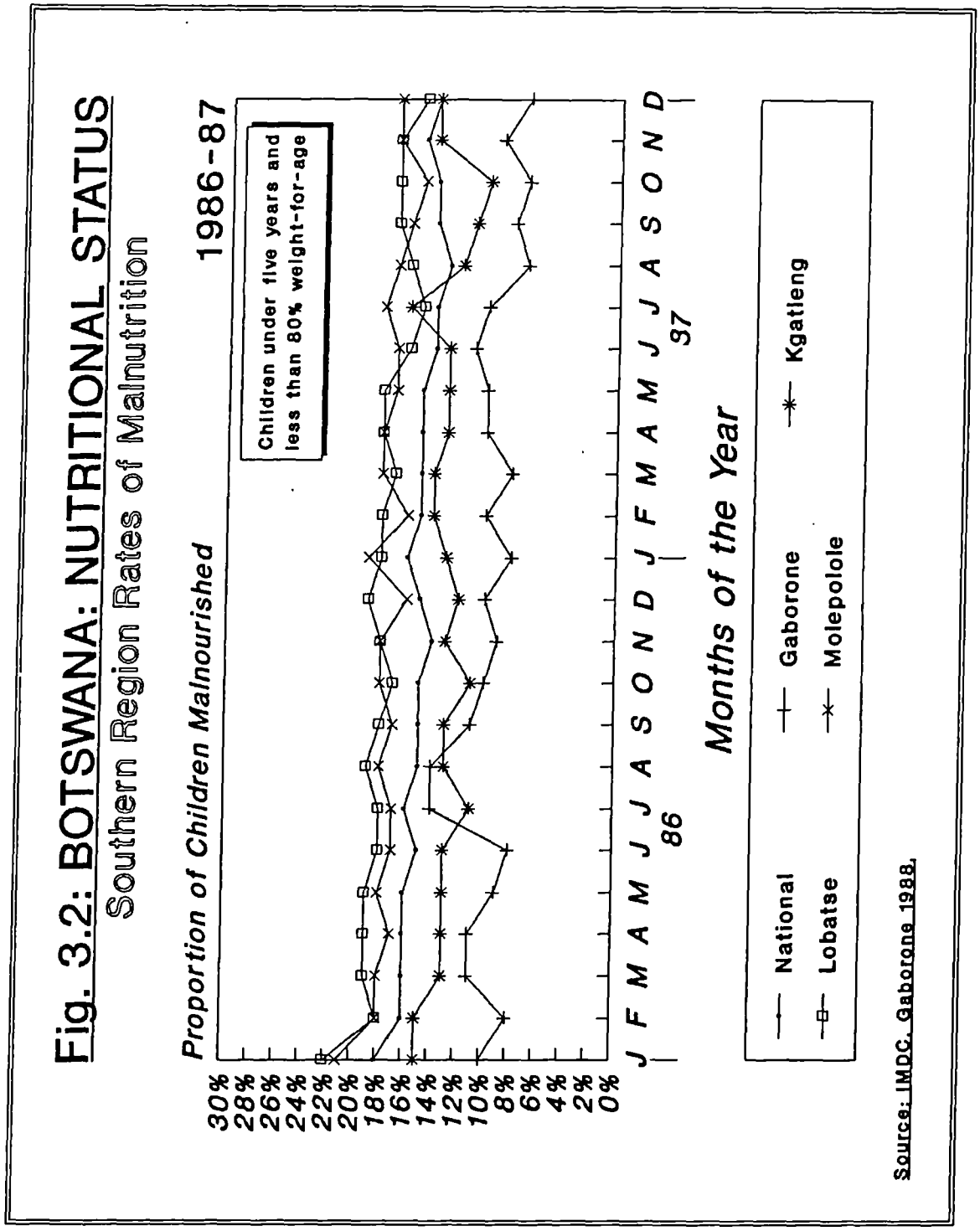


Fig. 3.2: BOTSWANA: NUTRITIONAL STATUS
Southern Region Rates of Malnutrition
1986-87
Proportion of Children Malnourished
Children under five years and less than 80% weight-for-age
30%
28%
26%
24%
22%
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
J F M A M J J A S O N D J F M A M J J A S O N D
86
87
Months of the Year
National
Gaborone
Kgatleng
Lobatse
Molepolole
Source: IMDC, Gaborone 1988.

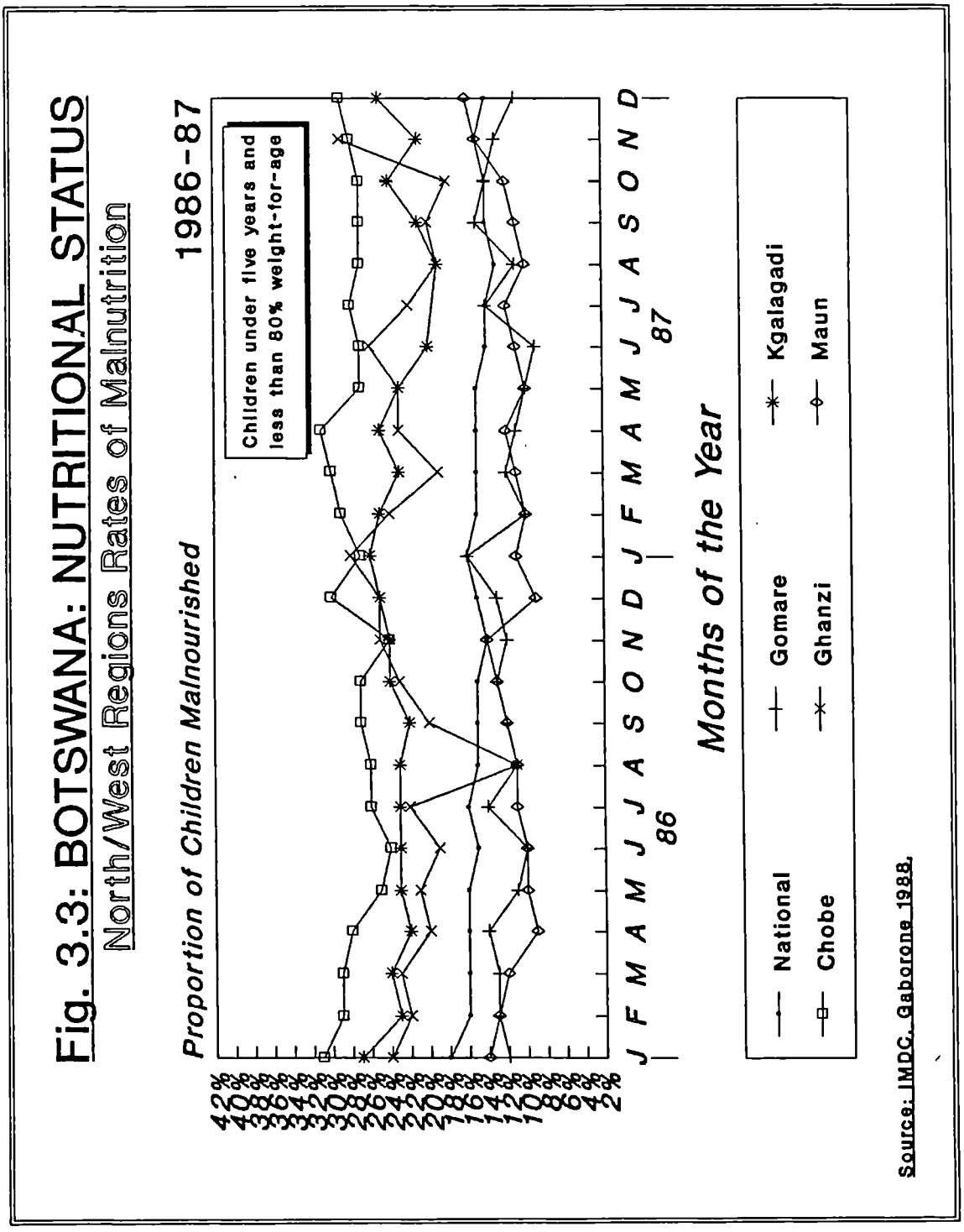


Fig. 3.3: BOTSWANA: NUTRITIONAL STATUS
North/West Regions Rates of Malnutrition
1986-87
Proportion of Children Malnourished
Children under five years and less than 80% weight-for-age
42%
40%
38%
36%
34%
32%
30%
28%
26%
24%
22%
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
J F M A M J J A S O N D J F M A M J J A S O N D
86
87
Months of the Year
National
Gomare
Kgalagadi
Chobe
Ghanzi
Maun
Source: IMDC, Gaborone 1988.

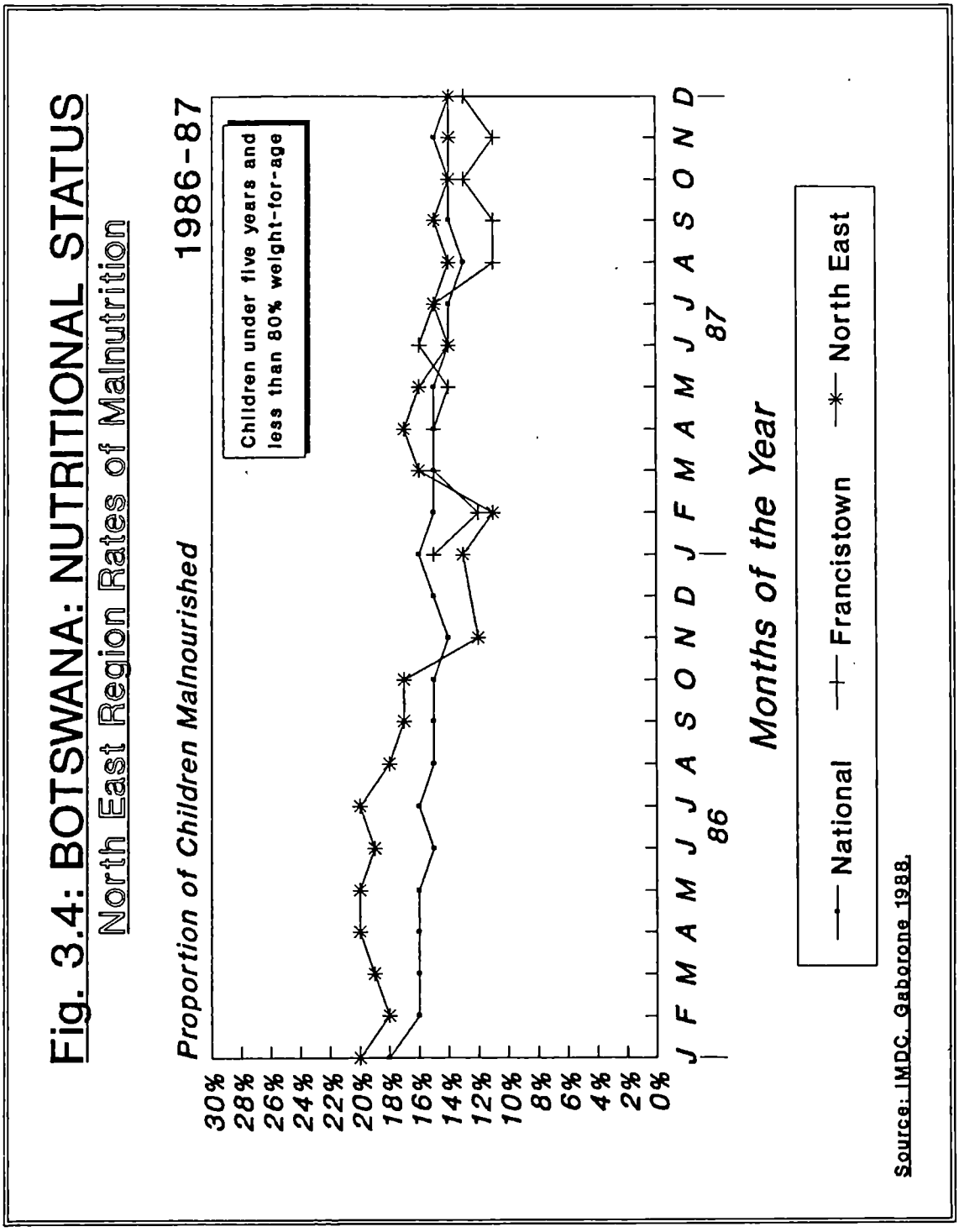


Fig. 3.4: BOTSWANA: NUTRITIONAL STATUS
North East Region Rates of Malnutrition
1986-87
Proportion of Children Malnourished
Children under five years and less than 80% weight-for-age
30%
28%
26%
24%
22%
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
J F M A M J J A S O N D J F M A M J J A S O N D
86
87
Months of the Year
National
Francistown
North East
Source: IMDC, Gaborone 1988.

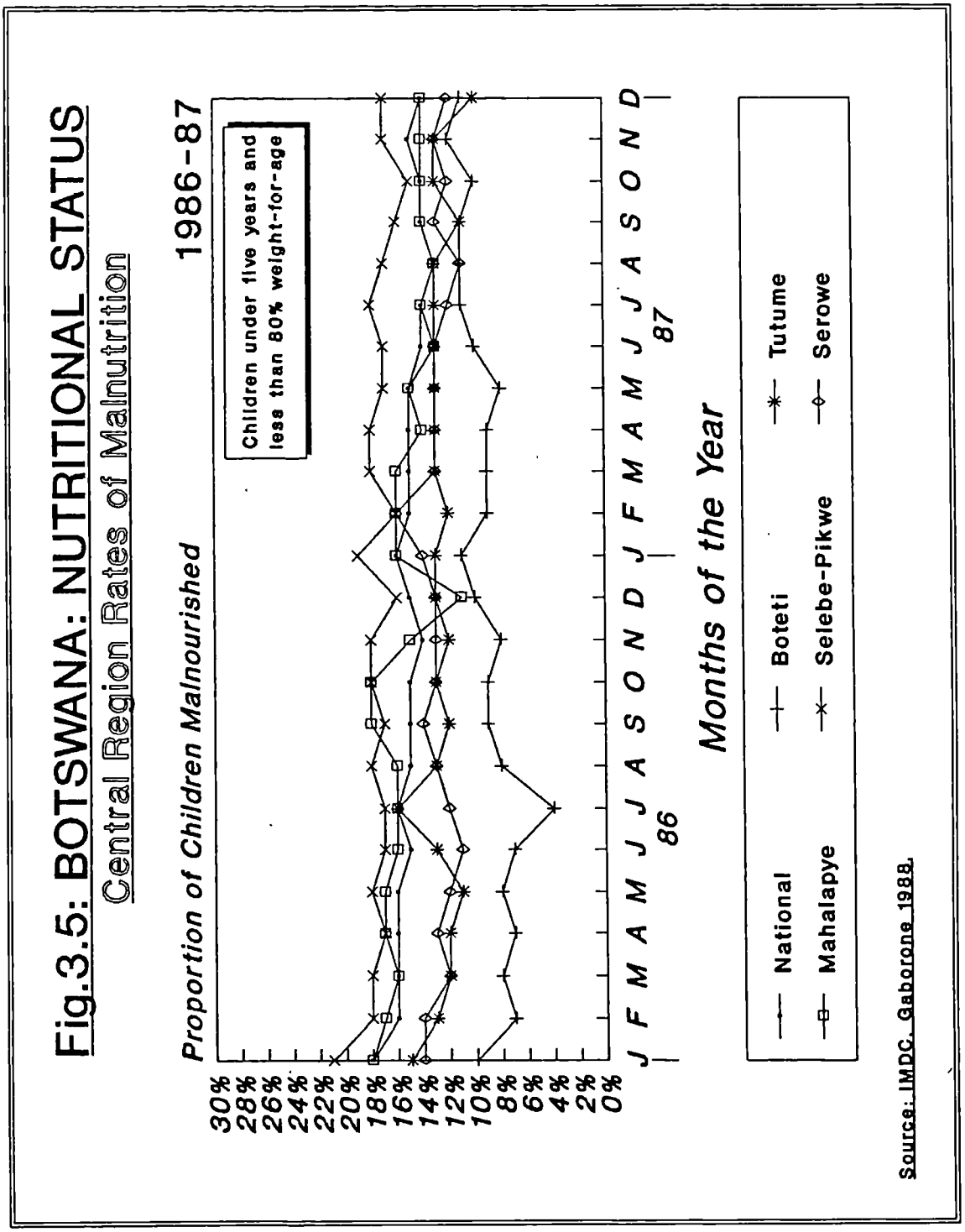


Fig.3.5: BOTSWANA: NUTRITIONAL STATUS
Central Region Rates of Malnutrition
1986-87
Proportion of Children Malnourished
Children under five years and less than 80% weight-for-age
30%
28%
26%
24%
22%
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
J F M A M J J A S O N D J F M A M J J A S O N D
86
87
Months of the Year
National
Boteti
Tutume
Mahalapye
Selebe-Pikwe
Serowe
Source: IMDC, Gaborone 1988.

In Figure 3.3 for example, Chobe District is seen to have a consistently high malnutrition rate throughout the period 1986-87, despite the fact that it is one of the few areas of large scale commercial farming in the country and the most ideally suited for growing cereals under dryland conditions. This phenomenon is still to be fully investigated, but it appears that a significant number of households in the area are still unable to participate in arable agriculture and this may be due to lack of land, cattle, labour, or a combination of all three. The fact that the district has by far the highest yields of sorghum, estimated at six times the national average in 1987-88, (RoB, IMDC, 1987, p.3), does not necessarily mean that the grain stays within the district once harvested.

This applies equally well to the freehold farms around Ghanzi in the west, shown on the same graph. Whilst the malnutrition rates in Ghanzi are again seen to be consistently high over the same period, it remains one of the best livestock ranching areas in the country with the President himself owning some 128,000 acres. What the graphs can not illustrate is malnutrition at the micro level.

With cereal production relegated to a residual activity in all but "good" years, and the ownership of cattle now beyond the reach for an increasing number of households, it is clear that many have now lost all access to productive assets save their own wage labour, and this as we have seen in previous chapters is also no guarantee to an adequate diet. At Talana Farms, a freehold farm in the Tuli Block, the rate of malnutrition amongst the under fives was 40% despite full employment, which is perhaps indicative of the level of wages paid there.[8]

[8] See previous Section of the study on the spatial distribution of poverty.

Malnutrition can thus be seen as just one manifestation of poverty, a lack of access to or ownership of productive assets and an inability to command a subsistence wage on the labour market. The policy implications for this are clear: a strategy aimed at reducing malnutrition that looks solely at aggregate production of cereals, at a national or even regional level, and fails to take into consideration the individual household's *effective* demand for those cereals seems doomed to fail. Yet that seems to have been the approach taken after the harvest of 1985 which followed on from good rains over several districts. Certain of these districts were declared drought recovery zones in June 1985 and, from then onwards, medical criteria were applied in the selection of beneficiaries. We will be investigating the outcome of medical selection on malnutrition rates, and other anomalies, in subsequent sections after we have first looked at the supplementary feeding programmes in more detail. The numbers of beneficiaries reported to FRD as participating in the various programmes during the period 1982-88 are given in Table 3.5 overleaf. The beneficiary figures for 1986 represent about 56% of the total population at that time. There are a number of points worth mentioning about the data in this table. The first point is that the overall number of beneficiaries in the Vulnerable Groups' programme appears to reach a peak in 1985 and then decline during 1986 and 1987, and this is contrary to what would be expected in the fourth and fifth years of drought. There are at least two possible explanations for this phenomenon. First, the presence in the programme of four UNV food management advisors from mid-1985, working at District level FRD depots and Health Centres, improved the accuracy of the reporting and food distribution systems and thus removed the tendency to overestimate beneficiary levels to secure adequate supplies of food.[9]

[9] I was posted in Serowe, covering Palapye Region FRD. See Map 3.

TABLE 3.5: BENEFICIARIES OF BOTSWANA'S VULNERABLE GROUPS', PRIMARY SCHOOL CHILDREN, AND REMOTE AREA DWELLERS' PROGRAMMES: 1982-88

	1982[1]	1983	1984	1985	1986	1987	1988
VULNERABLE GROUPS' PROGRAMME							
Pregnant Women	N/A	23454	22135	18453	19437	19172	7193
Lactating Mothers	56708	46033	51918	47364	42349	43504	16790
Pre-School Children[2]	174722	170594	185600	188201	162479	169228	56099
TB Outpatients	5454	9539	11723	13902	7347	4519	2122
Children 6 - 10 yrs (non-school)	N/A	62340	85264	88012	80460	84544	9471
Destitutes A (permanent)	N/A	7203	8550	7121	5875	6430	735
Destitutes B (temporary)	N/A	21193	27604	31966	36707	35603	26845
Malnourished Children <80%[3]	N/A	N/A	6938	13851	14927	14394	11732
Sev. Malnourished Children <60%	N/A	N/A	N/A	N/A	1387	1184	887
VULNERABLE GROUPS' TOTALS:[4]	236884	340356	392794	395019	354654	373000	119255
PRIMARY SCHOOL CHILDREN:	190496	198646	209266	217790	236884	249084	261219
REMOTE AREA DWELLERS':[5]	N/A	N/A	20000	20000	24349	29999	38468
GRAND TOTAL OF BENEFICIARIES:	427380	539002	622060	632809	615887	622084	418942

NOTES:

1) In 1982 no distinction was made between pregnant women and lactating mothers. There was also no category of Destitutes. No data available from FRD on the number of malnourished children or RADs. The Vulnerable Groups' programme was expanded in 1982 to include those children between the ages of six and ten and not attending school. Medical selection was dropped following the declaration of drought.
2) The Pre-school category indicates all children between the age of 4 months and 5 years, including malnourished and severely malnourished children.
3) Malnourished and severely malnourished children are defined as being less than 80% and 60% of their normal weight for age respectively. See text for details.
4) Most areas of the country were declared drought recovery in 1988 and therefore VG beneficiaries were subject to medical selection. In addition, the "6 - 10 year non-school" category largely disappeared, and provision for Destitute A categories was in most cases taken over by the local councils. These totals do not include the malnourished and severely malnourished categories which are already accounted for in the Pre-School Totals category.
5) Data for Remote Area Dwellers in 1984 and 1985 are estimates from FRD and Rural Development Unit, cited in UNICEF/UNDP/WHO, 1985.

Sources:

1) For period 1982-85, data obtained from FRD Project 324 II Quarterly Reports to WFP, Oct. to Dec. Reports. Food Resources Dept., MLGL. Data for 1986 obtained from FRD Monthly Report for September 1986.

Second, the fact that certain districts were declared drought recovery zones in June 1985 meant that beneficiaries were medically selected and that two categories (Destitutes and children between the age of six and ten years not attending school) were excluded from further rations, may have led to confusion about which categories of beneficiary should have been re-registered, when this declaration was officially reversed the following year.[10]

But the most significant feature of the data as presented here is the amount that is missing up to 1985, which lends credence to the earlier comment about the UNVs and their growing contribution, from late 1985 onwards, to improvements in the reporting system. Up to that time accurate data on perhaps the two most vulnerable beneficiary groups, the severely malnourished and the RADs, was unavailable.

In the first case, this was due to the fact that the health facilities never differentiated between children who were moderately underweight (<80% weight for age) and those severely underweight (<60% weight for age) in their requests for food from FRD. As the latter were supposed to be supplied with special high protein rations by FRD based on these requests, it is clear that in many instances the children eligible for these rations never received them. In the second case, data for the number of RADs eligible to receive rations was simply never collected on a regular basis by the Remote Area Development Officers (RADOs) responsible for this task. With no data on which to base its supply requirements, the FRD regularly ran out of those commodities

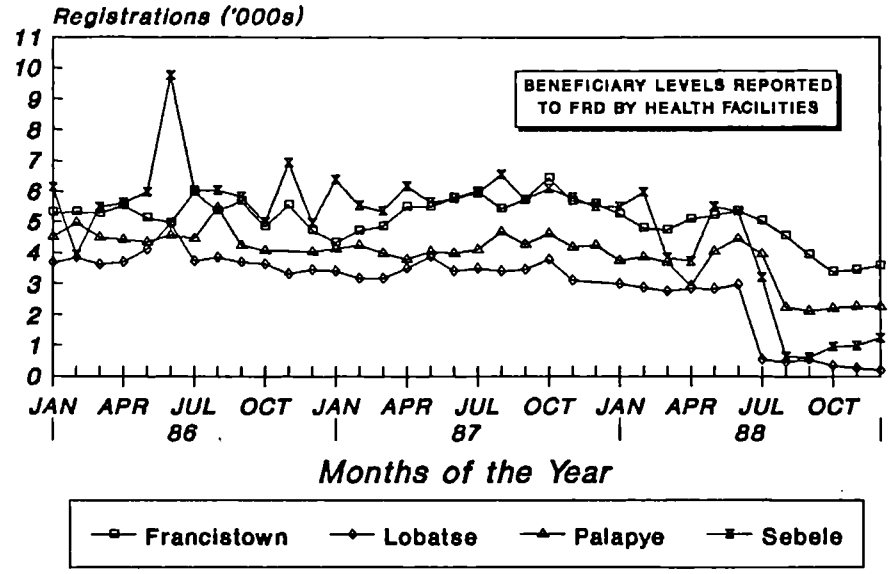
[10] Bobirwa, North-East District, Chobe District and Tutume were declared recovery zones in June 1985. As we shall see in the following section, this had profound effects on existing malnutrition rates in these areas. Most areas of the country were declared free of drought in 1988 and VG beneficiaries were then subject to medical selection. See Table 3.4 for an indication of how beneficiary figures were affected.

specifically allocated to the RADs. As we shall see in subsequent sections, when we examine the management of the individual elements of the programme, administrative shortcomings such as these were to be a recurring feature of the food distribution system.

Figures 3.6 to 3.11 shown on the following three pages give a more detailed picture of the variation in beneficiary levels using monthly data over the period 1986-88, with a breakdown by FRD region. (Details of destitutes, RADs and primary school children are shown later, under their respective sections). It should be noted that medical selection for all beneficiaries (except TB outpatients) was introduced from the middle of 1988 onwards, and that for most areas this resulted in a rapid decrease in all categories of beneficiary registration.

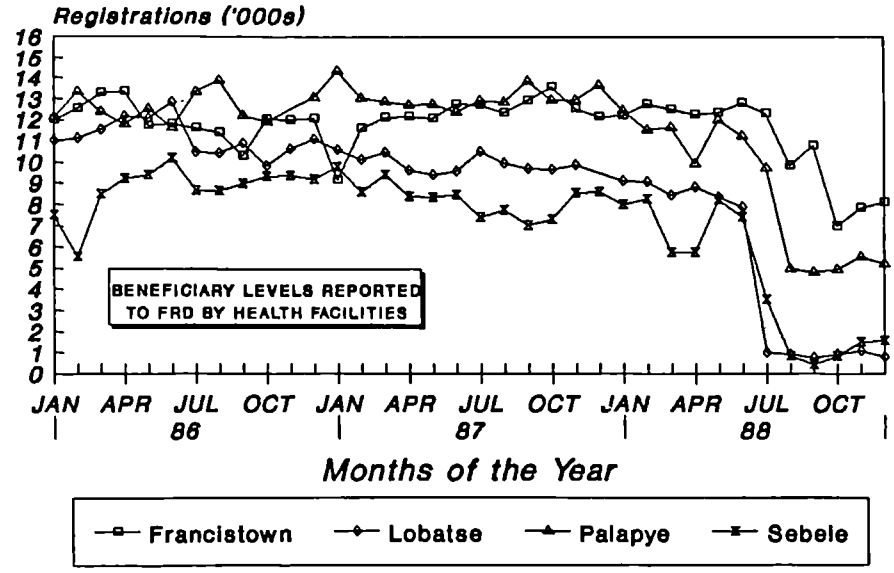
Of particular significance to any meaningful assessment of the effectiveness of the relief programme are Figures 3.8, 3.9 and 3.10. Taking these Figures in order, we can see that the number of registered TB outpatients has fallen steadily during the 1986-88 drought period. This must be due largely to the fact that both medication and supplementary rations can be dispensed to the TB patient at the same time by the village FWE. The *treatment* of TB within the community by the rural health facilities during the period of drought appears to have been quite successful, but it remains to be seen whether the main underlying causes for the proliferation of the disease in the first place are being adequately tackled, and whether many TB patients will in fact regress with the disease when they are no longer eligible for food rations. Figure 3.9 shows that the number of six to ten year old children (i.e. of primary school age) not registered at school throughout the period is still considerable.

Fig.3.6: VULNERABLE GROUPS' PROGRAMME
PREGNANT WOMEN REGISTERED AT HEALTH FACILITIES BY FRD REGION: 1986-8



Source: FRD, Gaborone 1986-8.

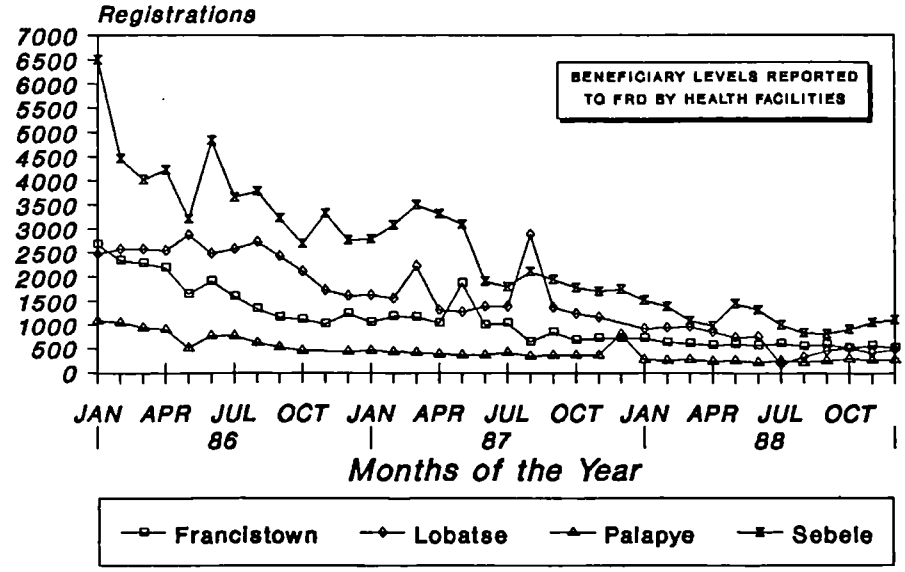
Fig.3.7: VULNERABLE GROUPS' PROGRAMME
LACTATING MOTHERS REGISTERED AT HEALTH FACILITIES BY FRD REGION: 1986-8



Source: FRD, Gaborone 1986-8.

Fig.3.8: VULNERABLE GROUPS' PROGRAMME

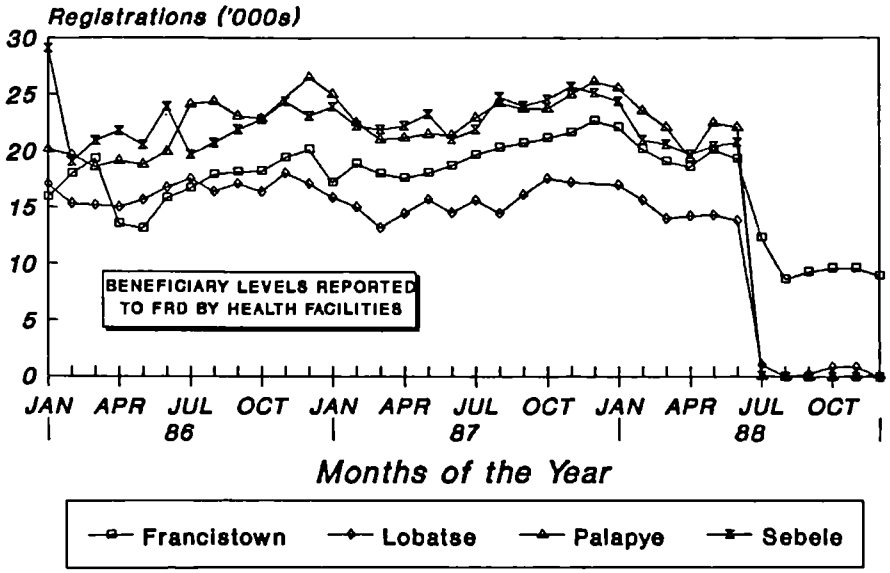
TB OUTPATIENTS REGISTERED AT HEALTH FACILITIES BY FRD REGION: 1986-8



Source: FRD, Gaborone 1986-8.

Fig.3.9: VULNERABLE GROUPS' PROGRAMME

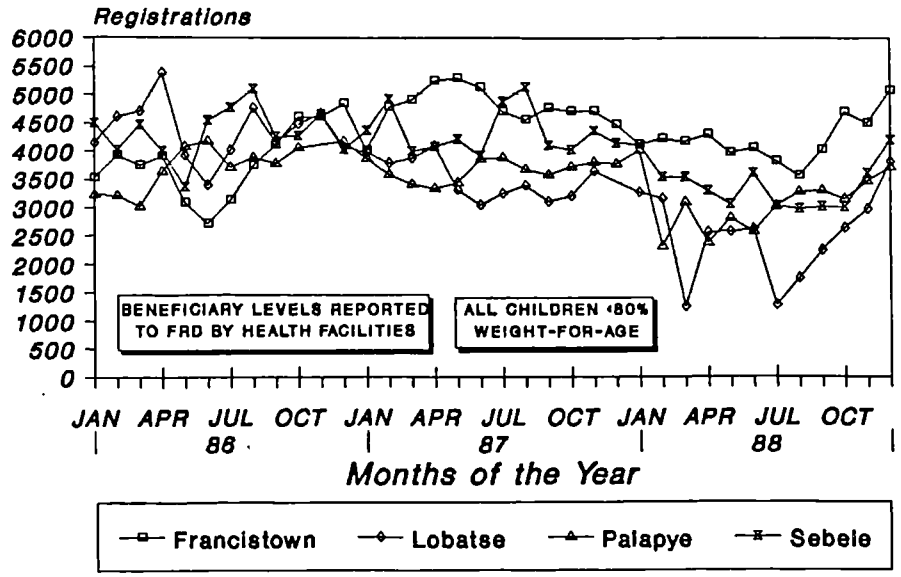
CHILDREN SIX TO 10 YEARS REGISTERED AT HEALTH FACILITIES BY FRD REGION: 1986-8



Source: FRD, Gaborone 1986-8.

Fig.3.10: VULNERABLE GROUPS' PROGRAMME

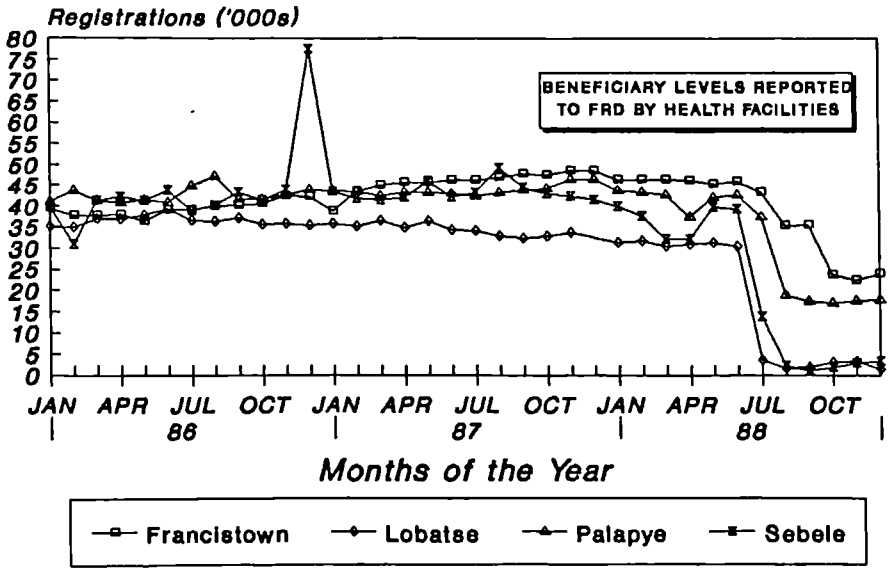
MALNOURISHED CHILDREN REGISTERED AT HEALTH FACILITIES BY FRD REGION: 1986-8.



Source: FRD, Gaborone 1986-8.

Fig. 3.11: VULNERABLE GROUPS' PROGRAMME

PRE-SCHOOL CHILDREN REGISTERED AT HEALTH FACILITIES BY FRD REGION: 1986-8



Source: FRD, Gaborone 1986-8.

It also shows quite clearly the dramatic fall in the number of registrations after June 1988, when most areas were declared recovery zones and this category of beneficiary became no longer eligible for rations. This is despite the fact that a UN study in 1985 considered that:

> "...the coverage of children of school age not going to school is probably a more important target than school attenders. Although primary education is free in Botswana, it is still likely to be the children of the poorer families who do not go to school. Whether school feeding programmes should be regarded as supplements to individual children's diets or supplements to the child's family, children not attending school are likely to be the most vulnerable, and their siblings most at risk" (UNDP et al 1985, p.63).[11]

Figure 3.10 shows the *number* of malnourished children (i.e. less than 80% weight-for-age, and including those under 60% weight-for-age) *registered* at health facilities and reported to FRD over the period 1986-88. It should be compared with Figures 3.2 to 3.5, which give the *proportion* of children under five and malnourished, and are based on the official IMDC/Regional Health Teams data for the period 1986-87.

During the course of the 1982-88 drought, it was found by the UNV advisors seconded to FRD and working in the field, that the success or failure of the supplementary feeding programme could be attributed to two main factors. The first was the management of those elements of the programme over which the individual FWE had no direct control, particularly the regularity of the food

[11] The proportion of six to ten year old children not registered at primary school is shown graphically by FRD district, in Figures A67-A83 in the Appendix. Clay & Singer (1985) survey of the available literature noted that several studies indicate that where primary school attendance is voluntary, children from poor households and at greatest nutritional risk, are least likely to enter formal education. Many evaluators conclude that school meals programmes have a built-in bias against the poor (p.101).

supply from the FRD District Depot, and the medical backup of the Regional Health Team. The second was the ability and dedication of the individual FWE as she worked in her own community, and whether she could elicit support for her efforts from the VDC, social welfare workers and Village Health Committee. The FWE's most important preventative role lay in monitoring the nutritional status of the people living in and around the village so that sufficient food could be delivered by FRD. For this to be done effectively, she needed to assess the number of individuals that required supplementary food rations.

Up until 1984, little had been done to determine accurately how many people would take up their ration entitlements, and therefore how much food would be required to run the relief programme. In the absence of clear information from the CSO (who were still processing the 1981 Census data), on the maximum numbers that could be expected of the pregnant and lactating women, children under the age of five, and in the other categories, food requirement projections were little better than informed guesses. Since 1982 the number of beneficiaries reported by the health facilities had continued to rise and this had resulted in several shortfalls of donated foodstuffs which were only made good by last minute government purchases. It was far from clear whether the beneficiary levels accurately reflected the current need for food rations, or whether a number of recipients were claiming more than one ration. The introduction of ration cards, was aimed primarily at reducing the incidence of double rationing and keeping it to an absolute minimum. They were introduced along with a revised "Food Receipt" form which was an attempt to improve the accounting of the commodities received by the health facility from the FRD Depot. This form was designed to function not only as a receipt for the food received when handed back to the FRD driver, but to enable the FWE to record the latest

beneficiary figures on which FRD would base its next supply.

The Food Receipt form (FR1) provided a simple method of communicating the latest food supply requirements to FRD, and replaced the previous aggregate method of monthly estimates of beneficiaries made by CSO and the Regional Health Teams. Beneficiary levels could be collated for all food distribution centres (health facilities, schools and RADs settlements) to obtain the current District Depot and Regional food requirements, and this method was to form the basis of the Department's logistic, planning and reporting systems after 1985.

However, the ration cards did not serve their intended purpose when distributed by each health facility, for two reasons. First, it did not entirely eliminate double rationing as people registering at more than one health facility in different villages could obtain several ration cards. Then, as food was distributed by each health facility on a different day of the month, several rations could be collected by visiting each village in turn. The only way this could have been completely eliminated was by having rations distributed on the same day each month but the Government felt that this would impose too great a restriction on peoples' movements, and too great a burden on health staff, particularly at the larger facilities. However, evidence from the field suggests that the overall incidence of double rationing was probably quite small.

Secondly, the number of ration cards issued by a particular health facility did not necessarily correspond to the number of individuals actually attending to collect rations. This is because it did not take into consideration seasonal migration, and only a reasonable approximation for the aggregate level of demand for rations on a District or Regional basis. What was of more

concern to the actual functioning of the programme was how many beneficiaries were attending for food rations in each individual health facility at any one time and hence, how much food was required from FRD. Some FWEs perceived this problem at an early stage and sought ways to overcome it. They would for example keep precise records of the number of beneficiaries currently registered at their health facility and the monthly attendance for collecting their rations, striking off the register those who were no longer eligible, had migrated, or had otherwise not attended for several months. In the larger villages with hospital facilities, some FWEs would even keep separate records of temporary residents undergoing medical treatment at the Outpatients' Clinic and collecting their rations there. The number of extra rations required was then communicated to FRD so that the Depot could supply an appropriate amount of extra food. Where such records were kept, the food supplied by FRD usually proved sufficient and the system worked in a satisfactory manner.

At other health facilities, no registers were kept of the number of people attending for rations, or were badly conceived and took a disproportionate amount of time to maintain. Building on these examples, suitably designed registers to enable FWEs to carry out this task nationally were introduced by the UNV advisors in early 1986 and workshops convened on a District basis to train them in their use. In this way seasonal migratory patterns could be accommodated, with beneficiaries being taken off the register of one facility and entered into another, with the revised food requirements in both being reported to FRD.

The need for accurate recording of beneficiaries and the desirability of registers being introduced as part of the FWEs' basic training, was never fully appreciated either by FRD Headquarters or the Nutrition Unit at the MoH,

despite the fact that such records formed the basis for all food requirement projections at district, region and national levels. Consequently, registers were never officially introduced at the health facilities. As this meant that many health facilities continued to report inaccurate beneficiary levels, one consequence was that some centres ran out of stock too early (thus leaving some beneficiaries without food), whilst others were grossly overstocked with food which often became rotten or infested before it could be distributed.

The basic ration used in the Supplementary Feeding Programme is collected on a monthly basis from the health facility and taken home. Although the rations are targeted towards individuals and not households, one survey in 1985 found that over 90% of households share at least some of the food within the family, despite the fact that about one half of the members would not normally fall into a "vulnerable group" category (UNDP et al 1985, p.65). This sharing of rations was found in some cases to be to the disadvantage of younger children; however, the same survey noted that it was those households with the highest dependency on food aid (i.e. those with the fewest alternative sources of food) that shared the rations most equitably (Ibid., p.66). Given these factors, it was decided that to afford sufficient protection to younger children (particularly if they were already malnourished), it was necessary to provide a cooked supplement at the health facility in addition to the take-home rations.

As a consequence, the Direct Feeding programme was conceived and designed to provide underweight children with not only the normal take home ration of Corn Soya Milk (CSM) and Vegetable Oil, but also with a cooked ration, together with a portion of beans which were provided specially for this purpose. This meal was augmented by other foodstuffs bought from an imprest fund

supplied to the health facility and usually consisted of meat, eggs, milk, vegetables, nuts, etc. Severely underweight children also received a high protein and high calorie blend of Dried Skimmed Milk (DSM), vegetable oil and sugar, taken in the form of a drink and called "Disco Milk".

The main objective behind the provision of a cooked meal at the health facility was to reduce the high prevailing incidence of malnutrition, which can be interpreted in terms of a low weight for age or a low weight for height. The former method of identification predominates in Botswana and forms the nucleus of the Nutritional Surveillance System mainly because it is thought of as being the easiest to apply.

> "The inclusion of height data in nutritional surveillance was done in the past, but is now only envisaged in the medium term, or as part of special focused studies due to time and practical constraints" (Moremi 1985)

There are other methods: a measurement of less than 13.5 cms at the left middle upper arm in children aged 1 to 5 years indicates a degree of malnutrition. A measurement of less than 12.5 cms. indicates that the child is severely malnourished (Ritchie 1978).

In the health facilities, children are weighed periodically and their growth trajectory marked on a chart and compared with a "normal" trajectory. "Weight-for-age" measurements indicate body mass in relation to age, and this can be problematic. A reduction in body mass can be due to wasting caused by an adequate diet, or reflect a degree of stunting (a failure to grow in height), or both. Where the degree of wasting is low when measured by the weight for height method, [12] the main

[12] Estimated at 7% by RoB, NIR, August 1985.

cause of the apparent malnutrition may be due to stunting and the child may be following a growth trajectory below but parallel to the "normal" curve. In cases of stunting, a initial nutritional "shock" can retard normal growth in height which is permanent. Even if a normal diet is then resumed, the child may always be of low weight for age, although having a perfectly normal weight for height. This may be a factor that explains the relatively high incidence of malnutrition recorded even in non-drought years.

Though it appears that the weight-for-age method may be causing the estimate of malnutrition to be rather on the high side, there are other factors present and working in the opposite direction. By far the most crucial of these is the fact that the whole Surveillance System is based only on the nutritional status of the children actually attending the clinic. This explains the rough estimate of 1000-2000 severely malnourished children given in Section A, and it remains a sobering fact that there might well be a sizeable number of malnourished and severely malnourished children over and above this estimate who are never brought to the health facility, are never weighed, and therefore never appear on the Nutritional Surveillance records. For the same reasons, it is this group that is least likely to be recorded in any mortality statistics and therefore it remains impossible to determine how many children actually died during the 1982-88 drought through starvation or nutrition related disease. The only firm evidence we have of any such deaths occurred in 1982, not in the rural areas, but in the semi-squatter areas of Francistown which resulted in a reappraisal of nutritional standards in an around the peri-urban areas (Borton 1984, p.60).

Bearing this in mind, there are two main reasons why the Direct Feeding Programme has failed to significantly improve the nutritional status of the malnourished

children even when we limit our definition only to those underweight children actually attending the health facility. The first reason is the poor attendance for Direct Feeding which was perhaps the most discussed and most misunderstood feature of the whole programme, both by the donors and the Government. This apparently irrational behaviour on the part of mothers to bring their underweight children for a free meal can be partly explained by the long distances that had to be walked on a daily basis.

With food provided for the child but not for the mother, for many it proved too much of a physical effort. Others who were unable to take the child personally, were reluctant to entrust it to older children who might themselves be weak and anaemic and yet would not be eligible for cooked rations at the centre. As it was reasonable to assume in households with one or more underweight children, that at least some of the other family members were malnourished or anaemic, providing a cooked meal to the mother as an "incentive" to bring her child for direct feeding would have been equivalent to providing an extra food contribution to the whole household, surely in itself no bad thing.

A similar view was supported by the UNICEF study of 1985, which noted

> "...there may be an argument for increasing the "take home" rations for some families, for example those with malnourished children, in order to be sure that they receive an adequate share of food at home" (UNDP et al 1985, p.67).

The advantage of providing an extra cooked ration to the mother or accompanying older sibling to ensure regular attendance of the malnourished child, does have advantages over simply increasing the household's total take home rations. Regular attendance guarantees that the

child receives at least one full meal per day, that its nutritional recovery can be monitored by the health staff, and that a whole range of other medical services such as immunisation, can also be provided. Viewed in this light, the different ration scales between the schools and the health facilities for six to ten year old children seems particularly discriminatory.

Most of the FWEs approached on this subject by the UNVs agreed that the provision of an extra ration in this way would have a positive effect on attendance levels, and particularly so if the meal included meat, as was provided to primary school children under the Cattle Purchase Scheme. Imprest funds are provided for the purchase of foodstuffs at the health facilities to supplement those provided by FRD, and often include meat, fresh vegetables, eggs and groundnuts. However, in some villages fresh butchered meat was simply not available, or not available in small enough quantities, and the purchase of tinned meat was not allowed under the programme.[13]

Both these problems are related and could be tackled simultaneously if provision was made for an extra cooked ration for such children bringing their younger siblings for direct feeding. These issues still have to be addressed and resolved by the Nutrition Unit at the MoH.

The second reason contributing towards the prevailing high level of malnutrition is that direct feeding is not conducted at the mobile stops facilities. Though the nutritional status of the under-fives is assessed on a regular basis during visits by health staff, there are no permanent staff working at these remote areas, and so no

[13] No canned foods were allowed to be purchased with imprest funds. See FRD, Manual on Human Relief, 1987. Botswana exports large quantities of tinned corned beef through the BMC, and also contributes canned meat to the World Food Programme for relief operations in other countries. p.6..

one can be made officially responsible for either the storage or distribution of the donated foodstuffs. In December 1986, some 2646 malnourished children were reported to be attending mobile stops, of which 204 were described as "severely malnourished" in the nutritional surveillance returns. (FRD *Regional Monthly Reports*, December 1986). Again, this is probably a serious under-estimate of the real magnitude of malnutrition existing in these remote areas, as the mothers are less likely to bring their children for registration if Direct Feeding is not available.

Hence, an anomalous situation has arisen whereby those groups with the least access to services of any kind are denied the last safety net provided by the relief programme. No estimates exist of the number of children that are not attending health facilities, and this in itself is a serious omission of the programme.

Table 3.6 which follows overleaf provides an indication of the level of non-attendance and illustrates the number of malnourished children not receiving rations at mobile stops regionally. The data for all the columns except the last is drawn from FR1 forms submitted to FRD by the health facilities (the FR1 form is a combined food issue/receipt voucher on which the health facilities also report their latest beneficiary levels). Data reported to FRD and shown in the "FRD" column is derived by dividing the total number of malnourished and severely malnourished children by the total number of preschool children registered and is expressed as a percentage. Data in the "NS" column was obtained from the IMDC and derived from Nutritional Surveillance Reports, also submitted by individual health facilities. Unlike the FRD data, it is shown here only in an aggregate form and not separated by centre type.

TABLE 3.6: RATES OF MALNUTRITION BY FRD DEPOT/HEALTH REGION & CENTRE TYPE: DEC.1986.

DEPOT NAME	TYPE	PRESCHOOL	6-10 YRS	MALNUT.	SEVMAL.	FRD	MS
MAUN	HP	8400	4752	548	106	7.79%	
	MS	4782	2293	30	7	0.77%	
	TOTALS	13182	7045	578	113	5.24%	9%
TUTUME	HP	11289	5726	1170	97	11.22%	
	MS	2494	1291	351	42	15.76%	
	TOTALS	13783	7017	1521	139	12.04%	13%
LETLHAKANE	HP	3819	2170	287	10	7.78%	
	MS	169	137	0	0	0.00%	
	TOTALS	3988	2307	287	10	7.45%	10%
FRANCISTOWN	HP	10518	2909	1652	105	16.70%	
	MS	1142	644	221	2	19.53%	
	TOTALS	11660	3553	1873	107	16.98%	13%
KASANE	HP	344	0	305	10	91.57%	
	MS	22	0	15	0	68.18%	
	TOTALS	366	0	320	10	90.16%	30%
LOBATSE	HP	2824	78	84	3	3.08%	19%
GANTSI	HP	2297	1156	216	57	11.89%	25%
NOKUNTSI	HP	1463	913	83	0	5.67%	
	MS	235	166	0	0	0.00%	
	TOTALS	1698	1079	83	0	4.89%	
TSHABONG	HP	2474	1439	475	0	19.20%	
	MS	419	269	0	0	0.00%	
	TOTALS	6289	3866	641	0	10.19%	25%
KANYE	HP	20395	9783	2005	223	10.92%	
	MS	5510	3350	876	60	16.99%	
	TOTALS	25905	13133	2881	283	12.21%	
MOCHUDI	HP	6146	4254	345	19	5.92%	
	MS	45	45	6	1	15.56%	
	TOTALS	6191	4299	351	20	5.99%	12%
PALAPYE	HP	9732	6217	698	60	7.79%	
	MS	701	947	122	0	17.40%	
	TOTALS	10433	7164	820	60	8.43%	
SEROWE	HP	6187	4806	746	24	12.45%	
	MS	1277	1255	79	1	6.26%	
	TOTALS	7464	6061	825	25	11.39%	13%
MAHALAPYE	HP	13643	7188	1399	128	11.19%	
	MS	1027	1036	0	0	0.00%	
	TOTALS	14670	8224	1399	128	10.41%	11%
SELEBE-PIKWE	HP	10153	4272	638	154	7.80%	
	MS	1370	792	130	4	9.78%	
	TOTALS	11523	5064	768	158	8.04%	12%
SEBELE	HP	12186	2125	959	14	7.98%	10%
MOLEPOLOLE	HP	45798	12243	1676	114	3.91%	
	MS	13323	4131	816	87	6.78%	
	TOTALS	59121	16374	2492	201	4.56%	16%
SUB-TOTAL:	HP	167668	70031	13286	1124	8.59%	
SUB-TOTAL:	MS	32516	16356	2646	204	8.76%	
GRAND TOTAL:	HP/MS	200184	86387	15932	1328	8.62%	15%

Sources: FR1 Forms submitted by Health Centres to FRD Dec. 1986; IMDC 1988.

Prevailing rates of malnutrition are usually presented by the MoH on the basis of Health Region, which does not necessarily correspond with the area served by individual FRD district or regional depots. In these cases, a direct comparison between FRD and Nutritional Surveillance data is problematic. In the table, FRD depots have been grouped where necessary to accomodate this anomaly. The data shown in the "NS" column therefore relates to aggregate rates of malnutrition for all the FRD areas listed in the block. Beneficiary figures are those reported to FRD Depots by Health Facilities during December 1986. No Nutritional Surveillance data was available from the IMDC for Francistown itself prior to January 1987. In the table, NS data is shown only for North-East District, which is served by Francistown FRD depot. Letlhakane FRD depot corresponds with Boteti Health Region, whilst Hukuntsi and Tshabong FRD depots correspond with the Kgalagadi Health Region. Kanye and Mochudi FRD depots are also grouped to correspond to the Nutritional Surveillance combined data for Kgatleng and Southern Health Regions. Palapye and Serowe are also subsumed under Serowe Health Region in the IMDC data. Molepolole corresponds with Kweneng Health Region.

In the centre type column, "HP" indicates Hospitals, Health Centres, Clinics and Health Posts, whilst "MS" refers to Mobile Stops, i.e. those health facilities not permanently staffed, and where "direct feeding" is not carried out. The Malnourished and Severely Malnourished groups are those children already included in the Preschool category but considered to be less than 80% and 60% of their weight-for-age respectively, using guidelines set down by the MoH. They are shown separately in the table for the purpose of analysis.

This comparison between the FRD and Nutritional Surveillance figures indicates a considerable degree of variance between the two sets of data, despite the fact

that they are both derived essentially from the same source (the health facilities). In most cases, data on levels of malnutrition as reported to FRD are lower than Nutritional Surveillance data. The most likely explanation for this is that the health facilities were asked to provide FRD with two sets of figures: the actual number of malnourished and severely malnourished children registered, and the number attending for Direct Feeding on a regular basis. Most centres provided just the latter and this would explain the discrepancy between the data supplied directly to FRD and that supplied to the Nutritional Surveillance Unit of the MoH. Non-attendance can be seen to be a serious problem in some regions.

In June 1985, following an adequate harvest in the North East of the country, North-East and Chobe Districts, Tutume and Bobirwa sub-districts were declared "Recovery Zones". Beneficiaries were to be selected on medical criteria and certain categories would disappear altogether: destitutes and children aged between six and ten years were no longer eligible for rations (see Fig.A75. The assumption made was that supplementary rations were no longer required for most families as the harvest in these recovery areas had been good.

In the case of Kasane FRD, health facilities reported that an average of 90% of their preschool children were malnourished during December 1986, and yet Nutritional Surveillance reports to the Regional Health Team for the same month indicated a rate of 30%. Although at the time Kasane was a "drought recovery" zone, the "official" MoH rate of malnutrition for the District was the highest in the country. In this case it is perfectly feasible that health facility staff deliberately overstated the true rate of malnutrition to FRD in order to obtain more food rations, in response to a perceived low level of nutritional status amongst the beneficiaries attending their health facilities. Figure 3.12 that follows

overleaf shows malnutrition rates in the recovery areas after the introduction of medical selection. The effect was so marked that even the normally quiescent FRD reported:

> "... medical selection for supplementary feeding had reduced the number of healthy children being brought to clinics in the recovery areas since only malnourished children were eligible for food. The overall number of beneficiaries dropped from 644,915 in June 1985 to 612,809 in December 1985, whereas the number of malnourished children in the whole country increased from 9334 in June to 13851 in Dec. 1985" (FRD *Quarterly Report Oct-Dec. 1985*, p.1- 2).

Even as late as April 1987, it appears that the Government was still using rainfall patterns and size of harvest as a measure of "drought recovery", again confusing the issue by equating food availability with food consumption and entitlement.[14] Following a lower rainfall during the 1986-7 sowing season around Chobe, the Early Warning Technical Committee had reported to the IMDC that:

> "...there is some concern about agricultural production in the Chobe Enclave. Two weeks ago the District Agricultural Officer confirmed that production was expected to be much lower than the last two years. The EWTC recommends that special attention should be paid to the whole of the Chobe District during the Second Drought Assessment Tour to ensure that its designation as a District out of drought remains correct" (EWTC, April 1987).

It appears therefore that the "early warning" of the EWTC arrived somewhat late, and was based rather on aggregate production data obtained from the MoA in Gaborone, rather than actual nutritional status observed in the field.

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[14] Malawi, which has one of the most successful commercial arable farming sectors in the region and a rising level of output also has the fourth highest levels of infant mortality and malnutrition is rife. See Cliffe et al, 1988, p.22.

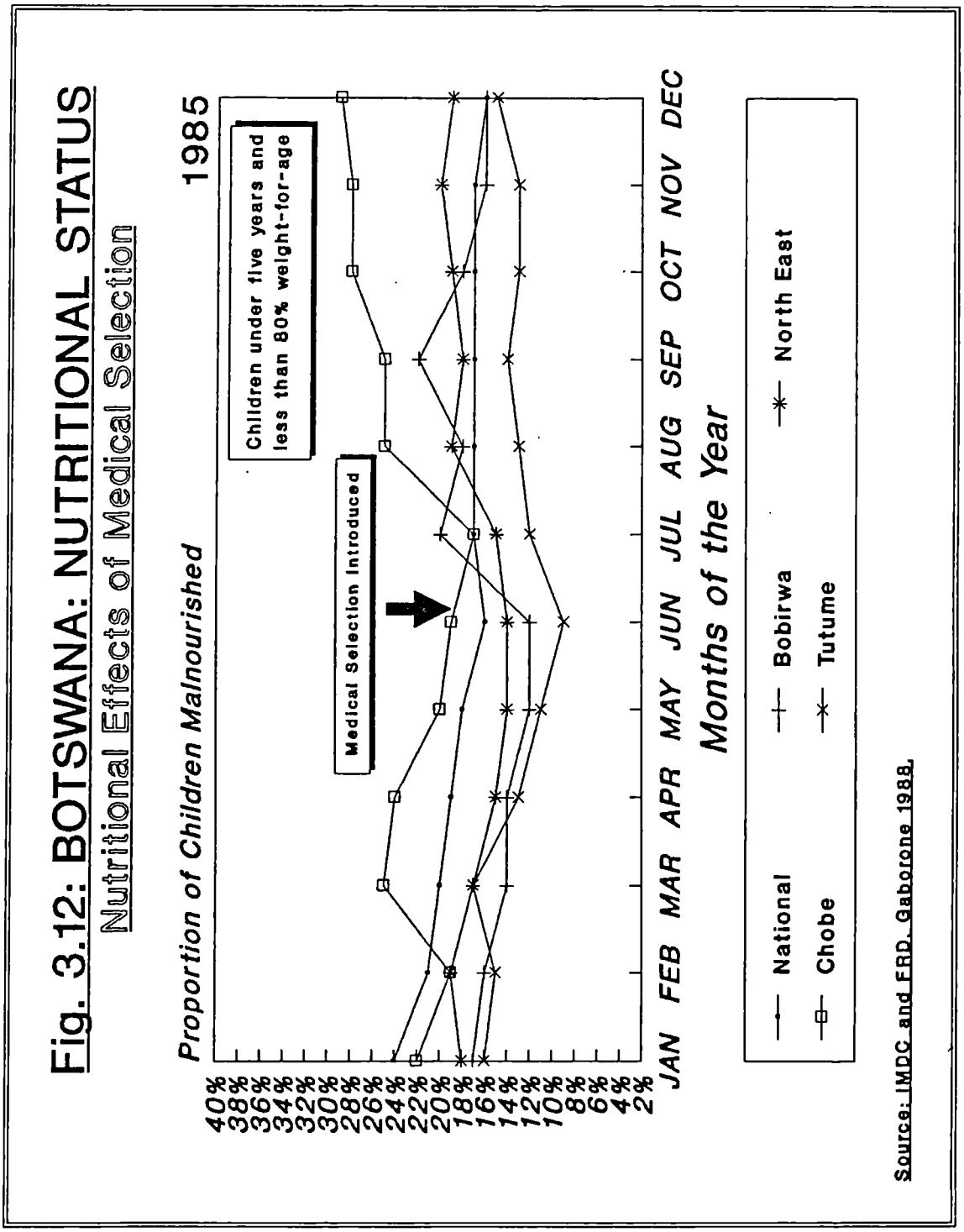
Fig. 3.12: BOTSWANA: NUTRITIONAL STATUS
Nutritional Effects of Medical Selection
1985
Proportion of Children Malnourished
Children under five years and less than 80% weight-for-age
Medical Selection Introduced
40%
38%
36%
34%
32%
30%
28%
26%
24%
22%
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
Months of the Year
National
Bobirwa
North East
Chobe
Tutume
Source: MDC and FRD, Gaborone 1988.

As most areas of the country were declared drought recovery zones by mid-1988 and medical selection of all beneficiaries was introduced, a similar pattern of malnutrition may begin to re-emerge for the same reasons.

Though the institutional framework of primary health care in Botswana is apparently well developed at a District level, it would appear from this analysis that it suffers from fundamental and long-standing defects in its implementation, particularly in relation to the Direct Feeding Programme. In particular, the reliance on rainfall data and anticipated levels of agricultural production as a measure of food security has been shown to be completely inadequate. Nutritional data for 1989 may reveal this but such an analysis is beyond the scope of the present study.

Apart from the problem of low attendance at Direct Feeding (and its distortion of malnutrition rates), there are other factors involved in explaining the high prevailing level of malnutrition. The late payment of imprest funds in some health facilities has also played an important part. In some Districts, these funds are disbursed to health posts through the "parent" clinic or health centre which is then in turn reimbursed by the Council Treasurer's Department at District Headquarters on submission of the receipts.

What this meant in practice, however, was that if one particular health post had not used up all its funds, the reimbursement for all the health posts served by a particular clinic was held up. Rulings made by the District Drought Committees to facilitate the reimbursement of health posts on an individual basis were rarely adhered to, and thus those with a large number of underweight children, and which therefore quickly exhausted their funds, often went several months before they were replenished. In those Districts faced with a

recalcitrant Treasurer's Department (e.g. Central) this was a recurrent problem during the period 1985-1987.[15]

Another recurrent problem of implementation at the District level concerned the District Health Team itself, where poor motivation or ignorance of the emergency nature of the programme led to serious gaps in the provision of primary health care. In a routine field trip to Ramogonwane, Kamokwa, and Teleba mobile stops on 14 August 1986, the Depot Manager of FRD Serowe noticed that the previous food delivery had not been issued to the beneficiaries. On enquiry to the District Health Team (whose nursing staff were responsible for issuing the food on their monthly visits), she received the formal written reply, reproduced verbatim below:

> "As you are aware that your Dept. delivered food to these feeding points on the 3rd. July 1986, please be informed that according to our schedule, food was to be rationed on the 21-22 July 1986, but very unfortunately the above dates were holidays:- 21st. July President's Day. 22nd:- Public Holiday. Following these holidays, the schedule remains irreversible and we had to use the same vehicle to other outreach stations where it is also emphatically important to ration out food".[16]

The beneficiaries at these remote mobile stops therefore had to wait for the following month's issue of rations on the 26th. August, and had thus to spend over four weeks without rations. It is not known whether they had an alternative source of food. These events cast some considerable doubt on the personal commitment of some Council staff towards the drought relief effort, and the ability of both the Government and District Drought Committees to enforce even a semblance of compliance on

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15 Personal observation at District Drought Committee meetings.

16 Letter from the Senior Nursing Sister, Serowe, E. G. Motseosi, ref. SP/4/2 to FRD Depot Manager, Serowe, dated 29 August 1986.

its own rulings. It is also a reflection of the political influence of those marginal groups living in the more remote areas at both District and National levels.[17]

The primary schools' feeding programme is the longest running and probably the most successful of all the relief programmes in Botswana, and exhibited far fewer problems when compared with either the Vulnerable Groups' or Remote Area Dwellers' programmes. This must be due, in large measure, to the fact that the teaching staff form together the most educated and most articulate group within the village community, and are thus able to demand a far higher level of attention and service, not only from their own District Education Department, but from both FRD and village extension teams. However, it must be pointed out, as before, that a significant proportion of six to ten year old children do not attend primary school, for a variety of economic and social reasons.

Figures A67 to A83 in the Appendix provide details of the proportion of children in this age group actually attending school, with a breakdown by individual FRD district for the period September 1983 to December 1988. It should be noted that data for September 1984 was unavailable, and that there seems to have been some under-reporting of the 6-10 year non-school category in Kanye and Ghanzi during 1983-4 (see Figures A77 and A80).

It can be seen from the Figures that the phasing out of the 6-10 year non-school beneficiaries nationally in mid-1988 has left only a very few children in this category still registered for medical reasons. Only Tshabong District experienced a rise in school attendance after

[17] Non-delivery or non-distribution of food rations in other villages with greater political representation was often reported in the national Press or Radio Botswana, or raised in Parliamentary session, before either the local FRD or Health Team were even aware of the fact!

mid-1988 and this rise was slight.(see Figure A78). Some areas (Tutume, Maun, Gantsi, Sebele, and Mochudi) actually experienced a slight fall in the number of school registrations and it is clear that in no District has the phasing out of food rations for the 6-10 category been matched by a corresponding increase in the number of children of that age group registering at school. This may have important educational policy implications as it means that a substantial proportion of children in this age group, during drought or non-drought, are unwilling or unable to attend school. In Molepolole for example, this proportion never fell below 30% during the whole of the period 1983-87 (see Fig.A82). During periods of drought recovery children falling in the 6-10 year old category are doubly disadvantaged: they receive neither a basic education nor the daily meal which is a regular provision of the school feeding programme. The World Food Programme now recognises the fact that school meal programmes may reach neither the most vulnerable age groups nor the children of the poorest families. (WFP (1986b), p.18)

The ration levels for primary schools are the same for both rural and urban areas (see Table 3.2) but the latter are not provided with take home rations for use during school holidays or weekends. The nutritional value of the rations supplied to schools are shown in Table 3.7 overleaf.

Rural schools are provided with sorghum grain which is then handstamped by local mothers as part of an ongoing labour based relief project (this will examined in more detail in the section on LBRP). The bran that is produced as a result of the process is sold to cattle owners by the PTA, which raises funds for new school equipment. Some PTAs that were virtually defunct have been revitalised by having to organise themselves on how to spend this new form of income. The only exception to this

is the schools in Ghanzi and Kgalagadi Districts where handstamping is not traditionally carried out. In these schools, as in all urban areas, an equivalent quantity of commercially milled sorghum is supplied direct from the FRD depot.

TABLE 3.7: RATION TYPES AND NUTRITIONAL VALUE TO PRIMARY SCHOOL CHILDREN (RURAL/URBAN AREAS)

AREA AND RATION TYPE	DAILY REQUIREMENT OF NUTRIENTS (AVERAGE)		VALUE OF THE NUTRIENTS SUPPLIED IN EACH RATION		PROPORTION OF REQUIREMENT MET BY EACH RATION (%)	
	ENERGY (kcals)	PROTEIN (grams)	ENERGY (kcals)	PROTEIN (grams)	ENERGY (%)	PROTEIN (%)
RURAL SCHOOLS	2395(1)	39	703	28	29.31%	71.28%
URBAN SCHOOLS(2)	2395	39	703	28	29.31%	71.28%

NOTES: (1) Requirements for all children based on an average of 7-9 and 10-12 year old groups.
(2) No rations during weekends and holidays.
Source: Adapted from the FAO Nutritional Studies, Handbook No.28, FAO, Rome 1974.

The monthly food requirements and amounts distributed during the period 1986-88 under the Vulnerable Groups' and Schools' feeding programmes are shown in Figures A16-63 in the Appendix, with a breakdown by individual FRD district.

Whilst the overall success of the programmes in averting widespread famine has been observed by several studies (UNDP et al 1985; Holm & Morgan 1985; Hay 1988), this section has already noted several anomalies in the standard of food provision at a micro level. We now turn to examine the relief programme for destitutes and Remote Area Dwellers, who collectively form the most deprived social group in Botswana and are therefore the most susceptible to the ravages of drought. As a consequence they are the group most dependent on the food distribution carried out under the emergency drought relief programme.

d) Destitutes and Remote Area Dwellers.

In rural areas, destitutes are categorised as either permanent or temporary depending on their age, ability to work, financial status, and place of residence. In urban areas, and rural drought recovery zones, only permanent destitutes registered with the District Council are recognised; they do not receive a ration but continue to receive income support from Council funds. The distinction between permanent and temporary status is an important one as it determines both the entitlement to relief rations and other social benefits provided by the District Council. Permanent (or group A) destitutes are usually the old and infirm, the disabled, those without any means of support and lacking any family to offer shelter and financial support. They collect the same rations as the other Vulnerable Groups' categories and are registered with the District Council, from whom they are eligible to receive some income support and the provision of clothes, blankets, etc.

Temporary (or group B) destitutes are those able to work but unable to find any employment during the drought, and who have lost many alternative sources of income such as livestock.[18] These destitutes are expected to recover their lost assets when the drought is over or to be able to find some sort of agricultural employment with the onset of good rains.

Destitutes are identified at the village level by the Social & Community Development (S&CD) field staff in

[18] In Botswana, there is no provision for the rehabilitation of destitutes by restocking their herds or smallstock after the drought. In the WFP assisted Turkana Rehabilitation Programme in northern Kenya, a comprehensive restocking programme was launched in 1984, with substantial financial support from OXFAM. The scheme involved the provision of viable herds of small stock to 500 families made destitute during the 1979-80 drought. Each family was given 70 goats/sheep and an amount of maize to cover their food requirement over the year. The cost of buying the animals was met from both OXFAM funds and from the bartering of WFP wheat in return for sheep and goats.

conjunction with the VDC and Village Health Committee, often with the full participation of the community itself through the village *kgotla* meetings.[19] The names of individuals considered to be temporarily without means of adequate support due to the drought are then listed and given to the FWE at the health facility, who issues a ration card. These individuals may be re-classified later as permanent destitutes and registered with the Council after their case histories have been examined, usually following on from an interview conducted with a Social Welfare Officer.

Because the selection of destitutes is conducted in this way, the rise and fall in their number is a valuable indicator of how the community itself measures the impact of drought on rural incomes and employment. For the government and donors, the number and spatial distribution of destitutes should, like the level of malnutrition amongst the under fives, provide essential information as to the efficacy of the current relief programme, as it indicates whether rural incomes and assets, threatened by the drought, are in fact being preserved. However, there are certain inconsistencies in the methods employed in recording destitutes which make the interpretation of trends rather complex. We will be examining these problems in this section and drawing some rather tentative conclusions.

The list of beneficiaries shown in Table 3.5 in the previous section, was drawn from FRD sources and although it indicates a rise in the overall number of destitutes registered and eligible for rations at the health facilities during 1983-87, there is a surprising decline in the permanent destitute category in the third quarter of 1985. This is contrary to what would have been expected during a prolonged period of drought, when many

[19] Personal observation on field trip with S&CD staff Central District.

destitutes, previously classified as Group B but now having lost all of their assets, should have been re-classified in the Group A category.

There are two factors at play that, taken together, provide a plausible explanation for this phenomenon, both of which tend to obscure the true level and nature of destitution. The first lies with the way that the data on Group A destitutes is collected and recorded by the S&CD staff. The means test applied to Group B destitutes applying for Group A status is slow and exhaustive, and consequently there is a long "waiting list". Data kept by S&CD staff at the District Council is only infrequently updated and therefore tends to underestimate the number of individuals eligible for Group A status, i.e. those who will probably remain totally destitute even after the drought is over.

The second distortion lies in the fact that Table 3.5 draws upon FRD data and reflects not the actual number of destitutes, but rather the number currently eligible to receive rations. As we have already noted, destitutes are no longer eligible to receive rations if they live in a drought recovery zone and therefore do not appear in FRD data. Figure 3.13 overleaf shows the effect on the number of those registered after certain areas were declared drought recovery zones in June 1985. It groups together both A and B categories in a more detailed time-series than that provided by Table 3.5, and shows that the fall in the number of registered destitutes around this time was particularly marked in Palapye and Francistown FRD Regions (the two regions with drought recovery zones).

By March 1986, the total number of registered destitutes (A and B categories taken together) was rising again, and this suggests that either those no longer eligible for rations had re-registered in nearby villages outside the

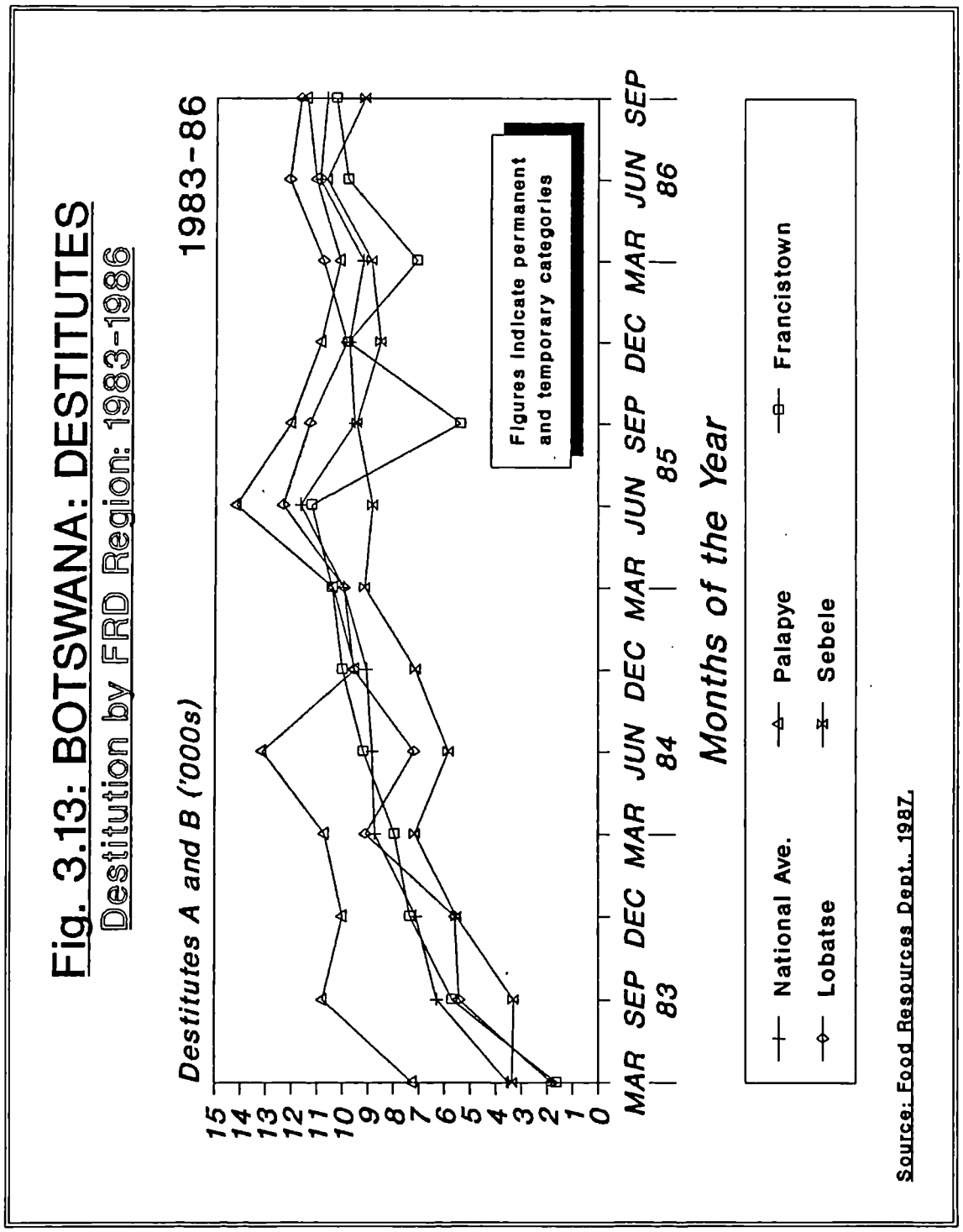


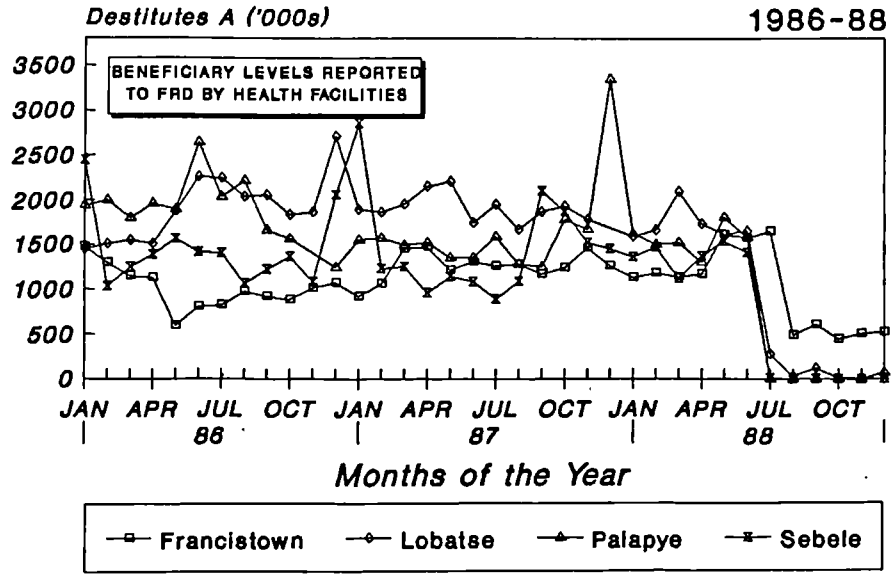
Fig. 3.13: BOTSWANA: DESTITUTES
Destitution by FRD Region: 1983-1986
1983-86
Destitutes A and B ('000s)
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
MAR SEP DEC MAR JUN DEC MAR JUN SEP DEC MAR JUN SEP
83 84 85 86
Months of the Year
Figures indicate permanent and temporary categories
National Ave.
Palapye
Francistown
Lobatse
Sebele
Source: Food Resources Dept., 1987.

drought recovery zones (in order to obtain rations), or that there had been an overall rise in Group B destitution that offset the previous fall in both A and B categories in the drought recovery areas. It is possible that both these factors were at work simultaneously.

From 1986 onwards, a breakdown by Destitute category is possible and data is shown in Figures 3.14 and 3.15 (shown overleaf) for the period 1986-88. When we segregate the two categories in this way, it is clear that S&CD and Health Facility staff experienced some difficulty in determining whether destitutes should be classified as category A or B. The peaks for data of Palapye, Sebele and Lobatse regions shown in Figure 3.14 around January 1987 and January 1988 illustrate the inconsistencies in recording each category accurately at village and council level. While a sudden rise in category A destitutes is plausible (due to a re-classification from category B), a corresponding fall is not, as by definition these individuals are permanently destitute. From early 1988, responsibility for providing for category A destitutes was shifted to the district councils in most areas and this is reflected in Figure 3.14. Data for category B (temporary) destitutes shown in Figure 3.15 appears more consistent up to early 1988, when medical selection of beneficiaries was introduced.

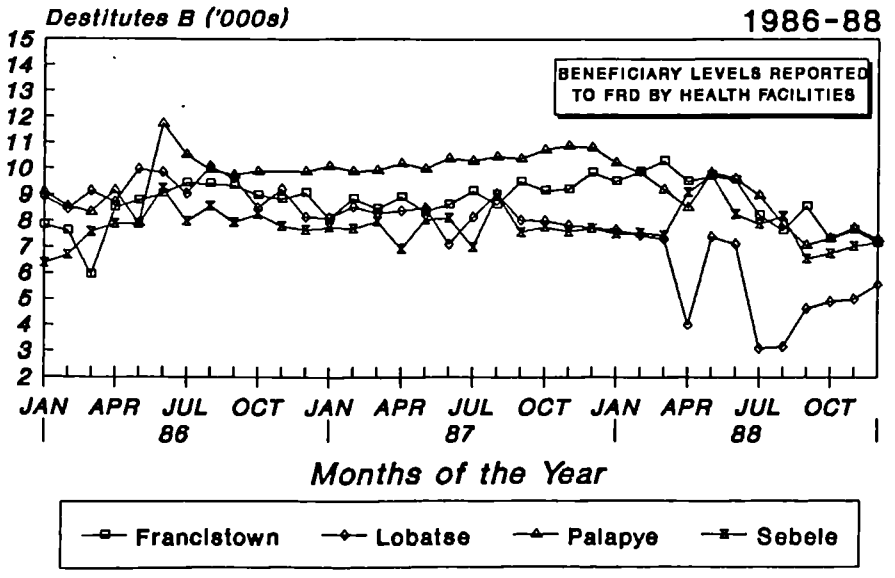
The point that needs to be stressed here is that little is known about the destitutes who were de-registered in the drought recovery areas during 1985-6 and whether they were in fact able to recover any of the assets lost during the drought, or were forced to migrate to other areas in order to regain their ration entitlement. Similarly, the number of destitutes appears to be on the rise again towards the latter part of 1988 and this could indicate that medical selection was introduced too early.

Fig.3.14: VULNERABLE GROUPS' PROGRAMME
"PERMANENT" DESTITUTES REGISTERED AT FACILITIES BY FRD REGION: 1986-88



Source: FRD, Gaborone 1986-88.

Fig.3.15: VULNERABLE GROUPS' PROGRAMME
"TEMPORARY" DESTITUTES REGISTERED AT FACILITIES BY FRD REGION: 1986-88



Source: FRD, Gaborone 1986-88.

On the other hand, it may support our previous suggestion (made in relation to malnutrition rates in drought recovery areas), that the problem is a more fundamental one. As we can not rely solely on rainfall data or gross agricultural output to be realistic indicators of adequate food entitlement, neither can we rely entirely on the S&CD departments of the district councils for an accurate assessment of the true level of destitution. The experience of the 1986-8 drought suggests that data from this source may be unreliable and the following examples illustrate the general administrative weakness of the relief programme at the District level.

Throughout the period up to October 1986, both categories of destitute received the same food ration from the health facility and the Group A received in addition P10.00 per month from Council funds, to be spent on essentials at an approved store in the village. This figure was raised to P30.00 per month in October 1986. However, implementation of the scheme was poor.

In a tour of the Kwaneng South District in November 1986, the Minister of Labour and Home Affairs, Mr. Englishman Kgabo, was shown

> "...three Group A destitutes who had not received their monthly P10.00 rations because the shop owner had allegedly refused to serve them due to irregular payments by the Council. It was also alleged that the destitutes had not been getting their rations for the past seven months. On the destitutes who had spent seven months without rations, Mr. Kgabo said the problem was caused by negligence on the part of public officers...government had increased the Group A ration from P10.00 to P30.00 and wondered why it appeared people had not been informed about the change" (*Botswana Daily News*, 14 November 1986, p.2).

In some districts this problem was still not solved by late February 1987, due to the fact that the Councils had

requested insufficient funds from the MLGL to cover the new amounts required. According to the Minister who had sent out the circular instructing the Councils to implement the new scheme, Central District (with the largest number of destitutes)

> "...continued to issue destitutes at their old rate of P10.00 per month while in the meantime they prepared supplementary estimates to enable them to meet the requirement of the circular (*Botswana Daily News*, 12 June, 1987).

It thus took over four months for the new payments to be paid in some areas. In July 1987 the Group A destitutes had their food rations officially cut in half, which made them even more vulnerable to the consequences of late payment by the Council.

The term "Remote Area Dwellers", as was noted in the introductory chapter, is applied to all ethnic groups settled in areas beyond the reach of services normally provided by government, particularly education, health care, and water supplies. Though predominantly composed of *Basarwa* and *BaKgalagadi* peoples, the RADs do not form one homogeneous group and are of very diverse ethnic origins. The original inhabitants of the country, most have became marginalised in and around the Kgalagadi desert with the steady encroachment of the various Tswana tribes during the eighteenth and nineteenth centuries. More recently, the establishment of commercial TGLP ranches in areas traditionally used for hunting and gathering, and the erection of wildlife cordon fences (to meet stringent EEC requirements relating to the control of foot and mouth disease) have accelerated this process of marginalisation and eroded the land and resource base of these groups.

The Remote Area Development Programme (RADP), as we have mentioned in a previous section, represents an attempt by

the Government to reach a compromise between treating the RADs as a separate ethnic group with its own cultural traditions and its own very specific needs and problems, and its stated policy to integrate the RADs into the mainstream of Tswana society:

> "The point here is not to make special provisions to the RADs, but to establish premises for decision making processes which compensate for the fact that RADs are practically without any political representation in those relevant political bodies which should ensure an adequate distribution of government resources, according to the national development principle of social equity" (RoB, Gulbrandsen et al 1986, p.11).

As with other elements of the drought relief programme, whether this strategy is successful or not will depend on the emphasis afforded to it by the Botswana government. Given that donor support remains at its present high levels,

> "The possibilities of extending national programmes and to establish projects which are adequate for the various settlements is fundamentally a function of the quality and quantity of extension staff" (Ibid., p.185).

In this section we will be touching on the wider functions of the Remote Area Development Programme only indirectly; our main purpose here is to examine the drought related element of the programme and in particular, the efficacy of the food distribution system to this particular minority group.

Few RADs now lead a traditional semi-nomadic life with hunter-gathering the main form of subsistence. Most now live in temporary or permanent settlements, or at the larger cattle posts, where they are employed as herd boys. Some of these settlements are of considerable age and were established before the major Tswana villages:

Ukhwi Settlement in the northern Kgalagadi for example is over 100 years old, and its existence reinforces the view expressed by Hitchcock (1978) that the *Basarwa* have never been truly nomadic, but have always had established land bases which were recognised by other groups.

The Ghanzi freehold farms of the Kgalagadi Desert (along the border with Namibia) present a picture of proletarianised *Basarwa* who have been divorced from their traditional subsistence base for generations. The areas of Ghanzi District best endowed with water were settled by Europeans at the beginning of the century and some 200 ranches were established in the 1950s, followed by about 50 more in the 1980s. An anthropological study of the *Basarwa* on the Ghanzi freehold farms is provided by Guenther (1979). Although his field work was conducted through the late 1960s up to 1970, the feeling of alienation and sense of dispossession that he describes amongst the *Basarwa* can still be felt in Ghanzi.[20] Early relationships between the European settlers and the *Basarwa* were patrimonial in nature and the settlers were regarded as a means of protection against the Tswana, who had often captured the *Basarwa* as slaves. This has been documented by early travellers in the region such as Hepburn (1895), Selous (1893), and Dornan (1917). (Guenther 1979, p.57)

From the 1950s onwards however, new settlers arrived with modern farming methods and a preference for Tswana, rather than *Basarwa* labour. The Tswana population rose from just a few hundred in the 1950s to 6000 by 1964, and many *Basarwa* lost their jobs. With no access to land of their own, they had no recourse but to squat illegally on the farms until moved on. (Guenther 1979, p.108). After

[20] Personal observation: whilst driving in Ghanzi town in the evening in April 1987, the vehicle following mine had a window smashed by a stone thrown by a group of Basarwa. Our presence there, whether as relief workers or "government officials" was greatly resented.

Independence, conflict became a striking feature of Ghanzi life, with the *Basarwa* facing both white economic domination and Tswana political domination. (Ibid., p.125). Guenther vividly describes the alienation and cultural deprivation of farm *Basarwa* and their self-abasement in contacts with the Tswana and European settlers. They regarded themselves as a "k''amka kwe" - weak, stupid and inconsequential bushmen (literally, "mouthless people") (Ibid.,p.157-8). One reason for the *Basarwa* remaining on the farms, despite the lack of employment, was their dislike and fear of the veld *Basarwa*, a feeling nurtured and encouraged by their long contacts with Europeans. Silberbauer starkly described the effect of settlement by the *Basarwa* on the Ghanzi Farms as:

> "firstly, a dislocation and eventual breakdown of band life and secondly, a complete change of economic orientation from cooperative and communalistic to individualistic and competitive" (Stephen 1982, p.10).

Of those *Basarwa* still employed on the farms as farm labourers, Gulbrandsen found that their wages remain extremely low at around P15-20 per month, and that

> "there is a tendency among a few of the more sophisticated ranchers to offer wages of around P40.00 per month (even though this is significantly below the poverty datum line). But these same ranchers consciously intensify the exploitation of their labour, thus enabling them to retain a smaller work force" (RoB, Gulbrandsen et al 1986, p.119, 132).

As we have already seen on TGLP farms elsewhere in the country, many ranch owners in Ghanzi are now unwilling to harbour non-employees on their ranches:

> "The severity of the situation on the Ghanzi farms can be illustrated by many ranchers' refusal to allow distribution of food relief on their ranches; they fear that such assistance

> would make it even more difficult to get rid of those people they do not want on their ranches. Allegedly, some ranchers collect food relief on behalf of RADs, allocating it as if it were monthly food rations" (RoB, Gulbrandsen et al 1986, p.119).

The drought relief programme is thus used to subsidise existing low wage rates, in a similar fashion to what we have already seen to be the practise on some Tuli Block freehold farms. On the Ghanzi farms, the incidence of TB in the *Basarwa* community is among the highest in Africa (RoB, Gulbrandsen et al 1986, p.126) and the health workers there are not regular Government staff but farm employees.

Recent years have seen attempts to settle *Basarwa* communities, often in the belief that this would improve their standard of living. The process of settlement can be voluntary or enforced, as when groups of *Basarwa* are effectively dispossessed by the establishment of TGLP ranches.[21] Settlement by the Government is always of a voluntary nature and only encouraged in order to be able to provide at least a modicum of essential services. It has, nevertheless, had certain detrimental effects on the quality of life previously enjoyed by the *Basarwa* groups.[22] Two examples serve to illustrate these effects. In 1979 in Ghanzi District, the resettlement of *Basarwa* from

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[21] Settlement of nomadic or semi-nomadic tribes may be reluctantly acceded to with the destruction of the resource base and destitution. Amongst the semi-nomadic pastoralists of Turkana District in Kenya, there is now a settled population of some 70,000 people (out of a total of about 232,000 in 1984) the majority of whom were pushed into settlements by destitution and the need for food aid. The greatest migratory movements were to those places where development and relief activities were most intense. (WFP/FAO et al, 1988a, pp. 23-24, 27)

[22] In the Turkana District of Kenya, the development of commercial ranching has required that pastoralists and their herds be moved off large tracts of land which were then leased or sold to commercial operators. The Laikipia and Galana ranches are examples of successful commercial ranches developed in this way, but although this approach has certain obvious advantages to the central government and the individual commercial operators, it has brought little advantage to the pastoralists who have been displaced from their traditional lands. (WFP/FAO et al, 1988a, p.49). As with the Basarwa of the Kgalagadi, those groups thus settled generally have a high reliance on food aid for their sustenance. Of the semi-settled pastoralists, the Ngiyapakuno and Ngilukumong rely most heavily on famine relief foods. Around 45% of their total annual food supply is derived from relief rations.(WFP/FAO et al, 1988a, p.39)

commercially owned ranches in the area was made possible through land allocations from the Land Board in East and West Hanahai, Tshawe, and Tshibukwane (situated near to the Namibian border). As some of these settlements grew to hold around 600-700 people who were attracted by the availability of fresh water, conflicts over land and grazing rights began to emerge with neighbouring communities.

In such disputes, the RADs inevitably are the losers. Because of their political marginality and traditional lack of institutionalised leadership, they experience great difficulty in coordinating the expression of their joint economic interests. This has become critical in respect of articulating and defending their limited land rights, particularly in relation to the establishment of TGLP ranches. In Ghanzi District, where they form a significant minority of 40% of the population, they have no representation on local land boards or on the District Council (RoB, Gulbrandsen et al, 1986, p.25). Silberbauer (1981) pointed out that the *Basarwa* traditionally tended to gather only fairly near to their village site, which was almost always located in area of plentiful plant growth, and they were careful not to strip an area completely. As plants became depleted through their gathering activities, animals which graze or browse became less likely to stay in the area. It thus became less attractive as a hunting ground, and the *Basarwa* moved on, allowing the plant life to recover. The traditional hunter-gatherer way of life therefore, helped to preserve the delicate ecological balance of the Kgalagadi. However, it also

> "...required an unrestricted and undisturbed use of large tracts of country, which is incompatible with the needs of the pastoralist and cultivator" (Stephen 1982, p.7).

It is this fact more than any other, explains the present marginalisation of the *Basarwa* groups and the destruction of their resource base. At Xade in the Central Kgalagadi Game Reserve (CKGR), the concentration of RADs (about 800) in a relatively small area has eliminated veld foods in the locality and caused a decline in nutritional standards compared to more dispersed groups. The Nurse at Xade reported:

> "We are also seeing a number of epidemics in Xade because of the increased population which we do not see in other areas, e.g. chicken pox, severe influenza (affecting half the population), and conjunctivitis (affecting almost all children and some adults)" (RoB, Gulbrandsen et al, p.125).

Tuberculosis is now actually on the increase amongst *Basarwa* communities (despite falling in all other Tswana communities - see Table 3.5), and diarrhoea in the under-fives, due to poor personal hygiene and malnutrition, is common. (*Botswana Daily News*, 13 February, 1987). With the incidence of TB highest in settlements where traditional sources of subsistence are decreasing (RoB, Gulbrandsen et al (1986), p.62), and with more than one third of all children under the age of five nutritionally at risk, (i.e. weighing less than 80% of their expected weight for age) it is clear that the *Basarwa* who have recently adopted a sedentary lifestyle in established settlements are amongst the most vulnerable of all social groups in Botswana. Despite all the attendant problems of the settlements, life there is often preferred by the *Basarwa* to the alternative of living in established villages, where the destructive processes of social and economic subjugation can be heightened by ethnic discrimination. Enforced settlement occurs when the *Basarwa* are affected by commercial developments such as TGLP. In most cases, no compensation is offered as only developments made beforehand on such land has to be compensated for by law. Such developments

include the erection of a building or the cultivation of a field, neither of which are usually carried out by hunter-gatherer groups.[23]

Government resettlement schemes for dispossessed RADs are mainly centred around Ghanzi and are run quite successfully, but for the insufficient amount of land allocated for the settlements. The cost of water supplies to the RADs' settlements, particularly in the western areas, is extremely high, with a only a 25% success rate for borehole drilling. The cost of a successful borehole was estimated at P111,000 in 1988 (FRD, May 1988).

The children in the RADs' settlements are lagging behind in educational opportunities, even though a number of schools have been built in some Districts. The demand for a basic education is high and in some settlements community (i.e. non-government) schools have been opened through self-help initiatives. The learning abilities of the *Basarwa* children are generally thought to be good (RoB, Gulbrandsen et al 1986, p.58), but is not reflected in their academic achievement. This may in large part be due to the fact that they are taught in Setswana, a language that many children are not familiar with.

The scope for most forms of economic activity at these settlements is very low. However, those settlements situated near or within Wildlife Management Areas (WMA) offer the possibility of the development of a range of game products for which there exists a wide export market, without the objectives of the WMAs being compromised. An evaluation of the RADP in 1981 noted that as many as 70% of the 250,000 large wild herbivores which die annually in Botswana die a natural death, and it

23 TGLP Guidelines, revised 1984, Lands Division MLGL, cited in Gulbrandsen et al (1986), p.6.

appears therefore that a potential for an expansion of this resource base exists (Egner 1981). However, these areas are already being encroached upon by Tswana livestock owners and this threatens not only the preservation of wildlife but the traditional source of the RADs' subsistence base.

One recent study for the RADP and NORAD found that production of handicrafts also offers a large potential for overseas trade, but at present neither these nor the range of game products available have been commercially developed or adequately researched. Where the *Basarwa* continue to practise traditional crafts the prices they obtain for their products from local entrepreneurs is very low in comparison with their eventual retail price (RoB, Gulbrandsen et al 1986, p.32).

Many RADs participate in the seasonal LBRP projects, which mainly involve the clearing and debushing of roads, well digging, and the construction of community housing. This has often been linked with the Government run community "Self Help Projects." The 10% capital contribution normally required from the community is accepted in the form of labour instead of cash. In RADs settlements near to the border with Namibia (Quangwa and Xai-Xai settlements in Ngamiland), some *Basarwa* have been recruited to work for the South African army as trackers, and directed against SWAPO insurgents (Stephen 1982).

There has been progress in some settlements towards providing the RADs with cattle and farming implements. The cattle scheme introduced included the provision of two heifers to each individual by the District Council. When their number has grown to five, the original two revert to Council and the farmer keeps the other cattle (RoB, Gulbrandsen et al 1986, p.47). This can be seen in some ways as a revival of the traditional *mafisa* system, but the small number of animals involved hardly make the

herd drought-proof (see the footnote on page 237 for details of the similar but more comprehensive schemes in Turkana).

The Gooch & Macdonald consultancy report on the 1979-81 drought, which focused its attention on the emergency aspect of the programme, stressed that special food provision needed to be made for the RADs, who were generally the first beneficiary group to be affected by the drought, and the most severely (Borton 1984, p.68). With the gradual disappearance of game and veld foods as the drought deepened in intensity, there was an urgent need to provide the RADs with rations that would meet their full subsistence requirements, and not just supplement them.

In the 1970s, hunting and gathering provided some 80% of *Basarwa* subsistence needs. By the mid-1980s, many had become almost totally dependent on drought relief rations, and in some settlements had given up pursuing independent economic strategies altogether:

> "a considerable proportion of RADs depend upon such programmes for more than 80% of their subsistence. Only those groups of RADs whose hunting and gathering territories are not encroached upon, and who have access to drinking water, are generally the ones whose production ensures that their children obtain a satisfactory level of nutrition" (RoB, Gulbrandsen et al 1986, p.1).

This gives the analysis of the effectiveness of the food distribution programme to the RADs a particular significance.

Some RADs settlements are in a process of transition to formal villages and have been afforded basic social facilities. Twenty four are presently covered by a health post, and the provision of food rations therefore falls

under the Vulnerable Groups' programme, with distribution carried out by the FRD. However, as the normal clinic ration is less than the full RADs ration (see Tables 3.2 and 3.3), many in fact opt to seek new locations so that they can once again obtain the full RADs ration. This has resulted in the non-utilisation of many of the services provided, and the non-attendance of RADs at the Health Posts. In order to overcome this, those RADs settled in these particular areas are now allowed to receive their normal ration in addition to that which they receive from the health facility, though it is far from clear whether this is carried out in practice. The number and distribution of Health Posts in RADs' settlements is shown below in Table 3.8.

TABLE 3.8 : HEALTH CARE FACILITIES IN RADs SETTLEMENTS, 1986.

DISTRICT	NUMBER OF HEALTH POSTS
Kgalagadi District	0
Ghanzi District	8
Southern District	0
Kwaneng District	1
Kgatleng District	5
Central District	6
Northwest District	4

Source: RoB, Gulbrandsen et al (1986).

Most settlements are not covered by a permanently staffed health facility, and are served by mobile clinics visited by a nurse on a monthly basis. In Ghanzi District for example, some 50% of the population, most of whom are RADs, are served in this way (RoB, Gulbrandsen et al 1986, p.126). As with those mobile stops falling under the VG Programme, no direct feeding of underweight children is carried out at these settlements due to lack of supervision and accountability of the donated

foodstuffs. For the RADs as a group therefore, the monitoring of nutritional status among the population is less well developed than in the established villages.

It is important that FWEs are familiar with the culture and social structure of the community in which they work, and it is for reason that they are generally recruited on a local basis. In RADs settlements this has been difficult because few women have had the necessary seven years of primary education with which to qualify for the post. Therefore in those cases where a health post exists, the FWE is recruited from outside the community and many have had difficulties in winning the confidence of the RADs. Eventually, it is hoped to have enroled nurses at all RADs' health posts to deal with the special needs of the community, and to administer emergency medical treatment where the remoteness of the area makes immediate evacuation impossible.

Initially the provision of food rations to the RADs was met by government purchase and administered on a District level basis by the Remote Area Development Officers (RADOs) attached to the District Councils. Later, WFP and other bilateral food donations were utilised, and responsibility for the distribution of food rations to the settlements was moved to the Remote Area Development Unit created within the MLGL. The procurement and storage of food rations for the programme remained with the FRD.

The most remarkable feature of the RADs feeding programme is how little is known about it, thus making it difficult to assess just how successful it was in meeting its own stated objectives, which were essentially the same as those for other vulnerable groups. Two major consultancy reports by the UN in 1985 and 1986, commissioned by the Government, between them devote less than a single page to an assessment of the RADs programme, and this is perhaps indicative not only of the priority afforded to

the RADs as perhaps the most vulnerable of all social groups, but of the poor management of the programme as a whole. What evidence we can gather suggests that the programme was run on a very haphazard way, particularly in the early years of the drought:

> "Some RADOs managed to maintain reasonably regular supplies to a variety of remote settlements but in many cases supplies were irregular, their on-site distribution was poorly supervised, the reporting to Gaborone of amounts distributed and funds remaining was poor and the involvement of the Regional Health Team was minimal...it must be said that in some cases Council officials cared little about the plight of the *Basarwa*" (Borton 1984, p.69).

There are obvious linkages between the reporting and distribution systems, as food requirement projections for the settlements were based on the number of beneficiaries reported on a monthly basis by the RADOs to the FRD District Depots, in a similar fashion to the Schools' and Vulnerable Groups' programmes.

From the middle of 1985 onwards, attempts were made both by FRD and the RADs Unit in Gaborone to ensure that the RADOs were fully conversant with the need to supply monthly beneficiary figures (based on their field work) to FRD, so that the correct amount of food rations could be ordered and stocked at the District level. What made this particularly imperative was that the supply of maize meal which formed the main component of the food ration of the RADs was only stocked at the District FRD depots in small amounts, due to its limited shelf life, and had to be ordered to a strict schedule from just one milling company in Lobatse called Corn Products Ltd. A large South African subsidiary, Corn Products held extensive wholesale interests within Botswana and was virtually the only company with both the equipment and capacity to mill maize of the quantities required by the programme. This in itself was to have wider implications, not only for

the RADs programme, but for that of the Vulnerable Groups', as we shall see later in our discussion of the overall management of the drought relief programme.

As we have seen from Table 3.5, no data on the number of beneficiaries is available between the onset of the drought in 1982 and 1984, when all we have is an estimate of 20,000, repeated again the following year. This was because most RADOs failed to collect beneficiary levels and report them to FRD on a regular basis.

This begs the obvious question about whether the amount of food distributed during this period was adequate to cover requirements, and the short answer to this question is that for most of the period prior to 1986, we simply do not know. We do however, have data for the amount of food distributed under the programme from FRD depots during the period 1986-88, and we can compare this with the calculated requirements based on beneficiary figures supplied by the RADOs during the same period. This analysis is shown in Tables A1 to A15 in the Appendix. In all of these Tables, for those months when the RADOs did not report the current beneficiary levels of RADs in their settlements, an estimate has been made based on an average of those months where figures were available. Where this had to be done, it is indicated in the footnotes of each individual Table. As distribution to the settlements in any one month is based on beneficiary figures collected during the previous month's delivery, total calculated requirements are based on beneficiaries reported during the period December 1985 to November 1988. The actual distribution is for the period January 1986 to December 1988.

We can interpret this data on various levels. First and foremost, it is clear that an assessment of distributive performance on an aggregate, national level is hopelessly inadequate and hides supply deficiencies on an individual

settlement, District or even Regional level. Secondly, the apparent gross undersupply in some Regions, particularly Sebele in 1986 and 1987 and Francistown in 1988, may be due to an overestimation of requirements if the beneficiary levels were inflated by the RADO. In this case, the RADO may be supplying food to a greater proportion of RADs than would be indicated by these figures. Conversely, the apparent oversupply of some commodities from Maun Depot (Ngamiland) in 1986 and 1987 and Mahalapye in 1988 may be due to an underestimation of requirements by the RADO and need not indicate a particularly good distributive record. In this case, the RADO may be collecting more food from the Depot than the calculated requirement would have indicated.

Thirdly, as the three commodities which make up the RADs ration should be issued and distributed in a fixed proportion to each other, the varying distributive performance of each commodity would indicate that stock levels were not consistent at each Depot. At Tutume Depot for example, only 31% of the calculated requirements of beans were collected and distributed by the RADO, compared with 111% of the oil requirement. Whether this was due to localised stock shortages and inefficiencies in the FRD intra-regional distribution system, or to mismanagement on the part of the individual RADO, or both, is not immediately clear. We do know however, that in some sub-districts in 1985, the RADOs did not collect any beans for the settlements at all because they were not aware that beans were stocked at FRD for that purpose; it is not known whether they obtained any from an alternative source using Council funds.[24]

Whilst data on monthly stock levels in the individual FRD depots in 1986 is not available, we do have data for the period 1987-88 and from this we can determine to a

[24] Personal observation of Selebe-Phikwe and Mahalapye FRD stock analysis ledgers.

certain extent the possible causes for a poor distributive performance. Letlhakane FRD depot for example, which exhibits only a 67.03% distributive performance for maize-meal, simply didn't provide its Regional Officer with stock level reports for seven months out of the year. Consequently the regional depot in Francistown did not know how much maize meal to supply. The depot manager at Letlhakane apparently failed to monitor stock availability and requirements for the RADs and allowed the RADO to collect some 183% of its vegetable oil requirements in the same year.[25]

Tutume depot also oversupplied the RADO with vegetable oil by 71%, whilst in the same region Maun depot only managed to supply 54% of its calculated requirements. Maun did not distribute any oil whatsoever between August to December 1987, and the small amount of oil in stock during that period (around 0.10 mt) was most likely condemned and unfit for human consumption.

It is difficult after the event to determine exactly where these problems originated. Oversupply from the Regional Depot to Letlhakane and Tutume may have encouraged the district depot managers and RADOs in these two depots to distribute too much oil (if only to clear their warehouses for other more perishable stock), which left little stock left for Maun. On the other hand, the Letlhakane and Tutume managers may have requested too much oil in the first place, which the Regional depot agreed to supply without first checking actual requirements based on reported beneficiary figures.

A similar picture emerges in Sebele Region, where only a 52.06% distribution of oil was achieved in Molepolole but Mochudi distributed 248.73% of its calculated oil requirements. In this case however, under-distribution in

[25] Francistown Region monthly stock reports 1987.

the former does not seem to have been caused by over-distribution in the latter: there appears to have been an inadequate level of oil stocks in the region.

Kanye depot in Lobatse Region also had a poor record of distribution for RADs' oil during 1987, with no oil being distributed during the first three months of the year. The reasons for this is not clear, as stocks of oil in the depot were adequate during the period.

What made these supply deficiencies even more acute was that they were not spread evenly over all the settlements in a particular district but in some cases concentrated in certain areas, i.e. a total cessation of distribution was witnessed in some settlements. Though it is difficult to quantify exactly how many settlements were affected in this way, we do know for example that deliveries to certain RADs settlements in Mahalapye were not made for as long as three months.[26]

Logistical planning and support from FRD headquarters remained very poor throughout the period and goes some way towards explaining the shortage of stock experienced in some district Depots, particularly those receiving maize meal direct by rail from Corn Products in Lobatse. Palapye Region, with three Depots falling into this category (Serowe, collecting direct from Palapye railhead, Mahalapye and Selebe-Phikwe), suffered more than most in this regard. Due to irregular and unplanned food movements to these depots, Depot Managers had to continuously transfer maize meal by road to and from other depots in the Region. It was not uncommon, for example, for Mahalapye to move maize meal from Selebe-Phikwe to supply the RADO in its own area, and for

[26] Personal observation of Mahalapye FRD stock analysis ledgers. This is not obvious from Table A6, which shows a 96.15% distributive performance for the district as a whole over the year. With an emergency food aid programme, over-supply during one period does not necessarily compensate for previous under-supply.

Selebe-Phikwe to move food from Mahalapye in the same month because of uncoordinated supply and distribution systems. When the new contract for the supply of maize meal was signed with Corn Products in April 1987, the supply to Mahalapye was mistakenly omitted from the contract and the Depot thus received no direct supply by rail for nearly six months.[27] As a consequence, many of the depots' vehicles were employed in transferring maize meal from other depots instead of delivering food to the settlements.

Because of the lack of an adequate reporting system flowing from the districts to the MLGL, and the inability of the Ministry to account for the donated commodities, WFP took the unprecedented step of unilaterally withdrawing its support from the RADs programme at the end of 1986. This decision was communicated to the Ministry without prior consultation with the FRD staff at either Regional or District level, or with the UNV advisors working within the FRD and at that time actually on the WFP payroll.[28] WFP simply informed the Depot Managers by telephone that they were to discontinue the supply of WFP beans to RADs settlements, and this effectively reduced the size and nutritional value of the ration available. Though maize meal continued to be provided by Government funds, and vegetable oil was supplied through bilateral donations from Sweden, FRD headquarters had apparently made no provision to find an alternative source of supply for the beans, which formed the main protein component of the RADs ration.
It took some two months for FRD to negotiate a temporary "loan" of beans from WFP to cover the attendant shortfall until a new bilateral donation from Canada arrived. To their credit, most Depot Managers followed the initiative

[27] Personal communication received from FRD HQ.

[28] The UNVs were originally recruited and paid by UNDP.

of their UNV advisors and tried to maintain an uninterrupted supply of WFP beans to the RADs throughout this critical period. However, distribution of beans over the year was deleteriously effected in most regions.[29]

Whatever the root cause for the poor distributive record of the RADs' programme, the picture that emerges from 1985-87 data is one of confusion and mismanagement, and a total loss of accountability which generally went unrecognised at a district and national level. That such a situation should have been allowed to develop in the first place is perhaps indicative, not only of the working relationship between WFP and FRD, but between these agencies and their field staff. Perhaps more importantly, it illustrates the level of commitment and concern for what is essentially the most crucial element of the drought relief programme.

With the withdrawal of WFP support for this essential programme, the Organisation of African Unity (OAU) undertook to provide financial support with grants from the Special Emergency Fund for Drought and Famine. To improve the reporting system for the OAU, the UNV advisors were requested to hold national training workshops for all the RADOs in Gaborone in mid-1987. The emphasis was laid on the registering of beneficiaries at the settlements in order to obtain accurate food requirement projections at the FRD district depots, as well as milling requirements at Corn Products. The RADOs were also trained in basic logistics and encouraged to liaise with FRD staff to ease transport constraints. A new and standardised reporting format was introduced which it was hoped could fulfil a dual purpose. First, it would present in a concise and coherent form the

[29] Stocks of RADs' beans at the end of January 1987 were as follows: Palapye Region: 1.70 mt.; Lobatse region 1.85mt; Sebele region: 6.87 mt; Francistown region: 73 mt. This is reflected in the distributive performance of the individual regions, being respectively 54.30%, 66.18%, 70.48%, and 81.45%.

necessary progress report required by the District Drought Committees. Secondly, it would form the basis of the periodic reports to the OAU from the MLGL, as it provided data on beneficiary levels, food distribution and stock levels.

Data for 1988 shows an overall improvement in distributive performance for the RADs' programme in Palapye and Sebele, but a marked deterioration in both Francistown and Lobatse regions. Again, the cause of this can not be attributed solely to FRD management constraints at the district level, but more likely to a combination of poor control and monitoring by both the RADOs and FRD. Lack of coordination at FRD headquarters level (particularly in relation to ensuring regular supplies from Corn Products Ltd. at Lobatse) was also an important contributory factor.

While a more detailed analysis of the data would be of interest, we will only consider some of the more salient points here as they relate to particularly poor levels of distribution or managerial capacity. As an example, we can note that at the end of March, Letlhakane had 18.30 mt of oil in stock (almost 4 months supply), whilst Maun had zero stocks. The following month, all of Letlhakane's stocks were collected by the RADO for distribution, giving a yearly distributive performance for the depot of 128%. A better strategy would have been for the regional depot to send more oil to Maun depot instead, which only managed to distribute 28.74% of its oil requirements. Letlhakane did not distribute any maize meal at all during the last quarter of 1988, apparently due to low stocks at Francistown, which is itself a reflection of either continuing supply problems with Corn Products, inefficiency at FRD HQ, or both.

In Lobatse region, Kanye and Tshabong depots actually distributed less RADs' food in 1988 than in 1987 (the

declaration of drought recovery would not have influenced this performance as the RADs' rations remained the same). The poor performance at Kanye has reflected badly on the region as a whole due to the number of RADs registered in the area. The main shortfall for the depot was in the supply of maize meal. Stock levels as indicated on the monthly regional reports do not indicate any particular shortfall in supply [30] throughout the year and so it is likely that responsibility for the poor level of distribution lies with the RADO concerned.

FRD monthly regional reports indicate that distributions of beans from Hukuntsi depot were made only in the months of April, May, August and September - giving a yearly distributive performance of this commodity of just 10.09%. The problem here in the first half of the year seems to have been the non-availability of "RADs" beans in the regional depot at Lobatse (stocks of beans for the schools programme never fell below 400 mt in the first quarter of the year.[31]) The regional stock report for August 1988 indicates new stocks of RADs beans at the regional depot of 140.70mt, yet during that month Hukuntsi only distributed 0.5 mt. The following month of September saw only a distribution of 0.4 mt, with zero distribution after that for the rest of the year. In fact for some reason, none of the new regional depot stocks of beans which are reported after August were transferred to Hukuntsi depot or anywhere else for that matter.[32]

The IMDC Drought Assessment Tour in early 1988 produced a report which marked its first attempt as the main policy formulating body in the relief programme to

[30] Kanye depot is within easy driving distance from Lobatse and Corn Products Ltd., and so supply to this depot does not present any logistic problems.

[31] Lobatse FRD regional stock reports 1988.

[32] The regional stock reports show the stocks of 140.70 mt lying untouched at the regional depot until the end of November 1988. The report of December 1988 however omits any mention of beans stocks at the regional depot.

actually quantify the food distributive performance of the RADs programme. This assessment is shown in Table 3.9 below.

TABLE 3.9: DELIVERIES OF MAIZE MEAL TO RADS' SETTLEMENTS, OCT.- NOV. 1987. (12.5 kg. BAGS)

DISTRICT	POPULATION(1)	BAGS REQUIRED(2)	BAGS SUPPLIED(3)	DEFICIT(4)
Southern	2892	5784	Not Known	?
Kgatleng	400	1200	1037	163
Kweneng	5234	15702	14119	1581
Kgalagadi	710	2130	Not Known	?
Ghanzi	5500	16500	14229	2271
Ngamiland	3409	10227	4215	6012
Boteti	3599	10797	Not Known	2539+
Tutume	3379	10137	3066	7071
Bobirwa	3207	9621	6221	3400
Serowe	3260	9780	6790	2990
Mahalapye	Data not reliable.			
Totals:	31590	91878	49677+	26027+

Notes:

1) Population refers to the total number of RADs eligible for rations, i.e. the current population in the settlements. This compares with an average number of 20825 in the period Oct.- Dec.1986, 23,087 in Jan. 1987 and 25,616 in Feb. 1987. (EWTC, 1987)
2) The number of bags required is calculated by multiplying the number of beneficiaries by three to get the requirement for three months (1 bag per person per month). There appears to be an error in the case of Southern District which has only been multiplied by two.
3) This is the number of bags delivered during the three month period.
4) This refers to the number of bags that should have been delivered, but were not.

Source: IMDC, Drought Assessment Tour 1988, p.9, drawn from RADO and FRD monthly distribution reports.

Once again it is clear that in many cases insufficient food was distributed, and that in some the necessary distribution reports expected from the RADOs were not made available to the IMDC assessment committee. This is despite the fact that the IMDC admits in the same report that

> "..in the National Drought Package the only realisable benefit that is truly and fully accessible to the RADs is the feeding component" (IMDC, 1988, p.10).

It is painfully obvious that even the "feeding component" of the programme is simply not working for many of the RADs.

In their report the IMDC identified four main constraints in the administration of the programme: first, transport difficulties and vehicle availability; second, the role of the FRD in procurement and storage; third, the inadequacy of food storage facilities at the settlements, and fourth, the milling capacity of Corn Products is inadequate. It does not however propose any solutions to these problems, which we will now examine in turn.

Transportation has been a recurring problem throughout the life of the programme. An undue reliance on the hire of private vehicles has not worked in the more remote areas as the contractors are unwilling to risk damage to their vehicles at existing haulage rates. The four wheel drive Mercedes trucks provided to District Councils for food delivery are in many cases insufficient and even unsuitable in some areas, particularly in the heavy sand of Southern District, and spares are not available.[33] Requests to have them replaced where necessary by larger Scania six wheel drive vehicles (as used to good effect by the Department of Water Supplies) were made by the RADOs themselves at the workshops held in 1987. At present there seems to be no plans to carry out these replacements.

The whole transportation of RADs food during the 1982-88 drought was characterised by the absence of an adequate planning strategy which could in many cases, be accommodated within existing FRD delivery schedules. In some remote areas, the delivery of school, health facility and RADs' food could be accomplished with one

[33] IMDC Drought Assessment Tour, 1988, Main Report, p.9. This is somewhat surprising as the trucks are manufactured in South Africa.

single trip, whereas in practice the RADs vehicles often travelled grossly underloaded, even when allowing for poor road surfaces. In some Districts, Transport Coordinators were seconded to FRD in 1982 on the recommendation of the Gooch & MacDonald report, following on from the IFP's incapacity to move food in sufficient quantities during the 1979-81 drought. Mainly retired government officers, their presence appear to have greatly improved the distributive performance of the Department in recent years, and to have been particularly effective in Palapye Region, where a 97% distribution rate of RADs' food was achieved (see Table A11 in the Appendix).

However, as the Transport Coordinator for Central District is based in Serowe, where both the District Council and District RADs' Unit are also based, this relatively good performance is not entirely unexpected. Elsewhere in the District, their role in the distribution of RADs' food remains a passive (and therefore less effective) one in that they act only on the requests by the RADOs for Council or privately hired transport, and facilitate the payment to haulage contractors.

To move on to the IMDC's second point, it would appear that in Francistown FRD region, the coordination and cooperation between the RADO and FRD in the supply of RADs' food has reached its lowest ebb:

> "In some Districts (e.g. North west) the Department of Food Resources would only haul food for the RADs from Francistown to Maun, (and) even though FRD have to proceed to their sub-depot at Shakawe, the RADs food is not taken there. It is not even accommodated in FRD depot stores which are available at Shakawe. This reflects a bad working relationship between the Depot Manager and Remote Area Development Unit" (IMDC 1988, p.9-10).

The third issue raised by the IMDC concerned the lack of adequate storage at RADs settlements, is not a new issue, and apparently was only raised after the unusually heavy rains and floods during the period November 1987 to January 1988:

> "If storage was available, food could be supplied in bulk and this may avoid disaster during flood seasons and transport breakdown" (IMDC 1988, p.10).

The construction of storage facilities could have been carried out as part of the LBRP programme at all established settlements and would have provided much needed (albeit short term) employment opportunities for the RADs. It would have also helped ease the transport constraints mentioned earlier by reducing the number and frequency of food deliveries required.

The fourth and final point raised by the IMDC concerned the capacity of Corn Products in Lobatse to deliver maize meal in sufficient quantities to the railhead depots. The dependency of Botswana on a South African subsidiary for a major part of its relief efforts is an issue which we have already raised before and to which we will be returning again in later sections.

Here, the concern of the IMDC is perhaps slightly misdirected, as much of the irregularity of supply is due not to the company's milling capacity, but to FRD's inability to provide delivery schedules which match the individual depots' requirements. Corn Products is a commercial enterprise and provides all the maize meal in the country through its wholesale outlets. As such it has large wholesale warehouses in every major village, and any interruption in the normal supply to the FRD railhead depots could be made good by arranging to purchase from

these outlets.[34] This in fact is common practice when supplementary rations are provided for LBRP participants working some distance from their home village.

The monitoring capacity of the programme also changed in 1988. The UNVs for Palapye and Lobatse regions left early in the year and were not replaced, while the UNVs for Francistown and Sebele regions were used more for training of FRD staff in Gaborone. The marked deterioration in distributive performance in Francistown and Lobatse - the two largest FRD regions - during 1988 may have had something to do with this change of strategy. While Palapye region could be managed quite well from Central District headquarters at Serowe, and Sebele region direct from Gaborone, both Lobatse and Francistown regions covered huge and remote areas which posed greater managerial and logistical constraints. The role of the UNVs up to the beginning of 1988 had largely been to monitor the programmes in the field from the field and to help overcome transport and supply problems.

The Remote Area Dwellers, of whom the *Basarwa* form the main group, are the most marginalised and deprived of all social groups in Botswana. They are a people whose hunter-gatherer lifestyle is rapidly breaking down, and are the most severely affected by the growing commercialisation of livestock. Their very survival as a separate ethnic group with its own distinct culture and social norms is intimately bound up with debates about the nature of agriculture and land use, and particularly the role of the country in providing beef for the international market.

> "How Botswana as a nation now adjusts to the interests of hunter-gatherers, pastoralists and ranchers must deeply affect the kind of state that this is to become. As one of the few

[34] This strategy was in fact suggested to FRD HQ on a number of occasions without response.

> parliamentary democracies in Africa, Botswana is a state that prides itself on its multi-racial stance and its emphasis on economic development. The central government has repeatedly affirmed its commitment to social justice and democratic participation in the taking of basic decisions. But it is yet to be seen whether the pressures toward commercialisation will overwhelm and radically change that commitment in practice" (Hitchcock 1982).

If the Government's management of the RADs' feeding programme is anything to go by, it would appear that this commitment to social justice is already seriously in doubt.

e) Employment Creation and Economic Impact of the LBRP.

The LBRP is arguably the single most important single component of the current Drought Relief Programme in terms of addressing the fundamental issues of unemployment and under employment in the rural areas of Botswana. It has two main objectives: first, to help compensate for losses of income suffered during the drought by providing short term employment, and second, to simultaneously improve the basic rural infrastructure in the villages by the implementation of projects chosen by the communities themselves. LBRP projects can thus be seen as developmental in nature as they represent an attempt to satisfy the needs and aspirations of the entire community that initiate them. This section provides an analysis of the evolution and socio-economic impact of the LBRP during the 1982-88 drought. The feasibility of expanding the LBRP into a fully fledged public works programme, as part of a longer term development strategy, will be covered in the final section of this study.

The concept of mobilising the village community for joint enterprises or agricultural effort is not a new one in Botswana, and in fact formed an essential element of the traditional rural economy, was based on the exchange of labour rather than through cash transactions, and, as we noted in section one of this study, was perhaps the only guarantee of survival for the tribes in a harsh climate. However, with the emergence of a cash economy and the development of a new form of economic individualism, community effort has had a rapidly declining role to play in tribal society and is now reduced to a residual activity in most social groups.

The introduction of a labour intensive public works programme in the 1960s, and which has continued in various forms since then, can therefore be seen as the institutionalisation, by the Government, of what was a normal communal activity at the village level, but with one important distinction. Communal effort was no longer the central core of a self-sustaining tribal economy, but took the form of a relief programme aimed at the rural poor, for whom the wider economy offered little alternative hope of maintaining even basic subsistence levels.

The programmes established in the 1960s and which ran during drought years until 1973, used WFP donated food as the basis of payment to the participants on the projects. The food donations were in the form of maize meal, vegetable oil, dried skimmed milk and dried fruit. These Food for Work (FFW) projects are tabulated in Table 3.10 overleaf, together with data on the number of participants and expenditures.

The WFP323 project was designed to promote a wide range of communal activities, and at the same time, control the tsetse fly in Ngamiland and Chobe Districts. Projects included the building of pit latrines, classrooms, dams

and roads, and soil conservation devices. Productivity, in comparison with what could have been achieved by the use of more capital intensive methods, was low due to inadequate supervision and a shortage of equipment (Gooch & MacDonald 1981, p.7).

TABLE 3.10: ANALYSIS OF FOOD FOR WORK PROJECTS IN BOTSWANA, 1966-1980

Project No.	Year	Number of Participants	No. of Man Days Worked	Expenditure Food	Transport	Admin.	Unspecified
WFP 323	1966-67	27500	5982566	$1.6m.	-	-	$2.3m.
WFP 564(1)	1969-71	12573	3006023	$1.6m.	-	-	$0.5m.
WFP 2074Q	1973-74	1174	-	$48200	$19406	$2973	$10853
WFP 995	1973-74	7500	?	?	?	?	R102000(2)
KGATLENG(3)	1979-80	250	20000	P 1200	-	P3000	-

Notes:

1) Includes 3600 Angolan refugees.
2) South African Rands (Botswana was still using this currency in 1973-4). Excludes Kgalagadi and Southern Districts where no information is available.
3) Kgatleng Quick Action Fund.
Source: Gooch & MacDonald (1981), p.5.

Project WFP564 had similar objectives to WFP323 and included the provision of food to 3600 Angolan refugees settled in the Etsha area of Ngamiland. Nine thousand hectares of land were cleared, 500 hectares destumped, and 6000 hectares cultivated. In thirteen villages, houses were built by the participants. Productivity was again low due to the shortage of trained supervisors (one supervisor to 58 labourers on average).

Project WFP2074Q was designed to encourage autumn ploughing, weeding and early planting. This project was very quickly mobilised but failed to reach its target of 5000 farmers, as many had lost their draught oxen in the previous year's drought.

Project WFP995 had its main emphasis on brick moulding and site clearance rather than construction. Productivity was again low, and when WFP food was exhausted it took two months for Government purchases to arrive. As a consequence, many workers simply gave up hope of receiving any back pay, and left the sites (Ibid., p.8).

The small Kgatleng scheme was the only one implemented during the 1979-80 drought and included improvements to village *kgotlas* and the debushing of roads.

The influential Gooch & MacDonald consultancy of 1981 found that the FFW projects were

> "sporadic, hastily implemented, and have usually fallen short of their objectives... productivity on the schemes has been low. Last minute planning, the late arrival of equipment, the inability to recruit and train sufficient on site supervisors in time and the late arrival of food were the major factors" (Gooch & MacDonald 1981, p.9).

Though the secondary objective of creating viable improvements in the rural infrastructure had not been fully met, the main objective of providing relief was generally more successful, particularly in reaching the poorest sections of the population.

A major FAO survey in 1971-72 estimated that 29,890 individuals had participated in FFW projects up to that date, and that the participants were predominantly females, from female-headed households. As we have seen already in Chapter Four, this group remains the most vulnerable to the effects of drought, and their participation in the FFW is significant. Table 3.11 overleaf illustrates the survey's findings. Though younger males were the most likely to be migrant labourers and therefore less likely to participate on FFW projects, a more important factor was thought to be the

existing customary work roles of the two sexes (FAO 1974, p.31). Perhaps more important of all was the fact that female headed households owned on average only one quarter of the number of cattle owned by male headed households, and were therefore able to plough less land (FAO 1974, p.33 and 36).

TABLE 3.11: FOOD FOR WORK PARTICIPANTS BY SEX & AGE GROUPS (1971-72)

AGE	NO. OF FEMALES	NO. OF MALES	FEMALE/MALE RATIO
Up to 29	5830	400	14.6
30-39	5500	500	9.3
40-49	4930	630	7.8
50-59	4310	830	5.2
60+	5030	1840	2.7
TOTALS:	25600	4290	6.0

Source: FAO (1974), p.31.

> "Livestock holding, especially cattle, is the key to wealth, influence and crops production. The majority of families that had participated in the food for work scheme held no cattle, and those that did held fewer than the average of the population (FAO 1974, p.32).

It appears therefore that the FFW programme was successful in reaching the poorest households and remains one of the few drought relief programmes that have directly benefited the non-owners of cattle more than the cattle owners (Colcough & McCarthy 1980, p.133). Syson, working in Shoshong village only, confirms this assessment. She found that 76% of the poorest 24% of the households had participated in FFW projects, compared with 42% of the rest (Syson 1972, p.56)

One of the main terms of reference of the FAO survey was whether the FFW was having a disincentive effect on agriculture. From 1970, concern had been expressed in official circles in Botswana about the apparent decline in acreage planted under crops over the previous decade:

> "The findings of the survey indicated that participation in food for work projects may have been associated with a reduced cropping activity of not more than 2% of the total households" (FAO 1974, p.38).

Considering the low level of cropping activity of these households, the overall impact on total production was probably negligible. As we suggested in noted in Section B, Chapter II of the present study, the overriding constraints on the agricultural activity of the individual household remain the ownership of cattle and the availability of rain.

By 1979, there were four different kinds of projects predominantly using labour intensive methods. Not all of these were intended to function purely as "relief" works, and to avoid confusion in the description that follows, their official titles are listed below together with their Ministerial funding codes as appropriate:

a) Labour Intensive Public Works Schemes (LG38);
b) Self-Help Schemes (LG17);
c) District Road Maintenance Pilot Project (LG34);
d) Drought Relief Schemes (LBRP);

LG38 projects were intended to be more productive than normal relief works, with the employment of unemployed labour not the main objective, but the means to an end. The important distinction between LG38 and LBRP was that the former would be run in non-drought years when drought relief was not available, and the projects had to justify using labour rather than capital intensive methods on

economic, and not just social grounds. The latter was defined more as an emergency programme where productivity was not the main objective. Payment for both programmes was in cash, not food, at the rate of P1 per day. Wages formed about 72% of the total utilised funds, with the remainder being spent on tools, petrol, and donkey cart hire. Overheads such as the salaries of supervisors, were warranted to the recurrent budgets of the participating District Councils (IMDC 1987, p.4).

The LG38 programme operated under the same operational constraints that had plagued the FFW projects: lack of administrative, supervisory and technical capacity at the District level. This led many projects to be rejected by the MLGL at the planning stage.

The Self-Help LG17 scheme was directed towards the stimulation of local initiatives and self-reliance at the village level. Projects have included the establishment of communal vegetable gardens, and the construction of teachers' quarters, pit latrines, storerooms and community centres. The scheme envisaged that suitable projects would be identified by the VDC after consultation with the villagers at the *kgotla*, and that everyone would contribute to the cost of their completion, by donating labour or materials. The rate of contribution is around 20% of the total cost of each project. Cash is now gradually replacing labour as the main village contribution, with many of the poor unwilling to participate. Gooch & MacDonald (1981, p.14) found some resentment to the scheme during the 1979-80 drought, which was described to them as "poor people providing their labour to build infrastructures for the rich". The District Road Maintenance Pilot Project (LG34) ran in Central District from 1980 onwards, in collaboration with ILO, the World Bank and NORAD. It was hoped to establish in this project the basis for a fully fledged public works programme (to replace LG38) which

could be extended to a national level. It was designed to use labour intensive methods, and yet achieve productivity levels comparable to, or exceeding, capital intensive methods.

Road maintenance was chosen as the most appropriate project type because it as felt that year round access to villages and land areas was important for long term rural development and economic growth. Nongazetted (i.e. unmapped and unsurfaced rural roads) comprise 60% of the total length of roads in Botswana. These roads are for the most part dirt tracks, and are the only communication link between villages, lands and cattlepost areas, where eighty percent of the people in Botswana live. Keeping the 11,000km. of rural roads in usable condition is a top priority of the District Councils.

As some 42% of the rural population lives in Central District and it has around 40% of the ungazetted roads (1971 census), it was chosen as the most suitable area for the pilot scheme.

For the type of rural secondary road in Botswana, labour intensive techniques were found to be more economical than capital intensive methods. It was estimated in 1981 that the construction costs of a new tarred road was P150,000 per km, and that gravelled roads were unlikely to be below P25,000. The District Roads Maintenance Pilot Project estimated in the same year that an engineered earth road costs around P6000 per km using labour intensive methods (Gooch & MacDonald 1981, p.21). For example, donkey carts can move 7-8 cu. metres (around 15 tonnes) per day at the cost of P9.60 and beat a tractor and trailer over short hauls of around 350 metres (Ibid., p.28). Capital intensive methods also require the use of foreign exchange which is spent outside the country (mainly in South Africa), whilst labour intensive methods put money into the rural communities.

Wage rates were fixed at P2.10 per day, which although low in comparison with the current minimum wage rate in the government sector of P4.10 per day (Ibid., p.25), was still substantially higher than that existing in the traditional agricultural sector (see Chapter Four for examples of wage levels prevailing in the agricultural sector)

> "Basing the wage rate on prevailing wages and returns in the traditional agricultural sector was rejected on the grounds that at these levels one could not expect high productivity and the risk of absenteeism would be high" (Gooch & MacDonald 1981, p.25).

Approximately 1500 man-days were required per km. of road requiring selective improvement, giving a labour cost of P3150. The cost of tools, supervision and administration was estimated at substantially less than P3000 per km. (Gooch & MacDonald, p.28). Between 1980 and 1986, however, productivity declined with the number of man/days required for construction rising from 1994 to 2743 per km. (ILO 1986, p.23). The reason for this decline was two-fold. First, the quality of construction had been enhanced which required additional work. Secondly, the elimination of task work had caused a reduction of output in ditch excavation (from 4.5-5.0 m^3 to around 1.5-2.5 m^3 per day) (Ibid., p.23). As a consequence, task work was introduced in 1987.

The positive results achieved by this programme led the Government to extend it to other Districts for a further five years, and between 1980 and 1986 the project had constructed over 770km. of rural roads (of which 86% were constructed and 14% gravelled). During the same period, the programme had provided temporary employment to more than 3800 people (Ibid., p.22). and in 1987 employed some 2000 people for an average 200 days per year (IMDC 1987, p.2). These figures should be seen in the light of the fact that the annual <u>increase</u> in the labour force is

21,000 per annum (ILO 1986, p.1), based on a population increase of 3.4%, whilst in 1986 it was estimated that the current level of unemployment and underemployment was 230,000 people, or some 62% of the available workforce (IMDC 1987, p.1.& 4.).

The LBRP projects which ran during 1979-81 had as their primary objective the provision of relief to those households affected by drought and the outbreak of foot and mouth disease, which had effectively prevented them from selling their livestock to BMC. Wages were fixed at P1.00 per day, i.e. less than 25% of the Government minimum wage, as it was argued that this would automatically ensure that only the neediest were given jobs and cause the minimum disruption to agriculture. Most of the projects involved bush-clearing, the stripping of fields, and stump removal.

The total expenditure for these projects was P734,123 of which P535,902 (73%) was spent on labour costs. Some 535,902 man/days were expended, with the total number of participants estimated at 4000, though not all of these were working for the whole season due to a high labour turnover. For example, one project had an average attendance of 100, a maximum attendance of 180, and the estimated total number of participants at 280 (Gooch & Macdonald 1981, p.34). There is some evidence to suggest that the wage rates, although comparable to those obtained in traditional agriculture, were too low to expect a level of productivity comparable to more capital intensive methods. Where food rations were provided to supplement the wages, a higher level of productivity was obtained:

> "Projects which only provided maize meal for their workers incurred lower productivity due to the lack of protein in the diet...improved productivity was claimed for those projects with workers in camps, when a regular supply of meat was provided" (Ibid., p.36, 38).

However, even without the provision of food rations, the wage levels offered compared favourably with those paid to cattle herders, [35] who are among the lowest paid of all agricultural workers:

> "On one scheme in a remote area, cattle herders were attracted to the scheme by the regular P1.00 wage and the cattle owners complained that the project was diverting their labour" (Gooch & McDonald 1981, p.42).

In this light, it appears that the argument for basing LBRP wage rates on those prevailing in agriculture was essentially a reflection of the vested interests of the larger cattle owners. In a drought situation, little arable agriculture is carried out, and with the onset of rains the LBRP projects are suspended.

The value of the food component supplied to those participants working in areas remote from their village, is not known as it was subsumed under the materials expenditure, and in general, the record keeping by project administrators was insufficient to allow a thorough analysis of all the projects (Ibid., p.31). One lesson learnt from the evolution of the LBRP was the need for an enhanced level of technical supervision of the projects. This need was to be met in part during the subsequent 1982-88 drought by the use of expatriate technical manpower, made available by the US and Dutch governments.

Botswana was ill-prepared to launch a substantial expansion of its LBRP programme in 1982, and the fact that it did achieve a measure of success in the first year of its operation was due largely to the efforts of some key personnel at the District level, particularly the District Commissioners and Council Secretaries.

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[35] Examples of wage levels of herd boys are given in Section B, Chapter II.

(Borton 1984, p.69). It may also be partly due to the fact that the Government was now firmly committed to paying participants in cash rather than in food, which made the logistics involved in its implementation much easier and cheaper, as it obviated the need for additional transport and personnel at District level.[36]

At the start of the programme the wage levels were reviewed by the MLGL and Nutrition Unit, and the price of a "minimum requirements" basket of goods for an average family was taken as a basis for discussion. As a consequence, the daily rate was fixed at P1.50, still substantially below the minimum government rates, but now no longer simply reflecting existing rates in agriculture. The key elements of the planning process of LBRP projects are outlined below:

I. Initial project identification is made by the villagers themselves, usually at a kgotla meeting attended by officials from the District Council. The list of projects submitted by the villages are then assessed by the District Drought Coordinator and his Technical Officer (usually an expatriate working on volunteer terms.) Projects are selected on the basis of their expected labour component (which should be around 70% of the total projected cost), and the expected long term benefits to the village community. Another consideration was how well the projects fitted in with those submitted by neighbouring villages. For example, if several villages submitted road projects, whether these roads could be linked together;An estimate of the number of man/days and materials required is then made (possibly after visiting the site) and used as the basis of the costs to be included in the Project Memorandum;

[36] We will be examining the relative merits of FFW and cash payments later in this section.

II. The Project Memorandum is then reviewed by the District Drought Committee before being sent to FRD in Gaborone where the Planning Officer would check costings and productivity rates. It is then passed to the Labour Based Appraisal Committee (a sub-committee of the IMDC) in the MFDP for final approval;

III. On completion the funds required for the projects are then warranted to FRD by the MFDP and then sent to the District Councils. Payment teams are then organised to tour the project sites each month to pay the labourers.

The administration of the LBRP at the District level was the responsibility of the District Drought Coordinators working under the authority of the District Commissioner and Council Secretary and to whom they had to report at the quarterly Drought Committees. Many of the Drought Coordinators were retired government officers working on a contract basis for the period of the drought and with little experience of managing a programme of this size and complexity. Several appeared unable to compile and present coherent progress reports to the Drought Committees, and one in Central District had his reports rejected on a regular basis.[37] These administrative weaknesses were compounded by the failure to establish standardised purchasing and accounting procedures in the Districts and sub-districts.

In some cases, when funds were sent to the Districts, the cheques were paid directly into the Council Treasury account and this made it impossible to keep track of expenditures on a sub-district basis. As a consequence, some sub-districts appeared to be overspent and were told to stop projects, when in fact the overexpenditure had occurred in other sub-districts or even in other Council

[37] Personal observation at Central District Drought Committee meetings, Serowe.

activities. [38] In other cases, expenditures on materials for individual projects as recorded by the Drought Coordinator did not match, and the Committee was unable to determine which set of figures was correct.

A more serious problem lay in the organisation of the Council payment teams. With the onset of drought in 1982, many districts took months to release sufficient staff and vehicles to ensure that the payment teams actually visited each project site once a month (Borton 1984, p.75) and this situation had still not been solved by as late as 1987.

In Kweneng District in January of that year, the Acting District Commissioner reported to the Council that

> "numerous problems were being encountered in the implementation of the programme...some problems were a result of poor methods of operation, insufficient knowledge of what was going on about the projects and how to calculate the wages for workers...in some areas payment was delayed for up to four months. (*Botswana Daily News*, January 12, 1987).

Three months later, it was reported that in the same District, some P143,617 had been expended on unauthorised projects for which no funds had been allocated, and some payments had been authorised for projects that did not in fact exist. (*Botswana Daily News*, April 9, 1987). A similar situation had occurred in Kweneng in the 1982-83 programme, when projects were started without official authority being granted. Out of a total expenditure on the projects in the District of P582,000,

> "as much as P250,000 of this could reasonably be said to have been wasted - all as a result of the combination of unpreparedness to mount

[38] Borton (1984), p.75 and personal observation.

such a programme and overzealous District officials" (Borton 1984, p.74).

These shortcomings obviously had a deleterious effect on the morale of LBRP participants in some areas, and explains the varying levels of productivity between one District and another (Ibid., p.75-6).

One important element of the LBRP was the employment of women in rural areas to mill sorghum for the school feeding programme using traditional pestles and mortars (except in Kgalagadi and Ghanzi Districts where the traditional handstamping of sorghum grain is not carried out.) In 1983-4 some 4300 part time jobs were created under this scheme with the handstampers being paid at the same rate as the other LBRP workers, and each milling around 8kg. of sorghum (sufficient for 57 school children) daily. Because the number of women wanting to participate in this scheme far exceeded the number of available places, the labour was rotated and therefore provided temporary work for between 6000 and 7000 workers (FRD 1984, p.28). Table 3.12 overleaf lists the other types of projects carried out under the LBRP.

An assessment of the contribution of the LBRP programme to improving the rural infrastructure is fraught with difficulties and varies with the type of project completed and the technical quality of the work itself. The Council Works Departments were very short of officers in the technical grades, and those they had were more familiar with the construction techniques of modern style buildings than, for example, the appropriate thickness of earth walls for small dams (Borton 1984, p.76). Some dams were simply washed away with the onset of heavy rains in November 1987.[39]

[39] Personal observation in Serowe sub-district.

TABLE 3.12: EXPENDITURE ON LABOUR BASED RELIEF PROJECTS, 1985-86 AND 1986-87.

Project Type	1985-86 Projects Quantity	1985-86 Projects Expenditure (P.)	1986-87 Projects Quantity	1986-87 Projects Expenditure (P.)
Dams	295	2,700,000	282	2,500,000
Road Debushing	2200km.	1,300,000	1100km.	600,000
Firebreaks/Fences	1600km.	800,000	1400km.	900,000
Huts	532	800,000	647	1,400,000
Latrines	189	200,000	397	400,000
Road Improvement		200,000		500,000
Kgotla/Kraals	102	127,000	46	101,000
Airstrips	5	114,000	7	76,000
Shelters	63	108,000	65	160,000
Fencing		105,000		140,000
Staff Housing	38	96,000	68	198,000
Block Moulding		53,000		99,000
Gardens	35	42,000	61	156,000
Drift/Bridges	13	40,000	41	120,000
Wells	20	30,000	22	37,000
Erosion Control		27,000		99,000
Woodlots	6	25,000	11	41,000
Kitchen Shelters	11	19,000	122	206,000
Showgrounds	1	11,000	4	10,000
Water Reticulation	10km.	10,000	64km.	65,000
Rubbish Pits	13	9,000	31	43,000
Sportsgrounds			18	55,000
TOTALS:		P6,816,000		P7,906,000

Notes: Average wage component was 78% of the total cost of the programme.

Source: ILO (1986), p.26.

The most productive types were probably those which directly facilitate future production, such as land improvement projects. They include the marking out of boundaries, the removal of scrub, stones and land clearance generally, soil conservation and erosion control, including the planting of trees or hedgerows and the terracing of hillsides, afforestation and minor

irrigation works. Such projects, particularly the planting of woodlots and erosion control, have great potential that can only be fully realised in the years to come.

As the primary objective of the LBRP was to preserve rural incomes during the drought, we will base our assessment of its economic impact on the extent to which it achieved this goal.

In 1985-86 it was estimated that 74,000 people benefited from the programme and worked for an average of 60 days each (ILO 1986, p.25). In 1986-87 42,344 places were created with approximately 70,000 participants after rotation (IMDC, 1987). Using the ILO data in Table 3.12 above, which estimates that 78% of total expenditure was spent on labour costs, the gross wage received per capita is P71.84 and P88.10 respectively. This is hardly a large amount over the year, and compares unfavourably with a figure of P134 for handstampers in 1984 (assuming 7000 participants, and that all the funds of P937,550 were disbursed) (UNDP et al 1985, p.77).

Though a number of LBRP projects in remote areas also attracted a food ration supplement of 12.5kg. maize meal per month (worth about P6.00), most did not, and we can therefore discount this in our calculations of overall remuneration levels.

If we now move on to look at the allocation of LBRP funds to the Districts, we can get an appreciation of the per capita benefit to the rural population as a whole. The IMDC has established a funding ceiling for each District based on primarily on population, but those areas particularly severely affected attracting a premium allocation of 20% (UNDP et al 1985, p.77). Table 3.13 overleaf, drawn from FRD data, shows the allocation for the year 1983-84. It should be borne in mind that this

data represents the funds disbursed to the Districts and not the actual expenditure on the projects. As some were never completed due to late submission of the project memoranda, these figures tend to overestimate the level of income flow to the rural areas.

TABLE 3.13: LBRP DISBURSEMENTS BY DISTRICT JUNE 1983 - MAY 1984.

District	Amount	Population	Per Capita Allocation (P.)
Kgalagadi	379,792	24,503	15.50
Kwaneng	642,914	115,632	5.56
North East	557,631	36,710	15.19
Chobe	101,944	8104	12.58
Central	3,183,721	321,913	9.89
Ngamiland	772,589	68,250	11.32
South East	296,176	30,883	9.59
Ghanzi	246,176	18,706	13.16
Southern	457,056	119,648	3.82
Kgatleng	193,831	42,321	4.58
Totals:	**6,832,006**	**786,670**	**8.69**

Notes: Population calculated by dividing disbursement by per capita allocation as provided by FRD.

Source: FRD, Annual Report, June 1983-May 1984, p.27.

When looked at on a per capita basis, the contribution that LBRP has made to replacing rural incomes lost through the drought appears very insubstantial, though a paper prepared by the Rural Development Unit in 1985 estimated that the programme had replaced 30.5%, 32.9% and 37.7% of lost income due to the drought during the years 1983 to 1985 respectively! (RoB, Rural Development Unit (MFDP) June 1985). However, as these estimates are based only on LBRP participants, and even then only on crop losses (not livestock or wage employment), they do not give a clear indication of how effective the programme has been in replacing lost incomes in the rural areas as a whole. In any case, if these figures are

accurate, then it would appear that many Batswana have very little cash income even in non-drought years.

Upon closer scrutiny it also emerges that the benefits derived from the LBRP has varied a great deal between villages even in the same District and one survey found that participation rates varied between a high of 72% and a low of 13%, and household income earned from the LBRP ranging from P250 to P35 (UNDP et al 1985, p.78).

It is not clear whether the participants on LBRP were necessarily those who had lost most crop income and were therefore the most in need. Though the FRD guidelines instruct the VDCs to focus their recruitment on the poorer households,[40] this was probably not carried out uniformly in practice, due to competition for the limited number of available places. LBRP projects also favour the labour-rich household at the expense of those with high dependency ratios, and manual work is of little use to the old and the sick. We do know however, that the proportion of female labourers was estimated at 70% and this rose with the onset of rains as the men left for ploughing (Borton 1984, p.74).[41] As we have mentioned before, where these women are the head of their household, they are often the most vulnerable from a nutritional standpoint, and therefore most in need of an additional source of income during the drought.

Though the primary objective of LBRP was to preserve rural incomes, it was assumed from the outset that the majority of the targeted population would be the rural poor, who spent most of their income on food purchases. Implicit in the strategy therefore was the preservation of household food security which was threatened by declining incomes during the drought.

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[40] FRD, Manual on the Human Relief Programme,(1986), p.10. Participants had to be "not less than 13 years of age."

[41] FFW and Labour Based relief projects elsewhere also attract a large number of female participants. (WFP 1985d).

It is not at all clear that the Botswana Government's commitment to paying its future LBRP participants in cash rather than in kind, (which we suggested earlier was probably taken initially on logistic grounds) has in fact achieved this objective. In 1982, the newly formed FRD department was ill-prepared to undertake food distribution to LBRP sites in addition to managing a vastly expanded programme of its own, and so payment in cash by touring council officials seemed an attractive option. But as we have seen in the previous section, the late payment of LBRP participants in some Districts has cast considerable doubt on the efficacy of this strategy.

From a wider perspective, the decision to pay participants on LBRP projects in food or in cash, or a mixture of both, is a subject of increasing interest to the donor community, and in this section we will be examining some of the arguments in favour of using the market as the primary distributive mechanism. The arguments in favour of using cash wages as opposed to food are quite persuasive:

> "First, it preserves the dignity of the workers. Second, it allows a greater flexibility of the recipients to use the money for what they need most. Third, it allows for the possibility for the recipient households to actually invest part of this new income in future productive activities or in the improvement of their living conditions" (UNDP et al 1985, p.78).

We will now examine each of these in turn. The first two points are rather contentious and ignore the fact that many LBRP participants, particularly in the more remote areas, have always lived outside or at the margin of the cash economy, and this does not *per se* imply a loss of dignity, which rather occurs through a basic lack of productive assets and the loss of subsistence which that

implies.[42] The second point presupposes the existence of markets and shops at which to spend the wages. Because of the economic marginalisation of many Batswana in the remote areas, markets have simply never developed:

> "The District Commissioner in Maun has confirmed that starvation in Beetsha sub-village, about 450km. to the West, has forced some people to eat the roots of the "motlopi" tree...because there was no shop from which to buy food. The nearest shop is at Seronga, some 50km. away and even that facility is too small to cater for surrounding villages...even those engaged in drought relief programmes have to eat the motlopi root (*Botswana Daily News*, September 7, 1987).

There is also the problem with cash wages that if LBRP projects are situated in remote areas and isolated from the national market, the rise in local demand will be inflationary, and may adversely affect those who were not able to participate in the LBRP projects. One report in 1985 estimated that the demand for food in rural areas increased to replace "food income" (i.e. that grown for own subsistence) by 40% (Eele & Funk 1985). Localised inflation has already occurred in some of the smaller villages when the income support for Category A destitutes was raised to P30 per month.[43] Also, as commodities in the west of the country are more expensive than in villages to the east and along the line of rail, a fixed LBRP wage rate favours the larger villages over the more remote areas which are already disadvantaged in the provision of health care and social services. The wage rate is unlikely to be adjusted to accommodate these price differentials for administrative reasons (Borton 1984, p.70).

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[42] After the 1979-80 drought, some 80,000 people in Turkana District of Kenya were employed on FFW projects as part of a WFP relief and rehabilitation programme. The programme has been extended until 1993.

[43] Reported at Mahalapye sub-district drought committee meetings in 1987.

The third point assumes that sufficient income is left in the household after expenditure on essentials to be invested in future productive activities, or used on improving living conditions. As we have already seen, the average per capita earnings of LBRP participants is low by any standards and it is not immediately obvious how such small amounts could be invested in productive assets. Such investment as does occur will depend on a number of factors, including the number of LBRP participants in each individual household and its dependency ratio, and how the household perceives its immediate priorities. These priorities may in certain circumstances not correspond with the nutritional requirements of the household, and participation of mothers in LBRP projects has been mentioned as one reason for the low attendance in some villages at the Direct Feeding programme.[44]

The socio-economic survey carried out by UNDP/UNICEF/WHO in 1985 found that about 37% of participating households spent some LBRP income on food but it did not indicate the proportion of the income spent (UNDP et al 1985, p.94). We do not know therefore whether the LBRP programme is having a significant effect on improving or preserving the nutritional status of the participants and their children, when compared for example with the supplementary feeding programme.

The experience of UNICEF in Ethiopia suggests, but does not confirm, that the nutritional status of children improves faster if food transfers are made to households than if they work for cash (Ibid., p.79). If further research indicates that the same is true for Botswana, then a return to FFW may be preferable during drought years when households are unable to produce enough food for themselves, with a return to cash based LBRP projects

[44] Personal communication from several FWEs in Central District.

in years of adequate rainfall and improved domestic production.[45] An alternative strategy would be a mixed approach where basic food rations are supplemented by an appropriate cash payment.[46] This in fact is already implemented at those LBRP projects situated in remote areas and as we have already seen, enhances productivity at those sites.

[45] This presupposes, of course, that the supply of food commodities is organised effectively. In FFW programmes in some other countries, this has not always been the case. (Clay & Singer 1985, p.81).

[46] This would avoid the problem of recipients having to trade food for other household commodities which they require.

VI

THE MANAGEMENT OF THE 1982-88 DROUGHT RELIEF PROGRAMME

In this chapter we first examine the role of the IMDC as the main *planning, funding and coordinating* body for drought within central Government, its working relationship with the District Drought Committees, and particularly its primary function of identifying and declaring the onset of drought through the Early Warning Technical Committee (EWTC). Second, we assess the administrative capacity and distributive performance[1] of the Food Resources Department (FRD), as the main *executive* body of the drought relief programme.

a) Planning for Drought: the Role of the IMDC and EWTC.

The IMDC coordinates the activities of the five departments and ministries dealing with the different aspects of drought relief measures. The Ministry of Health, operating through the Regional Health Teams and village health facilities, is responsible for nutritional surveillance, assessing how many people are nutritionally at risk and the quantity and quality of food rations required. The Department of Meteorology provides weather surveillance, rainfall patterns and expected crop yields by region. The Department of Water Affairs drills new boreholes in areas severely crippled by water shortages. The Ministry of Agriculture assesses the expected crop

[1] In Section (d) of chapter five we analysed the food distributive performance of the Remote Area Dwellers' programme, for which FRD's main responsibility was the movement of RADs' food to the district depots and its storage. Responsibility for delivery to the settlements and final distribution remained with the RADOs and district councils concerned. In this chapter we consider the distributive performance of the Vulnerable Groups' and primary school feeding programmes, for which FRD had direct responsibility in supplying the health facilities and schools throughout the country.

production using data on the area ploughed and planted by its extension personnel in the field. It also provides subsidised livestock feed, free seeds and vaccines, and a subsidy on draught power. The FRD, operating within the MLGL, handles the supplementary feeding programme to primary schools and health facilities, and the administration of the LBRP projects.

The post of Secretary of the IMDC was transferred in 1983 from the MFDP Planning Officer to the newly created post of National Food Strategy Coordinator, situated in the Rural Development Unit of the MFDP. Though the concept of a national food strategy had first been raised by the Gooch & MacDonald consultancy in 1981, the real impetus had come from a visit by a mission from the African Development Bank (ADB) in early 1983. The key elements of the National Food Strategy will be examined in a subsequent Chapter.

Until 1984, warning of an impending drought was based on the interpretation of data provided by a variety of sources:

I. simple rainfall data collected by the Meteorological Department from around the country which indicated any substantial deviance from the normal. As we have noted elsewhere, in Botswana it is the onset of the first rains in November and December that determines the timing and extent of ploughing and planting, with the subsequent rainfall pattern determining the overall yield. Thus by early February it is possible to get areasonable idea of the maximum harvest which can be expected, by looking at the level of rainfall up to that date;

II. assessments of the crop condition and area planted by the extension teams of the Ministry of Agriculture;

III. to a lesser extent, trends in the national nutritional surveillance data;

IV. qualitative reports from District Officials, such as the District Commissioner, RADOs and the Regional Medical Officer.

If meteorological data indicated a substantial departure from normal rainfall patterns, together with a corresponding decline in the acreage ploughed or planted, the IMDC could then anticipate the likely magnitude of the shortfall in cereal production, and set in motion the necessary government machinery to implement another drought relief programme.

In 1984, the Early Warning Technical Committee (EWTC) was formed as a sub-committee of the IMDC and chaired by the IMDC Secretary (now the NFS Coordinator). As its name suggests, its primary role was to produce the earliest possible estimates of the severity of any impending drought. It was provided with computer facilities to ensure the rapid updating and comparisons of data, and to enable the salient points to be clearly presented, both to Government and the donor community. Since then its crop forecasting capacity has been much improved through the production of moisture satisfaction indices for maize and sorghum by the Meteorological Department, using a methodology developed by the FAO (Borton 1984, p.85).

The EWTC makes regular monthly assessments of the effects of drought conditions and the availability of food supplies, and produces reports and recommendations for the IMDC and senior policy makers. Links have been established between the national early warning system and the SADCC Regional Early Warning Centre based in Zimbabwe, which is being developed under the Regional Food Security Programme. To be effective, an early warning system of drought and impending famine conditions

must include the monitoring of all variables which influence the income of the vulnerable groups, their ownership of productive assets, their wage and employment levels, and local prices. All these factors have a direct bearing on the ability to command access to food, and the monitoring of aggregate levels of agricultural output or cereal availability is clearly insufficient.

As we have already seen in previous chapters, some of the worst rates of malnutrition in Botswana occur in areas which are themselves the most productive (e.g. the Tuli Block freehold ranches). We have also seen that relying on nutritional surveillance data alone can be misleading as it is based only on actual attendance at health facilities. The real level of malnutrition is likely to be highest in those areas where attendance is poor. In any case, waiting for early warnings in this form is leaving it too late as the whole point of the relief programme is to prevent malnutrition occurring in the first place.

The early warning system in Botswana was successful in that it offered a faster assessment of the severity of an impending drought, and the likely shortfall in domestic cereal production. For planning purposes this was a great advantage, as it gave both Government and donor agencies more time to draw up or restructure their contingency plans. Because it is heavily biased towards using meteorological data and estimates of agricultural output, the system is less well equipped to indicate when the drought is effectively over and the relief programme should be wound down, or stopped altogether. This was particularly evident in 1985 when several areas were declared recovery zones, yet subsequently suffered a marked increase in the rate of malnutrition after rations were reduced.[2]

[2] This was covered in the previous Chapter.

The IMDC conducts a national assessment tour every year around January or February to visit the Districts, obtain an update on the drought situation from the officials concerned with the programme. It also discusses the current trend in nutritional status of the under fives with the RMO and RHENO, collects data on the acreage ploughed and planted from the MoA Agricultural Demonstrators, and assesses the condition of livestock and grazing. A special drought committee meeting is usually convened for this purpose.

It is worthwhile pausing at this stage to examine the structure, function and responsibilities of the District Drought Committees, as they all have a bearing on the working relationship with the IMDC and the performance of the drought programme as a whole. The Committee meetings are chaired by the District Commissioner and attended by all senior District and sub-district officers currently working on drought related activities. These include representatives from the MoA, S&CD, Water Affairs, FRD, Council Treasury, CTO, District Health Team, and Nutrition Unit, as well as a sprinkling of Councillors and the occasional MP. Councillors and MPs often exert a powerful political influence on the meetings at the sub-committee stage by the choice of subjects they bring up for discussion, and this is then reflected at the main committee meetings. They are generally drawn from an elite group, wealthier and better educated than the general populace and frequently have close kin ties with the traditional aristocracy of chiefs and headmen. Holm found that 62% of councillors held more than 25 head of cattle and 59% claimed paternal kinship ties with the local chief or headman (Holm 1972). Often the emphasis at the sub-committee meetings is placed more on livestock water supplies and the availability of subsidised stock feed than on the human aspects of the drought relief programme.

The effectiveness of the Committees varied widely and often reflected the abilities and personality of the individual DC or Council Secretary. In the case of a strong Chairman (as at Serowe), duties which had been delegated at a previous meeting were entered in the minutes as an "action" item and the individual officer concerned was expected to explain what action he had taken at the next Committee meeting. At other District Committees, even at the specially convened IMDC drought assessment meetings, many senior officers either did not attend, did not have any information to relate, or failed to produce satisfactory progress reports. In Central District, the FRD Regional Officer for Palapye attended only two meetings between his appointment to the post in October 1985 and December 1987, and failed to prepare a report or speak a single word at either.[3]

The effectiveness of the Drought Committees to monitor and control the food distribution in the Districts was complicated by the two-tier level of responsibility for the administration of the relief programme. In 1982, following one of Gooch & MacDonald's recommendations, the responsibility for ensuring that food reached the individual school, health facility and RADs' settlement was shifted to the District administration, despite the fact that it was FRD that was actually moving the food:

> "Concerning food movements, the Department's responsibility ends when the food reaches the districts. All we retain after that is accountability, to be able to say to whom the food was issued within the district, but as far as making sure that food moves from one point to another is concerned and especially making sure that nobody within the district that is entitled to a ration goes without one, that is the responsibility of the District Commissioner and the Council Secretary" (FRD, *Annual Report*, June 1983-May 1984).

[3] Personal observation as member of the Drought Committee.

Once the food reaches the districts therefore, FRD was reduced to a role no more than advisory regarding what should, in fact, have been the very reason for its existence: food security and food movements within the country during the period of the drought. In this surprisingly frank statement by FRD in 1984, the Department effectively declared that it was no longer responsible for supervising its own staff in the Districts and if they did not maintain regular supplies to the feeding centres then it was a matter not for FRD but for the District Administration to take action on. As most of the FRD staff that were working at Regional and District levels were seconded from the Department of Supplies, the possibility of effective supervision, or of disciplining inactive officers at a District level was practically negligible. This applied also to FRD's own efforts to discipline its staff, and is, as we shall see later, one reason why it generally failed to achieve the sole element of accountability it admitted being responsible for.

b) Food Procurement, Storage, and Management.

The IFP had, from its inception, been regarded as serving the interests of WFP, and felt by its parent Ministry to be more a part of WFP than a government department:

> "WFP ordered the food, scheduled the shipments, and were responsible for food movements to the railhead depots. They submitted the monthly reporting format for stocks and deliveries, reimbursed half of the estimated in-country distribution costs incurred by IFP and even assisted IFP to balance the figures for the Quarterly Progress Reports required by WFP Rome" (Borton 1984, p.31).

With the onset of drought in 1982, the Food Resources Department (FRD) was created to replace the IFP and

became the government body directly responsible for the procurement and distribution of relief food on a national level, and for all other administrative and financial elements of the programme including the LBRP.

From the outset it became obvious that although FRD was now an autonomous government department within the MLGL and working independently from the donors, it had inherited some serious staffing problems at the Head Office from IFP. The Accounts and Personnel sections in Gaborone remained virtually unchanged, characterised on the one hand by a low productivity and morale, and on the other by a latent tribalism uncommon in Batswana society and made manifest by the attitude of some senior staff towards the Director.[4] An ordained Church Minister of *Kalanga* origins, the new Director was resented by those staff who had been retained from IFP, particularly in later years when he started to devote an increasing proportion of his time to Church activities, at home and abroad, which distanced him from the day to day problems facing the Department in the Regions. Over successive years this internal strife had a deleterious effect on staff morale in the Districts, and many experienced and capable officers directly involved in the food distribution felt alienated and were often overlooked when it came to promotion.[5] The combination of all these factors had a detrimental effect on the capacity of the whole Department to manage the drought relief programme efficiently and effectively, and allowed the Head Office to fail even to be aware of the distributive performance of its own Depots in the field.

FRD has four main activities, each of which has important structural linkages with the others, and the failure of

[4] Personal observation.

[5] It was a general feeling amongst FRD staff in the Districts that promotion was often based on tribalistic grounds.

any one has important repercussions on all four. There is additionally a theoretical division of responsibility for the implementation of the four activities between FRD headquarters, the Regional Offices and the District Depots, but in practice this division has often been blurred. The first main activity is the procurement of food commodities for the relief programmes which is carried out by FRD headquarters in Gaborone, but based on projected requirements calculated from beneficiary figures collated by the District Depots. Food requirements not met from the donor community and unanticipated shortfalls are made good by government purchases. Commodities destined for distribution to the RADs under the RADP continued to be procured and stored by FRD, but the actual distribution to the settlements was carried out by the RADOs, who formed a separate Department within the same parent Ministry. Food requirements for this programme were calculated on beneficiary figures reported by the RADO to the District Depots. The structure and operation of the RADP, and the role of FRD within it, has already been examined in the previous chapter.

The second activity is that of the storage and management of food commodities for FRD's own distribution to schools and health facilities, and for the RADOs distribution to RADs' settlements. This is primarily the function of the Regional and District FRD staff, but as additional storage space often has to be hired, and funds for this purpose have to be approved by FRD in Gaborone, a joint responsibility for maintaining an adequate storage capacity has to be assumed.

The third area of activity is the actual distribution of commodities at a sub-district level, primarily the responsibility of the individual Depot Manager, but requiring the logistical backup of the Regional Depot and the HQ in Gaborone to ensure a regularity of supply.

Lastly, the reporting system from the District Depot to the Regional Offices, and from the Regional Office to FRD HQ, provided the communications link which kept all four activities in tune with each other. We will now examine each of these in more detail.

From 1982, and on the operational side of the programme, the important post of head of procurement and distribution at FRD HQ was filled by a former Registry Supervisor in the Office of the President, an experience that was unlikely to prepare her adequately for the demanding role that lay ahead. However, we can look at the procurement exercise from at least two different perspectives. First there is the routine procurement of relief food from the international donor community, usually conducted a year in advance, and greatly facilitated by the involvement of the IMDC members and officials of the Ministries involved. The donor agencies themselves are usually closely involved during the period of negotiations and on hand at FRD to help calculate commodity requirements based on aggregate beneficiary levels at the schools and health facilities and current ration scales. At this level of operation the procurement process generally works well. It is during periods not covered by donor contributions that the administrative weakness of the existing procurement system becomes evident.

One such period was in early 1986, when existing stocks of ICSM (Instant Corn Soya Milk) donated by WFP and used in the health facilities began to run down. The ICSM is a high protein blend of corn, soya and milk powder and forms the most essential element of the Vulnerable Groups' ration. WFP had notified the Government through FRD that it did not intend supplying any future shipments of this commodity due to its high manufacturing cost. Though USAID had agreed to step in and make further

donations, the first shipment was not expected for around six months.

Arrangements had been made with Corn Products[6] at Lobatse to produce an ICSM substitute to cover this shortfall, which was essentially a blend of maize meal and dried skimmed milk, and nutritionally comparable to the imported commodity. Corn Products was at that time the only milling company with suitable equipment to do this. The arrangement involved milling the "maize milk" for FRD during weekends when the plant was not being used for the regular milling of maize meal for the Company's own wholesale and retail trade, and worked well for the first few months. Corn Products was given a production schedule to work to based on the requirements of the railhead depots, and would dispatch the maize milk directly from its own sidings in Lobatse. However, it became clear that Corn Products was unable to keep up with the supply schedule and it became increasingly irregular, with several depots running out of maize milk altogether. The procurement officer in FRD HQ was unable to obtain any guarantee of improvement in the output from Corn Products and thus the Department was in deep crisis.

The appropriate action for FRD to take would have been to approach the consortium of donors with a view to temporarily releasing some sorghum and DSM stocks normally earmarked for the schools programme. If necessary this could have been replaced at a later date either by the Government's own purchases, or by an adjustment to the donors' intended future donations. An alternative strategy would have been for the Government to release some of its own sorghum stocks held by BAMB, or even part of the Strategic Grain Reserve.

6 See similar comments on Corn Products and the RADP in the previous Chapter.

In the event, the senior staff at FRD were reluctant to approach either the donors or any other Government department for assistance or advice, and no food was released from any source. As a direct consequence, as many as half the number of health facilities in some areas were without food for as long as six weeks, and in Serowe, destitutes were seen begging for food at the doors of the FRD depot, which was overflowing with grain destined for the schools' programme.[7]

A similar, but less serious crisis occurred the following year when approximately 1000 mt. of beans in the District Depots were found to be deteriorating very rapidly. The beans, a bilateral donation from Canada and used for all three feeding programmes,[8] had apparently got wet en route to Botswana and had started germinating. Samples of the suspect beans were collected by the UNVs and subsequently sent for analysis in Johannesburg. Though it was obvious from the outset that a large proportion of existing stocks would have to be condemned as unfit for human consumption, and that there would as a consequence be a shortfall in supply before the arrival of the next shipment, FRD took some two months to finalise the purchase of alternative stocks. By the time these started arriving by rail from Malawi and South Africa, many feeding centres had been without beans for a period of six weeks or more.[9] This must cast some considerable doubt on the administrative capacity of the senior management of FRD to carry out the tasks assigned to them. The widely held belief that FRD was a "dumping ground" for inefficient personnel from other departments is perhaps indicative of the priorities of a government more

[7] Personal observation. At this time there existed a very poor working relationship between the main donors, represented by WFP, and the senior staff at FRD.

[8] Namely, the Vulnerable Groups', Schools and RADs' Feeding Programmes. Bilateral donors such as Canada and Sweden continued to support the RADs' Programme after WFP had withdrawn.

[9] Personal observation in District Depots in Palapye Region.

interested in the livestock element of the relief programme.

From August 1982, FRD has had four administrative regions with offices situated at Francistown, Palapye, Sebele and Lobatse. These are shown in Table 3.14 below.

TABLE 3.14: FRD REGIONAL OFFICES AND THEIR DISTRICT DEPOTS

FRANCISTOWN	PALAPYE	SEBELE	LOBATSE
Francistown*	Palapye*	Sebele*	Lobatse*
Kasane	Serowe	Mochudi	Kanye
Maun	Mahalapye*	Molepolole	Tshabong
Tutume	Selebe-Phikwe*		Hukuntsi
Letlhakane			Ghanzi

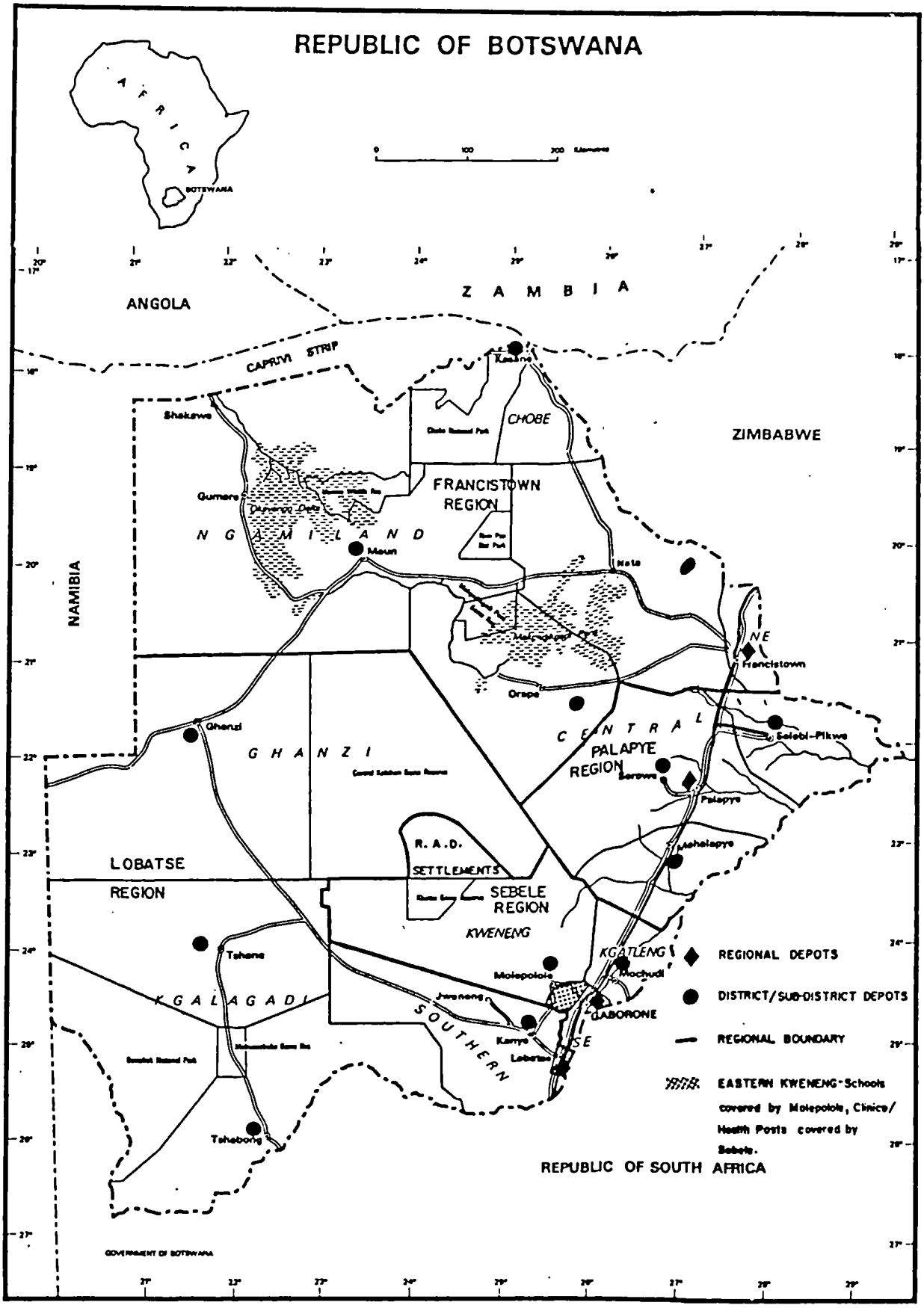
Notes:

Those District Depots marked with an asterisk are located on the line of rail and normally receive most of their stocks direct, i.e. not via the Regional Depot.

Source: FRD Gaborone.

The geographical coverage of these FRD Depots is illustrated on Map 3 which follows on the next page.

The problem of FRD's storage facilities at the onset of the 1979-80 drought was highlighted by the Gooch & MacDonald consultancy in 1981, which found that the capacity of many depots had remained unchanged since the 1960s drought and was completely inadequate. Maun Depot forexample, had a storage capacity of only 50mt, whilst the amount of food it was distributing each month was in excess of 250 mt. This situation had continued throughout the 1970s because the IFP's infrastructure priorities were perceived more as a lack of sufficient vehicles and


REPUBLIC OF BOTSWANA
AFRICA
BOTSWANA
ANGOLA
ZAMBIA
ZIMBABWE
NAMIBIA
REPUBLIC OF SOUTH AFRICA
CAPRIVI STRIP
CHOBE
FRANCISTOWN REGION
NGAMILAND
GHANZI
CENTRAL
PALAPYE REGION
SEBELE REGION
LOBATSE REGION
KWENENG
KGATLENG
SOUTHERN
KGALAGADI
R.A.D. SETTLEMENTS
Shakawe
Gumare
Maun
Nata
Francistown
Orapa
Ghanzi
Serowe
Palapye
Mahalapye
Tshane
Molepolole
Mochudi
GABORONE
Kanye
Lobatse
Tshabong
REGIONAL DEPOTS
DISTRICT/SUB-DISTRICT DEPOTS
REGIONAL BOUNDARY
EASTERN KWENENG - Schools covered by Molepolole, Clinics/Health Posts covered by Sebele.
GOVERNMENT OF BOTSWANA

maintenance facilities than a shortage of storage space. Assistance from the UN Capital Development Fund during this period had therefore concentrated on building up the vehicle fleet rather than expanding the storage capacity of the depots.

By 1982, it had been realised that additional storage capacity was required and a programme of expansion was put into effect with capital assistance coming from the UN, USAID and the Lutheran World Federation. However, the building programme was not completed until early 1987, and six months later, several still had no water, electricity or telephone connections. During this period, additional storage space had to be rented to cope with the ever increasing amounts of food as the programme expanded. Some Regional Officers resorted to moving excessive amounts to their outlying District Depots in an effort to clear space in their own warehouses:

> "During this quarter (January-March 1985), many losses were experienced from the sub-depots of Maun, Kasane and Tutume in Francistown Region. This was as a result of poor management by the then Regional Officer of Francistown, who was reported to have hauled larger and larger amounts of food to the Districts. As a result, more food was destroyed by rain packed outside the storerooms. By December 1984, Kasane and Maun depots were stocked with food to last for eight to twelve months. More of this stock was piled outside the storerooms for a longer period. Some of these commodities were re-transferred to Tutume depot and got damaged on transit as it was during the rainy season". (FRD, *Quarterly Progress Report to WFP, Project 324 III, January-March 1985*).

The magnitude of these losses is indicated in Table 3.15 overleaf and applies to WFP commodities only. The data was extracted from FRD's own quarterly reports to WFP, but as FRD received bilateral aid donations from USAID, the EEC, Sweden and other countries during this period,

TABLE 3.15: ESTIMATES OF COMMODITY LOSSES/WRITE-OFFS AT FRD DEPOTS: 1985 (METRIC TONNES).(1)

DEPOT NAME	ICSM	SORGHUM	MAIZE MILK(2)	DSM	MAIZE MEAL	VEG.OIL	BEANS	TOTALS
PALAPYE REGION:								
Palapye	0.02	0.75	5.10	0.00	6.26	13.83	3.50	29.46
Serowe	0.00	0.00	0.00	0.00	0.78	0.56	1.15	2.49
Mahalapye	0.00	0.00	0.00	0.00	6.72	0.00	1.23	7.95
Selebe-Phikwe	0.32	0.00	0.00	0.00	0.00	0.00	0.50	0.82
Regional Totals:	**0.34**	**0.75**	**5.10**	**0.00**	**13.76**	**14.39**	**6.38**	**40.72**
FRANCISTOWN REGION:								
Francistown	7.42	0.00	0.00	0.00	0.00	0.00	0.00	7.42
Tutume	18.87	0.00	0.00	2.36	0.00	0.44	0.15	21.82
Letlhakane	17.28	0.45	0.00	0.00	0.00	0.00	0.00	17.74
Maun	54.00	0.68	0.00	0.11	0.00	0.85	0.00	55.65
Kasane	71.99	27.58	0.00	0.48	0.00	0.00	0.00	100.04
Regional Totals:	**169.56**	**28.71**	**0.00**	**2.95**	**0.00**	**1.29**	**0.15**	**202.66**
LOBATSE REGION:								
Lobatse	14.99	4.94	0.00	0.00	0.00	0.00	1.35	21.29
Kanye	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tshabong	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hukuntsi	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ghanzi	1.04	0.00	0.00	0.00	0.00	0.06	0.00	1.11
Regional Totals:	**16.03**	**4.94**	**0.00**	**0.00**	**0.00**	**0.06**	**1.35**	**22.39**
SEBELE REGION:								
Sebele	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Molepolole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mochudi	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Regional Totals:	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
NATIONAL TOTALS:	**185.93**	**34.40**	**5.10**	**2.95**	**13.76**	**15.74**	**7.88**	**265.77**

Notes:

1) Losses/write-offs at Palapye, Serowe & Mahalapye are non-WFP commodities.
2) Maize Milk is a blend of maize meal and 10% DSM.
3) In all cases, the Regional depot losses have been subsumed under their local depot losses. No data available for depots in Sebele Region.

Sources:

WFP data: FRD Quarterly Progress Reports to WFP, 1985. Other data drawn from Condemnation Certificates kept at Palapye Region FRD depots.

it does not reflect the true extent of losses during 1985.[10] To account for these other losses not shown in the reports to WFP, we have included additional data from Palapye Region only drawn from Condemnation Certificates kept on file in individual depots. Table 3.16 overleaf shows losses for 1986, and combines the usual WFP Quarterly Reports data with that indicated in stock analysis ledgers from individual district depots. The high rate of loss at Francistown in 1986 is very marked and provides a stark contrast to the low rates in its District Depots which had suffered high losses the previous year due to gross overstocking. Francistown's losses can not be attributed solely to lack of storage capacity which was adequate throughout the year and additional warehouse space is always available for hire in this busy town, second in size only to Gaborone itself. Rather they are attributable to poor stock management and rotation, and the general failure to fumigate storerooms after heavy insect infestation (Chotani 1988). These figures probably underestimate the actual magnitude of losses. The low incidence of loss at Lobatse, and the absence of any loss at Sebele Region is more likely an indication of non-reporting of losses and write-offs in the depots' monthly reports.

Data for losses in 1987 and 1988 is shown in Table 3.17 which then follows. Unlike the previous two tables, it indicates losses and write-offs on a regional basis only, being drawn not from individual district depot reports but from the monthly reports made by the regional officers themselves. The data include commodities from the VG, schools' and RADs' programmes, and from all donors and government stocks (i.e. not just WFP commodities).

[10] As Clay & Singer (1985) note, "Development assistance agencies and NGOs are operating under formal accounting requirements, which cannot accomodate visible evidence of improper practice". The same applies to recipient governments, also.

TABLE 3.16: RECORDED COMMODITY LOSSES/WRITE-OFFS AT FRD DEPOTS, 1986. (METRIC TONNES)[1]

DEPOT NAME	ICSM	SORGHUM	MAIZE MILK[2]	DSM	MAIZE MEAL	VEG.OIL	BEANS	TOTALS
PALAPYE REGION:								
Palapye	0.00	0.10	0.00	0.00	0.00	1.67	8.05	9.82
Serowe	0.02	0.69	0.00	0.50	0.66	0.59	3.60	6.07
Mahalapye	0.00	0.00	0.00	0.05	0.24	0.31	9.00	9.59
Selebe-Phikwe	20.91	2.65	0.00	0.00	0.00	1.36	15.15	40.07
Regional Totals:	20.93	3.44	0.00	0.54	0.90	3.94	35.80	65.55
FRANCISTOWN REGION:								
Francistown	90.70	193.18	52.90	0.00	0.00	0.00	17.55	354.33
Tutume	0.84	0.00	0.05	0.00	1.29	0.13	1.15	3.46
Letlhakane	0.82	0.00	0.00	0.00	0.00	2.61	0.00	3.42
Maun	0.48	0.10	1.05	0.00	0.00	0.66	0.00	2.29
Kasane	3.74	0.00	0.00	0.29	0.00	0.68	13.10	17.81
Regional Totals:	96.57	193.28	54.00	0.29	1.29	4.08	31.80	381.31
LOBATSE REGION:								
Lobatse	1.36	0.00	0.00	0.14	0.00	0.00	0.00	1.50
Kanye	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tshabong	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hukuntsi	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ghanzi	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Regional Totals:	1.36	0.00	0.00	0.14	0.00	0.00	0.00	1.50
SEBELE REGION:								
Sebele	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Molepolole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mochudi	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Regional Totals:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NATIONAL TOTALS:	118.87	196.72	54.00	0.96	2.19	8.01	67.60	448.37

Notes:

1) This data applies to all donated commodities and Government stock.
2) Maize Milk is a blend of maize meal and 10% DSM.

Sources: FRD Stock Analysis Ledgers, 1986 for Palapye & Francistown data. Lobatse and Sebele data from FRD Quarterly Reports to WFP, 1986.

TABLE 3.17: RECORDED COMMODITY LOSSES/WRITE-OFFS BY FRD REGION, 1987-88.(MT)

REGION	ICSM/MM	SORGHUM	DSM	VEG.OIL	BEANS	TOTALS
1987						
PALAPYE	5.730	0.000	0.000	0.090	123.950	129.770
FRANCISTOWN	211.500	16.820	0.150	48.190	180.000	456.660
LOBATSE	125.710	8.880	0.000	1.277	19.300	155.167
SEBELE	158.975	152.735	4.045	34.203	10.950	360.908
TOTALS:	501.915	178.435	4.195	83.760	334.200	1102.505
1988						
PALAPYE	133.990	17.360	0.046	0.400	78.200	229.996
FRANCISTOWN	43.269	7.700	0.000	5.653	35.700	92.322
LOBATSE	337.283	237.280	4.606	0.400	51.500	631.069
SEBELE	74.889	212.370	0.000	20.106	103.750	411.115
TOTALS:	589.431	474.710	4.652	26.559	269.150	1364.502

Notes:

1) This data applies to all donated commodities and Government stock.
2) Around 250 mt. of the beans lost in 1987 were part of a bilateral donation from Canada which had a high moisture content on arrival, and subsequently started to germinate.

Sources:

FRD *Stock Analysis Ledgers* and *Regional Stock Reports* 1987-8.

The losses indicated here should be considered as conservative estimates, as some depot managers avoided declaring the full extent of losses until periodic visits by the Supplies' Department inspector forced them to

update their stock analysis ledgers.[11] This applies particularly to Francistown region in 1987.

Losses for 1987 and 1988 are considerably higher than for 1986, even allowing for the fact that around 250 mt. of the beans written-off in 1987 were in poor condition on arrival. The high rate of losses for 1988 was due, at least in part, by the gross overstocking in some depots which was exacerbated by the lower distribution requirements after the drought. However, the primary responsibility for the heavy losses must rest with the depot managers themselves, and the regional officers who were their immediate supervisors.[12] These criticisms could be levelled at several Depots staffed by Supplies Department personnel, whose course training content assumed that all stores are inanimate and durable. As such, many have received little or no specific training in food management or storage, and had no experience of the loading and routing of vehicles, basic personnel administration or knowledge of the objectives of the drought relief programme.

In a questionnaire produced as part of a staff training programme in 1988, it emerged that out of 20 Storekeepers who responded, 10 had received no formal training of any sort by the Supplies Department, and an additional 4 had received training of only four weeks' duration or less (Chotani 1988, Table 4.6, iii). What makes Francistown's case in 1986 particularly surprising is that such a situation was allowed to develop in the presence of a senior Supplies Officer at the Regional Depot. However, the poor level of management in the District Depots was

[11] Personal observation in several depots and from correspondence with Supplies' Department inspectors in Central District.

[12] The UNVs role was not a supervisory but an advisory one. The MLGL and WFP were quite clear in this regard, although the UNV was often looked upon by both parties as responsible for the success or failure of the relief operation. This was quite an unenviable position to be in.

not solely attributable to the lack of training:

> "Though a handful of Depot Managers and one of the Regional Officers performed very well, the others were poorly trained and poorly motivated. Some were too weak to stand up to the demands of their drivers. Several had severe drinking problems. Thus it continued to appear that the FRD was being used as a "dumping ground" by the Department of Supplies for its problem staff. When the additional depots were created in the first months of the Programme, none of the new Depot Managers performed well and two were undoubtedly alcoholics" (Borton 1984, p.66).

Though this situation improved dramatically after 1985, training courses first initiated by a FAO Nutritionist in Gaborone, and from then onwards held on a regular basis by the UNVs, showed that few Depot Managers were prepared to involve themselves in the day to day supervision of the storage and rotation of stocks, and tended to leave this to junior office staff and the Storekeepers. Many were unable to complete the monthly stock reports which were routinely sent from their depots each month, filled in by their Storekeepers.[13]

By 1987, all Depots had been expanded or rebuilt to give a storage capacity sufficient for two months' supply (based on the average number of beneficiaries served by each Depot), though Francistown still relied on rented warehouse space for about one-half of its capacity. Maun for example, now boasted a capacity of 800 mt which was a great improvement over its previous facility.

Though the District Depots were designed to store two months' supply of each commodity from the Regional Depot,

[13] Personal observation. The poor standard of reporting, accounting and auditing of WFP commodities is not limited to Botswana alone. In the Turkana Rehabilitation Programme in Kenya, for example, physical stock levels were consistently lower than those recorded in the ledgers. The project was criticised in this regard by a team of external auditors.(WFP/FAO et al, 1988a, p.69).

those that were railhead depots and receiving their stocks direct from ports in South Africa, or by rail from neighbouring countries,[14] still had insufficient capacity. A factor that had been overlooked by the planners was that these depots often received rail shipments of a single commodity that were equivalent to four months supply or more, and that the donated food did not arrive in convenient instalments of two months' duration. When two or more different shipments were arriving simultaneously, it often meant that the warehouse quickly became full to capacity.

With FRD head office reluctant to commit itself to the long term hire of additional warehouse space (which it felt would be hard to justify to the MLGL as its own new Depots neared completion), it was left to the Depot Managers to store any further commodities that arrived outside the warehouse in the compound. However, due to the fact that FRD HQ had failed to provide adequate pallets, poles and tarpaulins with which to do this, a substantial amount of food was damaged by rain or insect infestation.

Some Depot Managers, in an attempt to ensure that at least their grain was stored inside the warehouse, routinely stored shipments of vegetable oil outside in the compound; where these were in tins rather than plastic bottles, they soon began to rust and leak. At Selebe-Phikwe depot in early 1987, some 15000 tins of oil were affected in this way and had to be transferred to 200 litre drums; approximately 2000 tins (8000 litres) had to written-off as they had already leaked into the ground.[15]

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[14] Food was often purchased by both donors and Government from Malawi and Zimbabwe.

[15] Personal observation.

c) The Distribution of Drought Relief Food.

Despite continuous problems with personnel, the distributive record of FRD during the 1982-88 drought was a considerable improvement over that of its predecessor, the IFP. Whilst the IFP had managed a distribution of 17,000 mt. during the thirteen months of the 1979-80 drought, FRD had managed in 1982-83 to distribute 27,000 mt., even though the beneficiary groups had been scaled down (Borton 1984, p.68). As the programme expanded this was further improved to around 35,000 mt. in 1983-84 (Ibid., p.88), and 39,890 mt. in 1984-85 (UNDP 1985, p.59). However as we will see later in this section, data collected from health facilities and FRD depots in 1988 suggest a peak in distributive performance in 1987 followed by quite a marked fall-off in 1988.

An analysis in 1985 of primary health care data collected between August 1983 and May 1984 revealed that 51.5% of all children under five years of age in urban areas received rations of some kind, as did 69.7% of those living in rural areas, 70% of those living at the "lands", 73.9% at cattle posts but significantly, only 43.6% of those living on freehold farms (Spafford 1985).

The low rate of distribution to freehold farm children, as we have suggested in previous sections, may be due to the fact that freehold farm employees responsible for rations do not order food from FRD on a regular basis, or even that FRD foodstuffs may be used to supplement employees' wages instead of being given to children. In either case, this finding seems to tie in with the prevailing high rate of malnutrition that we have already noted exists on the freehold farms, and appears beyond the control of the Botswana Government.

The 1985 survey conducted by UNDP/UNICEF/WHO confirms that distribution for the VG and schools' programmes on the whole was "satisfactory". It found that 98% of the respondent households with children at school reported receiving take home rations every weekend and holidays, and 89% of households eligible for health facility rations reported regular supplies every month (UNDP et al 1985, p.62). But as we have seen with the RADs' programme in the previous chapter, the aggregate distributive performance can often hide poor coverage at a District or even Regional level.

Tables A16 to A30 in the Appendix provide a similar analysis to that of the RADs' programme, covering the annual distribution during the period January 1986 to December 1988. The analysis is by district, region and on a national basis, with a breakdown by commodity type.

Figures A1 to A66 analyse the *monthly* distributive performance for the same period, but show aggregate food requirements and flows for all feeding programmes (i.e. schools, vulnerable groups' and RADs'). Both Tables and Figures are based on the same data obtained from FRD Stock Analysis Ledgers and monthly beneficiary reports. In both cases, food "requirements" (i.e. the quantity of food needing to be delivered) were calculated on a monthly basis for each FRD Depot using the preceding month's reported beneficiary levels, as collected by FRD on each delivery or from the RADO in the case of RADs' settlements. Thus the monthly food requirements are based on beneficiary levels reported from December 1985 to November 1988 and current ration levels (see Table 3.2). Tonnages distributed are based on FRD district and regional stock analysis ledgers and/or monthly reports for the period January 1986 to December 1988.

The poor performance of FRD in the procuring of commodities to cover shortfalls in donated food has

already been mentioned, and the failure of Corn Products to supply adequate quantities of maize milk during the early part of the year is clearly seen around March 1986 in the northern regions of Francistown and Palapye.

In 1986, the distributive performance of three Depots (Kasane, Tutume and Molepolole) was noticeably poorer than the others. Two Depots out of the three had a poor performance for both programmes: Tutume Depot for example distributed only 61.84% of the calculated requirements for schools and health facilities, and 63.35% for the RADs' programme, whilst Molepolole distributed 71.73% and 22.60% respectively. These two Depots are among the largest in the country and it is possible that the managerial capacity of both the FRD staff and the RADOs was overstretched. Surprisingly, the small Depot at Kasane at the northern tip of the country also had a poor performance during 1986 of 67.65%. The reasons for this are not immediately obvious: the Depot has a very small number of beneficiaries, and there are no logistical constraints in keeping it well stocked.[16] As Kasane Depot covers Chobe District which was made a drought recovery zone from June 1985 onwards, it is possible that some confusion arose as to the correct rations to apply. Kasane improved somewhat during 1987, but fell again to below its 1986 distributive performance in 1988.

The conflict that arose between the need to avoid late deliveries, and at the same time offload new shipments promptly as and when they arrived (to avoid demurrage payments) was a regular occurrence at the rail head depots, and reached a crisis point in Palapye and Francistown regions during April 1986. As we have seen, a shortfall of maize milk from Lobatse during the preceding few months had left many health facilities

[16] Kasane is situated on the main tarred road northwards from the regional depot at Francistown, from where it receives all its stocks.

without food due to the run down of stocks of both ICSM and maize milk at the Depots. When new shipments of ICSM finally started arriving in April in quantities well beyond the offloading capacity of the FRD Depots, a difficult decision had to be made. Should the Depots concentrate on offloading all the railwagons and thus minimise demurrage charges, or should they devote more of their time and resources to moving as much of the newly arrived ICSM to the health facilities, where it was badly needed? The lack of any directive from FRD HQ allowed the Regional Officers at Palapye and Francistown to adopt the conservative, "Supplies' orientated" approach and offloading continued unabated for a week or more with all vehicles and personnel tied up in this activity. At Palapye alone, some 600 mt. of ICSM was tallied and offloaded from the rail wagons onto trucks, transported to the warehouse, offloaded again, stacked and recounted, with no deliveries being made at all during this period.[17]

By contrast, the FRD Manager at the railhead Depot of Mahalapye, faced with the prospect of offloading almost 500 mt of ICSM into her own relatively small warehouse, adopted the novel solution of issuing to the health facilities direct from the railwagons. She did this by using FRD, CTO, District Council and privately hired vehicles, all of which offloaded direct from the railwagons and were then issued with a dispatch note for delivery to the village health facilities within the sub-district. This completely eliminated the need for offloading and stacking at the warehouse and the consequent need to reload the vehicles at the time of delivery. In this way, Mahalapye managed to move 265 mt. of ICSM to its health facilities during the month of April, compared to only 42 mt. at Palapye, and the operation was perhaps the nearest the programme ever got during this period to warranting the description

[17] Personal observation and Palapye Stock Analysis registers.

"emergency drought relief." These efforts, together with the poor response to the crisis at Palapye and elsewhere, went unnoticed at FRD HQ which tended to take "action" over late or non-delivery only if the matter was raised in Parliament, reported on Radio Botswana, or in the newspapers.[18]

In all four FRD regions there was a steady improvement in distributive performance during 1987 compared with 1986. As with the analysis of the RADs' programme in the previous chapter, we have more detailed data on stock levels and food movements for 1987 and 1988 than for 1986. This provides a clearer insight into why certain depots performed less well than others.[19] As with our previous analysis of the RADs' programme, we will limit our comments to the more salient points that arise out of Tables A21 to A30.

By far the worst distribution in 1987 was from Sebele depot, at an overall level of 62.97%. The region as a whole seems to have been short of sorghum during the first four months of the year, and after supplying Mochudi and Molepolole this left inadequate stocks at the regional depot for Sebele itself. A similar poor performance with stocks of CSM is not so easy to explain: stocks of CSM were adequate for most of the year but Sebele never distributed it in sufficient quantities. In December, with 981.40 mt of CSM in stock at the regional depot (also situated at Sebele), the district depot only managed a distribution of 20.70 mt.of CSM, compared to a

[18] Personal observation.

[19] But not a complete picture. Stock levels for each commodity are reported at the end of each calendar month by the districts, and are collated in the regional stock reports. However, they do not provide data on food receipts and transfers during the month. The development of an improved reporting and monitoring system is discussed in some detail later in this section.

calculated requirement for the month of 153.90 mt.[20] A similar picture emerges in the distribution of vegetable oil from Sebele, which was only 63.22% over the year. In April only 9.9 mt. of oil was distributed despite stocks of 60.1 mt. in the district depot at the end of March; in December only 2.9 mt. was distributed with existing stocks of 28.10 mt. at the end of November.[21]

A marked deterioration in FRD distributive performance occurred during 1988, even though the overall distributive performance by FRD to the health facilities and schools remained generally higher than for the RADs settlements (administered by the RADOs and shown in Appendix Tables A1 to A15). As we have already postulated, the absence of the four UNVs during 1988 may have had a bearing on this performance, and the rapid declaration in 1988 of recovery zones, the medical selection of beneficiaries and the disappearance of some categories altogether will have added to the confusion.

However, a direct comparison of the two programmes' effectiveness (measured purely on the basis of the percentage of requirements actually supplied) could be misleading. While requirements for the VG and schools' programmes *decreased* during 1988 (because of medical selection), requirements for the RADs' programme actually *increased* due to the rise in the number of recorded beneficiaries. The fact that the distributive performance of the two programmes are almost the same (70.69% and 68.50% for the VG/Schools' and RADs' respectively) masks the much improved tonnage moved by the RADOs during the

[20] Based on the number of reported beneficiaries in November 1987 as recorded in Sebele's regional report for that month.

[21] Stock levels obtained from Sebele regional reports. The regional depot stocks of oil for the two periods were 236.50 mt. and 130.90 mt. respectively.

year.[22] The one major caveat that must be reiterated after such an interpretation is that starvation occurs at a micro level and during the same year, for example, Francistown's distributive performance for the RADs' programme was only 45.51% compared with the previous year of 89.46%.

Starting with Palapye region, Mahalapye district depot appears to have performed particularly badly in 1988, compared with a particularly good attainment in 1986 and 1987. Distribution of CSM and sorghum (the main commodities in the VG and Schools' programmes) reached only 67.29% and 64.81% of their requirements respectively. Distribution of CSM in July for example was only 1.20 mt. despite stocks of 934.37 mt. at the end of June; distribution in August and September was 9.62 mt. and 5.47 mt., with the previous month's stocks remaining high at 933.16 mt. and 924.45 mt. respectively. Though monthly requirements during this period were falling, due to medical selection and the consequent reduced number of beneficiaries, distribution still fell significantly below acceptable levels.[23] With sorghum, the fall-off in performance can be traced to around August onwards. Distribution of sorghum during August was zero, even though stocks of 91.50 mt. remained in the warehouse at the end of July, and the depot received new stocks during the month which left a closing balance at the end of August of 368.60 mt. In the following three months distribution remained well below the calculated requirements. During this three month period, stocks of sorghum were 680.15 mt. at the end of September, 639.55 mt. at the end of October, 616.75 mt. at the end of November, and 618.00 mt. at the end of December. Despite

[22] The gross tonnage moved in the RADs' programme in 1988 was 4761.32 mt., compared with 2838.46 mt. in 1986 and 3497.24 mt. in 1987.

[23] Palaype regional stock reports.

these stocks, distribution of sorghum in December again fell to zero.[24]

Again, the reason for this is not immediately clear. One contributory factor was that the depot manager at Mahalapye (who had performed very well in 1986 and 1987) was transferred to another depot in 1988. She was replaced by a relatively inexperienced officer from the Supplies' Department who may have had difficulty managing a busy rail-head depot even with a greatly reduced beneficiary load. However, a closer look at the stock reports for Mahalapye in 1988 suggests that the poor distribution was more likely due to the gross over-supply to the depot itself. By the end of March the depot had stocks of 908 mt., with a total storage capacity of around 850 mt. Stocks had grown to 1440 mt. by the end of May, to 1425 mt. by the end of August, to 1753 mt. by the end of September, to 1959 mt. by the end of October, to 2013 mt. by the end of November, and stood at 1763 mt. at the end of the year. From August onwards, Mahalapye had more stocks than the regional and district depots in Palapye which had a combined storage capacity in excess of 2000 mt., more staff and more vehicles.[25]

With all the available vehicles and labour tied up with offloading at the railhead, it is not surprising that deliveries fell behind schedule. The depot manager and storekeeper will have spent most of their time tallying the new stock, much of which will have had to be stored outside the already overcrowded warehouse. This would have involved ordering extra tarpaulins and pallets from FRD HQ in Gaborone, a lengthy and often fruitless procedure.[26]

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[24] Palapye regional stock reports.

[25] Palapye regional reports.

[26] Personal observation. Tarpaulins ordered in 1987 for the regular FRD fleet of 7 mt. vehicles took two months to arrive and turned out to be for 5 mt. trucks.

What happened in Mahalapye in 1988 therefore was a repeat performance of the 1986 episode described above, when most of the distribution in the region was halted due to the arrival of large stocks of CSM. What made the situation in 1988 more difficult to cope with was that beneficiary figures and food requirements were falling, and it was therefore not feasible to divert excess stocks directly from the railhead to schools and health facilities as before.

In Francistown region, distribution to schools in Francistown itself appears to have been very poor during 1988. Supplies of sorghum were particularly low at 46.48% despite more than adequate stocks at the regional depot, and a similar stock position existed for beans and DSM throughout the year. Distribution of sorghum from Kasane depot was also low at 46.35%. Distribution was zero in June despite stocks of 20.95 mt. at the end of May (the calculated monthly requirement at that time was just 8.955 mt.). Distribution in July was only 1.00 mt., in August 0.30 mt., in September 6.15 mt., in October 4.55 mt., in November 0.50 mt., and in December fell again to zero. During the whole of this period stocks of all commodities were more than adequate to meet requirements.

In Lobatse region, Lobatse district depot appears to have had a very low distributive performance for all commodities except CSM, which was high at 91.29%. Distribution of sorghum was exceptionally poor at only 26.45% and no distribution at all took place during the months of July, October and December, notwithstanding adequate stocks throughout the period. Distribution of beans was also poor by Lobatse. During the year, monthly distribution to schools was often as low as 0.1 mt.(February, April and October) or even 0.05 mt. (July), which equates to 1 or 2 *bags* against a calculated average monthly requirement of around 6.3 mt.! In the last quarter of the year, it appears that stocks of beans

was low throughout the region and distribution in December was zero.

At Tshabong, distribution of sorghum flour appears to have proceeded well until the end of June when stocks were exhausted. In July and August distribution was zero and the regional stock reports indicate that only 3.5 mt. was supplied by Lobatse during this two month period (monthly requirements averaged around 11.4 mt.). In September, the depot received fresh stocks from Lobatse regional depot and managed to recover some lost ground by distributing 20.8 mt., but by the end of November stocks had again fallen to just 0.5 mt., none of which was distributed during December. The regional depot was clearly negligent during the latter half of the year in not supplying adequate stocks to the depot, and this resulted in an overall distributive performance for sorghum of just 46.23%.

Ghanzi depot also had a poor distributive record for sorghum flour for 1988 at only 39.76%. The supply from the regional depot up to May was sporadic and unplanned, and stocks at the end of that month was only 4.3 mt. with a monthly requirement of around 18 mt. Distribution in June was only 0.2 mt. or 4 bags, and was zero in October and December. As with Tshabong the supply from Lobatse was completely inadequate to meet requirements, and the regional reports for September and October both indicate the sorghum stocks at Ghanzi were exhausted. In November, Lobatse transferred a meagre 10 mt. to the depot despite the fact that sorghum stocks at the regional depot had been over 1200 mt. *for the previous three months.*

There were problems with the distribution of sorghum in Hukuntsi depot too, with no deliveries in February, November and December. This, together with shortfalls in distribution in other months, gave a distribution of only 52.21% of requirements. Again, this appears to have been

at least partly due to insufficient stocks being sent to the depot, or sent on an unscheduled day of the month after the depot manager's own planned delivery to the local schools.[27]

Sebele region had the worst distributive performance of all the regions in 1988, as in the previous two years. With only three depots, it is the smallest region in terms of area, and presents fewer logistical problems as two out of the three depots have their own railhead. In 1988 there were no stock shortages in the region serious enough to cause any major fall in distributive performance compared with the previous two years. The regional depot's proximity to Gaborone simplified many of the administrative barriers which in other more remote depots had become binding constraints on distributive performance. More than 57% of the region's food requirements is accounted for by Molepolole depot, and as a consequence the distributive performance of the region taken as a whole depends to a great extent on the administrative competence of the depot manager there. In 1988, although Molepolole performed better than the other depots in its region both absolutely and relatively, the actual amount of food moved was still unacceptably low in comparison with requirements.

Figures A1 to A66 trace how closely distribution matched actual requirements during the period 1986-1988. The most outstanding characteristic of drought relief food movements illustrated by these graphs is the cyclical nature of the food distribution, even in those Depots where the aggregate distribution over the year was

[27] Depot managers very often planned their deliveries to schools and health facilities separately. This meant that deliveries to schools would go ahead using whatever stocks of sorghum, beans, DSM and oil that available at the scheduled time and shortfall would have to be made up the following month, i.e. they were not made up with a subsequent delivery to the same village of VG commodities later in the month. This "separation" of the two programmes, as with the RADs' programmes, was a major logistical constraint that will be discussed later in the section.

satisfactory, with a wide variation in the level of supply seemingly completely uncoordinated with actual food requirements. This phenomenon can be attributed as much to the unplanned nature of the established food procurement and distribution systems as to the competence of the individual Depot Manager. It is probably most pronounced in Kasane depot, which had a particularly poor distributive performance over the three year period.

Although this depot has only one 7 mt. truck, its distribution requirements are very low and there is a CTO unit in Kasane that can be called upon for spare vehicles if required. There is no logical reason why the depot did not move its relief food in sufficient quantities. The cyclical nature of actual distribution suggests that on alternate months the truck must have been standing idle for most of the time.[28]

There were however, more fundamental problems associated with the distribution system throughout the 1982-88 drought. Firstly, though an experienced and capable Logistics Officer was seconded to FRD HQ from WFP during 1986,[29] his main role lay in procurement, and in coordinating food movements along the line of rail depots with both WFP and other bilateral donors. The need for logistic support and planning outside Gaborone tended to be overlooked and, as a consequence, the actual business of transporting food from the Depots to the schools and health facilities was neglected and never formed an official part of the training of FRD staff at either District or Regional levels. One example of this was the decision, taken quite arbitrarily at FRD HQ in early 1986, to put the schools and health facilities on 45 and

[28] Kasane depot distributed less than one truck load of relief food in February, April, June and August of 1986, April, August and December of 1987, and August and December 1988. See Figures A10, A31 and A53.

[29] This expatriate officer's secondment was terminated by FRD after just one year in December 1986, and no replacement was requested from WFP by the Ministry.

30 days supply cycles respectively. The decision was taken without prior consideration of whether it would provide a more efficient and cost effective method of transporting food than existing schedules, or whether the new schedules were physically possible given the existing manpower and vehicle constraints. In fact, at no stage was it appreciated that few depots, if any, had viable transport schedules in any case, and most appeared to move food on an ad hoc basis. This is not to say that some Depots' transport systems did not function quite well, but rather that in the absence of any workable directives from FRD HQ, the performance of each Depot depended on the personal commitment, ability and knowledge of the key personnel involved. When these key personnel were absent, the whole "system" quickly broke down and the supply fell behind schedule, because the rest of the office staff did not how to operate it. The situation was not so far removed from that existing in the 1979-80 drought, when

> "IFP deliveries to health facilities, primary schools and villages were unplanned, uncoordinated and very wasteful. No depot had a planned system of deliveries. Some districts delivered first to all the health posts, then to all the primary schools, and finally to village stores, without attempts to combine loads (Gooch & MacDonald, 1981, p.19).

The decision to have a standardised system of 30 and 45 day supply schedules served to endorse the separate delivery of food commodities of the two programmes, thus increasing the number of trips required to each village and raising transportation costs, whereas instead it should have sought their combination wherever possible.

What was really required was a standardised transportation system which would have the following

three main objectives:

I. To iron out cyclical fluctuations of supply in each individual Depot. The situation was that where one month the transport and manpower were overstretched, the next month they were under-utilised. This was particularly important in rail head Depots where new shipments could arrive, and did, during the very months when the maximum number of deliveries were due to be made. In such cases, FRD vehicles were inevitably tied up with offloading at the railway station and deliveries fell behind schedule. A rational use of FRD vehicles would also allow for the possibility of pooling vehicles from two or more depots at peak periods where offloading at railhead was in progress.[30]

II. To base delivery schedules, wherever possible, on the combined beneficiary loadings of health facilities and primary schools for each village, rather than on a potentially wasteful system of an individual programme supply. The system should take into consideration basic logistical planning methods by looking at transport use by geographic area, rather than centre type, as is presently the case. As the weight of rations issued to beneficiaries at both schools and health facilities is the same [31] at 6.75kg. per month, it becomes a relatively simple matter to treat both centres on an equal basis for delivery purposes even though the commodities

[30] The pooling of vehicles was carried out at Palapye railhead on occasions, albeit in an ad hoc fashion. If Serowe's monthly distribution plan was made out of phase with Palapye's, this left a pool of available vehicles for offloading at the railhead when Palapye's own vehicles were distributing to schools and health facilities. Serowe's vehicles and labourers would travel the 45 km. to Palapye and help offload the relief food into the regional warehouse, returning to Serowe with their last load for their own warehouse.

[31] See Table 3.2. The Direct Feeding component can safely be ignored for weight purposes.

supplied differ in each case.[32] Supplying both types of centre at the same time and for the same period (to minimise the number of trips required) can be continued even when beneficiary levels fluctuate; in such cases the supply period is adjusted to maintain an optimum load on the delivery vehicle.

III. To base actual transport schedules not arbitrarily on 30 or 45 day supply periods, but on the storage capacity at individual schools and health facilities, and on the optimum load of the delivery vehicles used, taking into consideration prevailing road and weather conditions.

There were other, more mundane features of the FRD food distribution system that also contributed towards its habitual inefficiency and inertia. The most significant of these was the logistical function of the Regional Depots vis-a-vis their district and sub-district depots. The original role of the four Regional Depots envisaged that they would form the administrative centres of the Department outside Gaborone, and, with their extra storage capacity, provide a "buffer stock" for the satellite depots in the Districts. As a consequence, the Regional Depots were each staffed with senior administrative officers from the Supplies' Department cadre.

The Regional Officers were responsible for the timely and efficient movement of food to all the schools and health facilities in their Region, and the storage of RADs' commodities for later collection and distribution by the RADOs. They were the most senior representatives of the FRD outside the Head Office and it was intended that they would play an important role in providing a liaison with

[32] This also could apply, in many cases, to deliveries to RADs' settlements.

the District Commissioner, Drought Coordinator, and District Drought Committee.

In this role they were ill-equipped and badly supported by FRD HQ, who provided only a typist and typewriter and little else by the way of office equipment or even stationery. This was not due to financial constraints, but rather to short-sightedness at FRD HQ, where the dominant opinion was that the sole activity of the Department outside Gaborone lay simply in moving bags of food from one place to another.[33] Unlike other Government departments, FRD could boast of only one duplicating and one photocopying machine in the whole of the country, (both in the Head Office), which were rarely in working order. As all seventeen District Depots had to produce periodic written reports that required a wide circulation (such as progress reports presented at drought committee meetings), they had to be typed, stencilled and photocopied on machines at other Government offices or schools. This had a significant impact on the morale of the staff working at the District Depots and their status in the eyes of other Government departments.

Until the construction of the new warehouses from 1985 onwards, Regional and District stocks were stored together in Francistown, Palapye, Lobatse and Sebele, but accounted for separately using different stock analysis registers. As separate records also needed to be kept for each donor, it meant that up to 40 different stock analysis registers could be in use at any one time.

Donations of USA manufactured vegetable oil for example could arrive as part of the WFP Project 324 programme, or as part of a bilateral package under USAID auspices. In both cases the oil arrived in identical packaging but had

[33] WFP provided FRD generous capital grants for office and warehouse equipment which was never allocated to the Regions and as a consequence remained largely underspent.

to be accounted for separately; at the Regional depots this required four stock analysis registers for the one commodity: two for each depot, and in each depot, one for each donor. As the Regional warehouses were intended to act as supply depots to the District Depots, and additionally hold surplus buffer stocks, they were not supposed to issue food direct to schools and health facilities, but merely to transfer stocks to the District Depots.

When Palapye District Depot for example, ran out of ICSM, a transfer was made from the Regional stocks. Though this was a transfer on paper only, and the stocks of ICSM were never moved physically (both Regional and District stocks were stored together) it did however markedly increase the amount of paperwork required, and with that, the likelihood of accounting errors. These errors were common, with one or both of the depots usually omitting to record the transfer in their respective stock analysis registers and monthly reports.

When the warehouse storage capacity was expanded and it became possible for the first time to keep Regional and District stocks physically separate, the same accounting procedures were maintained, with Regional stocks being kept purely for transfers to other depots and the District Depot issuing to the feeding centres. In practise, however, once the District Depot had exhausted its old stock following the "First in, first out" principle of food management, it then had to turn to the Regional warehouse for its next supply. As there was little point in physically moving the new stock from the Regional warehouse to the District warehouse, a paper transfer was made so that future deliveries to the feeding centres could be made direct from the Regional warehouse and drawing from these stocks.

As the Regional warehouse now contained the oldest stocks as well as the most recent, issues continued to made direct from there. With the arrival of new shipments, the Regional Depot was gradually filled to capacity and the new stock had to be stored in the District depot, from where, as it was new stock, it could not be issued! In some cases, the rotation of stock was neglected and the staff were unsure about which stacks of food should be issued first. This must have been a major contributory factor to food wastage (particular at Francistown) as old stocks became infested.[34]

Although the roles of both the Regional and District depots was now for all practical purposes either reversed or conjoined, which obviated the need for maintaining separate stocks and stock analysis registers, the integration of the Regional and the local District depot stocks was never discussed or considered by FRD HQ and continued to cause accounting problems throughout the duration of the drought. In Palapye, the Regional depot was still considered to hold the "buffer" stocks for the District depots even though two had their own railhead and received their food stocks direct, and on several occasions had supplied Palapye with food when its own stocks were low.

The Regional Officers were also responsible for the timely compilation of monthly reports which collated beneficiary figures, issues and stock levels submitted by the District depots. This reporting format was designed by the UNVs and the WFP Logistics Officer in early 1986 and was intended to form the basis of FRD's own reports to its parent Ministry and the donors. The Regional report was an important one in that it calculated the monthly food requirements for each commodity (i.e. how much needed to be distributed that month) at each

[34] See Tables 3.15, 3.16 & 3.17.

District depot in metric tonnes, the total amounts required for the Region, and the stock availability of each commodity in months at each depot. By reconciling all food flows within the Region as well as inter-regional food transfers, it also provided a check on the individual monthly reports produced by the District depots.

Because of the complexity of calculating food requirements with so many different ration levels, the Regional Officers were unwilling to attempt the completion of the report on a regular basis, and left the task to the UNVs.[35] The Regional Officers also found it difficult to reconcile the Regional stock movements (both issues and transfers) particularly if errors had been introduced via the District depot reports.

In Palapye region, the UNV Regional Advisor designed a computerised spreadsheet which simplified many of the problems of completing the monthly regional report, and at the same time allowed a fairly sophisticated degree of analysis of the performance of the food distribution network. The spreadsheet package was used in Palapye region throughout 1986 and 1987, but not by the Regional Advisors in other regions because of the lack of computers.[36] The main features of the package included the following:

I. The calculation of the total number of beneficiaries for each category and programme type by each district depot, with regional totals. All that was required was that the operator input the number of beneficiaries for each beneficiary category and programme, using data which already formed the basis

[35] Personal experience as the UNV Regional Advisor for Palapye. My UNV colleagues in Francistown, Lobatse and Sebele had similar experiences.

[36] The computer used in Palapye Region belonged to the UNV.

of the district depot reports. The *percentage change* of each category of beneficiary from the previous month's figures is also indicated. This is useful in assessing trends in levels of malnutrition, primary school enrolment, and migratory movements.

II. The calculation of food requirements in metric tonnes by commodity and programme type for each district depot, with regional totals. This was performed automatically as the current beneficiaries were entered into the spreadsheet, using current ration levels and the specified time period. The current daily ration levels for each programme (VG, schools' and RADs'), for each ration type (urban or rural), and for each beneficiary category (Pregnant Women, Pre-School, Destitutes, etc.) could be input separately, expressed in grammes. The spreadsheet needed the facility of using different ration levels for each category of beneficiary to accommodate possible revisions in future drought relief programmes affecting individual categories or groups.[37] It was also possible to calculate food requirements for any given time period in days, though for the purpose of the regional report a period of 30 days was the norm, as distribution was planned on a monthly basis.

III. The calculation of issues (distribution) and stock levels in metric tonnes. This was another potential source of error in the stock analysis ledgers, where commodities were always expressed in units rather than weight. Some commodities arrived in a variety of different unit weights, which made calculation in

[37] Revisions to the level of rations applicable to destitutes for example, were in fact made during 1987.

metric tonnes difficult.[38] For this part of the computerised report, the operator simply entered the total number of units of each weight and type, which were then converted to metric tonnes, with totals by commodity type. For the report to accurately reflect the actual flows of food to and between depots and from thenceforth to the end distribution points, all data had to be expressed *nett.* For example, if one hundred 50 kg. bags of sorghum (5 mt.) were delivered to a particular school but 20 similar bags were returned to the depot rotten or infested, the nett delivery was entered as 80 bags, or 4 mt.

IV. Calculation of nett receipts at the regional and district depots in metric tonnes, using the same method of data entry as for issues and stock levels. This was another important part of the spreadsheet which was not actually reflected in the manual version of the regional report. It was useful to know the nett receipts of relief commodities arriving at each depot to able to assess the stock availability in any given month.[39] If for example Mahalapye requires an average of 50 mt. of maize-meal per month for the RADs' programme, and the delivery schedule from Corn Products in Lobatse is meeting these requirements in full, this does not necessarily mean that Mahalapye has enough maize-meal stocks for the RADs'. If Serowe and Selebe-Phikwe delivery schedules for the same commodity are not being met in full, they will naturally arrange to take some of Mahalapye's stocks. Thus the *nett* receipts (i.e. receipts minus transfers) needs to be monitored to

[38] Vegetable oil for example arrived at various times in 1.82kg., 2.27kg., 3.5kg., 3.6kg.,3.7kg.,4.5kg., and 9.2kg. unit weights. It was not unusual for depots to have most, if not all, of these commodities in stock at any one time. A separate stock analysis ledger was kept for each item.

[39] This was particularly true of railhead depots, which received stock for their own use but also for transfer to other depots by road.

ensure that food flows to individual depots are sufficient. Over the year, this data is particularly useful in assessing whether regional depots are supplying adequate stocks to their satellite depots in the districts. It is, of course, also equally useful in determining whether FRD HQ and the various donors scheduling of food shipments to the regional and other railhead depots is on time and in the correct amounts. The regional nett receipts matrix on the computer spreadsheet also helped in tracing errors, losses and omissions from the individual district depots.[40]

V. Calculation of the distributive performance for the month (based on the previous month's reported beneficiary figures) of each commodity by comparing the calculated requirements with quantities actually distributed. This analysis covered each district depot and the region as a whole. The stock availability of each commodity expressed in months was also indicated for each depot and the region.

By the inclusion of data on food requirements and stock availability, the report facilitated the procurement, allocation and distribution of food shipments to the railhead depots. As the report format also calculated the food requirements, the possibility existed to extend the analysis from a regional to a national basis. It was possible for example to conduct a "What if?" analysis with the spreadsheet by adjusting individual ration levels and extending the requirement period on the sheet to 365 days. This could provide the various Ministries

[40] For example, let us consider a simple transfer of 300 bags (15 mt.) of beans from Mahalapye to Serowe. In the regional matrix this would be shown as a negative receipt for Mahalapye and a positive receipt for Serowe, and the regional nett receipt of beans would balance out to zero. If however, Serowe had failed to enter its receipt in its stock analysis ledger, the matrix would show a zero entry for Serowe and a corresponding negative figure in the regional receipts. This would indicate a nett flow out of the region or loss, and point to the likelihood of an error or omission that could then be rectified.

and donor agencies involved with annual projections of food requirements based on the revised ration levels.[41]

Unfortunately, FRD HQ was never to exploit this tool of analysis, despite the availability of funding for computers for the regional offices from WFP.[42] Unlike other departments even within the same parent Ministry, FRD's lack of familiarity with computers led to an active distrust of such innovations. It is also true to say that, having suffered much criticism in the past, it was now reluctant to embark upon any new policy which may have led to a more open analysis of its operations and performance. As a consequence, FRD was therefore unable to assess, in a quantifiable fashion, whether the individual district depots were achieving an adequate level of distribution, or indeed, whether their respective regional depots were supplying them enough stocks to meet their requirements.

Another significant innovation in the reporting and monitoring system at the Depots was the introduction of a register for food deliveries to individual schools and health facilities, together with the collection of food by the RADOs. Though food movements of each commodity was already recorded on a daily basis in the stock analysis ledgers, the register provided for data organised by end distribution point.

Such a register existed in a variety of formats in most depots but it was not until late 1987 that any serious

[41] For example, increasing the daily DSM ration from 10g. to 12g. in the schools, and reducing the daily vegetable oil ration from 25g. to 20g. at health facilities would affect the tonnages required of these two commodities over the coming year. The spreadsheet could provide this data instantly, based on current beneficiary levels, for each district depot, each region, and nationally. In a similar fashion, beneficiary levels could be adjusted either separately or simultaneously to meet anticipated levels in the coming year to project new food requirements, given that the ration levels would stay the same.

[42] Personal communication from WFP's Chief of Operations. WFP's policy towards capital grants for warehouse and office equipment was that it would respond only to official requests for such equipment from the Department or Ministry concerned, i.e. it did not initiate purchases based on its own perceived requirements for the programme.

consideration was given to its introduction on a national basis in a standardised format. That such a register was necessary and desirable was shown by the fact that many depot managers did not know, on a daily basis, what deliveries had been made and, more importantly, which still needed to be made. Because of poor motivation and lack of training, or managerial incapacity, they were therefore at a loss as to how to go about planning a viable and cost effective transport schedule for their depots.

The format of the register or "Summary Book" (as it became known) was simple: it summarised the information shown on the "Food Receipt" (FR1) form used at the time of delivery with a separate page for each individual health facility, school or RADs' settlement. The Food Receipt form was in two parts: the first was completed by FRD and detailed the quantity of food being delivered (based on the latest reported beneficiary figures), the date of the delivery and the supply period; the second part of the form was filled in at the feeding centre and gave the current beneficiary levels by category and was used as the basis for the next delivery of food. The Summary Book listed all the information on the Food Receipt in tabular format and was updated on a daily basis when the Food Receipts were brought back to the depot by the drivers.

Used over a period of time, the Summary Book had several advantages:

I. It provided up to date information in a concise format to all the depot staff about which feeding centres or RADs settlements were due for their next delivery, and thus helped to formalise a transport schedule which could be applied by any member of the staff if either the depot Manager or Storekeeper were absent;

II. By comparing delivery dates and supply periods (i.e. the period over which the food was supposed to last, and by implication, the latest date by which the next delivery had to be made), late deliveries could be identified and an assessment made of the depot's overall distributive performance;

III. As beneficiary figures and quantities of food supplied were both tabulated on the same line of the double page entry, checks could be made to ensure that food requirements were being calculated correctly;

IV. Beneficiary data could be compared for each category over time to assess demographic and nutritional trends or simply as a rough check on whether the stated levels were realistic.

The Summary Book was therefore a useful managerial tool and could have been consulted by IMDC and FRD HQ staff during their periodic field trips to assess the distributive performance of the District depots, and whether the RADOs were collecting and delivering food on a regular basis. It had still, however, not been formally accepted by FRD HQ by the end of the drought in 1988 and with the exception of Palapye Region its use had been sporadic. It is likely therefore that the current distributive performance of the FRD Depots, and their delivery to individual feeding points, remain largely unmonitored and unrecorded, with the attendant risk of hardship that non-delivery entails.

d) The Effectiveness of the 1986 Programme.

To what extent have the main objectives of the drought relief programme, introduced in Chapter Five, been met?

We will now review each of them in turn, and present an assessment of the programme in these terms:

> Objective 1: The supplementation of food supplies as a preventative measure to reduce the incidence of, and forestall rises in, malnutrition amongst those groups considered highly at risk. These comprise the old and infirm, pre- school children, pregnant and lactating women, TB patients, destitutes, primary school children, and those living in remote areas without access to normal services.

Despite the fact that the aggregate performance of the food distribution system improved considerably over the duration of the drought, the implementation of the programme in some geographical areas and amongst certain ethnic groups remained very poor. Though an assessment of the human impact of a failure in the food distribution system must remain subjective, it is reasonable to assume that the inability of FRD to deliver food rations on time and in sufficient quantities must have caused severe economic and nutritional distress in certain remote areas and social groups. The fact that this distress remains largely undocumented does not rule out the possibility that it has resulted in a significant increase in the mortality rate amongst some sections of the rural poor, with the cause of death attributable not to acute starvation, but to chronic malnutrition and consequently a reduced resistance to disease.

Though a recent report prepared for the FAO stated that Botswana had less malnutrition than any other drought affected country in Southern Africa (Mason, Haaga & Test 1984), the evidence we have already presented in this Chapter suggests that this statement is rather optimistic, and that there may well be a significant level of malnutrition in the more remote rural areas that simply does not appear in the national nutritional surveillance system, or in any other official statistics.

The significance of FRD's poor distributive record in certain rural areas and particularly in the RADs' programme obviously depends on the contribution that supplementary rations make to the overall food supply. In 1985, supplementary feeding appeared to be providing on average between 19% (large villages), and 32% (other rural areas) of the rural food supply (Eele & Funk 1985). These figures represent the contribution that rations made to the food supply of average households; the contribution made to the poorest households must have been considerably higher and in both cases will have increased after 1985 with the cumulative effects of the drought and the progressive loss of productive assets.

The contribution made by the RADs' ration to household food supply is very much higher because of the lack of any alternative means of subsistence. (RoB, Gulbrandsen et al, 1986, p.1). This makes the poor distributive record of the RADs' settlements (an analysis of which is given in Tables A1 to A15 in the Appendix) highly significant and certainly a cause for serious concern.

Given then the importance of the FRD food distribution system to all beneficiary groups living at, near or below subsistence levels even in non-drought years, it is therefore surprising that no efforts were made during the drought by either FRD or the IMDC to assess distributive performance in the District depots. This is despite the assurance in 1985 by the Rural Development Unit of the MLGL that

> "In view of the importance of Early Warning Indicators for decision making, further efforts have been made to improve the quality and coverage of the relevant information systems. Changes have been introduced to the methods of data collection in Nutritional Surveillance aimed at reducing errors, standardising reporting and improving the presentation of results. *Additional information linking the prevalence of malnutrition with the incidence of receipt of supplementary*

rations is to be collected." (RoB, Rural Development Council 1985 p.11). (my italics)

The monitoring of food distribution by FRD does not seem to have been carried out, except perhaps at the roughest aggregate level, whereas to have any relevance at all it should have been carried out at a District and village level. Here, the FRD Summary Books kept at the District depots could have been used to determine the continuity of supply even to individual feeding centres.

The poor calibre of FRD staff has proved to be a perennial problem and perhaps the greatest constraint on the effectiveness of the food distribution system. This is likely to continue until senior FRD personnel and IMDC begin to formulate management strategies that begin firstly, to ensure that depot managers are adequately trained and motivated to carry out the tasks they have been employed to do; secondly, to measure the quality of their work by routinely monitoring the distributive performance of the depots; and thirdly, to provide an adequate level of logistical backup to the depots in terms of sufficient quantities of food, storage capacity, manpower and vehicles.

Objective 2: The supplementation of rural incomes in order to compensate in part for production lost due to drought;

The Labour Based Relief Projects injected relatively large sums of money into the rural economy in the form of cash wages, but the per capita income derived from the LBRP was low by any standards, varied considerably between different areas, and wages were often delayed by the poor management of the District Council payment teams. It is also not known whether participants in the LBRP were necessarily the poorest groups in the rural

areas;[43] the number of registered destitutes who participated for example, was never recorded.

The projects suffered from low productivity and in many instances the long term economic benefits for the rural infrastructure remain doubtful. Perhaps the most significant impact on rural incomes came from the Hand Stamping Programme, with per capita income levels considerably higher than those achieved in other LBRP projects.

> Objective 3: The rehabilitation of actually malnourished children through direct feeding on site at health facilities;

The attendance of mothers with underweight children at health facilities for Direct Feeding remained poor in many areas due to a variety of administrative and bureaucratic factors. Foremost amongst these are the failure of some District Councils to reimburse imprest funds promptly, and the decision by the Nutrition Unit in Gaborone not to extend the Cattle Purchase Scheme to health facilities in a similar fashion to primary schools. The weakness of the Direct Feeding programme overall, and its virtual absence at mobile health facilities in those areas likely to be most at risk during a prolonged drought, has meant that many malnourished children have had to rely on take home rations alone. While these are designed to be supplementary in nature, they are, as we have already noted, often shared with other members of the family.

> Objective 4: The securing of water for human consumption as and when required;

[43] A 1985 survey found that of 146 respondent households who professed no source of income, 104 said that they had no LBRP income either, and of the 136 who owned no cattle only 40 said they had participated in LBRP. UNDP et al, (1985), p.104.

A significant effort was made during the drought to ensure the maintenance of water supplies to urban and rural communities, and drilling capacity appeared to be adequate, with no lack of donor support in terms of the provision of equipment and technical training. As the provision of emergency water supplies concerns all sections of the village community equally (because, unlike food, the water supply is shared), and the sinking of boreholes a discrete activity, this element of the drought programme could be closely monitored at the District level. Villages needing improvements to their existing water supply, or completely new boreholes could be itemised at District Drought Committee meetings, and their progress discussed.

> Objective 5: The alleviation of the effects of drought on livestock, and the provision of assistance to arable farmers to increase their ability to regain productivity during the immediate post-drought recovery period.

Major parts of the drought relief programme have been aimed at preserving livestock (and thus the income of those rural households holding cattle) through a series of subsidies, and for the preparation of arable land through subsidies on seeds and draught power. The former has benefited only the declining proportion of rural households still holding cattle which has tended to further polarise the ownership of livestock, while the value of preparing arable land for cultivation has had a negligible effect on income for the majority of farmers due to the prevailing drought conditions.

At the same time however, these elements of the programme have reinforced income disparities in the rural areas as the greatest benefit has accrued to those farmers hiring out ploughing teams or tractors. This income has often been reinvested in livestock as smaller farmers have been forced to sell off their weakened cattle at low prices

due to the effects of the drought.

The prevalence of substantial undernourishment, even in non-drought years, suggests that rural poverty in Botswana is a problem that is structural in nature and related to each individual household's level of income.

As we have stressed throughout the preceding chapters of the study, household income is closely related to its ownership of productive assets, particularly of cattle. It is exacerbated during periods of drought, and only prevented from developing into a full scale famine by the existence of a relief programme that functions satisfactorily, at least on an aggregate level. At the micro level however, in the remote areas and for certain ethnic groups, the available evidence suggests that the programme is far from satisfactory, and should give grave cause for concern amongst Botswana's political leaders.

VII

LONGER TERM DEVELOPMENT STRATEGIES FOR BOTSWANA

Chapters IV, V and VI of this study have examined the immediate life-threatening problems of poverty and deprivation in rural Botswana and the efforts of the 1982-88 relief programme in tackling the effects of drought which, we argued, exacerbated existing structural inequalities and deprivation in rural society rather than provided a causal explanation for them. Now we must look beyond the immediate attempts at the amelioration of poverty and hunger, and consider the longer term development strategies focused at the causes of rural poverty currently being pursued by the Government of Botswana. In these current strategies, as in those of the past, international aid of one kind or another will continue to play a primary role. This chapter traces the evolution of aid to Botswana since Independence, the role of food aid in the country's 1982-88 drought relief programme, and the current role it is playing in the immediate post-drought period. In the light of renewed academic interest in food aid policy, we also examine the main issues relating to the fungibility of aid, the possibility of agricultural disincentives, and the targeting of national food security programmes. We then analyse some of the more salient features of the National Food Strategy (NFS), currently being pursued by the Government of Botswana (RoB, Rural Development Council, 1985). The objective of the NFS is to

> "achieve a situation where a minimum acceptable diet is available to all Batswana" (GOB, RDC 1985)

and is ostensibly aimed at achieving a greater degree of food self-sufficiency. The first element of this strategy is the immediate post-drought recovery programme put into effect in early 1988 and projected to last until 1990. The second element of the NFS is longer-term, and focuses on the need to improve rural incomes through the development of arable agriculture and livestock, and establish a strategic grain reserve that would lessen dependency on emergency food aid during periods of drought. Though not made explicit in the published version of the NFS report in 1985, any future development strategy will also have to address the problem of rural unemployment, which needs to be seen not as part of a relief project during periods of drought (as is the case at present), but as an ongoing programme.[1] To this end, we provide a brief assessment of the viability of expanding the current LBRP into a fully-fledged public works programme using the guidelines recently prepared by the ILO, and designed to provide a lasting solution to the problems of increasing poverty, deprivation and misery in rural Botswana.

a) The Role and Contribution of Aid to Botswana.

Until 1972-3, financial aid provided a crucial supplement to the government's budgetary resources, with typically 50% of public expenditure financed by aid sources up to that date. With the mineral revenues coming on flow during the middle of the decade the nature of aid shifted from recurrent-budget financing to capital-project aid, and by 1976-7 the proportion of recurrent expenditure still being met by aid had been reduced to around 25% (Colcough & McCarthy, p.99). This was seen by the

[1] Given the objectives of the NFS, it is surprising that the report of 1985 (RoB, Rural Development Council 1985) provides only a single paragraph relating to the "maintenance of rural incomes", which it proposes can be achieved by "temporary employment opportunities" in the LBRP projects where crop production fails during drought.

Botswana government as an important step towards eventual economic "independence" and self-determination, as Britain had previously provided some 80% of recurrent expenditures in the early post-colonial period (Colcough & McCarthy (1980), p.99)

Since 1970 Botswana has also received a substantial amount of aid for development purposes from a variety of sources. From the mid-1970s onwards the USA, Canada and the World Bank have emerged as the major providers of project loans, with Sweden the main bilateral donor of programme aid and aimed primarily at the education and water sectors (Ibid., p.103). Between 1972-1975, the country's net development aid receipts per capita from all sources were about twenty times the average for all Commonwealth countries and, amongst mainland African states, only the Congo and Gabon received more official aid per capita over the same period (UN Statistical Yearbook, 1977, p.823). Some years later, in 1979, official development assistance was equivalent to US$116 per capita, compared to an average of US$17 for Sub-Saharan Africa as a whole. Only Liberia received more aid on a per capita basis. Moreover, the grant element of the aid donated was high and formed 12% of government revenue in 1980-81 (Borton 1984, p.7).

However, for the rural population of Botswana, it is probably the aid that has arrived in the form of food that has had the most significant impact on levels of nutrition and standards of living. Between 1962 and 1975 Botswana received more food aid per capita than any other country (FAO 1974; Stevens 1978). A comparison with Niger illustrates that Botswana enjoys considerable preferential treatment. Niger, with a per capita GNP of $336 received 25.4kg of food aid in 1985, whilst Botswana with a per capita GNP of $902 received around 42kg in the same year (Holm and Morgan 1985, p.478).

The reasons for this large and sustained flow of aid to the country since Independence are various. Britain obviously had a moral responsibility to support the recurrent expenditures in the immediate post-Independence period in recognition of its earlier neglect; however, since the meeting of recurrent expenditures implied a continuing level of commitment, the ODM was no doubt satisfied of the country's ultimate economic and financial viability.

Botswana's position as one of the few multi-party democracies in Africa, and the fact that it remains a "front-line" state, has also influenced many donor governments and agencies that have taken a particularly strong stance against apartheid. Support for Botswana has often been seen as part of an overall strategy for peaceful change in Southern Africa. However, it must be added that some of the largest donors (including the UK and the USA) are heavy investors in South Africa and so their generosity is not entirely altruistic: aid can also serve to assuage public criticism of the Government's role in supporting apartheid at home.[2] The fact that Botswana has a flourishing private sector and open commitment to the market economy must have also played a part in its ability to attract funds from the international community.

These arguments only go so far and do not fully explain why, for example, Botswana receives more per capita aid than other front-line states. Colcough and McCarthy considered the reasons "relate more to the efficiency, planning capacity, ability to spend and negotiating skills of the Botswana administration, than to political, regional or economic factors" (Colcough & McCarthy 1980, p.105).

[2] Some writers note a geopolitical distribution of food aid that strongly reflects foreign policy and export promotion objectives often unrelated to development concerns or needs. (Clay & Singer 1985, p.22).

Our analysis of the drought relief in Chapter Six would suggest otherwise, at least at a micro level. There have been significant deficiencies in the implementation of the programme which have affected the more remote and marginalised groups and therefore those most dependent on the success of the relief programme.

Aid can contribute to the relief of poverty in several ways. Perhaps the most visible and immediate impact comes in the shape of famine relief and Food for Work programmes, but other types of aid can play a role in stimulating growth, either directly, or by the provision of basic services such as education, sanitation and health care.

There are a number of theoretical arguments[3] both for and against aid to developing countries that need to be discussed here in relation to Botswana's own pattern of economic development. The first we will consider is the allocative one which argues that imperfections in capital markets often results in inadequate private investment in the economies of poor developing countries because of uncertainties over the yield on capital, and that economic growth is therefore inhibited. Financial aid can help overcome these imperfections by channelling capital to these countries. Mosley argues that this form of aid has, on an aggregate level, no demonstrable effect on economic growth as measured by GNP, and no significant effect on private sector investment in developing countries either way (Mosley 1987, pp.137, 140, Mosley & Hudson 1987 p.31). Botswana, however, is an exception. The country's privileged access to the lucrative EEC market for its beef exports under the Lome Convention, (even in comparison with other ACP states) may be seen as

[3] See Clay & Singer's 1985 survey of the literature for a more general discussion of aid as a development resource.

a form of financial aid, and has increased private investment in the livestock industry and resulted in economic growth (Ibid.,p.234). The wider policy implications and trends of the EEC development programme are mainly determined by the Lome III agreement (Singer (1987), p.69),[4] aimed at the integration of food aid with the development process and in conjunction with the elaboration of food strategies within the low income food deficit countries. What this has meant for Botswana as an ACP country, as we have seen and discussed in earlier chapters, is that access to lucrative markets in the EEC has made the livestock industry the primary depository of private investment in the country. Whilst overcoming the basic constraint of lack of investment, this form of aid has helped create a growing polarisation in the ownership of cattle and other productive assets, and has consequently failed, despite its good intentions, in addressing the problems of rural deprivation. It is possible to argue that this form of aid has stimulated a pattern of growth that has increased the extent and degree of poverty for a substantial proportion of the population. Even food aid itself can widen wealth and income inequalities,[5] as a recent WFP report noted:

> "Food aid projects have frequently paid insufficient attention to the prevailing system of ownership and other relations of production in project areas. This neglect has frequently allowed the benefits of projects to accrue to local elites, thus further exacerbating the maldistribution of income". (WFP 1985e, p.15)

The only way this can be avoided in the future is by greater input being made at the planning stage by UN

[4] Lome III was signed in 1984 and like its predecessors, is a trade, aid and cooperation agreement involving free access to the EEC of the sixty-six ACP member states' industrial goods and most agricultural products.

[5] Several FFW projects carried out in Bangladesh in 1975-76 under WFP/USAID auspices could be criticised in this vein. Excavation of silted village water tanks by FFW labour often provided a ready made source of income for their owners, who could then restrict or forbid their use by other villagers (personal observation).

agencies and NGOs, with personnel fully aware of the power structures existing at both village and national levels.

The procurement of food aid from developing countries for use on aid programmes in others can be seen as one particularly effective form of South-South trade; when procurement is done on a regional level it can also be seen as a form of regional stabilisation. Such triangular food aid transactions are now being increasingly used by WFP. Between 1981-83, some 406,372 metric tonnes of maize was bought from Zimbabwe for use in neighbouring countries (Singer 1987, p.130). Without these purchases, storage and disposal problems in Zimbabwe may have had a negative effect on future production. In Botswana, sorghum and beans were bought from Zimbabwe and Malawi respectively in 1986. It is difficult to compare the cost effectiveness of local purchases in developing countries with imports from normal channels (i.e. developed countries). Bulk shipments are often imported ready bagged, whereas local purchases are usually bagged locally and are of a different variety. For example, there is a preference in Africa for white maize rather than yellow, and white sorghum (dura) rather than the American red variety, which is normally used in the USA as animal feed. Often these indigenous varieties are much preferred to those imported from the USA and Canada.[6] Therefore a comparison on the purchase price alone is less meaningful. However, a comparison of shipments with potential internationally tendered alternative "actions" lets us establish "Import Parity Prices" or IPPs. The shipment of 10,600 mt. of white maize from Zimbabwe to Botswana in 1986 at $117.30/mt. plus the low transport costs at $7.00 per tonne, compared favourably with the estimated alternative IPP cost of $160 from the USA. (WFP

[6] RoB, Food Resources Department, 1986 and personal observation. See also WFP (1985b) which supports this view.

1987c, pp.19-20 & Table 14). The purchase of 2556 mt. of beans from Malawi in 1986 for Botswana also proved very cost effective, with the total cost of consignments ranging from $252 to $367 per mt., compared with estimated alternative IPP costs of $585 to $730/mt. respectively. (WFP (1987c), p.20 & Table 14). Malawi beans were also considered more palatable than North American varieties (personal observation). Similarly, the overland shipments from Kenya to Sudan during 1986 also appeared cost-effective given the high cost and difficulties of moving grain overland from Port Sudan. (WFP (1987c), p.20).[7]

The most popular case for aid however is the moral one, whereby a transfer of resources from the wealthier developed countries to the impoverished and least developed nations will help improve the living conditions of the very poor and hungry. The redistributive case for aid has been criticised by opinion at both ends of the political spectrum. Bauer argued that aid reduces the recipient government's own development efforts, impedes a "natural" division of labour, and distorts markets by encouraging a "non-viable self-sufficiency" (Clay & Singer 1985, Mosley 1987, p.13). The financial and project aid provided to Botswana for the development of its mineral extraction industries would seem to contradict this view, as the country now has an output of diamonds greater than that of South Africa and Namibia combined.[8]

Criticism from the Left that aid supports the power of regimes expropriating the poor has more credence, but has to be qualified (Hayter & Watson 1985, Chapter 10). Food

[7] This was not the case however in food movements carried out by WFP during the first phase of "Operation Lifeline Sudan" in 1989-90. Inefficiencies in tendering procedures, logistics, and finance, together with the use of hired (rather than contract) transport fleets made the operation very costly and hard to monitor. (personal observation)

[8] See Chapter III.

aid, it is argued, can be used to protect the recipient government from political overthrow. An adequate supply of food in the country is often a necessity for political survival, and it is possible that many recipient countries see aid flows as the only way of stabilising an otherwise untenable situation (Hathaway 1981).

On another level, certain structural reforms may be necessary in an aid recipient country in order to remedy food shortages or an inequitable access to food. Foreign aid may allow the recipient government to postpone these essential reforms if it is reluctant to antagonise privileged groups on whom it relies for political support. Scott (1980) mentions the Bangladesh military as one group that falls into this category. In a similar vein, aid may help to perpetuate an inherent urban bias in developing countries by allowing for a reduction in taxes, and the creation of subsidies on food and energy (Lipton 1977; Bates 1981, 1983). Aid to rural areas can act as a compensation for collective deprivations with highly visible selective benefits such as health posts, and water schemes - a palliative to the poor which does nothing to change the basic injustice of vastly unequal access to employment, incomes and productive assets. (Mosley 1987, p.94). Much of Botswana's rural development "push" during the mid-1970s, I would argue, can be seen in this light.

The tendency in the past for financial aid to be given for projects rather than programmes served to reinforce this urban bias. With the possibility of conflict between donor administrative and technical staff towards quick disbursing projects (particularly those using exports from the donor country) on the one hand, and more technically competent rural development projects on the other, a large proportion of financial aid was spent on capital imports in support of projects in urban areas.

The absorbative capacity of some LDCs remains so poor that there is a tendency now for more programme aid, i.e. aid not tied to specific projects but simply to expand the recipient country's capacity to import goods and services for developmental purposes as it requires. In Botswana, there is a blurring of the previous distinction between project, programme and emergency food aid, with programme aid now given on a multi-year basis.

Whatever the motivations behind current aid donations to Botswana, and requests for such aid from the government, it is clear that drought is a recurring phenomenon and its effect on food production will necessitate aid of one form or another for the foreseeable future. As in the past, this aid is most likely to be in the form of food. We will therefore now examine the contribution of food aid to Botswana in recent years, and its relative merits and demerits.

Food aid may be seen as an international resource transfer to the recipient country, as support for balance of payments problems, as a budgetary resource for existing government expenditure, or as a direct income transfer to selected beneficiaries within the country. In Botswana food has been used not just for drought relief but for ecological recovery or disaster prevention, such as planting trees, erosion control, and the construction of dams, through the current LBRP programme. Public works programmes, where food is provided in part or in whole payment for the project workers, is perhaps the most important use of food aid. It offers both the challenge and the opportunity of improving nutrition and creating long term employment, providing supplementary income and creating and maintaining the rural infrastructure vital for development, such as feeder roads, irrigation schemes and erosion control.

If food aid supports programmes normally paid for by the recipient government (e.g. school meals), then it can be said to provide budget support. In Botswana, food aid has been used in this way and has made a valuable contribution to the provision of school meals since Independence. Food aid can also function as a form of budget support by its role in import substitution, in so far as it replaces foreign exchange expenditure that would have had to be spent on commercial food imports. Like balance of payments support, it offers the opportunity for development, not a guarantee. It brings the possibility of supporting higher producer prices, the undertaking of agricultural investment and the provision of extension services.

Food aid can often produce considerable net savings of foreign exchange, particularly if delivered c.i.f. as there are substantial savings on transport costs for the recipient government when compared to commercial imports. WFP has a standing arrangement to pay 50% of the internal transport costs for the least developed countries (Singer 1987, p.145), and Botswana also receives this substantial benefit.

Most food aid is supplied in bulk to government stocks or reserves, and then usually sold to recipients or distributed through national relief schemes and termed "programme" aid. Concessional sales to governments constitutes some 80% of all food aid, with the remainder distributed direct to the beneficiaries as project aid through agencies (Singer 1987, p.91). Food aid is potentially more efficient than financial aid in that it cuts out the financial element of a transaction which mainly involves the purchase of food anyway.

In Botswana, as in other regions of Sub-Saharan Africa and elsewhere in the developing world, malnutrition and the lack of resistance to disease due to prolonged

periods of undernourishment during childhood, are endemic. The continuing debt crisis affecting many developing countries, and the consequent structural adjustment policies under the pressure of IMF conditionality is thus having a disproportionately heavy impact on the nutritional status and overall living standards of children and other vulnerable groups, by placing restrictions on government spending. A report prepared for UNICEF by Jolly & Cornie (1984), provides evidence for this and a series of country studies.

World Bank programme loans from 1980 onwards also aimed at structural adjustment of the economy and were conditional on the implementation of "supply side" or incentive boosting measures of policy, often accompanied by some privatisation of industry. As malnutrition during early childhood can lead to a lowered mental and physical capability which is irreversible, food aid targeted to these groups is vital, and it is precisely in these areas of human need that food aid can provide a significant and long term remedial role. Thus food aid can be used to offset some of the less desirable effects of conditional financial aid.

When channelled through primary schools and village health centres, as in Botswana, its developmental impact can be reinforced by widening the access to education and primary health care, thus greatly enhancing the quality of human capital, which can be seen as a nation's greatest asset.[9] It is perhaps significant that of the ten countries undergoing structural adjustment in the 1980s studied by UNICEF,[10] Botswana was among those judged to

[9] Provided of course it is seen as part of a much wider programme of social and political change. As we have already noted, a substantial proportion of primary school aged children do not attend school.

[10] UNICEF found evidence that the impact of adjustment policies on developing countries (for example, arising from IMF conditionality) on the welfare of children and other vulnerable groups has been disproportionately heavy, and has resulted in a deterioration of their nutritional and overall living standards. (Jolly & Cornie 1984).

have most successfully protected the nutritional status of the poor, and did so by expanding existing feeding and income supplementing programmes and introducing new ones. It was also able to emerge from the balance of payments squeeze most rapidly and was, with Zimbabwe, able at the same time to attract substantial aid towards its social programmes (Hubbard 1988).

Food aid can aim to achieve its objective of alleviating hunger and suffering amongst the rural poor by direct supply or by other, indirect, means. The most direct method, and one which remains the dominant mode in Botswana, is the provision of food rations to those vulnerable groups who are, for one reason or another, unable to provide themselves an adequate level of nutrition. Direct movements of food are highly "visible" and therefore misappropriation is arguably less likely to occur.[11] Distribution of food aid in this way can have an immediate impact on nutritional status which, because the food is issued and administered through government institutions, can be monitored on a regular basis by health staff, teachers, the responsible ministry in the recipient government, and by the donor community. The great strength of this type of distribution is that the results can be seen and assessed in the light of the programme's own stated objectives. Less visible methods of distributing food aid do not have this advantage because it is impossible to adequately monitor, on a continuous basis, the nutritional status of every individual household.

However, direct food aid to vulnerable groups needs to be seen only as part of an overall system of rural development which looks at the problem of household food security in its entirety. A report commissioned by WFP found that supplementary feeding programmes on their own

[11] In border areas, this might not always be the case.

could have only limited impact on the chronic problem of childhood malnutrition:

> "There seems to be little consistent evidence that supplementary feeding programmes have an unequivocally beneficial effect on childhood nutritional status, if this is held to be an appropriate indicator of the preservation of future potential function." (WFP (1986b), p.16)

Where measurable improvements have been noted consistently, supplementary food has been supplied together with health inputs, and the projects have been well monitored. Part of the problem appears to be that take-home rations are shared amongst the family, and that therefore it is the household's food security that has to be considered.[12]

The local purchase of food (where available) for distribution to vulnerable groups can have the additional advantage of stimulating production and raising the incomes of farmers. In Botswana, this is usually not possible during periods of drought when production falls well below subsistence levels for the majority of subsistence farmers, but during periods of adequate rainfall, BAMB buys up available surpluses of sorghum which are used as relief food during periods of drought. In Botswana, a Cattle Purchase Scheme is also in operation for providing meat for primary schools during the drought, but is unlikely to be of direct benefit to the very poor, who neither own cattle nor send their children to school.[13]

Indirect movements of food to the hungry may be handled through the market mechanism, with cash supplements paid to beneficiary groups and spent on food from local

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[12] This problem has only been partly solved in Botswana by the introduction of "direct feeding" for malnourished children at health centres.

[13] See Chapter IV.

traders. In some cases an input of cash may increase effective demand and stop food being moved to other areas.[14] By providing demand for trade and transport, cash relief may give a dynamic stimulus to the rural economy.

This method is currently used in Botswana, on a limited scale only, as a form of social security for those classified as "permanent" destitutes. The success of such a scheme (as opposed to direct food movements) depends on a number of factors. First, there needs to be a trader network in existence in the more remote areas that are often the first to suffer in periods of drought. The *Basarwa*, for example, are usually the first group to be affected by a failure of the rains and their needs can reach a critical point at a very early stage. In western areas of Botswana, because of its very small population density widespread poverty and lack of effective demand, this trader network does not exist in a viable form. As on the eastern freehold farm blocks, where basic foodstuffs are available for purchase, the cost is often higher than in urban areas because of the difficulty of transport and the monopoly position enjoyed by the traders.[15] Secondly, and related to the first point, there is a real danger that supplementary payments in cash, once fixed, may diminish in value to their recipients due to localised inflationary pressures. When, in 1986, "permanent" destitutes received an increase in their cash supplement from P10.00 per month to P30.00, and a corresponding reduction in their food ration entitlement, localised inflationary pressures reduced the value of this supplement.[16] Thirdly, payments in cash assume that beneficiaries will buy nourishing food for themselves and their children, and thus help to break the cycle of

[14] This occurred in Wollo province, in the 1973 Ethiopian famine. See Sen (1981).

[15] Such a situation complicates still further the problem of establishing a Poverty Datum Line for the remote areas.

[16] See Chapter III.

chronic malnourishment that characterises the nutritional status of many of the under-fives in the rural areas. Field experience in Botswana suggests that this is not always the case.[17]

The present LBRP programme, now with payment in cash rather than in food, is another way of channelling food to the hungry, though as only the able bodied are able to participate, its benefits often do not reach the old and the infirm, the very young, and those simply too weak to work through hunger and ill-health. Tables 3.18 and 3.19 shown on the following pages show the contribution of food aid to cereal availability in Botswana during the period 1979-80 to 1986-87, and the composition of food aid by commodity type during the period 1980-87 respectively. Table 3.18 illustrates a number of important points. Firstly, the variation in domestic cereal production between "normal" years and periods of drought, the actual number of drought years during the decade, and consequently the proportion of total food requirements needing to be imported is indicative of the state of dryland arable agriculture in Botswana.

This has important policy implications for the NFS which is based firmly on the concept of expanding rural employment by developing agriculture. Secondly, the proportion of food aid to total supply appears to have increased as the severity of the drought deepened in the mid-1980s, as one would expect it to. Thirdly, the level of commercial imports rose sharply in response to the drought from a low of 70,175 mt in the non-drought year 1980-1 to a peak of 149,322 mt in 1982- 3, thereafter falling slightly, but not to the same extent as the rise in food aid.

17 Personal observation.

TABLE 3.18 : CEREAL PRODUCTION, IMPORTS, AID IMPORTS AND AVAILABILITY (1978-1987)

	1979-80	1980-1	1981-2	1982-3	1983-4	1984-5	1985-6	1986-7[1]
Cereal production less 10% for seed/feed/waste (mt)	40300	48860	15500	12980	6030	16600	19100	18000
Cereal imports (non-aid)	95326	70175	106106	149322	145823	140975	N/A	N/A
Cereal imports (aid)	13962	9248	4914	24278	25639	46225	29861	38360
Cereal exports	560	729	549	815	1314	9880	N/A	N/A
Net Cereal imports	108728	78694	110471	172785	170148	177320	N/A	N/A
Total Cereal availability	149028	127554	125971	185765	176178	193920	N/A	N/A
Population ('000s)[2]	906	941	976	1012	1049	1088	1128	1169
Cereal availability (kg. per capita)	164.49	135.56	129.07	183.56	167.95	178.24	N/A	N/A
Cereal food aid (kg. per capita)	15.41	9.83	5.03	23.99	24.44	42.49	26.47	32.81
Cereal food aid as a percentage of total supply	9.40%	7.25%	3.90%	13.07%	14.55%	23.84%	N/A	N/A
Beneficiary numbers in VG and schools' programmes[3]	359000	360000	427000	538000	600000	622060	632809	615887
Cereal food aid per beneficiary (kg.)	38.89	25.69	11.51	45.13	42.73	74.31	47.19	62.28

Notes:

1) These figures indicate only the amount of cereals available for the relief programme, not the actual amounts distributed. See Tables in the Appendix.
2) De facto population extrapolated from 1981 census using medium variant (CSO).
3) Data for 1979-80 to 1983-4 from Rural Development Council, National Food Strategy, MFDP, Gaborone 1985. Data for 1984-5 to 1985-6 from FRD, Project 324 Quarterly Reports to WFP, Oct.-Dec. for each year. Data for 1986-7 obtained from FRD Regional Monthly Report for September 1986.

TABLE 3.19 : COMPOSITION OF FOOD AID BY COMMODITY TYPE (1980-1987) METRIC TONNES

COMMODITY	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	SGR[1]
CSM/ICSM	8952	9078	1697	7407	6916	19807	10051	19610	0
SORGHUM	4510	0	2500	6570	5556	16318	4100	7000	9350
MAIZE	0	0	8	8400	11000	8440	15250	12750	24000[2]
MAIZE MEAL	500	170	709	441	707	1660	460	0	0
VEG. OIL	941	1242	2703	1075	3314	3436	2752	2662+	0
BEANS/PULSES	8	6	3204	2450	4300	4849	4505	6859	0
DSM	0	0	1998	545	1245	1252	2050	3245	0
CANNED FISH	0	0	5	31	44	15	40	0	0
SUGAR	0	0	2	10	16	13	15	0	0
DRIED FISH	40	0	0	0	0	0	0	0	0
WHEAT FLOUR	0	0	0	1460	1460	0	0	2000	0
TOTALS:	14951	10496	12646	28389	34558	55790	39223	54126	33350
CEREALS:	13962	9248	4914	24278	25639	46225	29861	38360[3]	33350

Notes:

1) Donations given for the Strategic Grain Reserve in 1987 and not necessarily for direct distribution as part of the feeding programmes.
2) Part of this donation (15000mt) is for monetisation and will then be used to support LBRP.
3) Does not include 3000mt of Maize shown in Table 3.18 and intended for the Strategic Grain Reserve.

Source:

1) Data for 1979-80 to 1985-86 from World Food Programme, Botswana, 29 April 1987. Data for 1986-87 from IMDC May 1988. Years shown as seasons to correspond with other tables.

Finally, and perhaps most significantly, the rise in food aid does not seem to have occurred until one year after the rise in commercial imports, suggesting a lack of donor response to the drought. This in fact was not the case. According to Borton, who worked at the MLGL and Food Resources Department between 1980 and 1983, shipments of WFP programme aid due to last until the end of 1982 were called forward to meet the additional requirements of the 1979-80 relief programme, and

therefore were simply not available during the latter part of 1982:

> "Incredibly, IFP officials were apparently unaware of how early the Project 324 supplies would become exhausted" (Borton 1984, p.52).

The government had failed to request replacement stocks from the donor community in time and was therefore obliged to meet this shortfall from commercial purchases until such time as WFP could arrange new shipments.

The level of commercial imports remained at a high level after this date to meet the needs of the vastly expanded Vulnerable Groups' Programme. Of significance here is the growth in the amount of maize being donated as food aid. Though maize is grown in Botswana, the staple cereal is sorghum, which is a more drought resistant crop. This may bring about a change in taste preferences and can lead to future foreign exchange expenditures on imports long after the initial aid has been phased out. Table 3.20 shown overleaf gives the origin and monetary value of drought related foreign aid to Botswana during 1986-7, and is included to indicate both the multiplicity of donors and the extent of aid to Botswana.

It is clear from these tables that food aid has been providing a substantial proportion of the country's cereal requirements in recent years, and that the Strategic Grain Reserve is now emerging as a high priority of both the government and the donors. We will be examining the importance of the SGR later in this chapter when we discuss the National Food Strategy.

On a national basis, the form in which aid is donated and the way it is utilised by the recipient government, has a direct bearing on how effective it is in alleviating poverty, and whether it reaches the very poor at all.

TABLE 3.20: ORIGIN AND VALUE OF DROUGHT RELATED FOREIGN AID TO BOTSWANA 1986-87

DONOR	COMMODITY	BENEFICIARIES	QTY. (MT)	VALUE (PULA)[1]
WFP	Beans	Vulnerable Groups	3409	3,340,820
WFP	DSM	Vulnerable Groups	2245	4,041,000
WFP	ICSM	Vulnerable Groups	4810	4,569,500
WFP	Sorg.Grain	Vulnerable Groups	7000	1,680,000
WFP	Veg.Oil	Vulnerable Groups	2662	5,324,000
WFP	Maize	SGR	9000	2,385,000[2]
USAID	Sorghum	SGR	9000	2,160,000
USAID	ICSM	Vulnerable Groups	14800	14,060,000
EEC	Maize	Vulnerable Groups	8000	2,120,000
EEC	DSM	Vulnerable Groups	1000	1,800,000
ARGENTINA	Grain	Vulnerable Groups	2000	530,000
CANADA	Beans	Vulnerable Groups	3450	3,381,000
BELGIUM	Grain	SGR for Sale	1000	265,000[3]
FRG	Maize	Sale for LBRP	3000	795,000
ITALY	Maize	SGR for Sale	5350	1,417,750
HOLLAND	Maize/Oil	RADs (Oil)		
		SGR (Maize)	9000+	2,500,000
NEW ZEAL.	Maize	?Vulnerable Groups	1750	463,750
OAU	Maize, etc.	RADs & Direct Feed.	?	1,200,000[4]
PR CHINA	Various	?Vulnerable Groups	?	100,000
TOTAL VALUE OF FOOD DONATIONS:			87476+	52,132,820
ESTIMATED COST OF SHIPMENT:				14,910,440[5]
WFP INTERNAL TRANSPORT SUBSIDIES:				684,284[6]
USAID	Grant	Handstamping Prog.		50,000
UK	Grant	Free Seeds Scheme		650,000
LWF	Grant	Free Seeds Scheme		95,250[7]
EEC	Grant	Village Water Supplies		6,000,000
UNDP	Grant	Food Storage/Water Supply		350,000[8]
UNESCO	Grant	Water Tanks for Schools		30,000
UNICEF	Grant	Water Buckets for Rural Schools		297,606
UNEOA	Grant	Free Seeds Scheme		248,000[9]
AUSTRALIA	Grant	Upgrading of FRD Depots		270,000
ESTIMATED TOTAL VALUE OF DROUGHT RELATED AID FROM DONORS 1986-87:				P.127,851,220

Notes: 1) Prices based on WFP, Project Botswana 324 (EXP.4), WFP/CFA[18]: 23/13-A(ODB) Add.2. March 1987. Exchange Rate: US$=P2.00.
2) Strategic Grain Reserve.
3) Sold by Government and the revenue used mainly for LBRP.
4) Organisation for African Unity. Grant provided by the Special Emergency Fund for Drought and Famine in Africa.
5) & 6) Prices based on WFP March 1987.
7) Lutheran World Federation. Also includes the provision of a water bowser for Ngamiland district Council.
8) United Nations Development Programme.
9) United Nations Office of Emergency Operations for Africa.

Source: 1) IMDC, May 1988.
2) WFP, Project Botswana 324 (EXP.4), WFP/CFA: 23/13-A (ODB) Add.2. March 1987.

[18] CFA: Committee on Food Aid Policies and Programmes (the governing body of WFP)

We have seen from the previous section that in Botswana a significant amount of food aid reaching the country is not destined for direct distribution to vulnerable groups, but as part of the SGR, or for monetisation by the government to help finance other parts of the relief programme. Whether these counterpart funds generated by the monetisation of food aid supplements or replaces what would have been spent on the other parts of the programme, is an important issue not just to Botswana. Recipient governments can allocate resources made available to it by the donors between developmental and non-developmental purposes. This is due to the fungible nature of aid, a feature which can hasten or hinder the process of rural development, often depending on the donor's political influence with the host government.

The growing interest in the monetisation of food aid has focused on the role it can play in financing recurrent expenditures incurred by the recipient government in the administration of its existing "direct" feeding programmes.[19] Aid programmes can increase recurrent costs considerably for the recipient government, by requiring more staff, more transport, more storage and more training. Many projects fail because the recipient government is unable to purchase spare parts or maintain adequate staffing levels. The WFP General Regulations stipulate that all expenses connected with project implementation are to be born by the recipient countries, either from their own budgets or from external sources. WFP is able to provide some equipment for project implementation but the present level of contributions for non-food items is totally inadequate: in 1986 for

[19] The extension of the WFP Kenya 2669 programme through 1989-93 for Turkana District envisages the monetisation of WFP wheat for rapid destocking in the face of impending drought. With this revolving fund, local authorities would be allowed to purchase up to 25,000 small stock in the early rounds of the destocking operation, the start of which would be declared by the Turkana Drought Contingency Planning Unit.

example, food commitments stood at $629 million, against non-food resources of only $10.9 million. (WFP 1987a, p.16-17)[20].

In Botswana, monetisation has helped to tackle the growing problem of funding maintenance and recurrent expenditures. These costs include such items as spare parts for government vehicle fleets, transport and handling costs, and warehouse construction. Funds generated for through the sale of food aid commodities is usually conditional on proceeds being used for development purposes (as counterpart funds), for example on roads, storage, distribution and marketing.
WFP has allowed the sale of foodgrain in Ethiopia and Bangladesh to defray the transport and handling costs of their food aid. A WFP report (WFP/CFA 16/4 Add.1) on the Bangladesh experience with food aid programmes and policies noted that a major constraint to the utilisation of foreign aid for development was the inabaility of the government to provide counterpart funds. (WFP 1987a, p.3) Some 8% of the Bangladesh Government revenue has been generated in this way in recent years (Singer 1987, p.92). In Indonesia in 1984, an evaluation of a PL480 USAID Food For Work project recommended that 10% of project commodities be monetised to meet other programme costs (Bryson et al, 1984).

In Kenya, the WFP assisted Turkana Rehabilitation Programme had a system of exchanging relief food grain for cattle and small stock at "fair rates of exchange". This, it is claimed, achieves two major objectives: firstly, it preserves existing prices for animals during the onset of drought and therefore pastoralists' incomes, and secondly, it accelerates the offtake of animals

[20] One reason why international donors are becoming increasingly reluctant to commit cash funds for WFP emergency programmes and projects is because of WFP's poor record in effectively monitoring and accounting for food movements and cash disbursements. (personal communication from WFP staff in Rome HQ).

during drought, when the slaughter of animals and the sun-drying of meat (biltong) can maintain village stocks, or be used for school feeding programmes. (WFP (1986c), p.17-18.

The fungibility of food aid extends both to funds released for budget support and for balance of payments support, and both are difficult to tie down or monitor. The extent to which this is possible often depends on the proportion of the development budget financed by aid, with "switching" not possible if the whole of the budget is financed by aid (Mosley 1987). As with other forms of aid, some critics suggest that foreign exchange saved or generated by the food aid simply allows governments to avoid or delay politically unpalatable policy decisions relating to more realistic agricultural policies, exchange rates and economic policies.[21]

In recent years, donors have been pressing for dialogue and agreement on food aid to be conditional on economic reforms, sometimes as part of a national food strategy. Theoretically, the major donors can exert some considerable influence on the recipient governments to bring about land reform and efforts to introduce social change. On a practical level, however, the power of donors over recipient governments has often been exaggerated in the past and there is little evidence to suggest that aid is an effective instrument for changing domestic policies (Mosley 1987, p.39). In Botswana, as we have already suggested with regard to the World Bank support of the TGLP, aid can in fact reinforce them. Though the multiplicity of donors can cause a high administrative burden on the recipient government, it is usually preferred to having to deal with a single donor, because of the possibility of increased political

[21] Pym, F., Speech to Royal Commonwealth Society on Britain's Contribution to Development, London 1983. Cited Singer (1987), p.42.

leverage that the latter would entail (Ibid., p.106.). In Botswana in 1986-87, WFP found it very difficult to establish proper accounting procedures for its aid channelled through FRD, because of the plethora of other donors such as USAID seeking to increase their own proportion of donated food.[22] This allowed a poor level of food management to persist. When WFP withdrew its support from the RADs programme for example, (due to the lack of an adequate reporting system), the OAU stepped in with financial support and the poor distributive record of the programme was allowed to continue.

There is a need for an analysis of the effectiveness of food aid programmes at both macro and micro levels. The planners of food aid programmes tend to base their analysis of nutritional needs, programme performance and aid effectiveness on macro-economic aggregates and not in terms of regions or socio-economic groups, their knowledge of which is often too superficial or fragmentary. Yet hunger and starvation takes place at the household level, and any analysis should be able to determine, say, whether enough food was distributed at a district or village level. In Botswana, as we saw in the previous chapter, this was not always the case, and therefore this study has attempted to describe the function of the aid programme at a macro level and assess its effectiveness at a micro level.

Maxwell (1986) stressed that food aid should aim to be a resource for growth, and have incentive effects on agricultural production and economic growth. The current LBRP programme in Botswana would fall into this category as it focuses on the improvement of the rural infrastructure and the preparation of arable land. The aid to Botswana's livestock industry under Lome III would

[22] Personal communication from WFP staff in Gaborone.

also be included, as it has been instrumental in stimulating economic growth and domestic investment.

Mosley (1987, p.175-8) described the effectiveness of aid in terms of linkages. For Mosley, aid has a positive effect for the poor if it gives them greater control over productive assets such as land and water, which Lome III does not; it has zero effect if it is comprised of consumption goods such as free food distribution to Vulnerable Groups, as no linkages are created; and finally it has a negative effect if it stimulates a form of capital intensive production, i.e. tractors can remove linkages between the poor and productive assets such as the land and increase, rather than decrease, existing levels of deprivation.

The targeting of beneficiaries has become of particular interest in recent years to the growing body of food policy analysts.[23] The essence of the food policy analysis is that expensive blanket coverage of beneficiaries through food subsidies (such as rations distributed under the Vulnerable Group Programme in Botswana, which is in fact not means-tested but open to all women and children) is inherently inefficient, and should be replaced by a more targeted system of subsidies to the poor. This should theoretically allow for a greater subsidy to be applied where it is needed most.

The analysts' case is at first sight a compelling one when applied to a situation such as in Botswana. With equal food aid subsidies being applied indiscriminately, the income gap between the wealthy and the poor sections of the community will tend to increase, with the poor spending the income saved on the food ration by buying more food, and the wealthy, having already achieved an

[23] See World Bank, Poverty and Hunger: Issues and Options for Food Security in Developing Countries, 1986 and a critique of it by Hubbard (1988).

adequate diet, able to invest their savings. In practise however, the argument for the increased targeting of beneficiaries remains unproven, as the procedure is fraught with difficulties. In Botswana, for example, definitions of rural poverty are extremely contentious. Though throughout this study we have used the ownership of cattle as a proxy of wealth, reaching a cut-off point above which a cattle owner becomes ineligible to receive a food ration is administratively complex and probably politically unacceptable in Botswana. At a Drought Committee meeting at Letlhakane (near the diamond mining town of Orapa) in 1987, it was proposed that the permanent destitute category of beneficiary should be defined as someone having 40 head of cattle or less. This would have meant that around 90% of the population would have been registered destitutes![24]

One basic criticism of the food policy analysts' case is that a significant amount of blanket aid subsidies end up effectively targeted at the wealthier sections of the population. Others are deliberately targeted at groups which do not include the very poor. Mosley argues that most official aid is not very effective in reaching the very poorest groups in the recipient country. A staff report on the World Bank financed "Second Urban Housing Project" in Botswana admitted that the bottom decile of the population had no access even to the cheapest conceivable form of Bank financed housing (World Bank 1975, p.41). The poor continue to live in shanties in the peri-urban areas. Morris & Gwyer assert that "experience suggests that official aid can rarely reach the poorest of the poor", and the World Bank claimed that "it has

[24] Personal observation at Drought Committee. See Tables 2.4, 2.5 & 2.6 for details of cattle ownership.

proved extremely difficult to benefit the very poorest groups who lack productive assets."[25]

By contrast, programmes directly distributing food aid through health facilities and primary schools offer the opportunity, when adequately monitored, of reaching the very poorest sections of the community. Botswana, with its well developed rural health infrastructure, should have achieved far greater progress in eliminating malnutrition than it in fact has. Its failure to do so, despite high levels of per capita food aid over a long period and general lack of financial constraints, is indicative of the low priority given to the programme in terms of skilled manpower allocation when compared to other sectors such as livestock.

Concern over possible agricultural disincentive and commercial market displacement effects goes back to the early days of food aid,[26] and a recent WFP policy study has revived academic interest in the subject (Maxwell 1984). It has in the past been useful to distinguish between price and policy disincentives; a price disincentive occurs when the supply of food aid adds to the total supply and cause the free market price to fall, whilst a policy disincentive occurs when subsidised food imports such as aid allow a government to neglect or postpone policies which would stimulate agriculture (Maxwell 1986, p.19).

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[25] Morris, J., & Gwyer, G., "UK Experience with Identifying and Implementing Poverty-Related Aid Projects", in Development Policy Review, vol. 1, (1983), pp.147-162. World Bank, India: First Calcutta Urban Development Project: Project Performance Audit Report, Operations Evaluation Dept., Report No. 4023, 1982.

[26] See Schultz, T. W., "Value of US Farm Surpluses to Underdeveloped Countries", in Journal of Farm Economics, vol.42, no.5, 1960, pp.109-130. More recent reviews of the literature are given in Maxwell, S., and Singer, H., "Food Aid to Developing Countries: A Survey", in World Development, vol.7, 1979, pp.225-47 and Clay, E.J. and Singer, H.W., Food Aid and Development: the Impact and Effectiveness of Bilateral PL480 Title I Type Assistance, IDS Sussex, 1982; and "Food Aid and Development: Issues and Evidence", WFP Occasional Papers, No.3, 1985.

Botswana provides a useful area of study in this regard because as we noted in the introduction to this chapter, in the decade up to 1975 per capita aid from WFP to Botswana had been higher than to any other country. WFP food aid to Botswana started in the drought of 1965 and has provided supplementary rations for primary school children and Vulnerable Groups ever since. Up to 1974 Food For Work projects also operated in every year a partial crop failure occurred, and concern over possible disincentive effects on FFW on agriculture led to the commission of the 1974 FAO survey. The findings of the 1974 FAO survey was that at the micro level in which it operated, FFW had a negligible disincentive effect on households' participation in agriculture and that the overwhelming constraint to arable production was rainfall, the availability of draught power and labour (FAO 1974).

In more recent times, WFP has found little evidence of localised disincentive effects in major FFW programmes in Ethiopia and Bangladesh (WFP/CFA (1983). A UN mission to the WFP assisted Turkana Rehabilitation Programme (Kenya) in 1988 found that the FFW programmes were reaching the very poor who were less likely to purchase food or resell it on the local markets. The possibility of a price disincentive was therefore not an issue. (WFP/FAO et al, 1988b, p.134). Similarly, FFW in Kenya did not divert labour away from agricultural work as it tended to attract the under-employed and destitute. This was seen to stimulate farm production and income by passing on simple irrigation techniques such as bund construction which led to higher yields. This has increased the opportunity cost of working on FFW projects rather on farms. (WFP/FAO et al, 1988b, p.137).

The established view in the literature is that food aid has the capacity to cause disincentive effects but these can be and often are avoided by government policy

(Maxwell 1986, p.22). There is a possibility that aid imports, like any other commercial import, can be a disincentive to local production by reducing producer prices. But as many of the rural poor in many developing countries do not have sufficient purchasing power anyway, they lack the effective demand to have any significant effect on local prices. With cereal production in Botswana almost totally subsistence in nature it will not be affected by any possible impact on local prices from food aid imports, and as it acts as a substitute for commercial imports which would have been imported anyway, there is no disincentive effect on agricultural prices. Commercial displacement and disincentive effects are therefore to some extent mutually exclusive.[27]

Sen makes a case for imports of relief food even when there is enough food domestically, as it can help increase overall supply and bring down the price, which might be kept artificially high through hoarding (Sen 1981). In Sudan for example in recent years, a surplus was maintained in some regions of the country whilst the population in the south and west were literally dying from starvation. In any case, the recipient government does not need to let producer prices fall. Marketing boards, such as BAMB in Botswana, can operate to establish minimum prices and any budget deficit that arises can be made up through monetisation of a certain proportion of the aid itself. It is conceivable that lower producer prices, where they do occur, can lead to an increased output in some cases, to make up for the fall in revenue, and that therefore production will not fall with price. In this case, farmers may produce a bigger surplus but with reduced profit margins (Sen 1981).

[27] Clay & Singer (1985) note that in any case there can be a counteracting effect on producers' incomes of encouraged growth in consumption of basic foodstuffs from lower prices.

In their survey for WFP on food aid issues and policies, Clay and Singer (1985, pp.41-42) conclude that

> "the debate on the past macro-economic and agricultural impact of food aid remains inconclusive...(however) massive disincentive effects do not seem to have occurred."

Econometric models that have measured the possible disincentive effects of food aid have found them to be negligible, (Bezuneh & Deaton 1981) whilst Hall (1980, pp.19-28) found that long-run multipliers are positive, so that food aid can actually leads to increased production.

Another related issue in any food policy analysis is that of dependency. We have already suggested in previous chapters that the mode of incorporation of Botswana's economy into the wider international economy, particularly in terms of exports, imports and investment, conditions and constrains many of its internal economic and political developments. In the context of aid, it is as a signatory to the Lome III agreement, that has locked Botswana into a pattern of economic growth that is threatening the very subsistence base of a substantial proportion of its citizens.

We have already seen in early sections of this chapter that the fungibility of food aid carries with it a risk for the recipient government to neglect or postpone essential policy reforms, and possibly leave the hunger and welfare of its population to the international donor community. It can become dependent on aid for its political survival. There are however, varying levels of dependency other than that normally associated with the national economy. It is feasible that people can become dependent on food aid on an individual basis, to the extent that it is preferred to work of any work. This sort of dependency on food aid appears to have occurred

amongst some *Basarwa* groups (UNDP et al 1985, p.113), but we would argue that this is more an indication of the poor rates of existing pay and conditions in the more remote areas, or simply the possibility of negative returns to effort in arable agriculture in all but exceptional years.

In general, communities and households which become dependent on external assistance in Botswana do so reluctantly because they see no other way of surviving. The LBRP projects in Botswana, for example are always oversubscribed (Ibid.). With the monetary value of the supplementary food rations distributed through health facilities in 1985 about P4.73 per month, that of the primary school rations (assuming 30% was taken home and eaten by the household) about P1.30 per month, and government minimum wage rates at around P7.30 per day, it is hard to envisage people becoming "dependent" on these rations (UNDP et al 1985, p.113). The fact that most *Basarwa* groups now rely on food aid for some 80% of their food needs (RoB, Gulbrandsen et al 1986, p.1), suggests that the Government and food policy analysts should devote more of their time and efforts to ensuring they actually receive it, rather than speculating over the possibility of any psychological dependency.

With the onset of heavy rains in Botswana during November-December 1987, the longest and most severe drought in living memory, with average rainfall some 26% below the long term mean, came to an end (RoB, *Project Memorandum: WFP BOT/324/IV*, p.2). The fourth extension to the long-running WFP Project 324 in Botswana is essentially a drought recovery programme and envisaged to commence in 1988 and run through to 1990. As a drought recovery programme, it assumes a vulnerable group base level of 150,000 throughout the duration of the programme, and a primary school enrolment of 260,000 children rising by 15,000 increments to 290,000 in 1990

(WFP/CFA: *23/13-A (ODE) Add.2*, 19 March 1987, p.3). Reduced non-drought rations for vulnerable groups are applied which are of less nutritional value to those in use during the 1982-88 drought relief programme, and are made up of different ingredients. Table 3.21 overleaf shows the structure and projected total costs of the three yearprogramme as prepared by WFP. The most notable feature ofthe table is that the high-protein CSM usually provided under the programme will no longer be supplied; instead the government is to provide maize meal itself which will be blended locally with vitamin enriched DSM, as has been the practice in the past when a shortfall of CSM has occurred. What this means in fact is that while WFP accepts responsibility for the implementation of the schools' programme, that of the vulnerable groups will now be assumed by the government. It is indicative of the level of cooperation that existed between WFP and the Government during the period of preparation for this Project Memorandum that the government was unaware that it would have to assume this responsibility, despite the fact that WFP acts as coordinator of all food aid shipments to the country. (WFP/CFA, 1987 *23/13-A (ODE) Add.2*, p.8).

In a letter to WFP from the Permanent Secretary of MFDP, the Government expressed some concern that

> "WFP has unilaterally decided to make provision for the primary school feeding component of theProject and directed the Botswana Government to assume responsibility for the Vulnerable Groups. This is clearly not in line with the discussions between WFP and Government during the 1983 evaluation of this Project, during which Government reiterated its determination to take over the primary school programme" (Gaolathe (*ref.FDP 90/7/3 VIII*) 15 April 1987, p.1).

TABLE 3.21: PROJECTED COSTS OF WFP PROJECT 324 (IV) 1988-1990

1. WFP COSTS:	Quantity	Cost US$
a) Food Commodities.		
Sorghum	21945	2633400
Vegetable Oil	5637	5637000
Dried Skimmed Milk	4568	4111200
Beans	9405	4608450
Total:	41555	16990050
b) Transport Costs		3944050
c) Superintendence		25880
d) Internal Transport, Storage & Handling		706435[1]
TOTAL COST TO WFP:		21666415
2. GOVERNMENT COSTS:		
a) Administrative & Related Costs:		1595601
b) Food Supplies and processing		10714284[2]
c) Transport Costs (50% of ITSH)		3461535[3]
TOTAL COST TO GOVERNMENT:		15771420
TOTAL COST OF THE PROJECT:		37437835

Notes:

1) Fifty percent of ITSH costs are paid for by WFP.
2) Includes cost of procurement of maizemeal for vulnerable group feeding and local purchases of meat and vegetables.
3) Fifty percent of ITSH costs of WFP commodities to be met by the Government and full costs of government purchased food.

Source: WFP/CFA:23/13-A (ODE) Add.2, 19 March 1987, p.8.

This, the Ministry pointed out, would have "adverse consequences in the (budgetary) provisions made in NDP VI." (Ibid., p.2). As budgetary provision had been made

for the eventual take over of the schools' programme however, perhaps the more important point raised with WFP by the Ministry was the proposed use of maize milk instead of CSM (see Table 3.19 footnote) which was "not agreed to by Government" (Ibid., p.2). Apart from the fact that local bagging of maize milk in unlined cloth sacks results in a reduced shelf life and consequent heavy loss from insect infestation, the whole episode typifies the lack of cooperation between the two parties throughout the period of the 1982-88 drought.

b) The National Food Strategy.

The central objectives of the National Food Strategy are, at a national level, the reduction of the country's present dependence on external food supplies, and at a household level, the reduction of the dependence of individual families on government support to make up food and income deficits (RoB, Rural Development Council 1985, Intro., p.1). The NFS identifies several key areas of activity to achieve these objectives (Ibid., p.8-9):

I. the need to enhance the performance of the drought early warning system by improving data collection on the rural economy;

II. the need to increase food and cereal production and to reduce fluctuations in production caused by drought, by developing a viable strategy for agriculture;

III. the need to secure the country's basic seed requirements, and improve the range and quality of available varieties in the long term;

IV. the need to strengthen nutritional surveillance systems and drought relief food programmes;

V. the need to improve the planning and implementation of drought relief programmes to render them more effective during future droughts;

VI. the need for an appropriate range of post-drought recovery measures to assist farmers regain their productive assets lost during the drought; to ensure the maintenance of rural incomes at acceptable levels, and to provide for the rehabilitation of those who have become totally destitute.

Most of these key areas to be addressed in the NFS are interrelated, and also include important areas of activity not directly measurable by criteria applied to National Planning; in particular, the various types of institution building implied by the need to strengthen the monitoring systems of drought, the enhancement of implementation capacity at both national and regional levels, the raising of levels of contingency planning and the interpretation of research (Ibid., p.1).

With the exception of key areas (d) and (e) above, which refer to the structure of the country's response to drought, and the need to improve the present level of training and management of the relief programme at the District level, we will now examine each of these key areas in turn. The management and effectiveness of the relief programme has already been covered in Chapter VI.

Contingency planning for drought requires a system of data collection and analysis of food production, use and availability on a continuous basis. The Applied Research Unit of the MLGL has already implemented a number of studies relevant to the NFS including an assessment of village based institutions and cooperatives, and a survey of the potential for commercial arable farming in Chobe District; the National Institute for Research (NIR) has

also been instrumental in the coordination of communal area research work and the problems of traditional dryland agriculture. However, the most important surveys conducted in recent years on food use and availability have been the Continuous Household Integrated Programme of Surveys, or CHIPS (sic) run by the Central Statistics Office. The 1985-86 CHIPS survey was comprised of an Income and Expenditure survey over a one year period, and based on aggregate monthly data from 200 households per month.

This survey, which has not yet been published, will be directly comparable with the 1974 RIDS survey, data from which we have used freely in the present study, and will thus indicate recent trends in rural incomes, employment and livestock ownership.

At the level of national planning and monitoring, a Food Accounting Matrix for Botswana, originally devised by the Oxford Food Studies Group, now contains comparative data on food flows through the economy for 1984 and 1981. The matrix will be used as a background to decision making and monitoring both in the short and long term.

The Drought Early Warning Technical Committee was established by the IMDC and makes regular monthly assessments of drought conditions and food availability. It also reviews nutritional surveillance data gathered by the Central Statistics Office, the Agricultural Statistics Unit of the MoA, the Meteorological Department, BAMB and the Food Resources Department. These contributions facilitate the regular monitoring of current trends in nutritional status, livestock and grazing conditions, crop planting, rainfall and food stocks around the country.

Major improvements have also been made to the collection of agrometeorological data since 1983, with the

assistance of UNDP and the WMO. This data has assisted in the more accurate forecasting of yields of maize and sorghum during the growing season from an analysis of rainfall, crop water requirements and evaporation levels (RoB, Rural Development Council, 1985, p.11).

From the foregoing it is clear that the Drought Early Warning System is heavily concentrated on the "supply" side: the main indicators of household stress that it uses are based on food availability. Though the CHIPS surveys do look at retail prices on a continuous basis, its coverage is only 200 households per month, and the monitoring local market prices is not in itself a sufficient indicator of an impending fall in purchasing power. On a micro level, lack of income and effective demand may not result in a price rise, or may even cause a price fall. It is envisaged that Botswana's early warning system will increase its links with the SADCC Regional Early Warning System based in Zimbabwe, which is being developed under the Regional Food Security Programme.

There are about 80,000 holdings in Botswana that grow crops under traditional dryland conditions. Of these, about 60,000 (70,000 in years of above average rainfall) are subsistence in nature (i.e. do not produce a marketable surplus), some 15,000 are medium scale farms owned by farmers with 40 head of cattle or above (but not necessarily with greater yields than the subsistence farmers), and about 150 are larger scale commercial farms with substantial investment in water management, infrastructure and equipment. This latter group is mainly situated in Chobe District.

On the trend, but with very wide year-to-year variation, total crop production is about 49,500 mt, of which some 35% is marketed, nearly all of which is produced in the commercial farms (UNDP et al 1985, pp.133-4; RoB, Rural

Development Council 1985, p.12). Current cereal demand is around 185,000 mt so national self-sufficiency averages only around 25%.

The NDP VI gives considerable attention to traditional dryland agriculture and the National Food Strategy is directed towards all farming groups. On the one hand, there is a drive towards an improved level of food self-sufficiency and on the other, an attempt to increase both output and income at the subsistence farm level. The centrepiece of these efforts has been the Arable Lands Development Programme (ALDEP), which encourages a "model" farmer approach to development by providing a package of financial help and advice for farm implements, draught power and infrastructure. The inadequacy of draught power for non-cattle owners was identified as long ago as 1974 (FAO 1974). and it has been noted several times in this study that it remains a major constraint for poor households engaging in arable agriculture.

The pilot phase of the ALDEP project began in 1979 based on research results from two area level projects, and was introduced nationally in 1981-2. The emphasis of ALDEP is put on improving marketing techniques and input supply, as well as the production and distribution of basic seed varieties. In the initial years of the programme, finance was provided by loans from the National Development Bank (in order to overcome the commercial banks' usual insistence on collateral), and government subsidies. Later funding came from the ADB and IFAD. As most farmers were unable to manage their loan repayments due to the effects of drought, in 1983 the Government intervened to change the system so that farmers only had to pay a contribution of 15% of the total cost of each package.

Table 3.22 overleaf shows the number of packages issued during the period 1979-81 to October 1984. The increase in the number of farmers taking advantage of the ALDEP

package rose after the Government's decision to fund most of the costs, and the continuing popularity of the ALDEP programme during 1984-5, despite the drought, caused some degree of optimism that increases in productivity and

TABLE 3.22: FARM PACKAGES DISBURSED UNDER ALDEP (1979/81-OCT. 84)

Package Type	1979-81[1]	1981-82	1982-83	1983[2]	1983-84[3]
Draught Power	49	109	82	273	510
Implements	534	266	313	550	727
Fencing	79	245	229	604	1579
Water Tanks	138	83	58	116	56
TOTALS:	800	703	682	1543	2872

Notes: 1) Pilot Phase.
2) To October 1983.
3) "Downpayment only" phase of the scheme (see text).

Source: RoB, Rural Development Council, (1985), p.13.

output could be expected with the onset of adequate rains (RoB, MoA 1985). By January 1987 the total disbursement of packages under the scheme had only reached 12,000. Figures of this magnitude will not have made much impact on the country's 80,000 rural households. The provision of draught power was inhibited by the lack of animals up to October 1984 because of high mortality rates in livestock (RoB, Rural Development Council, 1985, p.13), and the drought situation after that date up to the end of 1987 will have undoubtedly made the situation considerably worse. During the latter part of the drought the coverage of agricultural demonstrators and extension workers, already stretched by 1985 due to the fragmented nature of the lands areas and transport constraints (RoB,

Rural Development Council, 1985, p.14),[28] will probably have limited the full benefits of the scheme to the larger farmers living near the larger villages. The Ministry of Agriculture admitted as much when it stated in January 1987 that only 10% of packages disbursed had gone to those farmers not owning cattle (RoB, MoA, 1987 *Agrinews*, p.4).

The ALDEP scheme has links with the SADCC regional programmes for the development of improved drought resistant varieties which will have a significant impact on yields if successful.

Despite the relative popularity of ALDEP, no extension scheme aimed at improving the supply of inputs to dryland agriculture will be able to overcome the lack of rainfall. For this reason it is unlikely that dryland agriculture will either significantly increase employment or improve incomes except in years of exceptional rainfall. Even here, incomes will depend on floor prices paid by BAMB, which are in turn related to those prevailing in South Africa (see later section on BAMB and the SGR in this chapter).

For medium scale farmers involved in commercial dryland farming and not eligible for assistance under the Financial Assistance Policy (see below), a special assistance package was put together by the MoA to complement existing Credit Guarantee Schemes and lending by the NDB and commercial banks. The Accelerated Rainfed Arable Programme (ARAP) introduced in late 1985 was designed to offer subsidies and incentives to the owner of medium sized holdings who might otherwise opt during

[28] It was reported by the MoA in 1987 that one farmer in Kwaneng District had actually harnessed himself to his plough because he had no draught animals of his own and had not been informed of the facilities available under ALDEP. MoA, (1987) Agrinews, p.14.

periods of drought for the generally less risky operation of keeping livestock.

For large scale farmers involved in commercial dryland farming, the Pandamatenga region of Chobe District, (an area of higher and more reliable rainfall pattern that the rest of the country), was the subject of a land use planning operation in 1984 and subsequently, allocations were made of farms of around 500 hectares in size on a first come, first served basis (RoB, Rural Development Council 1985, p.16). As large scale commercialised operations of this type require substantial on-farm infrastructure to be viable, this scheme is of interest only to those with sufficient capital, and therefore will make little impact on existing levels of rural poverty. As we saw in Section B of the study, the level of malnutrition in the Chobe District was one of the highest in the country in 1985-86.

The opportunity exists for small scale non-commercial *molapo*[29] farming in the Okavango Delta region, typically carried out on small plots of 1 - 3 hectares and involves a minimal level of rudimentary flood control measures such as earthen bunds. About three to four hundred households participate in this type of agriculture, which has been hindered in the past by choked river channels and tsetse fly. Once these channels are cleared however, up to 3000 hectares of *molapo* could become available in the Maun-Shorobe area of Ngamiland alone, sufficient for up to 500 households (RoB, Rural Development Council 1985, p.21). An additional 5-800 hectares have been identified in the Western Okavango as being also suitable for flood recession agriculture, and suitable for between 150 and 200 households (Ibid., p.21).

[29] Farming based on flood recession plains.

Recognising the shortage of draught power in the area, the Molapo Development Project (MDP) has established a service centre which, as well as supplying inputs and equipment, provides tractor hiring services for ploughing and seedbed preparation. This form of improvement has the potential to raise yields from present levels of about 1.2 mt to around 2.5 mt per hectare (RoB, Rural Development Council 1985, p.21), but the number of households that will benefit from the scheme is small.

The total area of land suitable for irrigated agriculture in Botswana is estimated to be around 90,000 hectares, but only a fraction of this figure (about 10,000 hectares) would be available in the foreseeable future, due mainly to the high cost of storing water in rivers by means of dams and weirs. Boreholes in Botswana are generally low yielding, due to the fact that groundwater usually occurs in small faults and fissures rather than in large aquifers. Therefore they are expensive, (in some areas of the Kgalagadi it is impossible to predict the likelihood of finding water without actually drilling the borehole) and their use for irrigation except in known areas of sufficient groundwater is unlikely.

Existing dams in Gaborone, Francistown and Lobatse are already fully utilised for the burgeoning urban populations in these centres as well as for industrial purposes, and their use for irrigation is not feasible. In 1985-86 the height of the walls of the dam in Gaborone was increased to increase the catchment area as the previous capacity was insufficient for the population during an extended drought; in 1986-87 the dam serving the Orapa diamond mine dried up completely and a pipeline had to be constructed from the large Shashe Dam near Francistown.

By 1971, about 2500 hectares were irrigated in the freehold commercial farms of the Tuli Block, both from

boreholes and from the usually perennial Limpopo River which forms the border with South Africa, with whom any agreement for expansion in irrigation must be made (Colcough & McCarthy 1980, p.238). However, cereal crops are grown in the Tuli Block only on a very limited scale, because of the greater returns from cash crops such as citrus fruit, cotton and vegetables (most of which are sold in South Africa), and of course cattle, which are more profitable because of Botswana's access to the EEC markets.

By 1986, the Botswana Development Corporation, a wholly government owned company, managed two large farms in the region and the area under irrigation could be expanded. In 1985, in the whole of the Tuli Block area, foodgrain crops were confined to an area of only 140 hectares, and any significant expansion in cereal production in this area would only come if the Government raised its producer prices for cereal grains (van Vuuren 1983, p.86), which would raise them above South Africa floor prices with the attendant risk of smuggling so near the border.

Botswana does have a major water resource in Ngamiland, where 11-12,000 million cubic metres of water discharge into the Okavango Swamp annually from Angola (Matlhabaphiri, NIR 1983, p.7). (The annual consumption of groundwater in Botswana was estimated in 1977 as 30 million cubic metres) (MFDP, NDP 1976-81, p.1). However, the ebb and flow of the floods make all year round extraction at certain points unreliable and flow control will be necessary before large scale irrigation is possible, particularly at the southern end of the Delta. In the Western Chobe (Chobe Enclave), water supplies are assured in most years, and surpluses were produced by traditional farmers in recent years, by the practise of shifting cultivation on between 3,000-10,000 hectares.

Due to possibility of the high costs involved in flood protection,

> "this area is seen as potentially suitable mainly for a small number of large scale private investors, although efforts will continue to assist the existing agricultural activities of the small local population" (RoB, Rural Development Council 1985, p.18).

The main vehicles for the promotion of private commercial investment in irrigated agriculture are the provision of financial assistance (including crop pricing incentives), the improvement of infrastructural conditions, and lastly, the availability of research information and extension services. The Financial Assistance Policy (FAP) was initiated in 1982 and was intended to benefit new or expanding enterprises both in agricultural and manufacturing sectors. Requests for assistance are appraised for economic viability and management capacity, with a premium given for activities likely to create employment. Between 1982 and 1984 nine irrigation projects were approved under the scheme on commercial farms in the Tuli Block and in the Maun (Ngamiland) area, with a projected total investment over the five years of support estimated at around P750,000 (RoB, Rural Development Council 1985, p.18).

In each of the areas of substantial irrigation potential, the marketing infrastructure will have to be improved to stimulate and support increased investment and production. Feasibility and design studies are underway for the upgrading of the Maun-Shorobe road, for the improvement of a major route linking the Tuli Block with the railway network (probably at Palapye) and also the provision of a tarmac surface for the Maun-Nata road, which will complete the all-weather road link with Francistown (Ibid., p.19).

Estimated yields from irrigated crops in Botswana are 4-6 mt per hectare for sorghum and 5-7 mt for maize (Wiles 1983, p. 18), compared with 200-300kg./hectare for dryland crops. The envisaged role and contribution of these commercial developments, which are likely to absorb substantial amounts of public money, to solving the problems of rural poverty and unemployment are not immediately obvious.

Production of seed was negligible during the early 1980s and in 1984-5 some 94% of requirements were imported from neighbouring countries, to be distributed as part of the drought relief programme, through cooperatives, and through BAMB outlets (RoB, Rural Development Council, 1985, p.15). This dependency on outside sources for basic seed stocks is an untenable situation and is being addressed by the Seed Multiplication Unit of the Department of Agricultural Research at Sebele (near Gaborone). This unit undertakes breeding, screening and testing of varieties and will ensure the preservation of valuable indigenous germplasm which is well suited to local conditions. Although improved seed varieties may increase the potential yield of cereal crops, its use is likely to be restricted to areas of above average rainfall, which are currently dominated by commercial farms (e.g. in Pandamatenga). Their value to the smaller dryland farmer, under the existing structure of land tenure remains doubtful. In a "good" year perhaps about a half of farming households produce enough for their own consumption. In a bad year, the situation is much worse (Colcough & McCarthy, 1980, p.131). In exceptional years however, rainfall is sufficient for near self-sufficiency in grain production.

However, until 1974, Botswana had no organised marketing channels for agricultural products, and private traders fulfilled this role with very little regard to the economic interests of producers or consumers (RoB, Rural

Development Council 1985, p.22). The Botswana Agricultural Marketing Board (BAMB) was established in that year to act as a buyer of last resort, to retain the domestic production of cereal grains within the country, and to provide an infrastructure for the supply of agricultural inputs.

It took several years, however, for BAMB to function in the way it was intended. In 1975, rains were very good but crop production was down by nearly half. Many households did not plant at all, or planted smaller areas because they were still carrying surpluses from the previous year (Colcough & McCarthy, p.132). In the South East of the country, farmers without storage facilities were forced to sell to local dealers who would pay below the South African floor price for the year, despite the fact that the grain was usually being sold to the South African Maize Board. As most households in Botswana buy more grain than they produce themselves, they would often later be forced to buy imported grain back from the trader for a much higher price. (Lever 1970, p.13).[30]

Since 1980, BAMB has also been the instrument of crop pricing policy for the Government. It has provided a guaranteed market for all crops at prices which are announced annually before the start of the planting season, and it therefore acts as the main vehicle of the Government's pricing policy for agricultural products. BAMB has fourteen depots for the purchase and selling of grain, and the supply of inputs such as seeds, fertiliser and animal foodstuffs, and the government intends to extend the current network of agricultural supply and marketing facilities to reach the remoter areas of the country. It has a number of agencies (mainly cooperatives) buying grain on its behalf, and others

[30] MoA reports confirm that in 1967 that sorghum producers were receiving about P17 per metric tonne compared with the South African floor price for that year of P31 per tonne.

provide seed through the Agricultural Extension services in areas where no commercial outlets exist. BAMB's storage capacity was 55,000 mt in 1985 but during the NDP VI period it hopes to build some twenty-six 200mt "lockup stores" in more remote lands areas for the sale of pre-season inputs as well as grain purchases during the harvest season.

On average, for cereals and pulses, BAMB purchases accounted for almost 24% of total produce between 1978/9 and 1983/4; the higher the level of production, the greater the proportion of produce acquired by BAMB. Some 49% of pulses and 44% of maize production was bought, but only about 16% of the sorghum, which reflects the fact that most sorghum production is of a subsistence nature (Colcough & McCarthy 1980, p.23).

The base price for food grains in Botswana is determined by the landed cost of imported grains from South Africa plus the transport costs to the zone of production, leading to maximum differentials of around 40%. Using this pricing policy, BAMB has retained since 1979 producer prices some 16 - 55% higher than those in South Africa for sorghum, and some 8 - 20% higher for maize (RoB, Rural Development Council 1985, p.23). Average rates of producer price increase between 1978 and 1985 have been about 26% per annum for sorghum and 21% for maize, considerably above the general rate of inflation (Ibid., p.24), which nevertheless is of doubtful benefit to the smaller farmers who have no surplus to sell. However, as BAMB bases its own producer prices on those prevailing in South Africa, which have generally been lower than the landed costs of grain imports from other world markets, such a pricing policy may have a relative disadvantage for the crop sector. This situation is also aggravated by the existing bias in factor and product pricing in other economic activities, particularly in livestock farming (World Bank 1985, p.50).

The expected developments in commercial cereal production, as envisaged by the NFS, will take many years to have any significant impact on Botswana's current cereal deficit. In the meantime there are two main options for Botswana to follow if the country is to retain its capacity to feed its citizens. The first option is the maintenance of adequate foreign currency reserves to be able to pay for commercial imports of cereals as and when required; the second is the maintenance of a Strategic Grain Reserve, the basic purpose of which would be to provide a safeguard against food shortage in times of drought or other emergencies. Botswana has opted for the latter strategy, and a SGR was established in 1980 with a donation from WFP of 6000 mt of sorghum.[31] Other than the immediate need for reserve stocks for the drought relief operation, the aim of the reserve was for

> "...stabilising prices and supporting Government plans for increased agricultural production, thereby reducing Botswana's dependence on food imports." (WFP 1985b, p.13)

The overall value of the WFP project is difficult to assess given that no stocks were used for price stabilisation, and consumer acceptance of the imported sorghum was low.[32] Although the reserve did meet some of its immediate objectives in being used for drought relief,

> "The effects and measures of project impact were not explicitly defined in the plan of operations and, apart from process information contained in progress reports and annual audits, no arrangements were made to generate and store data on which to base their objective measurement." (WFP 1985b, p.15).

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31 See WFP (1985b) for a description and evaluation of the WFP assisted emergency food reserve projects in Botswana, Tanzania, Mauritania, Niger and Mali.

32 WFP (1985b, p.14)

Since then the SGR has grown steadily from either aid donations or from commercial purchases by the government, reaching 23948 mt (mainly sorghum and maize) by April 1987, and is likely to have exceeded 30,000 mt by the end of that year (EWTC 1987). With storage costs estimated at P27 per metric tonne per annum (RoB, Rural Development Council 1985, p.42), a SGR of this size would cost some P890,000 per year. Such a strategy, as opposed to reliance on commercial imports, came under criticism in 1986 from the World Bank. (World Bank 1986, pp.44-45), though it is arguable that having a SGR will reduce the cost of commercial imports, as it allows the country to have greater freedom in when and from whom it buys them. Aid donations are obviously the most preferable from a financial point of view, but as we have seen in previous chapters, they have to be planned for months ahead and often do not arrive exactly when required.[33]

In the NFS, cereal demand is expected to grow at a rate of 4.5% per annum, based on a population growth rate of 3.3% and per capita demand of 4.5%, giving a national demand of 356,000 mt by the year 2000 (RoB, Rural Development Council 1985, pp.46-7). The attainable level of cereal self-sufficiency is thought to be 78% by that year, giving a figure for domestic production of 240,000 mt. (Ibid., pp.46-7). These estimates were thought to be overly optimistic by the UNDP/UNICEF/WHO consultancy report of 1985: assuming the normal intervention of drought and its effect on dryland farming, a growth rate for that sector of 2.5% per annum is more reasonable, which gives a growth rate of 32.9% per annum for the commercial sector, which is unrealistic (UNDP et al 1985, pp.133-4). Even if this rapid expansion in the commercial sector was feasible, its capital intensive nature would

[33] Borton (1984), especially regarding donations in the early 1980s from the EEC. For a general discussion of national food security stocks, see Clay & Singer (1985).

have little impact on rural employment and income levels, and leave the situation of the rural poor virtually unchanged: reliant now on government handouts of domestically produced grain instead of that presently donated by the international aid community.

c) The Strategy for Post-Drought Recovery.

In this section we look at the spirit of the strategy as stated in the National Food Strategy document in 1985 and the reality of its implementation as envisaged by the declaration of the end of drought in 1988. The National Food Strategy aims to "promote the better use of available foodstuffs and access to food in the rural areas" (RoB, Rural Development Council 1985, p.2). In addition to programmes designed to stimulate and diversify production, social welfare programmes will remain in place:

> "Existing relief and recovery programmes, including supplementary feeding, direct feeding of malnourished children and increasing rural incomes through public works will make a significant contribution to the improvement of nutritional status, both in drought and post-drought recovery periods... together with the hoped for achievement of broad based increases in agricultural productivity, these measures... will ensure the availability of at least a minimum acceptable diet for all Batswana, *leading to the eradication of hunger and undernutrition, and related disease conditions, especially among young children*" (RoB, Rural Development Council 1985, p.3). (my italics)

This is an ambitious and highly commendable goal, but probably an unrealistic one, given the methods to be used in achieving it. In preceding chapters we have already noted that the contribution of the existing LBRP to rural incomes is low and does not necessarily benefit the old and the infirm, and in this chapter we saw that the

outlook for traditional dryland agriculture was bleak. In our analysis of the 1982-88 drought relief programme we saw too that those people most at risk nutritionally (the Remote Area Dwellers and other marginalised groups) are the very groups that suffered most from the poor management of the programme and that even when they were eligible for full rations they often did not receive food on a regular basis.

In view of the severity and duration of the 1982-88 drought, a Post-Drought Recovery Programme (PDRP) was formulated as part of the NFS and was seen as a complement to the ongoing development activities as outlined in the NDP VI (RoB, Rural Development Council 1985, p.37), and declared operational by Presidential declaration in April 1988. The focus of the PDRP as set out in the NFS was on

> "providing a short term stimulus to production and incomes, with the aim of seeing them return at least to pre-drought levels...and continuing to assist those who are still suffering the effects of drought after its ending" (RoB, Rural Development Council 1985, p.37).

This was seen as involving a scaled-down version of some of the more effective measures undertaken during the drought. In particular, it would mean that supplementary rations under the Vulnerable Groups programme would be more efficiently "targeted" to those nutritionally "at risk" by introducing medical selection. We have already discussed the weakness of this approach in the previous chapter: in Botswana it is difficult to apply because of political considerations and even where it is applied successfully, can result in a cyclical pattern of chronic malnutrition as the individual is constantly "switched" on and off rations. Apart from medical selection,

> "The ration levels for the post-drought recovery period have also to be considered, and

> it is expected that these will be reduced from Drought Relief levels only after substantial and widespread improvement in nutritional status has been indicated by the Nutritional Surveillance System" (RoB, Rural Development Council 1985, p.38). (my emphasis)

As part of the drought recovery programme, and probably partly in response to donor encouragement to "target" supplementary feeding more effectively and to those most in need, ration levels were reduced for most vulnerable groups with immediate effect after the declaration by the President of the official end of drought in April 1988, with medical selection applied across the board (Masire 1982 p.3).

In essence therefore, a certain level of malnutrition is now a prerequisite for an individual to qualify for any rations at all. "Permanent" or Group A destitutes are now totally reliant on their cash supplements of P30.00 and face the possibility of the erosion of its purchasing power due to localised inflation, or as we noted in Section B of the study have to wait several months before they receive payment from the local District Council. "Temporary" or Group B destitutes now receive the reduced rations for a further six months only, after which time they stop altogether.

The RADs will continue to receive unchanged rations for a further year, (i.e. until April 1989) and the food is now to be delivered by FRD instead of by the RADOs using Council or privately hired trucks; this may make a significant impact on the distributive performance of the programme, provided it is closely monitored. Such monitoring is unlikely to happen at the FRD on a District or Regional level, and it remains to be seen whether the Ministry concerned can elicit this sort of response from FRD in Gaborone.

Considering the rather specific effect of the drought on small herds, and their significance, both as a source of income during periods of crop failure, and as a form of draught power, the drought recovery plans for this sector form an important element of the PDRP. However, there is no mention of provision in the 1988 declaration of drought recovery of a viable scheme for the smaller stock holders, whose herds have been most decimated by the last six years of drought, and still less of those who have neither access to, nor ownership of cattle of their own. For the larger stockowners, however, there is a substantial "package" in the drought recovery programme.

Grants for syndicates or small herd owners to equip or reticulate boreholes have been raised from P13,000 to P20,000 and the limit of their cattle holding has been raised from 40 cattle to 60 cattle each in order to allow more livestock owners to participate in the scheme (Masire 1988, p.2). In addition, individual owners of larger herds in certain areas will also be able to apply for grants for drilling new boreholes. Such people will be expected to contribute 40% of the cost of drilling if they own herds of between 61 and 200 cattle, and 60% of the cost if their herds are between 200 and 500 head (Masire 1988, p.2). The cost of drilling and equipping a borehole was estimated as P50,000 in early 1988.[34]

A Groundwater Survey is to be carried out in the TGLP commercial areas in order to assist ranchers find water for their cattle. This will enable cattle owners to distribute cattle more widely over the range, and

> "allow for more effective destocking measures to be instituted when next we face drought conditions, and thus allow us to use the range better and protect it better than we have been able to do up to now. This is going to continue

[34] Personal communication from LBRP Advisor, FRD, Gaborone.

> to be an area where we have to take care to protect our resources for the benefit of our children and our children's children." (Masire 1988, p.2) [35]

The Government also promised to provide assistance for the farmers who had taken out loans from the National Development Bank, the Botswana Cooperative Bank or commercial banks, and whose ability to repay "was seriously hampered by the drought." The main elements of the loan assistance scheme offered to write-off seasonal input loans taken out between 1981-2 and 1986-7 for all farmers in areas declared drought stricken; for the same period, to write-off all interest payable on all loans for tractors, implements, small stock (not pigs or chickens), and water development, and to reschedule payment of the outstanding balances (Masire 1988, p.2). According to the President's declaration,

> "These write-offs are to be subsidised to an overall limit of P100,000 per farmer, and the assistance will be provided to both those who have paid off their loans and those who are still in arrears." (Ibid., p.3).

It is estimated that the drought recovery programme will cost P109 million in 1988-9. The largest component is water (which includes the subsidy for 300 private boreholes and water reticulation, as well as 400 other village boreholes) at P32.5 million, followed by the assistance to farmers to repay their outstanding loans (P24 million). The LBRP and food provision come a rather poor third and fourth at P18.7 million and P15.8 million respectively, with the remaining balance going to seed, draught power and field clearance subsidies (Ibid., p.4).

The Post-Drought Recovery Programme in reality bears little resemblance to the policy objectives set out in

[35] This was probably intended to be understood in a literal sense.

the NFS of 1985. It exhibits a marked bias towards the larger livestock holder, and is further evidence of our earlier contention that the State functions as the vanguard of the national bourgeoisie. We have argued throughout this study that the current development strategy for livestock, based on a greater exclusivity of control over grazing and water, is enhancing rural poverty rather than alleviating it. The further development of fenced TGLP ranches will decrease employment opportunities, and the employment effect at the Lobatse abattoir will be negligible as the plant is highly capital intensive. Any plans for livestock development, unless linked with a restocking of those herds lost during the drought and an improved system of range management, would have little impact on the very poor and destitute. We will be returning to the issue of livestock development in the concluding chapter, when we consider the viability of small scale pastoralism, and how it might play a key role in a development strategy aimed more directly at the rural poor.

d) The ILO Labour Intensive Works Programme.

The National Food Strategy report of 1985 saw the LBRP as a drought relief activity and it does not figure large in the PDRP. Apart from the hand-stamping element of the programme, which remains a permanent feature, "the size of the LBRP will depend on the indications of the extent of recovery actually achieved" (RoB, Rural Development Council 1985, p.38). The NFS therefore, as originally formulated in the 1985 report, sees the recovery of rural incomes, employment and assets mainly in terms of increasing agricultural output, despite the known effects of drought.

There is, however, no clear cut way of relating "the extent of recovery", i.e. rainfall levels and crop

production, directly to the present income and welfare of former LBRP participants, who are as we have seen, usually without cattle and very often unable to participate in agriculture. With the labour force growing at a rate of 21,000 per annum, (ILO 1987, p.1), and with declining employment opportunities in the South African mines, this group of the rural unemployed may represent the tip of a very large iceberg.

Because of the regularity of drought occurrence, relief efforts at the village and community levels must be integrated into the overall rural development strategy, with LBRP as a strategy for district initiative and as an instrument for reducing unemployment. During periods of post-drought recovery - and they are, after all, only brief respites - the opportunity should be taken to expanding the LBRP and directing it towards the creation of work that has the potential to be self-sustaining. At the household level, there is a need for families to gain access to sources of income and employment which are more secure, more remunerative and more plentiful than before, if a significant improvement in nutritional standards is to be achieved without a continuous reliance on a programme of food aid. Without this, a national self-sufficiency in food will be ineffective in removing the dual problems of poverty and malnutrition. To this end, an ILO consultancy was engaged by the Government in early 1987 to look into ways in which the successful Labour Intensive Road Improvement and Maintenance Programme (LG-34) could be built upon, not only to provide an expansion of employment opportunities, but also to transform the present LBRP programme into a more efficient and cost-effective exercise. The LG34 programme, which ran as a ILO/NORAD pilot scheme in Central District from 1980 onwards, used labour intensive techniques yet was found

to be more cost-effective than other, more capital intensive technologies.[36]

In 1985-6, the level of productivity of LG-34 Road Projects was found to be higher than that of the LBRP drought projects in 1985-6. The LG-34 labourers were paid P3.60 per man/day and work eight hours per day, during which time their excavation productivity can reach 4 - 5 m^3 of earth. The LBRP workers on the other hand, are paid P2.25 for a six hour day, in which their output is "very low or even insignificant." The hourly wage differential is quite small but the levels of productivity are very different (ILO 1987, p.28). The growth and development of the LG-34 ILO/NORAD programme is illustrated in Table 3.23 below:

TABLE 3.23: LABOUR USE ON ILO/NORAD LG-34 PROGRAMME 1980/3-1987/8

YEAR OF PROJECT	NUMBER OF MAN/DAYS CASUAL LABOUR	NUMBER OF SUPERVISORS
1980-83	77780	38
1983-84	66634	38
1984-85	157340	45
1985-86	218650	66
1986-87	262763	105
1987-88 (planned)	464500	105++

Source: ILO (1987), p.23.

Even with the expansion of the programme envisaged in 1987-88, the programme remains small in comparison with the LBRP drought relief programme, and was providing employment for a total of only 1973 workers by the end of December 1986 (ILO 1987, p.23). With about 74,000 places

[36] See Chapter VI.

available on the LBRP for approximately 60 days of the year, (rotated amongst a total of some 80,000 participants) this provided about 4,440,000 man/days work in 1985-6 (Ibid., p.25).

In the draft terms of reference for the consultancy, the MFDP noted that there was "some 62% (230,000 people) of the potential workforce estimated to be unemployed or underemployed", and that the consultancy report "shall outline institutional changes necessary to achieve a level of employment of at least 10,000 people for 200 days a year" and also indicate changes necessary to greatly increase this employment target on a temporary basis when Botswana went into its next drought cycle (RoB, MFDP 1987 LG-38, p.4-6).

The ILO consultancy recommended a public works programme that would replace the old LG-38 programme, which had productivity, rather than employment creation, as its main objective.[37] The new programme aims to reconcile both objectives. The pilot scheme drawn up by the ILO consultancy is intended to run for two years in selected districts; it is therefore not a national strategy at this stage, but the intention of the Government is to extend it to all districts in time. The number of man/days estimated for in the two year scheme is 2,223,000 and the labour cost is estimated at P9,703,000. With labour costs representing at least 60% of the total, the financial cost of the whole pilot programme is estimated at P16,172,000 over two years, or a similar figure to LBRP costs per annum based on expenditure during 1986-7 (ILO 1987, pp.3-4). Projects for the pilot scheme are to be chosen on the same basis as LBRP projects have been in the past, by the community themselves. The Village Development Committees are responsible for drawing up plans and priorities for the

[37] See Chapter VI.

community which are then approved first by the District Development Committees before being sent down to the MLGL for final approval and funding. This is not an automatic process, and consideration is given to the suitability of the project in terms of employment creation without detriment to overall cost and quality, and whether the project will be to the advantage of the poorest. (ILO 1987, p.40).[38]

The ILO consultancy identifies four main areas of activity for the proposed scheme: construction projects, dams, agricultural projects (including irrigation), and environmental projects. The main element in the construction area will continue to be the building and maintenance of all-weather roads, as under the previous LG-38 programme. The relatively large size of the country and the limited number of existing roads is seen as a major constraint on production and development, and the NDP VI has the expansion of the road network as a primary goal of its development strategy. In this regard, the pilot scheme plans to absorb 3300 labourers during the course of the pilot programme, each of whom will work 300 days, which gives a total of some 990,000 man/days. The programme sees a construction progress of about 150km per year, and NORAD has agreed to fund this element until 1991 (ILO 1987, p.50).

The flat topography of Botswana allows a large proportion of roads to be built to a single standard, and over most of the country the material available for formation of the road surface compacts sufficiently well for the amount of traffic likely to use rural roads. Road activities include clearance (debushing/destumping), excavation, gravelling, drainage, the construction of culverts and low classification bridges, and general maintenance. Most of these works can be carried out by

[38] Whether this consideration is made very often in practice is debatable.

unskilled, labour intensive methods, with only culverts and bridges requiring building materials, light equipment and skilled workers. The pilot programme also envisages the maintenance of around 200km per year of roads previously constructed under the old LG-38 programme. Though house construction in Botswana using modern materials is fairly capital intensive (75% of the total cost) (ILO 1987, p.34), labour intensive techniques can be applied to brick and block making. Hand moulds are obviously the most labour intensive, but even machine moulded bricks have a 50% labour element in their use (Ibid., p.35).

Dam construction would, at first sight, appear to be the most useful labour based activity to undertake in Botswana. However, the relatively flat topography of the country makes the selection of suitable sites problematic and it is likely that some dams hurriedly constructed under the LBRP programme in recent years were wrongly sited, or so badly constructed that they were washed away with the onset of heavy rains.[39] Earth dams can be constructed using labour intensive methods for excavation and filling, and donkey transport for moving earth over short hauls. A mechanical roller is still required for compaction of the earth, but in this way, dams of up to 4 metres in height can be constructed satisfactorily (ILO 1987, p.32). For large dams, the need to get the work completed before the arrival of the next rains and the difficulty in managing a large number of workers on the site, may introduce a time factor into the process and force the adoption of less labour-intensive methods. Percolation dams can also be constructed in addition to the more common earthen type, which are designed to maintain the maximum amount of water on the surface. By

[39] Personal observation. As some empheral rivers do not flow for years on end during periods of drought, it is not surprising that the technicians involved were unable to anticipate the force of run-off during the heavy rains that occurred for example in November-December 1987.

contrast, the percolation type is constructed across a seasonal or empheral river and designed to allow water to be held long enough to percolate the surface and recharge the irrigation wells further downstream. Percolation in this way can increase well irrigation in isolated patches of land where surface water would not be economically feasible (Ibid., p.42).

Agricultural projects also figure largely in the ILO pilot programme. These include small irrigation schemes (often in conjunction with dams), the digging of wells for human and livestock use, and the development of communal gardens. In Botswana, water supply projects executed by labour intensive methods are uncommon, due to the fact that the underground water level is very deep (100 metres+) except in certain areas such as Ngamiland, where the massive Okavango River soaks into the desert sand, and the eastern part of the country, which also has a shallow water table of less than 35 metres in some areas (ILO 1987, p.42).

The most likely type of water project to be carried out under the pilot programme therefore is the enlargement of pans. Pans are naturally formed depressions in a relatively flat terrain and are found all over Botswana. They collect water run-off from the surrounding area and may vary in size from between one-quarter up to 24 hectares. The huge Makgadikgadi Pans north of the Orapa diamond mines are the ancient flood plains of the Okavango River. Because pans are shallow and have large surface and bottom areas, water losses due to seepage and evaporation are very high, and the pans usually dry up within a few weeks on the end of the rains. The continuous cycle of water collection and evaporation may create a large salt build-up in the bottom layers of the pans which causes any water collecting there to become saline.

Labour-intensive projects can help reduce this evaporation and salinity by several methods. First, by excavating the lowest part of the pan, the water holding capacity is increased and the area/volume ratio is thereby reduced; secondly, seepage can be reduced by lining the bottom and sides of the excavated pan with an impervious layer of compacted clay. This method would also reduce salinity. The inflow of silt into the pan with flood water can also be reduced by the construction of a earthen bund or embankment, with "check weirs" at the main inflow points (points where some form of gully formation or channelling is visible). By reducing the velocity of the rain water as it flows into the pan, suspended particles are deposited in the gullies, which are excavated at regular intervals (ILO 1987, p.44).

Hand-dug wells, where feasible, can be lined by concrete rings lowered in to the well as the work proceeds. A pump is used to facilitate excavation as the depth of the well enters the water table. The well is covered by a reinforced concrete platform on which a handpump is mounted. This type of construction uses about a 40% labour element; if stone is available locally the wall of the well can be lined by masonry which will enhance the labour component of the project (Ibid., p.46). Communal gardens are only feasible where the topographical situation allows for a supply of water above the level of the garden, such as a dam.

In Botswana, environmental projects such as erosion control and afforestation are only recently being taken seriously.[40] Even as late as 1987, no courses on afforestation and related research were being offered by the Agricultural College and Research Centre, and instead

[40] Afforestation programmes have been a feature of Kenya's Turkana Rehabilitatation Programme since 1984 and have been carried out under Food for Work. Such programmes are particular useful to desert areas subject to soil erosion. Tree planting helps soil stabilisation and moisture retention, produces humus and shading.

the emphasis was on zoology and livestock (ILO 1987, p.34). Afforestation projects could help preserve the ecology and environment by stabilising slopes, regulating water run-off and reducing the loss of top soil caused by erosion. The only constraint on this type of project is the need for water during the first two or three years after the planting of the tree seedlings. The most appropriate seedlings will be those that can tolerate a degree of salinity in the water supply, and of course are drought resistant to match the aridity of the environment.

There is no mention in either the Draft Terms of Reference for the ILO consultancy, or the ILO proposal itself, of the envisaged role of food aid in the future employment planning programme. The provision of food rations still carries with it the connotation of drought relief, whereas properly used as part payment of wages, it could help finance a more rapid expansion of the programme, and at the same time have a significant impact on the nutritional status of the participants.

Palliative feeding programmes, however essential, are not enough and food aid must lend itself to a range of other actions relating to agricultural production, income generation and improvements to the rural infrastructure. We saw in a previous chapter on the LBRP that labour intensive projects such as Food for Work schemes do indeed benefit the very poorest of rural families, and especially the women of female headed households.[41] As a substantial proportion of the labourers in this programme

[41] Figures from a field sample of 68 WFP assisted projects aimed at the development and rehabilitation of land indicate that one third of FFW labour is female and in some the proportion is much higher. In another sample of 26 WFP assisted projects that include the development of economic and social infrastructure, 20% of FFW labour is female. (WFP 1985d, p.v). A study of female FFW labour in Bangladesh in 1977 revealed that 47% are themselves heads of households and another 10% come from households headed by a woman. In Tanzania, 60% of road construction labourers working on WFP projects in a refugee settlement are female, and in Lesotho WFP assisted projects 90% of FFW labour is female (in Lesotho women form 72% of the domestic labour force and 60% of household heads). (WFP 1985d, p.12-13.)

are likely to be women in this situation, the provision of food as a supplement or part replacement of wages in cash would be the most direct way of targeting food aid where it is needed most. Many aid programmes in the past have seen women and development as separate issues and as a result their main involvement has been a passive one (their inclusion in vulnerable group feeding programmes for example) rather than directed at increasing their productive capacity. Their vital role in production both in pastoralism and cultivation is often subsumed under the activities of men. The ability of women to participate in rural development projects however remains limited by competing demands on time and labour in the household and in production.

A breakdown of the pilot programme's main activities, labour requirements and costings is provided overleaf in Table 3.24. The programme was designed by ILO to meet the specifications as outlined in the terms of reference from the MFDP. The ILO programme represents a serious effort to break away from food handouts with the attendant risk of dependency that such projects carry when run for an extended period. It offers a way of improving the rural infrastructure with projects of a high technical standard chosen by the community themselves and at the same time increase incomes and employment levels where they are needed most.

The one important proviso that has to be mentioned is that the programme is designed to provide employment for only an estimated 4500 people over the two year period it will run, and not all these jobs will be self-sustaining. As we have already mentioned, this represents less than one quarter of the annual *increase* in the labour force.[42]

[42] See Chapter V on the LBRP.

TABLE 3.24: STRUCTURE, LABOUR REQUIREMENTS & COSTS OF ILO LABOUR-INTENSIVE WORKS PROGRAMME (1987)

Project Type	Man/Days Per Unit	No. of Units Required	TOTAL MAN/DAYS REQUIRED Unskilled	Gangers	Skilled	Ratio of Skilled to Unskilled
DAM PROJECTS:						
Earth	9000	50	450000	15000	11250	1:40
Stream Diversion	1200	10	12000	400	1200	1:10
Percolation	45000	5	225000	7500	5630	1:40
Sub-Surface	3600	5	18000	600	1800	1:10
Slope Protection	6000	5	30000	1000	750	1:40
SUB-TOTALS:			735000	24500	20630	
AGRICULTURAL PROJECTS:						
Pan Construction	12000	10	120000	4000	3000	1:40
Small Irrigation	10000	5	5000	1667	2500	1:20
Wells	1250	20	25000	833	2500	1:10
Communal Gardens	800	20	16000	533	400	1:40
SUB-TOTALS:			211000	7033	8400	
ENVIRONMENTAL PROJECTS:						
Afforestation	34000	3	102000	3400	2550	1:40
Woodlots	1400	20	28000	933	700	1:40
Breakwaters	250	200	50000	1667	1250	1:40
Firebreaks	1650	5	8250	275	210	1:40
Windbreaks	100	20	2000	67	50	n.a.
SUB-TOTALS:			190250	6342	4760	
CONSTRUCTION PROJECTS:						
Feeder Roads	2800	300km	840000	28000	21000	1:40
Earth Maintenance	125	400km	50000	1667	1250	1:40
Asphalt Maintenance	50	100km	5000	167	120	1:40
Brick Making	30	2000	60000	2000	6000	1:10
SUB-TOTALS:			955000	31834	28370	
TOTALS:			2091250	+ 69709	+ 62160	= 2223119
DAILY WAGES (PULA):			4.00	8.50	12.00	
LABOUR COSTS:			8365000	+ 592526	+ 745920	= P9703446

Source: ILO (1987), pp.55-58.

Though financial support for the main Roads project has been pledged until 1991, other donors have not shown the same interest in programmes of this sort in the past, as they are difficult to monitor and evaluate.[43] Therefore it is not certain at this moment in time whether the Government has the capacity and financial resources (or indeed, the political will) to mount this programme on a sufficiently large scale to have any significant impact on rural poverty, without either resorting to payment of wages partly in donated food, or else in the extensive monetisation of food aid, which is likely to continue in this form for some years to come.

[43] See Table 3.19 for the structure and intended use of donor aid in 1986-7.

GENERAL CONCLUSIONS

In this study I have attempted to show that poverty and rural deprivation in Botswana are due more to unequal access to productive assets, employment opportunities and incomes, rather than to a harsh climate and recurrent drought. I have argued that the network of economic and political structures that was developed during the Protectorate led to the formation of new class structures based not as in the past, on tribal allegiance, but on an impersonal cash nexus. This was a major factor responsible for the gradual erosion of traditional redistributive mechanisms, which had ensured that although life in tribal society may have been always at or near subsistence level, poverty, drought and hardship were features that united people rather than divided them. From henceforth, the relationship between individuals and groups would increasingly be mediated through the market, and in the future it would be the market, rather than the tribe, that determined the pattern of production and distribution amongst the people.

In Section B we saw that the spectacular growth of the mineral extraction industry, from the 1970s onwards, greatly increased the levels of government revenue, public sector employment and salaries. Civil Service income now forms the major source of domestic investment in the livestock industry, further exacerbating an already skewed pattern of ownership. I developed this theme further by highlighting the role of the State in the commercialisation of the livestock industry after Independence, and emphasised its close relationship with the national bourgeoisie. The accession to political power of the larger Batswana breeding interests not only established the pattern of economic development in the

post-Independence period, but the direction that land use planning and tenure would take.

The contradiction between the private ownership of livestock and the traditional system of communal land tenure is now being "resolved" by the privatisation of large tracts of land and water resources, often for the exclusive use of the policy legislators themselves. Far from helping to solve the problems of rural poverty and range degradation, the TGLP has in fact exacerbated both by effectively legalising the forced dispossession of marginal groups, and by allowing stock densities to increase, not only on the TGLP ranches, but also in the very communal areas the policy was supposed to relieve.

Looking at the structure of rural poverty, its spatial distribution, and trends in rural incomes and employment, I argued that it was the distribution of productive assets, particularly in livestock, and an increasingly exclusive control over grazing and water resources, that provided the main causal explanation for this phenomenon. We noted that the Government's own wage and income policies tended to reinforce these existing inequalities. Its failure to set minimum wage levels in agriculture had allowed rural income levels to stagnate, while those of the public sector had continued to rise.

Drought has an important impact on rural incomes and employment but does not by itself explain the growing divergence in the ownership of wealth and assets. Rather it is the effects of drought acting upon and within a class divided, market-orientated society that tends to increase the extent and severity of poverty, whilst at the same time increasing the wealth of others. To support this point, we noted that mortality rates amongst smaller traditional herds during periods of drought were significantly higher than amongst the larger commercial herds, and that the wealthier owners often benefited from

the effects of drought by having access to a reserve of emaciated animals.

In Section C we examined the structure of the 1982-88 drought relief programme, and noted that a major part of the relief effort was directed towards the larger farmer and livestock owner, and therefore had little impact on rural poverty. The poor nutritional status found in many rural areas appears to be structural in nature as it persists even in non-drought years. The persistent high rates of malnutrition in Chobe District, which enjoys greater rainfall levels than the rest of Botswana and is therefore the centre of commercial rainfed agriculture in the country, emphasises the need to look not just at overall levels of output, but the entitlement of the poor to command that output.

The management of the 1982-88 human drought relief programme leaves much to be desired, and the government appears to place less emphasis on its efficient administration than it does on the various projects and subsidies available for the livestock industry. This is illustrated by the low priority given to the selection and training of managers for the Food Resources Department and the consequent poor distributive performance of many District Depots. This disappointing performance went largely unrecognised by the Government or was simply ignored, except in a few individual cases where prior publicity had rendered its remedy politically expedient. This low level of managerial competence was also found at the district level in the LBRP element of the relief programme which depended heavily on expatriate technicians for even its routine administrative and accounting functions.

Though the level of contingency planning and aid procurement at a ministerial level was found to be highly developed, this degree of competence (also largely

supplied by expatriates) seems to have been focused more at eliciting further aid donations than directly at the welfare of the intended recipients. The failure to monitor the working of the programme at a micro level in the field severely reduced its effectiveness, and at various times left many villages and settlements without a supply of rations for weeks on end. In many areas, distribution bore little resemblance to actual needs, due to the near total absence of any logistical planning even of a rudimentary nature. The hardship and suffering this caused must have been immense. This was particularly evident in the relief programme for the Remote Area Dwellers, perhaps the most vulnerable of all social groups in Botswana. In our District-based study of relief food distribution to the RADs by RADOs working with the District Councils, we showed that in many areas it was extremely inefficient, despite the absence of financial and transport constraints. The fact that this problem only started to be recognised and monitored in late 1987 was indicative not only of the lack of political power of these ethnic minorities, but also of the present government's level of political commitment to social justice and the alleviation of rural poverty.

What future is there for the rural poor of Botswana? This thesis has tried to argue implicitly that the present market orientated approach to development is socially divisive and likely to enhance, not diminish, rural poverty and deprivation. The privatisation of the commons has not brought about a renewed sense of responsibility in regard to grazing and stocking levels; it has increased unemployment levels rather than reduced them; and it has not proved more productive than communally held land. While substantial mining revenues have been channelled through the medium of civil service salaries into private livestock development, the problem of declining rural incomes has been left to the international donor community.

However, the belief that the market mechanism can reverse this downward trend is still unshaken, or at least acquiesced to, even by the major aid donors. James Ingram, the executive director of WFP, has stated:

> "While the global economic outlook is unpredictable, the overwhelming economic power of the capitalist industrialised countries in relation to the Third World, and the diminishing relevance of other factors, has become crystal clear. Solutions to the economic problems of developing countries will have to be found within the framework of imperfectly functioning markets operating more or less in accordance with the laws of classical economics." (WFP 1987b, p.4).

Botswana's National Food Strategy (RoB, Rural Development Council 1985) follows this line precisely. It demonstrates a marked bias towards the larger commercial farmer and assumes that increasing the aggregate levels of crop production and establishing a crop pricing policy will be the main instruments for increasing rural incomes. The NFS remains essentially a market strategy which aims to eliminate poverty and redistribute income through adjustments and manipulations to the pricing mechanism. It chooses to ignore the argument that it was the market that brought about the growing divergence in incomes in the first place, and that further reliance on this strategy may well increase existing disparities in wealth and control of productive assets.

The immediate plans for post-drought recovery illustrate this point: a whole new range of subsidies has been formulated for the larger livestock owners. The present pattern of development in TGLP is to continue, with newly demarcated ranches now eligible for financial support in borehole construction, and bank debts incurred during the drought written-off wholesale. The strategy for the poor however, seems to be to reduce the food rations they came

to rely on during the drought - without first evaluating whether they have any recourse to any other form of income or employment. The assumption appears to be that with the return of adequate rains, everyone will now be able to grow enough food for their subsistence needs. We have shown that this is not the case because a substantial proportion of households still do not have access to draught animals, have insufficient land, or land of poor quality. Female headed households remain particularly vulnerable in this regard. For many marginal groups, the means of subsistence have disappeared altogether under the recent land tenure changes.

Perhaps the most promising development to emerge during the 1982-88 drought for the rural poor was that of the Labour Based Relief Programme. Though the LBRP had a relatively small impact on rural incomes and unemployment, compared to the much greater coverage of the supplementary feeding programme, it marked a point of transition between a purely "relief" type programme and a fully-fledged public works programme. It also offers a greater productive role for rural women than the present Vulnerable Groups' feeding programme. Its great potential lies in the fact that LBRP projects are locally selected by the people themselves, and based on their own perceived needs and requirements. The constraints we noted included a lack of donor support for the programme and the inadequacy of the technical supervision, but these may be overcome in the future. The ILO evaluation study (ILO 1987) on the feasibility of a greatly expanded Labour Intensive Works Programme offers a way forward, but if such a scheme is to be embarked upon in a viable form and size, it certainly needs to be more closely associated with the present food aid programmes. As donated food is likely to be the most common form of foreign aid available in the future, the LIWP could use food as part payment of wages in the programme, or monetise a proportion of the donation.

In the absence of any alternative avenues of employment, pastoralism seems to possess the greatest development potential in Botswana. The country's international comparative advantage in beef production, and the economic viability of pastoralism when combined with an arid climate and small population, mean that livestock will probably continue to be the least expensive way of raising a surplus from agriculture, and would require a fraction of the capital investment needed for irrigated arable agriculture. The government of Botswana and the larger stockholders have long realised this, and have not been slow to reap the commercial benefits that access to the lucrative EEC markets has bestowed.

Development however, is more than the production of an economic surplus. It is equally important not only how this surplus is generated, but to whom it will accrue. For Botswana, any real development strategy aimed at the eradication of rural poverty must surely address three interrelated problems: the management and control of productive assets such as grazing and water, household income, and land tenure. The TGLP strategy that currently forms the basis of livestock development has failed on all three counts. The challenge is to sustain and enhance the conditions of smallholder production, and a necessary precondition for this is the development of a land tenure policy which widens stock ownership and protects the right of access to grazing land, whilst at the same time instilling a greater measure of control over range management.(RoB, MoA,1981); Sandford (1983). The establishment of communal tenure systems that accommodate growth, conservation and equity objectives presents a formidable challenge, but one that surely must be met if the country is to avoid a chronic dependence on food aid in the future.

As we saw in the chapter on the TGLP, the communal ownership and grazing of land has long been considered by

classical economists as being inherently destructive of the resource base, and in Botswana this argument has provided the ideological justification for the enclosure of the commons and the granting of exclusive rights to grazing and water. We also noted however that empirical studies of pastoralist societies (Oxby 1975; Sandford 1983; USAID 1986; Livingstone 1986) have challenged the "Tragedy of the Commons" theory and provided evidence of successful range management not only in Botswana but elsewhere in Africa.

Even within an increasingly class-divided and competitive society, smallholders continue to share a range of common interests such as the maintenance of productive grazing resources, the production and maintenance of drift fences, dams and water projects, and therefore communal tenure need not conflict with range protection and other ecological considerations. Communal land tenure allows for a greater flexibility in herd movement in response to fluctuating rainfall patterns, and has been the chosen strategy during drought for generations. Sandford (1983, p.104) notes that scientific research on range degradation has often being well-intentioned but misguided. While the range scientists emphasise the productivity effects of grazing rotation on plant growth, research trials have largely failed to find any significant improvement on livestock production using this method over traditional, free range grazing. This is partly explained by the inherent complexity of traditional pastoralism: different species, age groups, and the sex of livestock have varying nutritional requirements and this necessitates a free movement over the range, (e.g. for the use of "salty licks" of mineral deposits). Such a system is incompatible with the private control of grazing using fenced ranches.

Unlike in many other African countries, cultivation does not compete with pastoralism in Botswana: rather the two

complement each other (manure helps to fertilise the lands and crop residues provide forage for the cattle). The long established links between arable agriculture and livestock[1] mean that a wider ownership of livestock than exists at present is more likely to enhance range protection and arable production than decrease it, provided grazing loads are spread during periods of abundant rainfall in order to maximise the revegetation of specific deteriorated areas. Where pastoralists have milk as their main diet as in Botswana, variations in yield are an immediate indication of the nutritional status of the herd and the need to move on to better grazing. This is in itself a form of rotation. (Sandford 1983, p.103-4)

Perhaps the most practical way of ensuring a more even distribution of stock in order to avoid overgrazing is in the siting and sizing of water sources. These should have a manual delivery proportioned to range conditions and where appropriate, facilitating migratory movement. (Oxby 1975, p.6; Sandford 1983; Livingstone 1986, p.17). Sandford notes the possibility of making surface water supplies self-regulating. If their volume and depth are deliberately kept low, the water supply will be exhausted before the surrounding pastures are over grazed. This system was applied in Southern Ethiopia and N.E. Kenya in the second half of the 1970s. (Sandford 1983, p.70).

A wider distribution of smaller water sources also tends to increase productivity in terms of milk yield and liveweight gain per head, because the cattle need to spend less time and energy walking to the water point, which in drought years may be anything up to 40 Km. from the grazing area. Sandford estimates that in Africa up to

[1] Similar links exist in many arid and semi-arid regions of Africa where pastoralism is the dominant form of production. One of the proposals put forward by the UN mission to Turkana District (Kenya) in 1988 was that crop patterns should be diversified and that agriculture should be integrated with livestock production.(WFP/FAO et al, 1988a, p.81)

30% of the average daily distance walked by cattle is spent specifically in obtaining water. Reducing this distance by about 30% (by increasing the number of water sources) could lead to a doubling of the balance of energy available for useful production of meat, milk and fibre. (Sandford 1983, pp.73-77.

Provided then that a communal mode of pastoralism is ecologically sound, what form of social organisation might it take if it is to provide a means of subsistence for the rural poor? Without attempting to be prescriptive, the most appropriate form of social organisation is likely to be one that provides a level of continuity with the previous system, while dispensing with those elements which are no longer desirable or tenable.

For there to exist a wider ownership of livestock than at present, the carrying capacity of the range would impose a limit to the size of herd individually owned which would be less than the drought viable size (i.e. it is not possible to provide every individual with a drought viable herd). This suggests that a pooling of resources such as breeding bulls, draft oxen, and equipment would not only be a desirable, but a necessary feature of any such strategy. Livestock management groups could be based on the smaller village, the ward, or at a size where there starts to be economies of scale in the provision of water supplies, breeding stock, machinery or managerial capacity. The Maasai of Northern Tanzania are one such example of group cooperation in the provision of water supplies and dip tanks. (Sandford 1983, p.139)

Participatory forms of self-management could be established through the election of "rotating" committees whose duties would include the allocation of grazing areas and stock level quotas, water source operation and the maintenance of pumps and supplies. The committees

could also become involved in the provision and management of other pastoral services such as animal health and husbandry services, and the bulk purchases of materials. The Tribal Land Boards could assist in this task and settle local disputes on stocking levels and water source use, instead of performing their present role as the policy instrument of the larger stockholders. (Sandford 1983, p.233; personal communication from the District Officer (Lands), Serowe). With effective management there is every reason to believe that pastoralism will continue to be even more remunerative than in the past. National cereal shortages could for example be met by beef exports to Europe and the United States, where cattle are raised on grains instead of forage. Botswana enjoys considerable privileges in having access to lucrative overseas markets for its beef, and closer economic ties with SADCC member states could open up further markets. The main point however is that even without access to these overseas markets, a wider ownership or control of livestock would provide the poor with at least a means of subsistence. It would also reforge the dynamic link that exists between livestock ownership and arable production, by providing draught power.

Establishing such a system of communal tenure and group management of the range and water supplies, if possible at all, will not be an easy task. In a highly stratified society, any egalitarian objective which might seek to reduce the wealth and power of an existing or emerging elite is bound to meet with resistance: in the USSR it took a bloody struggle in the pastoral areas to bring about a redistribution of livestock from the old elite. (Sandford 1983, p.133). The Village Area Development Programme hoped to form 40 group ranches in Western Botswana during the 1970s over a period of in five years, but in fact not one was established. (Odell & Odell 1980, p.240). Amongst the Maasai of Kenya, group ranches have

also encountered serious problems. Although each member of the group ranch was allocated a basic quota of livestock, the ranch management committee was dominated by the richer members, and no steps were taken either to reduce their own holdings or bring up those of the poor up to the basic minimum. (Helland 1980, p.192).

The benefits of livestock ownership are enjoyed at present by a small elite, whose private interests do not coincide with the wider interests of the people and the nation. Their economic power and political supremacy have yet to be challenged. This makes it unlikely that a wider ownership of livestock will be encouraged, and even less likely that any legally binding ceilings on stock levels will be introduced.[2] Poverty is not just an economic, but a political phenomenon, shaping the perceptions and consciousness of the poor and their relationship with the larger herdowners. Its existence has a definite function in a class divided society, one of which is to preserve a pool of cheap labour in the rural areas (hence the opposition from some larger farmers to the wage rates paid under the LBRP).

Without a reversal of the growing polarisation in the ownership of livestock, the extent and severity of rural poverty will only be stemmed by ever increasing amounts of food aid. The government's present development strategy seems to accept this, and in some ways its present development strategy reflects and relies on it. In the short to medium term, the purely *financial costs* of such a policy is likely to be relatively low in national

[2] The monetisation of a proportion of future food aid during subsequent droughts could be used for the restocking of destitutes' herds (as undertaken in the Turkana Rehabilitation Programme in Kenya) and a more equitable access to overseas markets through the BMC. This would not only provide additional income to the very poorest groups but also timely draught power for agricultural activity during periods of adequate rainfall. However, given the present political power of the larger herders, the limited carrying capacity of the range, and the fact that access to overseas markets is granted on a quota basis, such a strategy would probably never be possible without a radical restructuring of society. Any initiative for such a change would certainly not come from the present political elite .

terms: even with almost total reliance on foreign sources of cereals at the height of the 1980s drought, cereal imports cost less than 10% of total imports or export revenues. Full scale public works programmes, reaching almost half of all rural households, cost in 1985 just over 1% of the total Government budget (RoB, Rural Development Council 1985, p.29). With mineral revenues and foreign food aid still flowing, Botswana's elite will probably not be faced with any critical policy decisions for some years to come. The *social costs* to the rural poor however, in terms of human development, deprivation and malnutrition are likely to be much higher, if the management of the 1982-88 relief programme proves to be typical of future operations. The pattern of Botswana's economic development since Independence has left a growing proportion of its citizens dependent on public welfare programmes for their survival, and has failed to adequately address the substantive issues of equity and social justice.

NOTES ON TABLES IN THE APPENDIX

The tables in this Appendix present the distributive performance of the Vulnerable Groups, Primary Schools and Remote Area Dwellers' programmes during the period 1986-88. Distribution to the RADs settlements was carried out by Remote Area Development Officers using RADP, Council and privately hired vehicles. Food for the RADs was stored in FRD depots prior to collection by the RADO. Distribution to both schools and health facilities was carried out direct by the various FRD depots, which are grouped by administrative region.

The food requirements figures used in all tables are only based indirectly on nutritional needs. They have been calculated by multiplying the number of registered beneficiaries served by each FRD depot by the ration for each category of beneficiary for each month during the period January 1986 to December 1988. The ration levels are shown in Table 3.3 in the main body of the text, and their nutritional values in Table 3.4. As distribution in any one month is based on the beneficiary data collected from individual centres during the previous month, actual *requirements* are based on data collected during the period December 1985 to November 1988. Net *distribution* therefore is based on food movements to the centres during the period January 1986 to December 1988, minus any food returned to the depots due to spoilage or overstocking at the feeding centres.

In all cases, distribution was based on individual stock analysis ledgers in the individual depots, or on monthly stock reports as submitted to FRD in Gaborone by the individual district depots concerned.

LIST OF TABLES

FIGURES IN THE APPENDIX

TABLE A1: DISTRIBUTIVE PERFORMANCE OF REMOTE AREA DWELLERS' FEEDING PROGRAMME IN PALAPYE FRD REGION: 1986

COMMODITIES IN METRIC TONNES	RADS' BEANS	RADS' M/MEAL	RADS' VEG.OIL	TOTALS FOR DEPOT
PALAPYE DEPOT:	No RADs served by this Depot.			
SEROWE DEPOT:				
Calculated requirements:	100.40	358.63	25.82	484.85
Net distribution:	70.10	338.12	24.76	432.98
Distribution as percentage of total requirements:	69.82%	94.28%	95.89%	89.30%
MAHALAPYE DEPOT:				
Calculated requirements:	40.17	143.27	10.32	193.76
Net distribution:	33.50	174.31	15.00	222.81
Distribution as percentage of total requirements:	83.40%	121.67%	145.35%	114.99%
SELEBE-PHIKWE DEPOT:				
Calculated requirements:	66.02	235.75	16.96	318.73
Net distribution:	54.05	175.39	13.10	242.54
Distribution as percentage of total requirements:	81.87%	74.40%	77.24%	76.10%
TOTAL FOOD REQUIREMENTS:	206.59	737.65	53.1	997.34
TOTAL NET DISTRIBUTION:	157.65	687.82	52.86	898.33
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	76.31%	93.24%	99.55%	90.07%

Sources:

1) Requirements based on beneficiary levels reported to FRD by RADOs and current ration levels, Dec. 1985 - Nov. 1986. Distribution calculated from FRD *Stock Analysis Ledgers* and monthly *Stock Reports* of Palapye Region FRD District Depots, Jan. - Dec. 1986.

TABLE A2: DISTRIBUTIVE PERFORMANCE OF REMOTE AREA DWELLERS' FEEDING PROGRAMME IN FRANCISTOWN FRD REGION: 1986

COMMODITIES IN METRIC TONNES	RADS' BEANS	RADS' M/MEAL	RADS' VEG.OIL	TOTALS FOR DEPOT
FRANCISTOWN DEPOT:	No RADs served by this Depot.			
TUTUME DEPOT:				
Calculated requirements:	51.82	185.14	13.35	250.31
Net distribution:	16.31	127.41	14.84	158.56
Distribution as percentage of total requirements:	31.47%	68.82%	111.16%	63.35%
LETLHAKANE DEPOT:				
Calculated requirements:	76.19	272.04	19.58	367.81
Net distribution:	41.25	240.78	15.20	297.23
Distribution as percentage of total requirements:	54.14%	88.51%	77.63%	80.81%
MAUN DEPOT:				
Calculated requirements:	31.42	112.16	8.08	151.66
Net distribution:	57.75	189.00	12.04	258.79
Distribution as percentage of total requirements:	183.80%	168.51%	149.01%	170.64%
KASANE DEPOT:	No RADs served by this Depot.			
TOTAL FOOD REQUIREMENTS:	159.43	569.34	41.01	769.78
TOTAL NET DISTRIBUTION:	115.31	557.19	42.08	714.58
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	72.33%	97.87%	102.61%	92.83%

Sources:

1) Requirements based on beneficiary levels reported to FRD by RADOs and current ration levels, Dec. 1985 - Nov. 1986. Distribution calculated from FRD Stock Analysis Ledgers and monthly Stock Reports of Francistown Region FRD District Depots, Jan. - Dec. 1986. January 1986 report not available for Tutume Depot. Distribution for this month based on an average of Feb. - Dec. 1986. Some beneficiary data missing for Tutume. Beneficiaries estimated based on average of reporting months.

TABLE A3: DISTRIBUTIVE PERFORMANCE OF REMOTE AREA DWELLERS' FEEDING PROGRAMME IN LOBATSE FRD REGION: 1986

COMMODITIES IN METRIC TONNES	RADS' BEANS	RADS' M/MEAL	RADS' VEG.OIL	TOTALS FOR DEPOT
LOBATSE DEPOT:	No RADs served by this Depot.			
KANYE DEPOT:				
Calculated requirements:	55.97	199.88	14.39	270.24
Net distribution:	50.35	126.13	8.87	185.34
Distribution as percentage of total requirements:	89.96%	63.10%	61.64%	68.59%
TSHABONG DEPOT:				
Calculated requirements:	31.33	111.90	8.10	151.33
Net distribution:	28.10	103.98	8.27	140.35
Distribution as percentage of total requirements:	89.69%	92.92%	102.10%	92.74%
HUKUNTSI DEPOT:				
Calculated requirements:	53.42	190.80	13.73	257.95
Net distribution:	49.00	133.71	10.62	193.33
Distribution as percentage of total requirements:	91.73%	70.08%	77.35%	74.95%
GHANZI DEPOT:				
Calculated requirements:	150.46	537.35	38.69	726.50
Net distribution:	157.56	317.25	36.67	511.48
Distribution as percentage of total requirements:	104.72%	59.04%	94.78%	70.40%
TOTAL FOOD REQUIREMENTS:	291.18	1039.93	74.91	1406.02
TOTAL NET DISTRIBUTION:	285.01	681.07	64.43	1030.51
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	97.88%	65.49%	86.01%	73.29%

Source:

1) Requirements based on beneficiary levels reported to FRD and current ration levels, Dec. 1985 - Nov. 1986. Distribution calculated from FRD Stock Analysis Ledgers and monthly Stock Reports of Lobatse Region FRD District Depots, Jan. - Dec. 1986. December 1985 Report not available and beneficiary figures assumed to be same as reported in January 1986. Tshabong Depot beneficiary figures not reported January and February and so estimated based on average of reporting months.

TABLE A4: DISTRIBUTIVE PERFORMANCE OF REMOTE AREA DWELLERS' FEEDING PROGRAMME IN SEBELE FRD REGION: 1986

COMMODITIES IN METRIC TONNES	RADS' BEANS	RADS' M/MEAL	RADS' VEG.OIL	TOTALS FOR DEPOT
SEBELE DEPOT:	No RADs served by this Depot.			
MOLEPOLOLE DEPOT:				
Calculated requirements:	147.47	526.75	37.93	712.15
Net distribution:	58.20	91.89	10.83	160.92
Distribution as percentage of total requirements:	39.47%	17.44%	28.55%	22.60%
MOCHUDI DEPOT:				
Calculated requirements:	13.22	47.18	3.39	63.79
Net distribution:	5.70	28.06	0.36	34.12
Distribution as percentage of total requirements:	43.12%	59.47%	10.62%	53.49%
TOTAL FOOD REQUIREMENTS:	160.69	573.93	41.32	775.94
TOTAL NET DISTRIBUTION:	63.90	119.95	11.19	195.04
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	39.77%	20.90%	27.08%	25.14%

Sources:

1) Requirements based on beneficiary levels reported to FRD and current ration levels, Dec. 1985 - Nov. 1986. Distribution calculated from FRD Stock Analysis Ledgers and monthly Stock Reports of Sebele Region FRD District Depots, Jan. - Dec. 1986. December 1985 Report not available and beneficiary figures assumed to be same as reported in January 1986. No beneficiaries reported in February 1986 and assumed to be the same as January.

TABLE A5: NATIONAL DISTRIBUTIVE PERFORMANCE OF REMOTE AREA DWELLERS' FEEDING PROGRAMME IN BOTSWANA: 1986

COMMODITIES IN METRIC TONNES	RADS' BEANS	RADS' M/MEAL	RADS' VEG.OIL	REGIONAL TOTALS
PALAPYE REGION:				
Calculated requirements:	206.59	737.65	53.10	997.34
Net distribution:	157.65	687.82	52.86	898.33
Distribution as percentage of total requirements:	76.31%	93.24%	99.55%	90.07%
FRANCISTOWN REGION:				
Calculated requirements:	159.43	569.34	41.01	769.78
Net distribution:	115.31	557.19	42.08	714.58
Distribution as percentage of total requirements:	72.33%	97.87%	102.61%	92.83%
LOBATSE REGION:				
Calculated requirements:	291.18	1039.93	74.91	1406.02
Net distribution:	285.01	681.07	64.43	1030.51
Distribution as percentage of total requirements:	97.88%	65.49%	86.01%	73.29%
SEBELE REGION:				
Calculated requirements:	160.69	573.93	41.32	775.94
Net distribution:	63.90	119.95	11.19	195.04
Distribution as percentage of total requirements:	39.77%	20.90%	27.08%	25.14%
TOTAL FOOD REQUIREMENTS:	817.89	2920.85	210.34	3949.08
TOTAL NET DISTRIBUTION:	621.87	2046.03	170.56	2838.46
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	76.03%	70.05%	81.09%	71.88%

Sources:

1) Requirements based on beneficiary levels reported to FRD and current ration levels, Dec. 1985 - Nov. 1986. Distribution calculated from Stock Analysis Ledgers and monthly Stock Reports of FRD District Depots, Jan. - Dec. 1986.

TABLE A6: DISTRIBUTIVE PERFORMANCE OF REMOTE AREA DWELLERS' FEEDING PROGRAMME IN PALAPYE FRD REGION: 1987

COMMODITIES IN METRIC TONNES	RADS' BEANS	RADS' M/MEAL	RADS' VEG.OIL	TOTALS FOR DEPOT
PALAPYE DEPOT:	No RADs served by this Depot.			
SEROWE DEPOT:				
Calculated requirements:	120.81	431.48	31.76	584.04
Net distribution:	83.40	321.30	23.49	428.19
Distribution as percentage of total requirements:	69.03%	74.46%	73.96%	73.32%
MAHALAPYE DEPOT:				
Calculated requirements:	56.18	200.65	14.77	271.60
Net distribution:	33.80	192.92	14.04	240.76
Distribution as percentage of total requirements:	60.16%	96.15%	95.06%	88.65%
SELEBE-PHIKWE DEPOT:				
Calculated requirements:	112.62	402.23	29.60	544.45
Net distribution:	40.05	265.97	25.27	331.29
Distribution as percentage of total requirements:	35.56%	66.12%	85.37%	60.85%
TOTAL FOOD REQUIREMENTS:	289.62	1034.35	76.13	1400.10
TOTAL NET DISTRIBUTION:	157.25	780.19	62.80	1000.23
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	54.30%	75.43%	82.49%	71.44%

Sources:

1) Requirements based on beneficiary levels reported to FRD by RADOs and current ration levels, Dec. 1986 - Nov. 1987. Distribution calculated from monthly FRD Regional Stock Reports of Palapye Region, Jan. 1987 - Dec. 1987.

TABLE A7: DISTRIBUTIVE PERFORMANCE OF REMOTE AREA DWELLERS' FEEDING PROGRAMME IN FRANCISTOWN FRD REGION: 1987

COMMODITIES IN METRIC TONNES	RADS' BEANS	RADS' M/MEAL	RADS' VEG.OIL	TOTALS FOR DEPOT
FRANCISTOWN DEPOT:	No RADs served by this Depot.			
TUTUME DEPOT:				
Calculated requirements:	63.88	228.14	16.79	308.81
Net distribution:	55.30	205.60	29.10	290.00
Distribution as percentage of total requirements:	86.57%	90.12%	173.31%	77.99%
LETLHAKANE DEPOT:				
Calculated requirements:	98.53	351.90	25.90	476.33
Net distribution:	61.25	235.87	47.46	344.58
Distribution as percentage of total requirements:	62.16%	67.03%	183.25%	72.34%
MAUN DEPOT:				
Calculated requirements:	44.16	157.72	11.61	213.11
Net distribution:	51.70	200.66	6.48	258.84
Distribution as percentage of total requirements:	117.07%	127.22%	55.82%	121.24%
KASANE DEPOT:	No RADs served by this Depot.			
TOTAL FOOD REQUIREMENTS:	206.57	737.76	54.30	998.64
TOTAL NET DISTRIBUTION:	168.25	642.13	83.04	893.42
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	81.45%	87.04%	152.93%	89.46%

Sources:

1) Requirements based on beneficiary levels reported to FRD by RADOs and current ration levels, Dec. 1986 - Nov. 1987. Distribution calculated from monthly FRD Regional Stock Reports of Francistown Region, Jan. - Dec. 1987.

TABLE A8: DISTRIBUTIVE PERFORMANCE OF REMOTE AREA DWELLERS' FEEDING PROGRAMME IN LOBATSE FRD REGION: 1987

COMMODITIES IN METRIC TONNES	RADS' BEANS	RADS' M/MEAL	RADS' VEG.OIL	TOTALS FOR DEPOT
LOBATSE DEPOT:	No RADs served by this Depot.			
KANYE DEPOT:				
Calculated requirements:	52.87	188.84	13.90	255.61
Net distribution:	31.10	142.26	6.27	179.62
Distribution as percentage of total requirements:	58.82%	75.33%	45.08%	70.27%
TSHABONG DEPOT:				
Calculated requirements:	30.17	107.76	7.93	145.87
Net distribution:	28.11	88.73	6.40	123.24
Distribution as percentage of total requirements:	93.17%	82.33%	80.67%	84.48%
HUKUNTSI DEPOT:				
Calculated requirements:	39.62	141.51	10.42	191.55
Net distribution:	19.65	103.31	7.69	130.66
Distribution as percentage of total requirements:	49.59%	73.01%	73.85%	68.21%
GHANZI DEPOT:				
Calculated requirements:	153.17	547.04	40.26	740.47
Net distribution:	103.70	447.10	44.26	595.05
Distribution as percentage of total requirements:	67.70%	81.73%	109.92%	80.36%
TOTAL FOOD REQUIREMENTS:	275.84	985.15	72.51	1333.50
TOTAL NET DISTRIBUTION:	182.56	781.39	64.61	1028.57
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	66.18%	79.32%	89.11%	77.13%

Sources:

1) No data for December 1987. Requirements based on beneficiary levels reported to FRD and current ration levels, Dec. 1986 - Oct. 1987. Distribution calculated from monthly FRD Regional Stock Reports of Lobatse Region, Jan. - Nov. 1987.

TABLE A9: DISTRIBUTIVE PERFORMANCE OF REMOTE AREA DWELLERS' FEEDING PROGRAMME IN SEBELE FRD REGION: 1987

COMMODITIES IN METRIC TONNES	RADS' BEANS	RADS' M/MEAL	RADS' VEG.OIL	TOTALS FOR DEPOT
SEBELE DEPOT:	No RADs served by this Depot.			
MOLEPOLOLE DEPOT:				
Calculated requirements:	214.97	767.76	56.51	1039.24
Net distribution:.	154.20	348.10	29.42	531.72
Distribution as percentage of total requirements:	71.73%	45.34%	52.06%	51.16%
MOCHUDI DEPOT:				
Calculated requirements:	13.31	47.52	3.50	64.33
Net distribution:	6.70	27.90	8.70	43.30
Distribution as percentage of total requirements:	50.35%	58.71%	248.73%	67.31%
TOTAL FOOD REQUIREMENTS:	228.28	815.29	60.00	1103.57
TOTAL NET DISTRIBUTION:	160.90	376.00	38.12	575.02
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	70.48%	46.12%	63.53%	52.11%

Sources:

1) Requirements based on beneficiary levels reported to FRD and current ration levels, Dec. 1986 - Nov. 1987. Distribution calculated from monthly FRD Regional Stock Reports of Sebele Region, Jan. - Dec. 1987.

TABLE A10: NATIONAL DISTRIBUTIVE PERFORMANCE OF REMOTE AREA DWELLERS' FEEDING PROGRAMME IN BOTSWANA: 1987

COMMODITIES IN METRIC TONNES	RADS' BEANS	RADS' M/MEAL	RADS' VEG.OIL	REGIONAL TOTALS
PALAPYE REGION:				
Calculated requirements:	289.62	1034.35	76.13	1400.10
Net distribution:	157.25	780.19	62.80	1000.23
Distribution as percentage of total requirements:	54.30%	75.43%	82.49%	71.44%
FRANCISTOWN REGION:				
Calculated requirements:	206.57	737.76	54.30	998.64
Net distribution:	168.25	642.13	83.04	893.42
Distribution as percentage of total requirements:	81.45%	87.04%	152.93%	89.46%
LOBATSE REGION:				
Calculated requirements:	275.84	985.15	72.51	1333.50
Net distribution:	182.56	781.39	64.61	1028.57
Distribution as percentage of total requirements:	66.18%	79.32%	89.11%	77.13%
SEBELE REGION:				
Calculated requirements:	228.28	815.29	60.00	1103.57
Net distribution:	160.90	376.00	38.12	575.02
Distribution as percentage of total requirements:	70.48%	46.12%	63.53%	52.11%
TOTAL FOOD REQUIREMENTS:	1000.31	3572.55	262.94	4835.81
TOTAL NET DISTRIBUTION:	668.96	2579.71	248.57	3497.24
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	66.88%	72.21%	94.53%	72.32%

Sources:

1) Requirements based on beneficiary levels reported to FRD and current ration levels, Dec. 1986 - Nov. 1987. Distribution calculated from monthly FRD Regional Stock Reports of FRD Regions, Jan. - Dec. 1987.

TABLE A11: DISTRIBUTIVE PERFORMANCE OF REMOTE AREA DWELLERS' FEEDING PROGRAMME IN PALAPYE FRD REGION: 1988

COMMODITIES IN METRIC TONNES	RADS' BEANS	RADS' M/MEAL	RADS' VEG.OIL	TOTALS FOR DEPOT
PALAPYE DEPOT:	No RADs served by this Depot.			
SEROWE DEPOT:				
Calculated requirements:	131.58	469.94	34.59	636.11
Net distribution:	106.50	413.20	29.89	549.59
Distribution as percentage of total requirements:	80.94%	87.93%	86.42%	86.40%
MAHALAPYE DEPOT:				
Calculated requirements:	89.40	319.30	23.50	432.20
Net distribution:	90.25	454.94	37.23	582.42
Distribution as percentage of total requirements:	100.95%	142.48%	158.42%	134.48%
SELEBE-PHIKWE DEPOT:				
Calculated requirements:	134.10	478.92	35.25	648.27
Net distribution:	107.89	382.46	47.05	537.40
Distribution as percentage of total requirements:	80.46%	79.86%	133.48%	82.90%
TOTAL FOOD REQUIREMENTS:	355.09	1268.16	93.34	1716.58
TOTAL NET DISTRIBUTION:	304.64	1250.60	114.17	1669.41
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	85.79%	98.62%	122.32%	97.25%

Sources:

1) Requirements based on beneficiary levels reported to FRD by RADOs and current ration levels, Dec. 1987 - Nov. 1988. Distribution calculated from monthly FRD Regional Stock Reports of Palapye Region, Jan. 1988 - Dec. 1988.

TABLE A12: DISTRIBUTIVE PERFORMANCE OF REMOTE AREA DWELLERS' FEEDING PROGRAMME IN FRANCISTOWN FRD REGION: 1988

COMMODITIES IN METRIC TONNES	RADS' BEANS	RADS' M/MEAL	RADS' VEG.OIL	TOTALS FOR DEPOT
FRANCISTOWN DEPOT:	No RADs served by this Depot.			
TUTUME DEPOT:				
Calculated requirements:	132.25	472.34	34.76	639.36
Net distribution:	97.16	302.54	25.10	424.80
Distribution as percentage of total requirements:	73.46%	64.05%	72.20%	66.44%
LETLHAKANE DEPOT:				
Calculated requirements:	193.23	690.10	50.79	934.12
Net distribution:	72.92	196.07	65.54	334.53
Distribution as percentage of total requirements:	37.74%	28.41%	129.04%	35.81%
MAUN DEPOT:				
Calculated requirements:	136.86	488.77	35.97	661.61
Net distribution:	60.22	187.39	10.34	257.95
Distribution as percentage of total requirements:	44.00%	38.34%	28.74%	38.99%
KASANE DEPOT:	No RADs served by this Depot.			
TOTAL FOOD REQUIREMENTS:	462.34	1651.21	121.53	2235.08
TOTAL NET DISTRIBUTION:	230.30	686.00	100.98	1017.28
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	49.81%	41.55%	83.09%	45.51%

Sources:

1) Requirements based on beneficiary levels reported to FRD by RADOs and current ration levels, Dec. 1987 - Nov. 1988. Distribution calculated from monthly FRD Regional Stock Reports of Francistown Region, Jan. - Dec. 1988.

TABLE A12: DISTRIBUTIVE PERFORMANCE OF REMOTE AREA DWELLERS' FEEDING PROGRAMME IN FRANCISTOWN FRD REGION: 1988

COMMODITIES IN METRIC TONNES	RADS' BEANS	RADS' M/MEAL	RADS' VEG.OIL	TOTALS FOR DEPOT
FRANCISTOWN DEPOT:	No RADs served by this Depot.			
TUTUME DEPOT:				
Calculated requirements:	132.25	472.34	34.76	639.36
Net distribution:	97.16	302.54	25.10	424.80
Distribution as percentage of total requirements:	73.46%	64.05%	72.20%	66.44%
LETLHAKANE DEPOT:				
Calculated requirements:	193.23	690.10	50.79	934.12
Net distribution:	72.92	196.07	65.54	334.53
Distribution as percentage of total requirements:	37.74%	28.41%	129.04%	35.81%
MAUN DEPOT:				
Calculated requirements:	136.86	488.77	35.97	661.61
Net distribution:	60.22	187.39	10.34	257.95
Distribution as percentage of total requirements:	44.00%	38.34%	28.74%	38.99%
KASANE DEPOT:	No RADs served by this Depot.			
TOTAL FOOD REQUIREMENTS:	462.34	1651.21	121.53	2235.08
TOTAL NET DISTRIBUTION:	230.30	686.00	100.98	1017.28
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	49.81%	41.55%	83.09%	45.51%

Sources:

1) Requirements based on beneficiary levels reported to FRD by RADOs and current ration levels, Dec. 1987 - Nov. 1988. Distribution calculated from monthly FRD Regional Stock Reports of Francistown Region, Jan. - Dec. 1988.

TABLE A13: DISTRIBUTIVE PERFORMANCE OF REMOTE AREA DWELLERS' FEEDING PROGRAMME IN LOBATSE FRD REGION: 1988

COMMODITIES IN METRIC TONNES	RADS' BEANS	RADS' M/MEAL	RADS' VEG.OIL	TOTALS FOR DEPOT
LOBATSE DEPOT:	No RADs served by this Depot.			
KANYE DEPOT:				
Calculated requirements:	98.55	351.97	25.91	476.43
Net distribution:	34.85	133.15	9.96	177.96
Distribution as percentage of total requirements:	35.36%	37.83%	38.46%	37.35%
TSHABONG DEPOT:				
Calculated requirements:	36.20	129.30	9.52	175.02
Net distribution:	15.35	72.26	7.90	95.51
Distribution as percentage of total requirements:	42.40%	55.89%	83.01%	54.57%
HUKUNTSI DEPOT:				
Calculated requirements:	54.98	196.36	14.45	265.80
Net distribution:	5.55	137.75	12.09	155.39
Distribution as percentage of total requirements:	10.09%	70.15%	83.65%	58.46%
GHANZI DEPOT:				
Calculated requirements:	194.40	694.30	51.10	939.80
Net distribution:	124.00	521.84	48.27	694.11
Distribution as percentage of total requirements:	63.78%	75.16%	94.47%	73.86%
TOTAL FOOD REQUIREMENTS:	384.14	1371.94	100.97	1857.05
TOTAL NET DISTRIBUTION:	179.75	864.99	78.23	1122.97
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	46.79%	63.05%	77.47%	60.47%

Sources:

1) No data for December 1987. Requirements based on beneficiary levels reported to FRD and current ration levels, Jan. 1988 - Nov. 1988. Distribution calculated from FRD monthly Regional Stock Reports of Lobatse Region, Feb. - Dec. 1988.

TABLE A14: DISTRIBUTIVE PERFORMANCE OF REMOTE AREA DWELLERS' FEEDING PROGRAMME IN SEBELE FRD REGION: 1988

COMMODITIES IN METRIC TONNES	RADS' BEANS	RADS' M/MEAL	RADS' VEG.OIL	TOTALS FOR DEPOT
SEBELE DEPOT:	No RADs served by this Depot.			
MOLEPOLOLE DEPOT:				
Calculated requirements:	222.90	796.06	58.59	1077.55
Net distribution:	137.80	693.00	46.86	877.66
Distribution as percentage of total requirements:	61.82%	87.05%	79.98%	81.45%
MOCHUDI DEPOT:				
Calculated requirements:	13.37	47.75	3.51	64.63
Net distribution:	17.50	46.20	10.30	74.00
Distribution as percentage of total requirements:	130.89%	96.75%	293.08%	114.49%
TOTAL FOOD REQUIREMENTS:	236.27	843.81	62.10	1142.18
TOTAL NET DISTRIBUTION:	155.30	739.20	57.16	951.66
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	65.73%	87.60%	92.04%	83.32%

Sources:

1) Requirements based on beneficiary levels reported to FRD and current ration levels, Dec. 1987 - Nov. 1988. Distribution calculated from monthly FRD Regional Stock Reports of Sebele Region, Jan. - Dec. 1988.

TABLE A15: NATIONAL DISTRIBUTIVE PERFORMANCE OF REMOTE AREA DWELLERS' FEEDING PROGRAMME IN BOTSWANA: 1988

COMMODITIES IN METRIC TONNES	RADS' BEANS	RADS' M/MEAL	RADS' VEG.OIL	REGIONAL TOTALS
PALAPYE REGION:				
Calculated requirements:	335.09	1268.16	93.34	1716.58
Net distribution:	304.64	1250.60	114.17	1669.41
Distribution as percentage of total requirements:	85.79%	98.62%	122.32%	97.25%
FRANCISTOWN REGION:				
Calculated requirements:	462.34	1651.21	121.53	2235.08
Net distribution:	230.30	686.00	100.98	1017.28
Distribution as percentage of total requirements:	49.81%	41.55%	83.09%	45.51%
LOBATSE REGION:				
Calculated requirements:	384.14	1371.94	100.97	1857.05
Net distribution:	179.75	864.99	78.23	1122.97
Distribution as percentage of total requirements:	46.79%	63.05%	77.47%	65.59%
SEBELE REGION:				
Calculated requirements:	236.27	843.81	62.10	1142.18
Net distribution:	155.30	739.20	57.16	951.66
Distribution as percentage of total requirements:	65.73%	87.60%	92.04%	83.32%
TOTAL FOOD REQUIREMENTS:	1437.84	5135.12	377.94	6950.90
TOTAL NET DISTRIBUTION:	869.99	3540.79	350.54	4761.32
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	60.51%	68.95%	92.75%	68.50%

Sources:

1) Requirements based on beneficiary levels reported to FRD and current ration levels, Dec. 1987 - Nov. 1988. Distribution calculated from monthly FRD Regional Stock Reports of FRD Regions, Jan. - Dec. 1988.

TABLE A16: DISTRIBUTIVE PERFORMANCE OF PALAPYE REGION FRD: 1986 (SCHOOLS & HEALTH FACILITIES)

COMMODITIES IN METRIC TONNES	ICSM	SORGHUM	D.S.M.	BEANS	VEG.OIL	TOTALS FOR DEPOT
PALAPYE DEPOT:						
Calculated requirements:	1827.30	718.77	52.48	317.75	306.30	3222.60
Net distribution:	1461.53	669.03	55.74	289.85	251.53	2727.68
Distribution as percentage of total requirements:	79.98	93.08%	106.21%	91.22%	82.12%	84.64%
SEBOWE DEPOT:						
Calculated requirements:	1643.19	589.00	43.15	260.13	269.33	2804.80
Net distribution:	1448.73	566.21	37.00	251.05	236.43	2539.42
Distribution as percentage of total requirements:	88.17%	96.13%	85.75%	96.51%	87.78%	90.54%
MAHALAPYE DEPOT:						
Calculated requirements:	2240.33	942.33	70.53	421.96	383.41	4058.56
Net distribution:	1925.20	910.09	59.89	379.95	337.38	3612.51
Distribution as percentage of total requirements:	85.93%	96.58%	84.91%	90.04%	87.99%	89.01%
SELEBE-PHIKWE DEPOT:						
Calculated requirements:	1406.29	728.73	60.23	348.82	263.52	2807.59
Net distribution:	1241.77	624.24	56.14	298.05	238.40	2458.60
Distribution as percentage of total requirements:	88.30%	85.66%	93.21%	85.45%	90.47%	87.57%
TOTAL FOOD REQUIREMENTS:	7117.11	2978.83	226.39	1348.66	1222.56	12893.55
TOTAL NET DISTRIBUTION:	6077.23	2769.57	208.77	1218.90	1063.74	11338.22
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	85.39%	92.98%	92.22%	90.38%	87.01%	87.94%

Sources:

1) Requirements based on beneficiary levels reported to FRD and current ration levels, Dec. 1985 - Nov. 1986. Distribution calculated from FRD Stock Analysis Ledgers and monthly FRD Stock Reports of Palapye Region, Jan. - Dec. 1986.

TABLE A17: DISTRIBUTIVE PERFORMANCE OF FRANCISTOWN REGION FRD:1986 (SCHOOLS & HEALTH FACILITIES)

COMMODITIES IN METRIC TONNES	ICSM	SORGHUM	D.S.M.	BEANS	VEG.OIL	TOTALS FOR DEPOT
FRANCISTOWN DEPOT:						
Calculated requirements:	1113.22	727.87	62.14	361.06	235.66	2499.95
Net distribution:	1206.43	653.04	47.91	289.55	199.71	2396.64
Distribution as percentage of total requirements:	108.37%	89.72%	77.10%	80.19%	84.75%	95.87%
TUTUME DEPOT:						
Calculated requirements:	2011.43	1078.42	79.95	480.71	369.15	4019.66
Net distribution:	1195.37	706.36	53.12	322.86	208.04	2485.75
Distribution as percentage of total requirements:	59.43%	65.50%	66.44%	67.16%	56.36%	61.84%
LETLHAKANE DEPOT:						
Calculated requirements:	680 .66	306.23	21.95	134.63	117.94	1261.41
Net distribution:	898.48	206.69	16.90	81.30	118.74	1322.11
Distribution as percentage of total requirements:	132.00%	67.50%	76.99%	60.39%	100.68%	104.81%
MAUN DEPOT:						
Calculated requirements:	2455.71	771.61	56.49	337.25	390.67	4011.73
Net distribution:	1981.23	705.46	36.28	305.80	314.53	3343.30
Distribution as percentage of total requirements:	80.68%	91.43%	64.22%	90.67%	80.51%	83.34%
KASANE DEPOT:						
Calculated requirements:	63.18	101.53	7.38	47.78	18.89	238.76
Net distribution:	50.83	62.65	5.66	29.80	12.57	161.51
Distribution as percentage of total requirements:	80.45%	61.71%	76.69%	62.37%	66.54%	67.65%
TOTAL FOOD REQUIREMENTS:	6324.20	2985.66	227.91	1361.43	1132.31	12031.50
TOTAL NET DISTRIBUTION:	5332.34	2334.20	159.87	1029.31	853.59	9709.30
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	84.32%	78.18%	70.15%	75.61%	75.38%	80.70%

Sources:

1) Requirements based on beneficiary levels reported to FRD and current ration levels, Dec. 1985 - Nov. 1986. Distribution calculated from FRD Stock Analysis Ledgers and monthly Stock Reports of Francistown Region FRD District Depots, Jan. - Dec. 1986. January 1986 report not available for Tutume Depot. Distribution for this month based on an average of Feb. - Dec. 1986.

TABLE A18: DISTRIBUTIVE PERFORMANCE OF LOBATSE REGION FRD: 1986 (SCHOOLS & HEALTH FACILITIES)

COMMODITIES IN METRIC TONNES	ICSM	SORGHUM	D.S.M.	BEANS	VEG.OIL	TOTALS FOR DEPOT
LOBATSE DEPOT:						
Calculated requirements:	273.71	142.08	14.40	86.75	57.23	574.17
Net distribution:	266.97	60.39	9.15	46.25	51.90	434.66
Distribution as percentage of total requirement:	97.54%	42.50%	63.54%	53.31%	90.69%	75.70%
KANYE DEPOT:						
Calculated requirements:	4517.60	1678.39	130.96	760.40	752.86	7840.21
Net distribution:	3898.29	1563.59	122.57	572.48	653.21	6810.14
Distribution as percentage of total requirements:	86.29%	93.16%	93.59%	75.29%	86.76%	86.86%
TSHABONG DEPOT:						
Calculated requirements:	551.71	159.70	16.76	103.23	93.51	924.91
Net distribution:	549.90	159.45	17.06	97.40	92.46	916.27
Distribution as percentage of total requirements:	99.67%	99.84%	101.79%	94.35%	98.88%	99.07%
HUKUNTSI DEPOT:						
Calculated requirements:	327.52	92.24	9.33	58.47	54.84	542.40
Net distribution:	304.11	88.70	9.71	53.90	48.60	505.02
Distribution as percentage of total requirements:	92.85%	96.16%	104.07%	92.18%	88.62%	93.11%
GHANZI DEPOT:						
Calculated requirements:	553.86	148.86	15.81	93.38	92.25	904.16
Net distribution:	440.14	133.75	14.36	76.90	76.48	741.63
Distribution as percentage of total requirements:	79.47%	89.85%	90.83%	82.35%	82.91%	82.02%
TOTAL FOOD REQUIREMENTS:	6224.40	2221.27	187.26	1102.23	1050.69	10785.85
TOTAL NET DISTRIBUTION:	5459.41	2005.88	172.85	846.93	922.65	9407.72
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	87.71%	90.30%	92.30%	76.84%	87.81%	87.22%

Sources:

1) Requirements based on beneficiary levels reported to FRD, Dec.1985 - Nov.1986. Distribution calculated from FRD Stock Analysis Ledgers and monthly Stock Reports of District Depots, Jan. - Dec. 1986. In the area served by Lobatse Depot, 20% of beneficiaries assumed to be on urban rations. Reports not available for Dec. 1985. Beneficiaries and requirements for this month based on Jan. 1986 beneficiaries.

TABLE A19: DISTRIBUTIVE PERFORMANCE OF SEBELE REGION FRD: 1986 (SCHOOLS & HEALTH FACILITIES)

COMMODITIES IN METRIC TONNES	ICSM	SORGHUM	D.S.M.	BEANS	VEG.OIL	TOTALS FOR DEPOT
SEBELE DEPOT:						
Calculated requirements:	1661.79	720.47	63.54	386.34	323.62	3155.76
Net distribution:	1417.41	618.44	70.66	326.85	252.38	2685.74
Distribution as percentage of total requirements:	85.29%	85.84%	111.21%	84.60%	77.99%	85.11%
MOLEPOLOLE DEPOT:						
Calculated requirements:	3805.50	1577.44	117.27	716.53	648.15	6864.89
Net distribution:	2546.37	1212.67	104.16	610.75	450.09	4924.04
Distribution as percentage of total requirements:	66.91%	76.88%	88.82%	85.24%	69.44%	71.73%
MOCHUDI DEPOT:						
Calculated requirements:	987.21	601.24	43.19	262.33	187.99	2081.96
Net distribution:	821.04	579.23	43.50	243.45	139.84	1827.06
Distribution as percentage of total requirements:	83.17%	96.34%	100.72%	92.80%	74.39%	87.76%
TOTAL FOOD REQUIREMENTS:	6454.50	2899.15	224.00	1365.20	1159.76	12102.61
TOTAL NET DISTRIBUTION:	4784.82	2410.34	218.32	1181.05	842.31	9436.84
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	74.13%	83.14%	97.46%	86.51%	72.63%	77.97%

Sources:

1) Requirements based on beneficiary levels reported to FRD and current ration levels, Dec. 1985 - Nov. 1986. Distribution calculated from FRD Stock Analysis Ledgers and monthly Stock Reports of Sebele Region FRD District Depots, Jan. - Dec. 1986. In the area served by Sebele Depot, 40% of beneficiaries assumed to be on urban rations.

TABLE A20: NATIONAL DISTRIBUTIVE PERFORMANCE OF FRD: 1986 (SCHOOLS & HEALTH FACILITIES)

COMMODITIES IN METRIC TONNES	ICSM	SORGHUM	D.S.M.	BEANS	VEG.OIL	TOTALS FOR DEPOT
PALAPYE REGION:						
Calculated requirements:	7117.11	2978.83	226.39	1348.66	1222.56	12893.55
Net distribution:	6077.23	2769.57	208.77	1218.90	1063.74	11338.22
Distribution as percentage of total requirements:	85.39%	92.98%	92.22%	90.38%	87.01%	87.94%
FRANCISTOWN REGION:						
Calculated requirements:	6324.20	2985.66	227.91	1361.43	1132.31	12031.51
Net distribution:	5332.34	2334.20	159.87	1029.31	853.59	9709.31
Distribution as percentage of total requirements:	84.32%	78.18%	70.15%	75.61%	75.38%	80.70%
LOBATSE REGION:						
Calculated requirements:	6224.40	2221.27	187.26	1102.23	1050.69	10785.85
Net distribution:	5459.41	2005.88	172.85	846.93	922.65	9407.72
Distribution as percentage of total requirements:	87.71%	90.30%	92.30%	76.84%	87.81%	87.22%
SEBELE REGION:						
Calculated requirements:	6454.50	2899.15	224.00	1365.20	1159.76	12102.61
Net distribution:	4784.82	2410.34	218.32	1181.05	842.31	9436.84
Distribution as percentage of total requirements:	74.13%	83.14%	97.46%	86.51%	72.63%	77.97%
TOTAL FOOD REQUIREMENTS:	26120.21	11084.91	865.56	5177.52	4565.32	47813.52
TOTAL NET DISTRIBUTION:	21653.80	9519.99	759.81	4276.19	3682.29	39892.08
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	82.90%	85.88%	87.78%	82.59%	80.66%	83.43%

Sources:

1) Requirements based on beneficiary levels reported to FRD and current ration levels, Dec. 1985 - Nov. 1986. Distribution calculated from Stock Analysis Ledgers and monthly Stock Reports of FRD District Depots, Jan. - Dec. 1986.

TABLE A21: DISTRIBUTIVE PERFORMANCE OF PALAPYE REGION FRD: 1987 (SCHOOLS & HEALTH FACILITIES)

COMMODITIES IN METRIC TONNES	ICSM	SORGHUM	D.S.M.	BEANS	VEG.OIL	TOTALS FOR DEPOT
PALAPYE DEPOT:						
Calculated requirements:	1876.43	755.20	55.74	336.91	316.82	3341.09
Net distribution:	1744.43	747.21	57.58	317.15	283.10	3149.47
Distribution as percentage of total requirements:	92.96%	98.94%	103.30	94.13%	89.36%	94.27%
SEBOWE DEPOT:						
Calculated requirements:	1625.00	620.35	45.06	275.70	270.15	2836.26
Net distribution:	1496.89	612.41	47.49	263.35	217.78	2637.91
Distribution as percentage of total requirements:	92.12%	98.72%	105.39%	95.52%	80.61%	93.01%
MAHALAPYE DEPOT:						
Calculated requirements:	2173.10	991.72	74.16	441.76	380.39	4061.13
Net distribution:	1985.39	1074.46	67.52	380.60	326.24	3834.21
Distribution as percentage of total requirements:	91.36%	108.34%	91.05%	86.16%	85.77%	94.41%
SELEBE-PHIKWE DEPOT:						
Calculated requirements:	1544.01	817.89	61.03	360.11	285.18	3068.22
Net distribution:	1453.16	749.04	72.67	273.90	192.09	2740.86
Distribution as percentage of total requirements:	94.12%	91.58%	119.07%	76.06%	67.36%	89.33%
TOTAL FOOD REQUIREMENTS:	7218.54	3185.15	236.00	1414.48	1252.54	13306.71
TOTAL NET DISTRIBUTION:	6679.87	3183.12	245.26	1235.00	1019.21	12362.45
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	92.54%	99.94%	103.92%	87.31%	81.37%	92.90%

Sources:

1) Requirements based on beneficiary levels reported to FRD and current ration levels, Dec. 1986 - Nov. 1987. Distribution calculated from monthly FRD Regional Stock Reports of Palapye Region, Jan-Dec.1987.

TABLE A22: DISTRIBUTIVE PERFORMANCE OF FRANCISTOWN REGION FRD:1987 (SCHOOLS & HEALTH FACILITIES)

COMMODITIES IN METRIC TONNES	ICSM	SORGHUM	D.S.M.	BEANS	VEG.OIL	TOTALS FOR DEPOT
FRANCISTOWN DEPOT:						
Calculated requirements:	1620.92	932.46	69.09	422.54	306.02	3351.03
Net distribution:	1687.43	594.03	41.39	302.50	254.07	2879.42
Distribution as percentage of total requirements:	104.10%	63.71%	59.91%	71.59%	83.02%	85.93%
TUTUME DEPOT:						
Calculated requirements:	2511.27	1146.82	85.35	514.43	439.36	4697.23
Net distribution:	1900.84	951.02	69.45	421.80	271.34	3614.45
Distribution as percentage of total requirements:	75.69%	82.93%	81.37%	81.99%	61.76%	76.95%
LETLHAKANE DEPOT:						
Calculated requirements:	752.33	331.51	24.25	146.91	129.99	1385.00
Net distribution:	790.82	371.30	25.56	155.20	148.12	1491.00
Distribution as percentage of total requirements:	105.12%	105.39%	112.00%	105.64%	113.95%	107.65%
MAUN DEPOT:						
Calculated requirements:	2167.34	907.00	68.06	398.62	370.55	3911.57
Net distribution:	1740.15	773.74	45.44	352.40	205.30	3117.03
Distribution as percentage of total requirements:	80.29%	85.31%	66.76%	88.40%	55.40%	79.69%
KASANE DEPOT:						
Calculated requirements:	58.76	103.38	7.55	48.88	18.54	237.11
Net distribution:	57.97	58.98	6.10	31.70	22.42	177.17
Distribution as percentage of total requirements:	98.66%	57.05%	80.80%	64.85%	120.90%	74.72%
TOTAL FOOD REQUIREMENTS:	7110.62	3421.17	254.30	1531.39	1264.47	13581.94
TOTAL NET DISTRIBUTION:	6177.21	2749.07	187.94	1263.60	901.25	11279.07
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	86.87%	80.35%	73.90%	82.51%	71.28%	83.04%

Sources:

1) Requirements based on beneficiary levels reported to FRD and current ration levels, Dec. 1986 - Nov. 1987. Distribution calculated from monthly FRD Regional Stock Reports of Francistown Region, Jan. - Dec. 1987.

TABLE A23: DISTRIBUTIVE PERFORMANCE OF LOBATSE REGION FRD: 1987 (SCHOOLS & HEALTH FACILITIES)

COMMODITIES IN METRIC TONNES	ICSM	SORGHUM	D.S.M.	BEANS	VEG.OIL	TOTALS FOR DEPOT
LOBATSE DEPOT:						
Calculated requirements:	289.75	148.49	10.79	64.79	52.27	566.10
Net distribution:	364.34	61.70	8.70	43.30	44.93	522.97
Distribution as percentage of total requirement:	125.74%	41.55%	80.58%	66.83%	85.96%	92.38%
KANYE DEPOT:						
Calculated requirements:	3737.98	1591.32	120.62	715.04	642.96	6807.93
Net distribution:	3089.54	1636.11	107.99	487.85	530.51	5851.99
Distribution as percentage of total requirements:	82.65%	102.81%	89.53%	68.23%	82.51%	85.96%
TSHABONG DEPOT:						
Calculated requirements:	482.04	208.93	15.05	94.74	82.73	883.49
Net distribution:	478.30	163.12	16.96	81.00	80.06	819.43
Distribution as percentage of total requirements:	99.22%	78.08%	112.66%	85.50%	96.76%	92.75%
HUKUNTSI DEPOT:						
Calculated requirements:	299.09	123.65	8.94	55.11	50.72	537.50
Net distribution:	283.64	96.10	10.07	53.55	47.90	491.26
Distribution as percentage of total requirements:	94.83%	77.72%	112.61%	97.16%	94.45%	91.40%
GHANZI DEPOT:						
Calculated requirements:	457.47	187.39	13.93	82.46	77.67	818.92
Net distribution:	453.35	143.55	15.06	61.15	66.47	739.58
Distribution as percentage of total requirements:	99.10%	76.60%	108.16%	74.16%	85.58%	90.31%
TOTAL FOOD REQUIREMENTS:	5266.33	2259.78	169.33	1012.14	906.35	9613.94
TOTAL NET DISTRIBUTION:	4669.18	2100.58	158.77	726.85	769.86	8425.24
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	88.66%	92.96%	93.76%	71.81%	84.94%	87.64%

Sources:

1) Requirements based on beneficiary levels reported to FRD, Dec.1986 - Nov.1987. Distribution calculated from monthly FRD Regional Stock Reports of Lobatse Region, Jan. - Dec. 1987.

TABLE A24: DISTRIBUTIVE PERFORMANCE OF SEBELE REGION FRD: 1987 (SCHOOLS & HEALTH FACILITIES)

COMMODITIES IN METRIC TONNES	ICSM	SORGHUM	D.S.M.	BEANS	VEG.OIL	TOTALS FOR DEPOT
SEBELE DEPOT:						
Calculated requirements:	1782.50	910.51	67.89	398.63	322.51	3482.04
Net distribution:	1112.50	518.20	44.87	313.15	203.90	2192.62
Distribution as percentage of total requirements:	62.41%	56.91%	66.09%	78.56%	63.22%	62.97%
MOLEPOLOLE DEPOT:						
Calculated requirements:	4318.71	1675.01	127.94	762.89	725.53	7610.07
Net distribution:	3971.20	1590.10	119.90	709.87	495.50	6886.57
Distribution as percentage of total requirements:	91.95%	94.93%	93.71%	93.05%	68.30%	90.49%
MOCHUDI DEPOT:						
Calculated requirements:	987.09	610.62	43.89	265.84	189.01	2096.44
Net distribution:	811.75	575.56	42.06	263.65	136.84	1829.86
Distribution as percentage of total requirements:	82.24%	94.26%	95.84%	99.18%	72.40%	87.28%
TOTAL FOOD REQUIREMENTS:	7088.30	3196.14	239.72	1427.35	1237.05	13188.55
TOTAL NET DISTRIBUTION:	5895.45	2683.86	206.83	1286.67	836.24	10909.05
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	83.17%	83.97%	86.28%	90.14%	67.60%	82.72%

Sources:

1) Requirements based on beneficiary levels reported to FRD and current ration levels, Dec. 1986 - Nov. 1987. Distribution calculated from monthly FRD Regional Stock Reports of Sebele Region FRD District Depots, Jan. - Dec. 1987.

TABLE A25: NATIONAL DISTRIBUTIVE PERFORMANCE OF FRD: 1987 (SCHOOLS & HEALTH FACILITIES)

COMMODITIES IN METRIC TONNES	ICSM	SORGHUM	D.S.M.	BEANS	VEG.OIL	TOTALS FOR DEPOT
PALAPYE REGION:						
Calculated requirements:	7218.54	3185.15	236.00	1414.48	1252.54	13306.71
Net distribution:	6679.87	3183.12	245.26	1235.00	1019.21	12362.45
Distribution as percentage of total requirements:	92.54%	99.94%	103.92%	87.31%	81.37%	92.90%
FRANCISTOWN REGION:						
Calculated requirements:	7110.62	3421.17	254.30	1531.39	1264.47	13581.94
Net distribution:	6177.21	2749.07	187.94	1263.60	901.25	11279.07
Distribution as percentage of total requirements:	86.87%	80.35%	73.90%	82.51%	71.28%	83.04%
LOBATSE REGION:						
Calculated requirements:	5266.33	2259.78	169.33	1012.14	906.35	9613.94
Net distribution:	4669.18	2100.58	158.77	726.85	769.86	8425.24
Distribution as percentage of total requirements:	88.66%	92.96%	93.76%	71.81%	84.94%	87.64%
SEBELE REGION:						
Calculated requirements:	7088.30	3196.14	239.72	1427.35	1237.05	13188.55
Net distribution:	5895.45	2683.86	206.83	1286.67	836.24	10909.05
Distribution as percentage of total requirements:	83.17%	83.97%	86.28%	90.14%	67.60%	82.72%
TOTAL FOOD REQUIREMENTS:	26683.79	12062.24	899.35	5385.36	4660.41	49691.15
TOTAL NET DISTRIBUTION:	23421.71	10716.63	798.80	4512.12	3526.56	42975.82
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	87.78%	88.84%	88.82%	83.79%	75.67%	86.49%

Sources:

1) Requirements based on beneficiary levels reported to FRD and current ration levels, Dec. 1986 - Nov. 1987.
2) Distribution calculated from monthly FRD Regional Stock Reports of the FRD Regions, Jan. - Dec. 1987.

TABLE A26: DISTRIBUTIVE PERFORMANCE OF PALAPYE REGION FRD: 1988 (SCHOOLS & HEALTH FACILITIES)

COMMODITIES IN METRIC TONNES	ICSM	SORGHUM	D.S.M.	BEANS	VEG.OIL	TOTALS FOR DEPOT
PALAPYE DEPOT:						
Calculated requirements:	1325.85	731.55	54.57	321.61	245.85	2679.42
Net distribution:	1002.25	470.57	28.52	211.50	261.88	1974.72
Distribution as percentage of total requirements:	75.59%	64.33%	52.26%	65.76%	106.52%	73.70%
SEBOWE DEPOT:						
Calculated requirements:	1055.73	602.61	43.71	264.65	197.03	2163.73
Net distribution:	760.91	422.40	28.39	177.39	206.90	1595.99
Distribution as percentage of total requirements:	72.07%	70.10%	64.95%	67.03%	105.01%	73.76%
MAHALAPYE DEPOT:						
Calculated requirements:	1510.52	967.92	71.48	430.86	294.28	3275.06
Net distribution:	1016.41	627.35	43.16	304.71	298.67	2290.30
Distribution as percentage of total requirements:	67.29%	64.81%	60.38%	70.72%	101.49%	69.93%
SELEBE-PHIKWE DEPOT:						
Calculated requirements:	1255.56	813.63	60.13	356.50	248.05	2733.88
Net distribution:	1061.79	584.88	44.78	296.55	292.24	2280.24
Distribution as percentage of total requirements:	84.57%	71.88%	74.47%	83.18%	117.81%	83.41%
TOTAL FOOD REQUIREMENTS:	5147.66	3115.71	229.88	1373.62	985.21	10852.09
TOTAL NET DISTRIBUTION:	3841.36	2105.20	144.85	990.15	1059.69	8141.25
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	74.62%	67.01%	63.01%	72.08%	107.56%	75.02%

Source:

1) Requirements based on beneficiary levels reported to FRD and current ration levels, Dec. 1987 - Nov. 1988. Distribution calculated from monthly FRD Regional Stock Reports of Palapye Region FRD District Depots, Jan. - Dec. 1988.

TABLE A27: DISTRIBUTIVE PERFORMANCE OF FRANCISTOWN REGION FRD:1988 (SCHOOLS & HEALTH FACILITIES)

COMMODITIES IN METRIC TONNES	ICSM	SORGHUM	D.S.M.	BEANS	VEG.OIL	TOTALS FOR DEPOT
FRANCISTOWN DEPOT:						
Calculated requirements:	1336.36	1017.66	75.63	454.13	278.28	3162.07
Net distribution:	1027.50	473.02	38.86	238.48	176.70	1954.56
Distribution as percentage of total requirements:	76.89%	46.48%	51.38%	52.51%	63.50%	61.81%
TUTUME DEPOT:						
Calculated requirements:	1894.41	1155.48	85.36	515.10	362.72	4013.07
Net distribution:	1311.57	770.40	53.80	313.76	236.29	2685.82
Distribution as percentage of total requirements:	69.23%	66.67%	63.03%	60.91%	65.14%	66.93%
LETLHAKANE DEPOT:						
Calculated requirements:	775.46	343.48	24.99	153.00	134.07	1430.99
Net distribution:	650.07	225.65	18.23	181.35	126.57	1201.87
Distribution as percentage of total requirements:	83.83%	65.70%	72.95%	118.53%	94.40%	83.99%
MAUN DEPOT:						
Calculated requirements:	2273.83	907.44	66.47	397.59	382.69	4028.02
Net distribution:	1840.53	1009.71	40.97	248.94	277.45	3417.60
Distribution as percentage of total requirements:	80.94%	111.27%	61.64%	62.61%	72.50%	84.85%
KASANE DEPOT:						
Calculated requirements:	68.02	106.59	7.78	50.13	20.05	252.57
Net distribution:	71.78	49.40	5.25	26.18	15.54	168.15
Distribution as percentage of total requirements:	105.52%	46.35%	67.49%	52.22%	77.52%	66.57%
TOTAL FOOD REQUIREMENTS:	6348.08	3530.65	260.22	1569.95	1177.82	12886.73
TOTAL NET DISTRIBUTION:	4901.45	2528.18	157.11	1008.71	832.55	9428.00
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	77.21%	71.61%	60.37%	64.25%	70.69%	73.16%

Sources:

1) Requirements based on beneficiary levels reported to FRD and current ration levels, Dec. 1987 - Nov. 1988. Distribution calculated from monthly FRD Regional Stock Reports of Francistown Region, Jan. - Dec. 1988.

TABLE A28: DISTRIBUTIVE PERFORMANCE OF LOBATSE REGION FRD: 1988 (SCHOOLS & HEALTH FACILITIES)

COMMODITIES IN METRIC TONNES	ICSM	SORGHUM	D.S.M.	BEANS	VEG.OIL	TOTALS FOR DEPOT
LOBATSE DEPOT:						
Calculated requirements:	197.24	157.27	11.54	68.86	41.73	476.64
Net distribution:	180.05	41.60	8.03	33.35	23.32	286.35
Distribution as percentage of total requirement:	91.29%	26.45%	69.64%	48.43%	55.87%	60.08%
KANYE DEPOT:						
Calculated requirements:	1780.42	1685.19	122.07	739.12	404.38	4731.18
Net distribution:	1324.16	1014.46	66.03	423.41	302.75	3130.81
Distribution as percentage of total requirements:	74.37%	60.20%	54.09%	57.29%	74.87%	66.17%
TSHABONG DEPOT:						
Calculated requirements:	295.20	213.16	16.53	96.65	60.71	682.25
Net distribution:	267.90	98.55	11.23	61.03	43.40	482.12
Distribution as percentage of total requirements:	90.75%	46.23%	67.94%	63.15%	71.49%	70.67%
HUKUNTSI DEPOT:						
Calculated requirements:	253.96	132.45	9.85	60.34	46.23	502.83
Net distribution:	197.44	69.15	7.23	43.30	32.58	349.69
Distribution as percentage of total requirements:	77.74%	52.21%	73.34%	71.76%	70.48%	69.54%
GHANZI DEPOT:						
Calculated requirements:	351.81	195.19	14.33	86.52	65.18	713.02
Net distribution:	305.31	77.60	7.98	58.35	57.78	506.82
Distribution as percentage of total requirements:	86.78%	39.76%	55.69%	67.44%	88.35%	71.08%
TOTAL FOOD REQUIREMENTS:	2878.63	2383.25	174.31	1051.50	618.23	7105.92
TOTAL NET DISTRIBUTION:	2274.87	1301.36	100.50	619.44	459.63	4755.79
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	79.03%	54.60%	57.65%	58.91%	74.35%	66.93%

Sources:

1) Requirements based on beneficiary levels reported to FRD, Dec.1987 - Nov.1988. Distribution calculated from monthly FRD Regional Stock Reports of Lobatse Region, Jan. - Dec. 1988.

TABLE A29: DISTRIBUTIVE PERFORMANCE OF SEBELE REGION FRD: 1988 (SCHOOLS & HEALTH FACILITIES)

COMMODITIES IN METRIC TONNES	ICSM	SORGHUM	D.S.M.	BRANS	VEG.OIL	TOTALS FOR DEPOT
SEBELE DEPOT:						
Calculated requirements:	1008.59	979.12	70.54	423.65	231.43	2713.34
Net distribution:	618.00	561.70	52.80	273.80	154.52	1660.82
Distribution as percentage of total requirements:	61.27%	57.37%	74.85%	64.63%	66.77%	61.21%
MOLEPOLOLE DEPOT:						
Calculated requirements:	2655.32	1750.68	132.17	789.24	524.83	5852.24
Net distribution:	1767.70	1286.50	75.70	654.90	290.80	4075.60
Distribution as percentage of total requirements:	66.57%	73.49%	57.28%	82.98%	55.41%	69.64%
MOCHUDI DEPOT:						
Calculated requirements:	557.54	621.95	45.36	269.09	137.03	1630.96
Net distribution:	309.30	325.00	50.90	189.30	74.60	949.10
Distribution as percentage of total requirements:	55.48%	52.25%	112.22%	70.35%	54.44%	58.19%
TOTAL FOOD REQUIREMENTS:	4221.45	3351.75	248.07	1481.98	893.29	10196.53
TOTAL NET DISTRIBUTION:	2695.00	2173.20	179.40	1118.00	519.92	6685.52
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	63.84%	64.84%	72.32%	75.44%	58.20%	65.57%

Sources:

1) Requirements based on beneficiary levels reported to FRD and current ration levels, Dec. 1987 - Nov. 1988. Distribution calculated from monthly FRD Regional Stock Reports of Sebele Region, Jan. - Dec. 1988.

TABLE A30: NATIONAL DISTRIBUTIVE PERFORMANCE OF FRD: 1988 (SCHOOLS & HEALTH FACILITIES)

COMMODITIES IN METRIC TONNES	ICSM	SORGHUM	D.S.M.	BEANS	VEG.OIL	TOTALS FOR DEPOT
PALAPYE REGION:						
Calculated requirements:	5147.66	3115.71	229.88	1373.62	985.21	10852.09
Net distribution:	3841.36	2105.20	144.85	990.15	1059.69	8141.25
Distribution as percentage of total requirements:	74.62%	67.57%	63.01%	72.08%	107.56%	75.02%
FRANCISTOWN REGION:						
Calculated requirements:	6348.08	3530.65	260.22	1569.95	1177.82	12886.73
Net distribution:	4901.45	2528.18	157.11	1008.71	832.55	9428.00
Distribution as percentage of total requirements:	77.21%	71.61%	60.37%	64.25%	70.69%	73.16%
LOBATSE REGION:						
Calculated requirements:	2878.63	2383.25	174.31	1051.50	618.23	7105.92
Net distribution:	2274.87	1301.36	100.50	619.44	459.63	4755.79
Distribution as percentage of total requirements:	79.03%	54.60%	57.65%	58.91%	74.35%	66.93%
SEBELE REGION:						
Calculated requirements:	4221.45	3351.75	248.07	1481.98	893.29	10196.53
Net distribution:	2695.00	2173.20	179.40	1118.00	519.92	6685.52
Distribution as percentage of total requirements:	63.84%	64.84%	72.32%	75.44%	58.20%	65.57%
TOTAL FOOD REQUIREMENTS:	18595.82	12381.36	912.48	5477.05	3674.55	41041.26
TOTAL NET DISTRIBUTION:	13712.68	8107.94	581.86	3736.30	2871.79	29010.57
DISTRIBUTION AS PERCENTAGE OF TOTAL REQUIREMENTS:	73.74%	65.49%	63.77%	68.22%	78.15%	70.69%

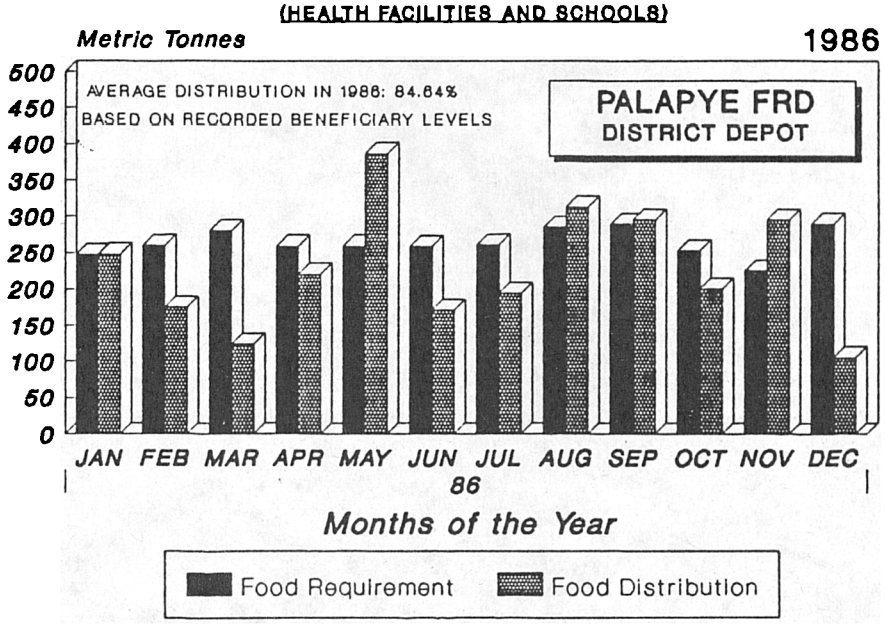
Sources:

1) Requirements based on beneficiary levels reported to FRD and current ration levels, Dec. 1987 - Nov. 1988. Distribution calculated from monthly FRD Regional Stock Reports FRD Regions, Jan. - Dec. 1988.

Fig.A1: BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(HEALTH FACILITIES AND SCHOOLS)

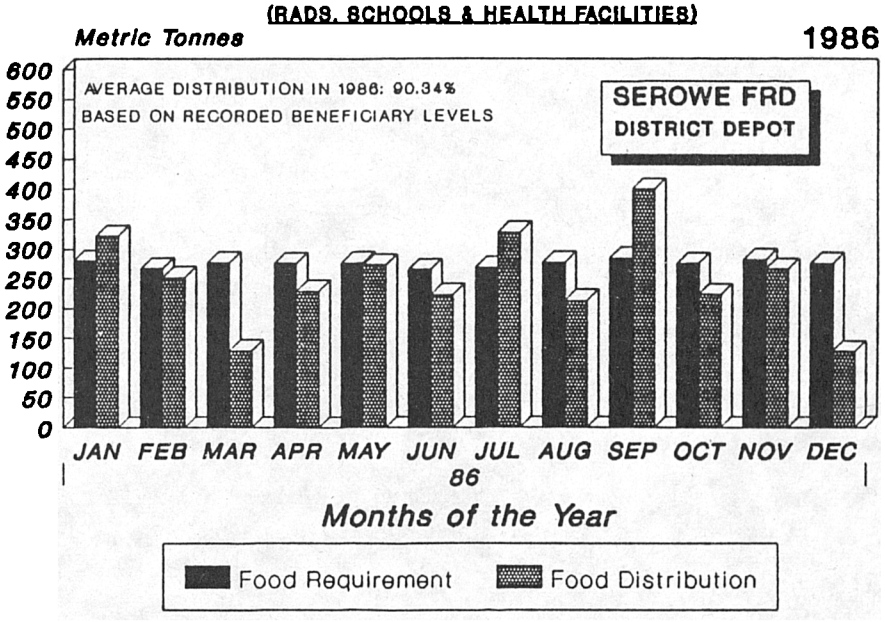


Source: FRD Stock Analysis Ledgers, 1986

Fig.A2: BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

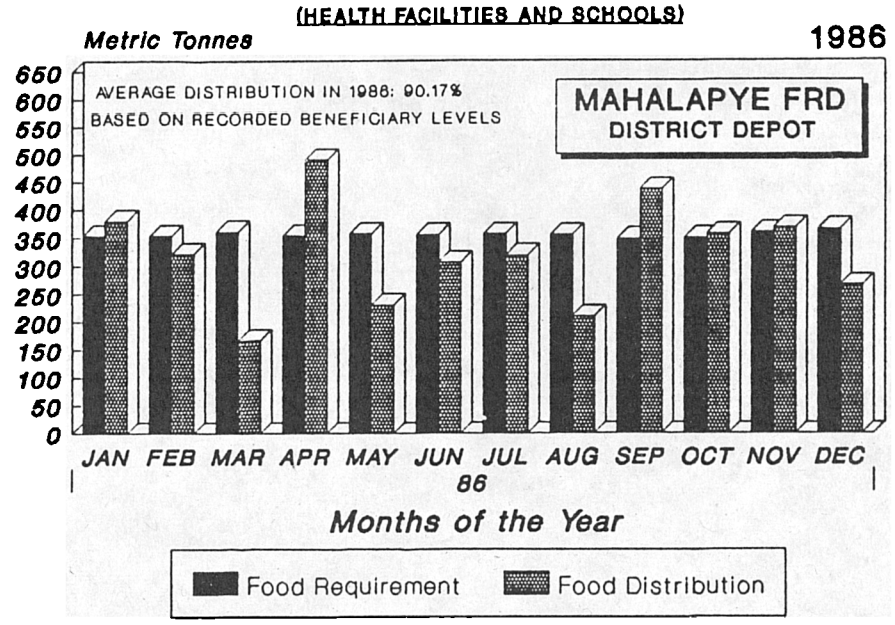


Source: FRD Stock Analysis Ledgers, 1986

Fig.A3:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(HEALTH FACILITIES AND SCHOOLS)

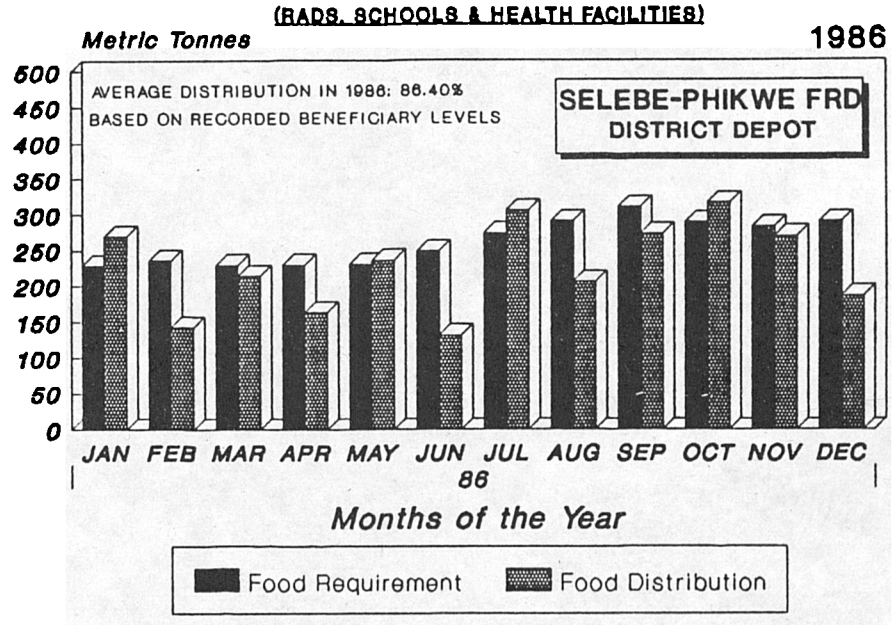


Source: FRD Stock Analysis Ledgers, 1986

Fig.A4:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

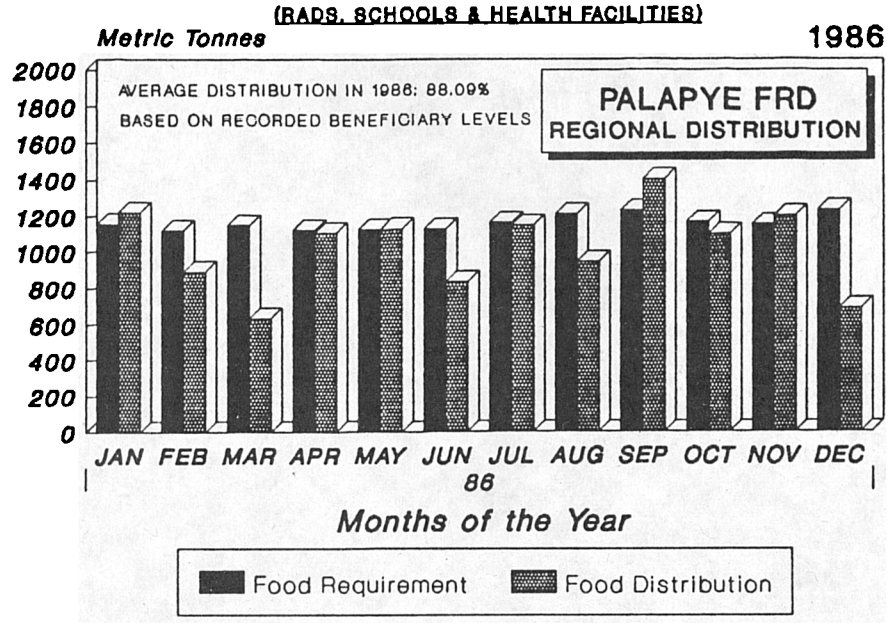


Source: FRD Stock Analysis Ledgers, 1986

Fig.A5:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

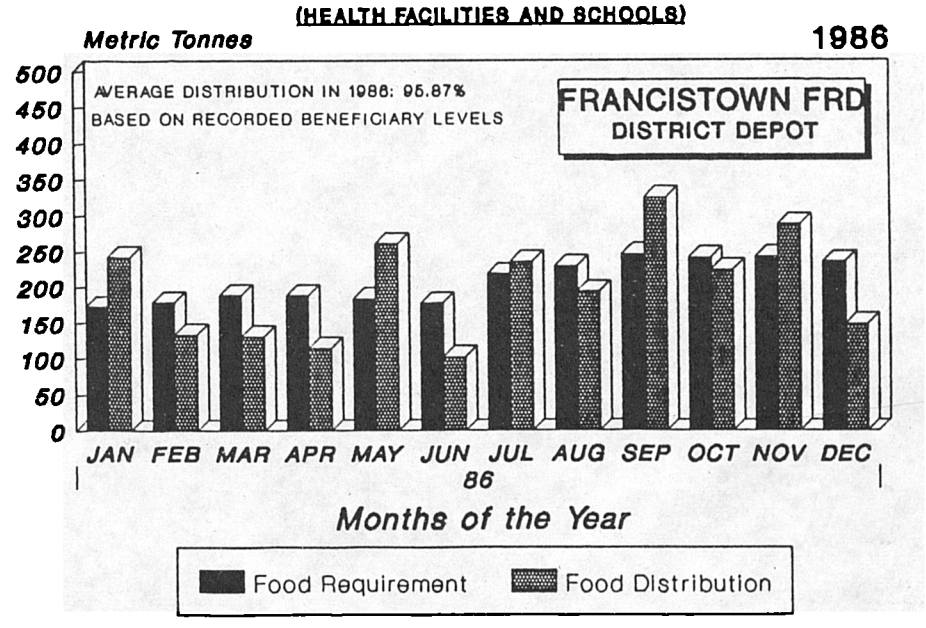


Source: FRD Stock Analysis Ledgers, 1986

Fig.A6:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(HEALTH FACILITIES AND SCHOOLS)

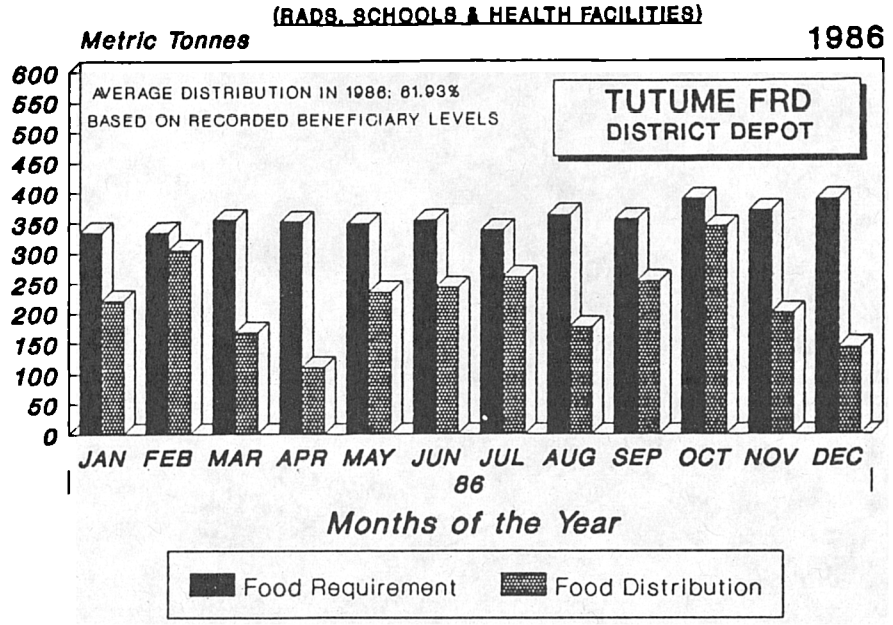


Source: FRD Stock Analysis Ledgers, 1986

Fig.A7:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

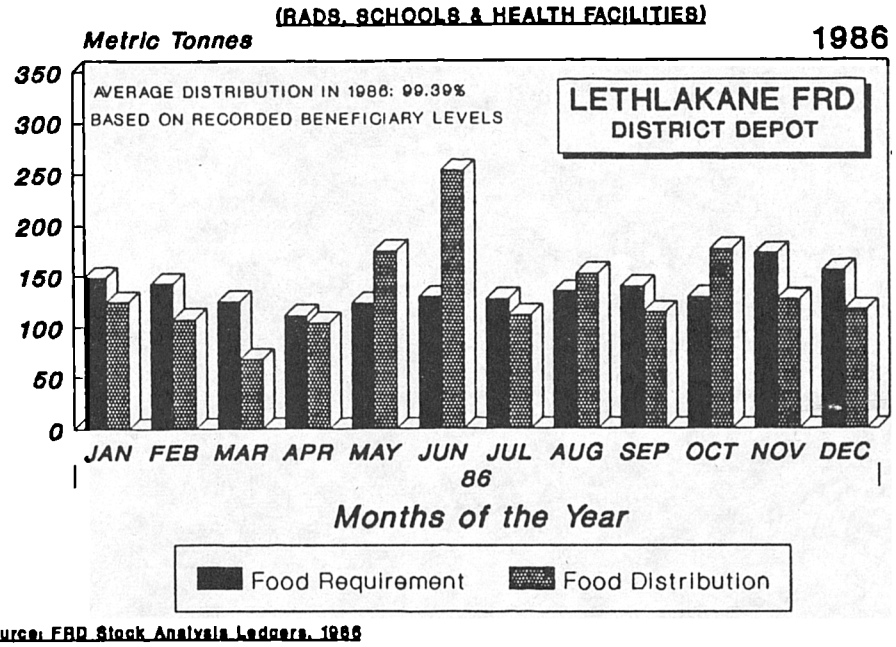


Source: FRD Stock Analysis Ledgers, 1986

Fig.A8:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

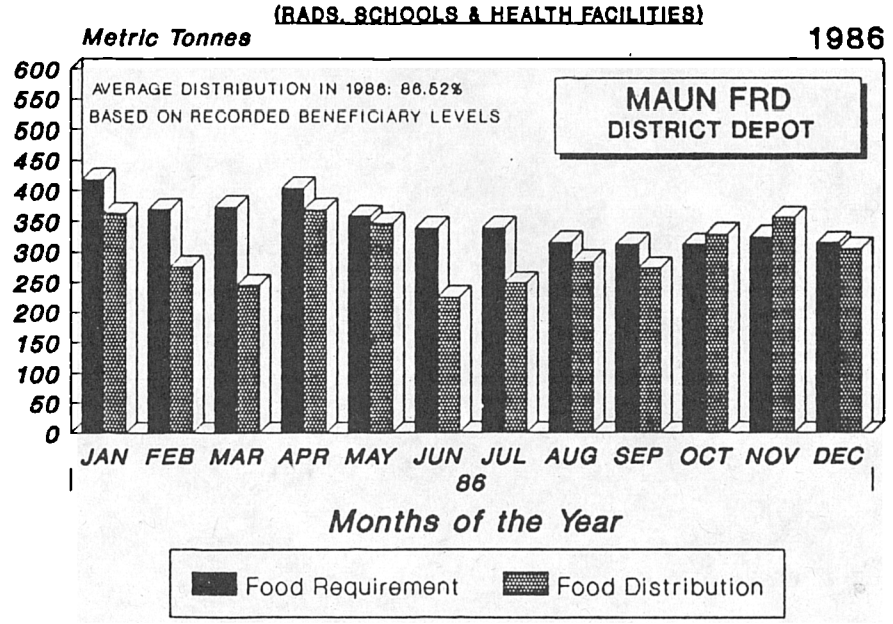


Source: FRD Stock Analysis Ledgers, 1986

Fig.A9:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

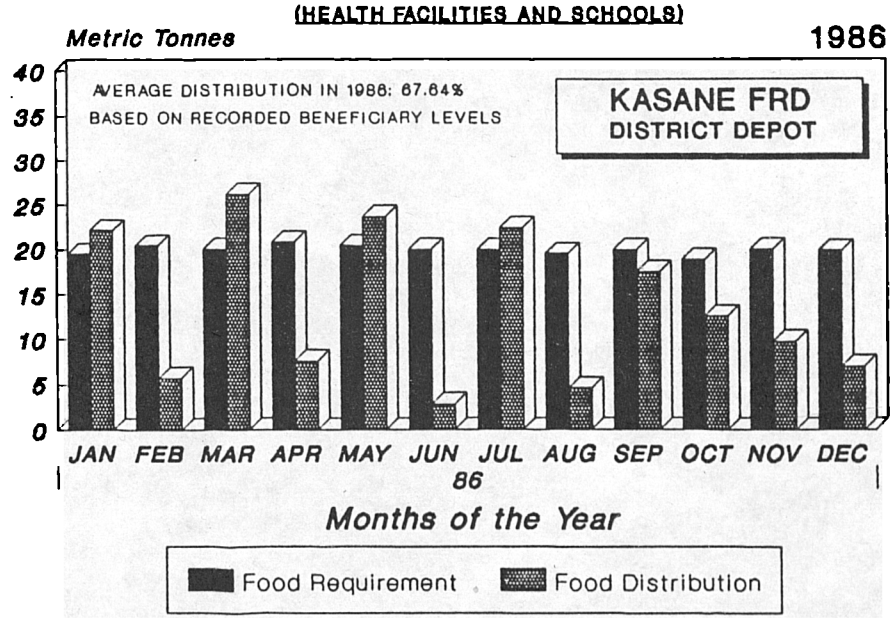


Source: FRD Stock Analysis Ledgers, 1986

Fig.A10:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(HEALTH FACILITIES AND SCHOOLS)

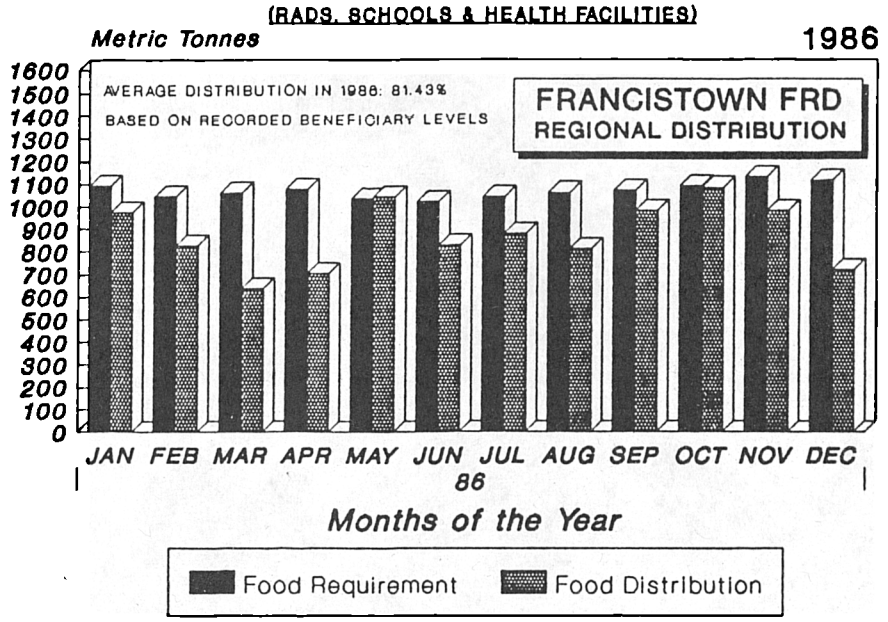


Source: FRD Stock Analysis Ledgers, 1986

Fig.A11:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

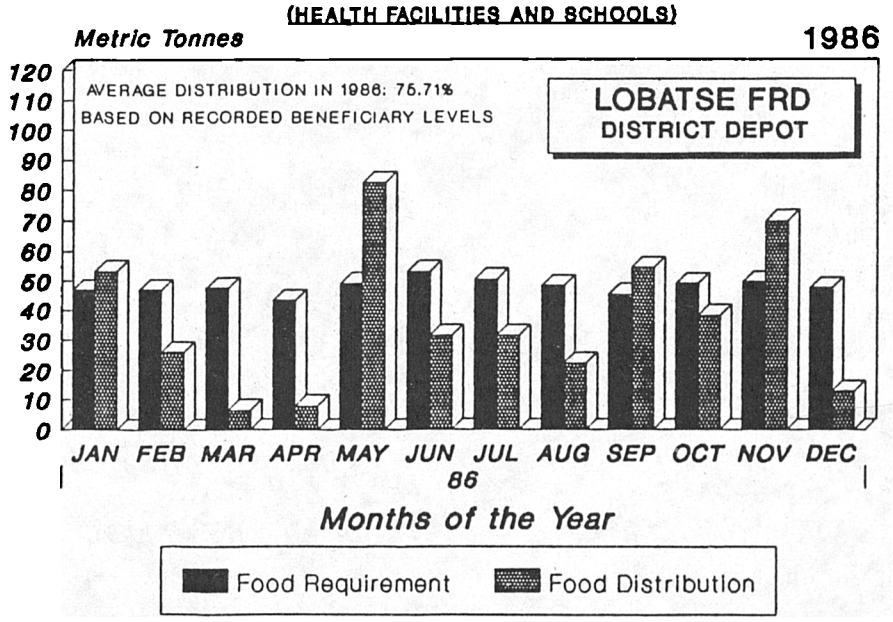


Source: FRD Stock Analysis Ledgers, 1986

Fig.A12:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(HEALTH FACILITIES AND SCHOOLS)

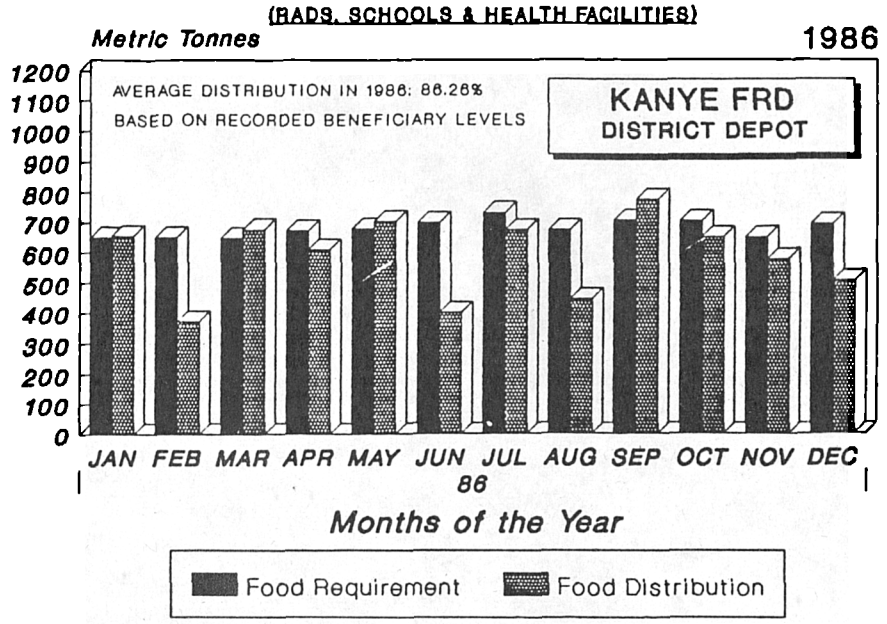


Source: FRD Stock Analysis Ledgers, 1986

Fig.A13:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

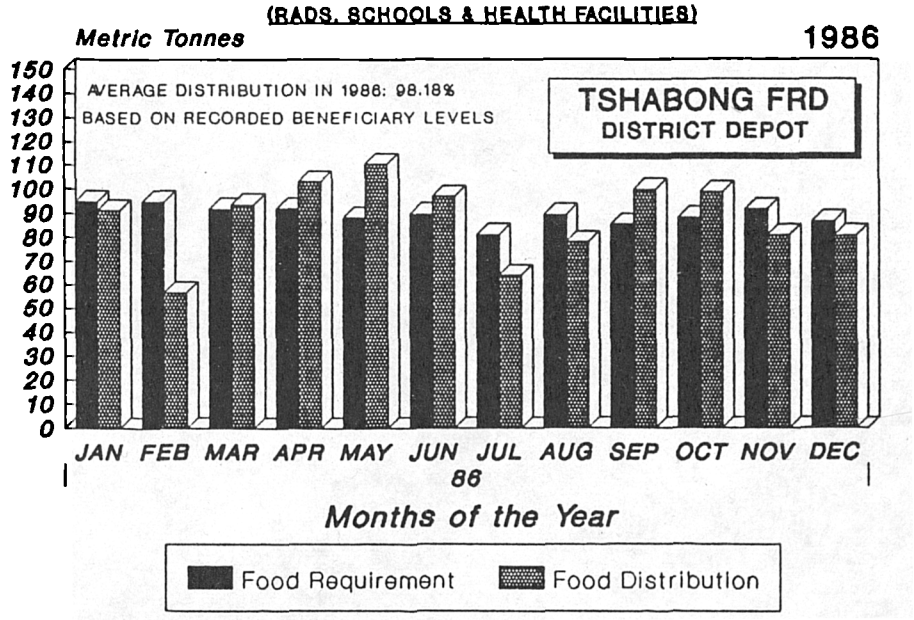


Source: FRD Stock Analysis Ledgers, 1986

Fig.A14:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

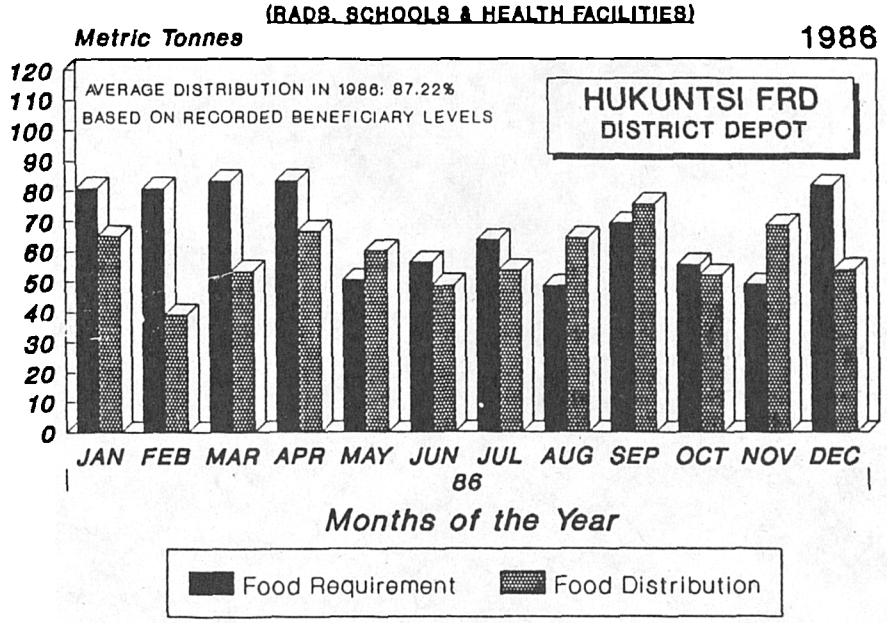


Source: FRD Stock Analysis Ledgers, 1986

Fig.A15:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

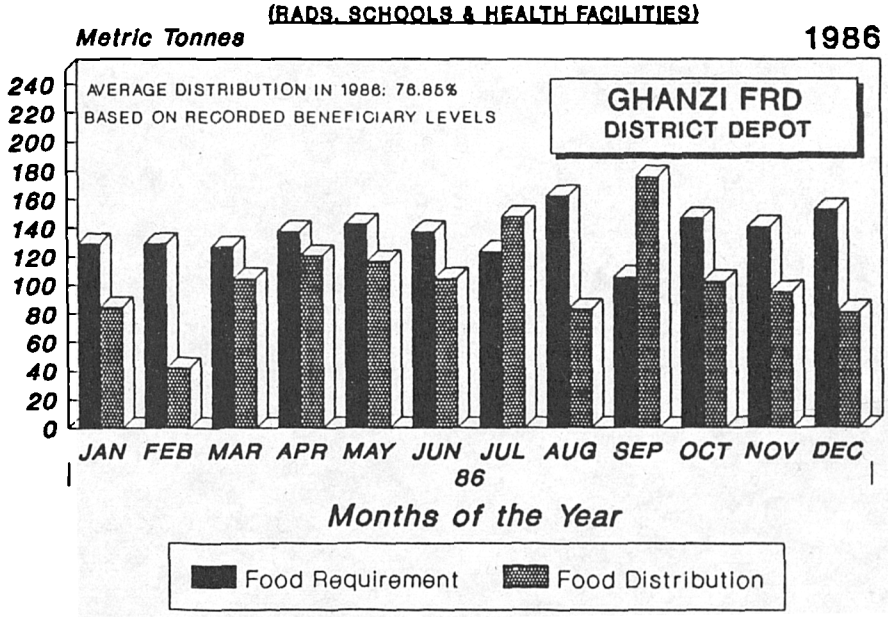


Source: FRD Stock Analysis Ledgers, 1986

Fig.A16:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

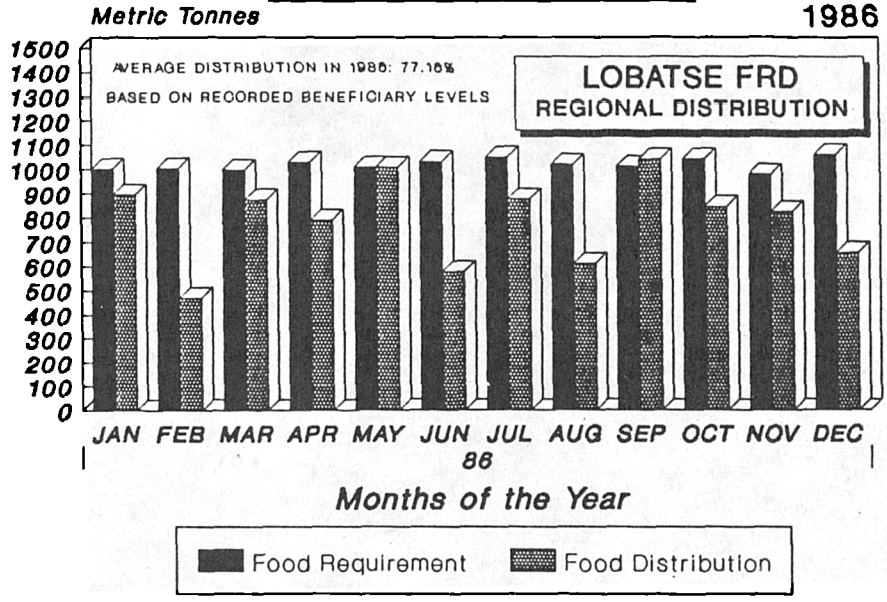


Source: FRD Stock Analysis Ledgers, 1986

Fig.A17:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

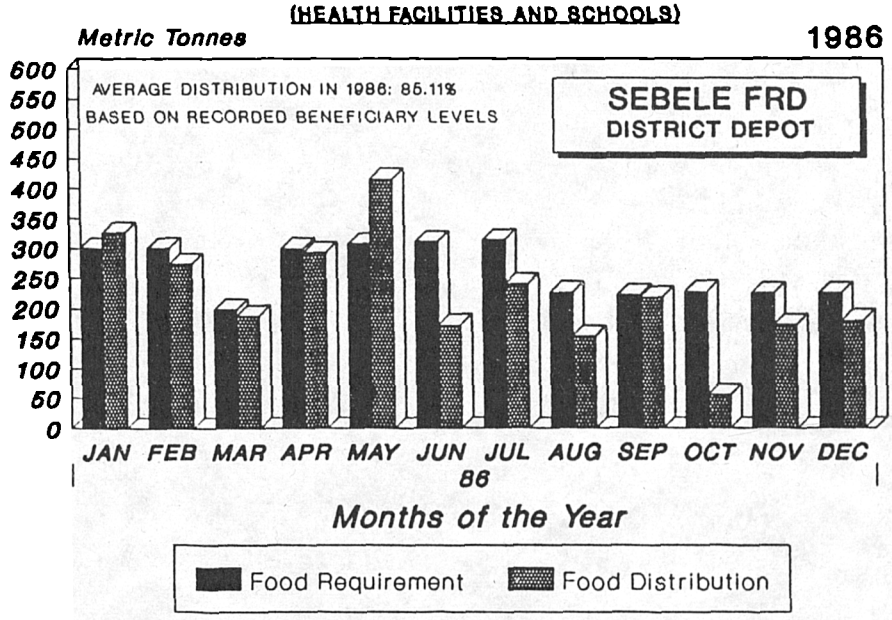


Source: FRD Stock Analysis Ledgers, 1986

Fig.A18:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(HEALTH FACILITIES AND SCHOOLS)

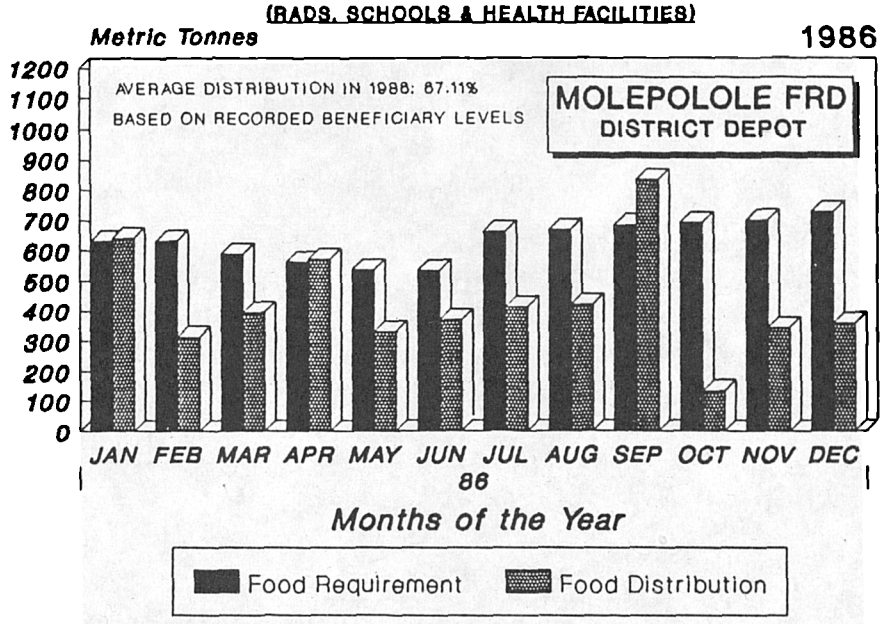


Source: FRD Stock Analysis Ledgers, 1986

Fig.A19:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

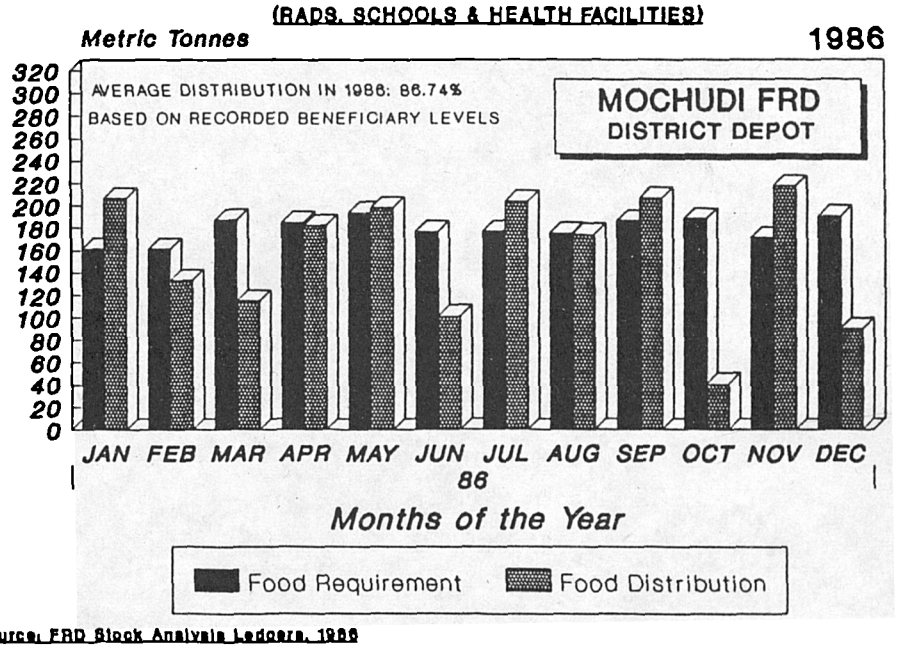


Source: FRD Stock Analysis Ledgers, 1986

Fig.A20:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

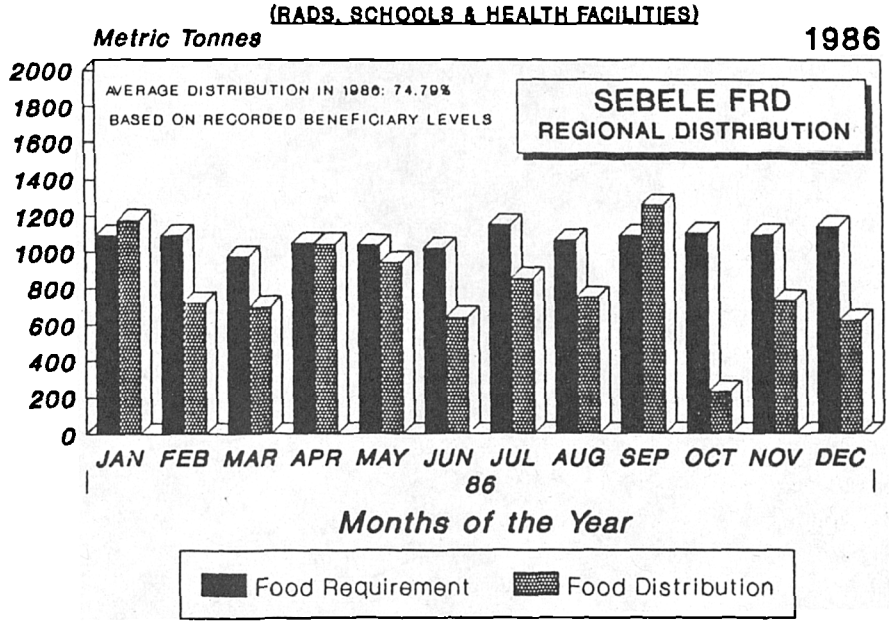


Source: FRD Stock Analysis Ledgers, 1986

Fig.A21:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

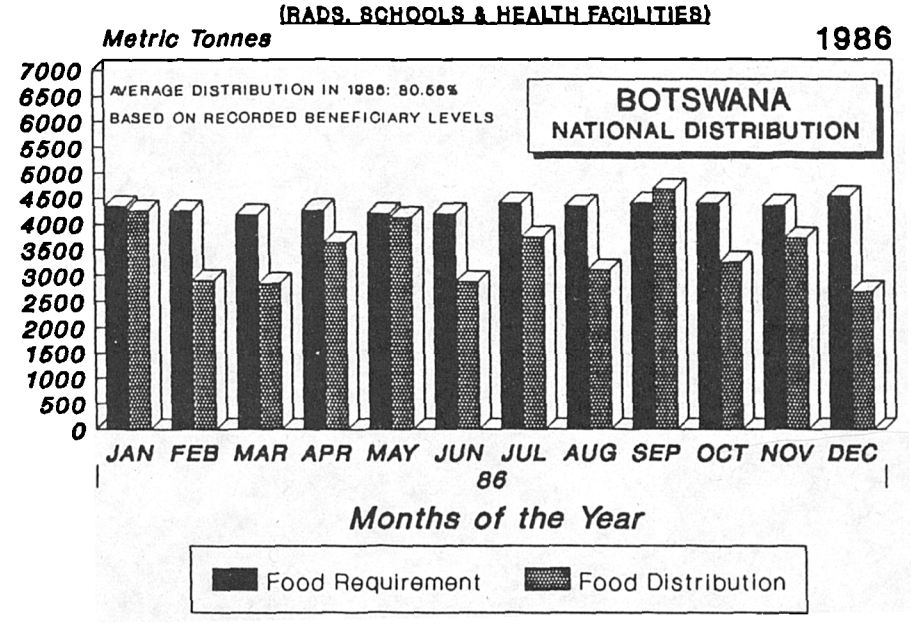


Source: FRD Stock Analysis Ledgers, 1986

Fig.A22:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

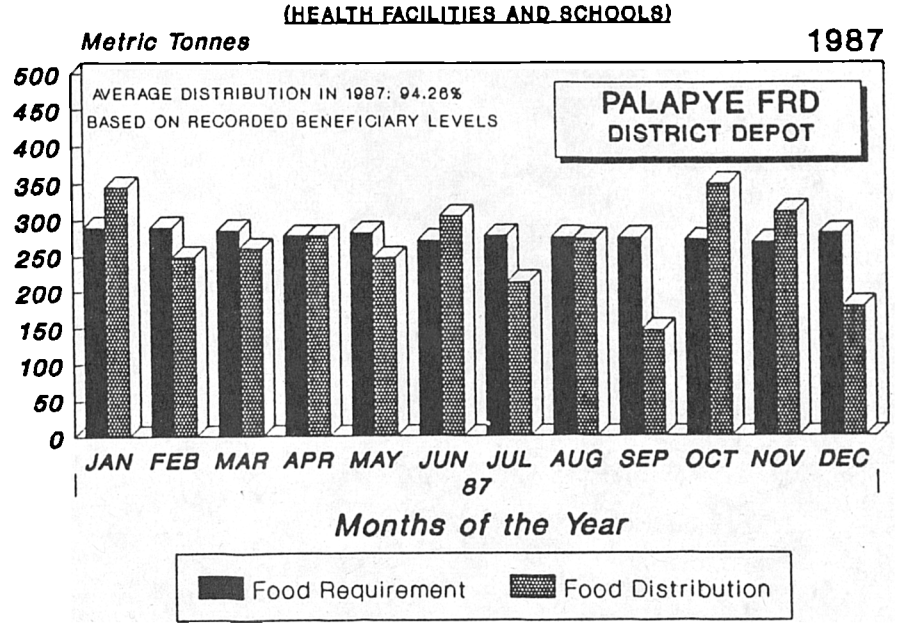


Source: FRD Stock Analysis Ledgers, 1986

Fig.A23: BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(HEALTH FACILITIES AND SCHOOLS)

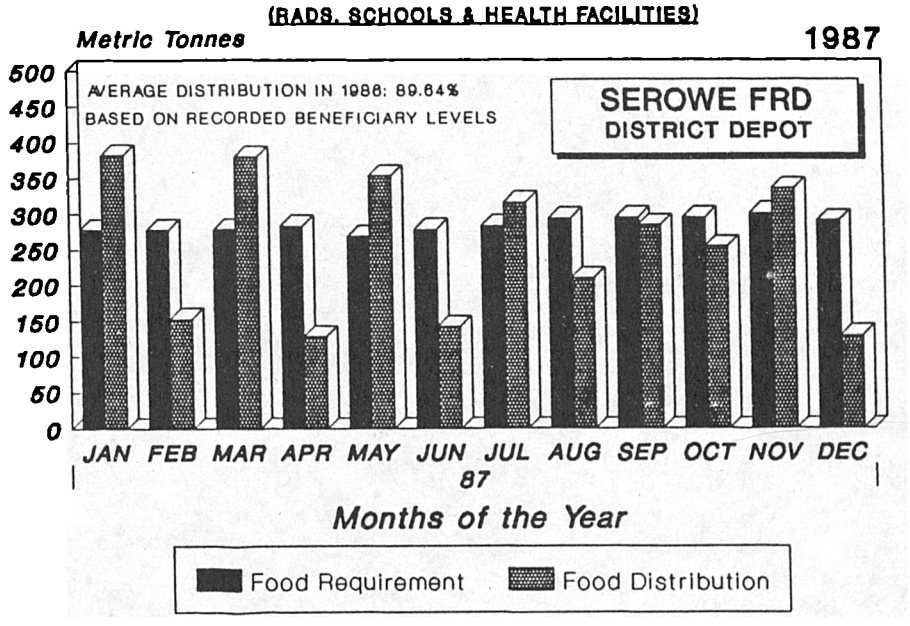


Source: FRD Stock Analysis Ledgers, 1987

Fig.A24: BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

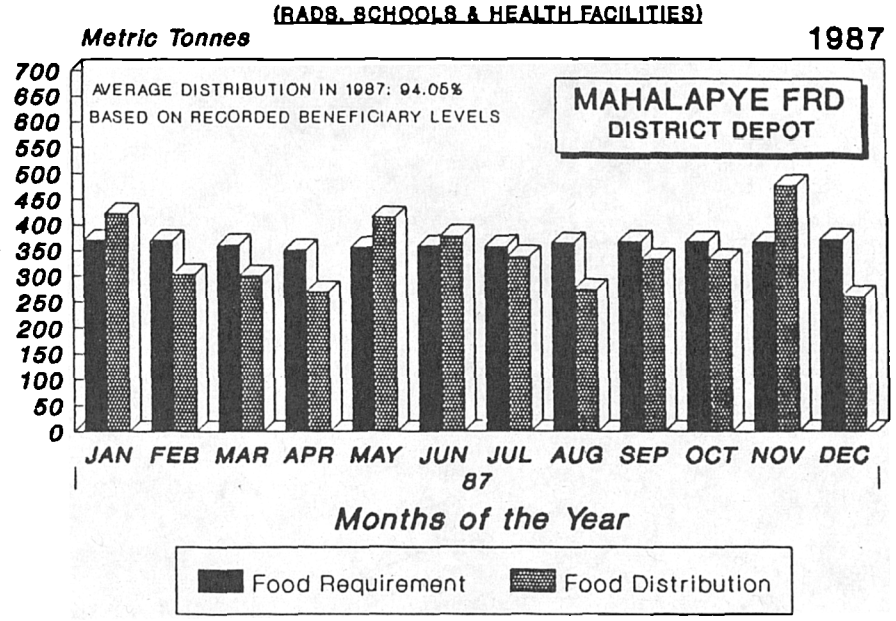


Source: FRD Stock Analysis Ledgers, 1987

Fig.A25:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

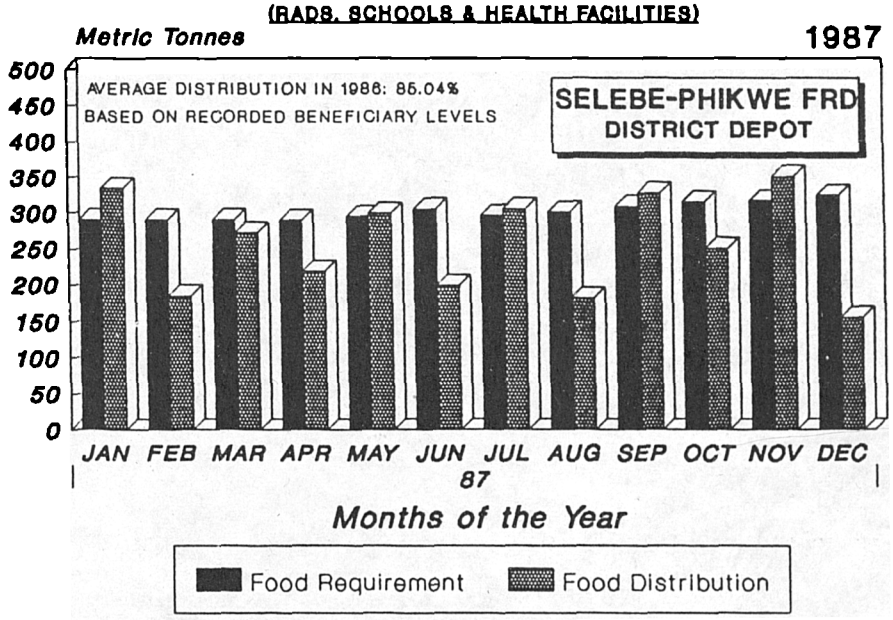


Source: FRD Stock Analysis Ledgers, 1987

Fig.A26:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

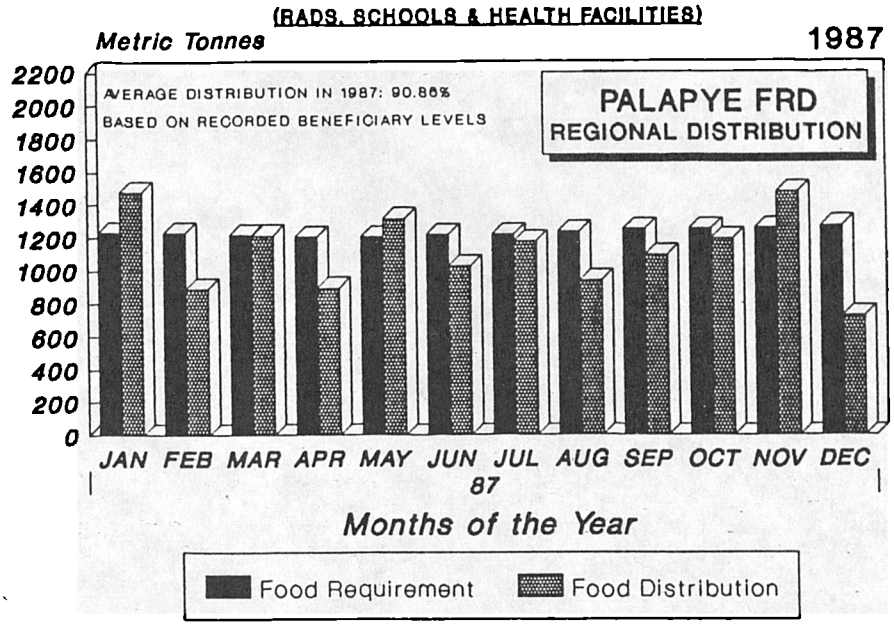


Source: FRD Stock Analysis Ledgers, 1987

Fig.A27:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

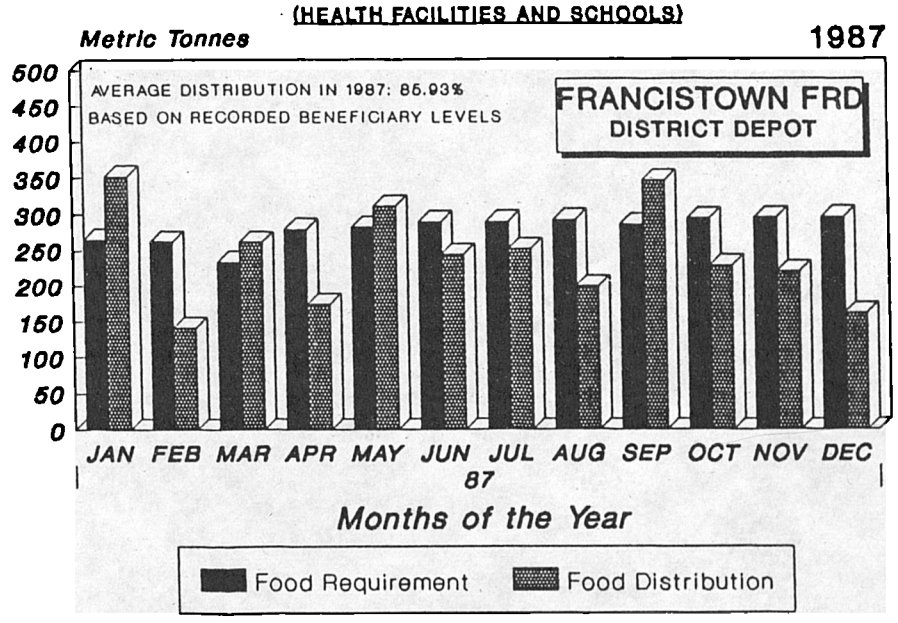


Source: FRD Stock Analysis Ledgers, 1987

Fig.A28:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(HEALTH FACILITIES AND SCHOOLS)

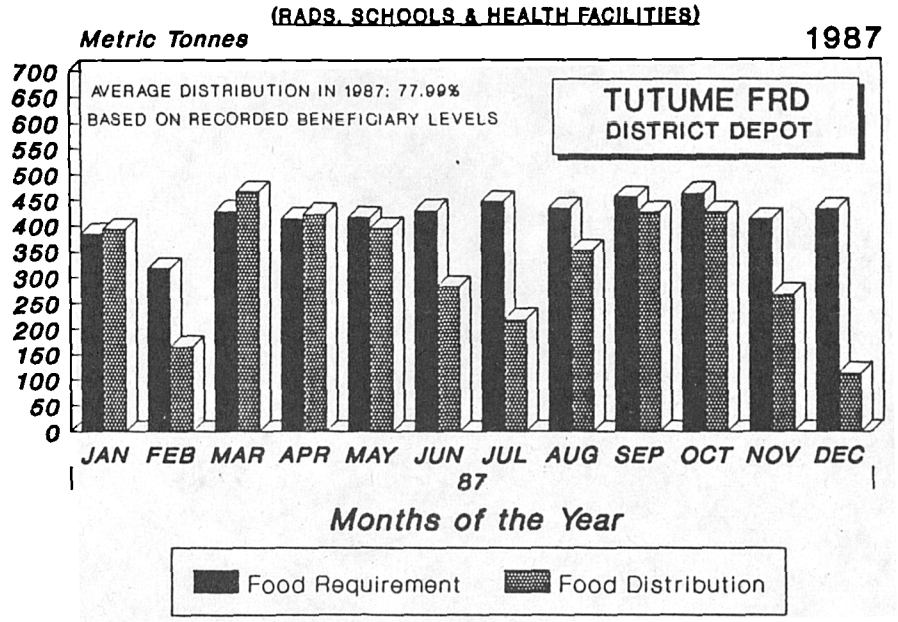


Source: FRD Stock Analysis Ledgers, 1987

Fig.A29:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

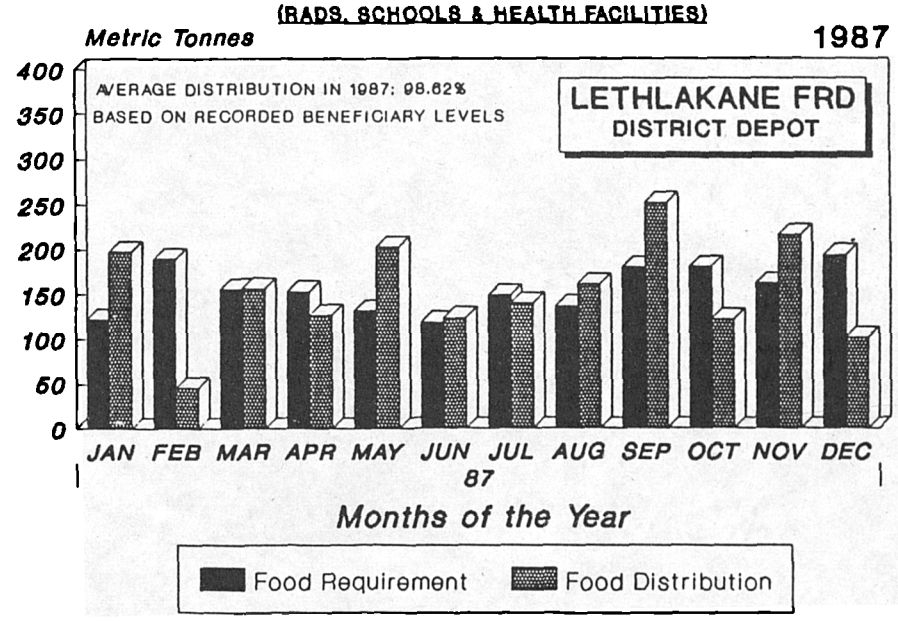


Source: FRD Stock Analysis Ledgers, 1987

Fig.A30:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

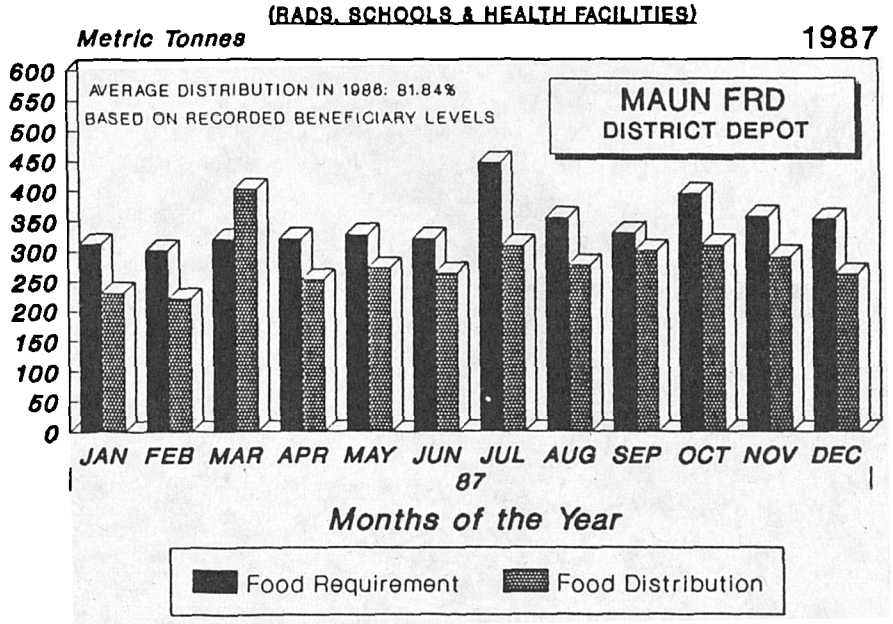


Source: FRD Stock Analysis Ledgers, 1987

Fig.A31:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

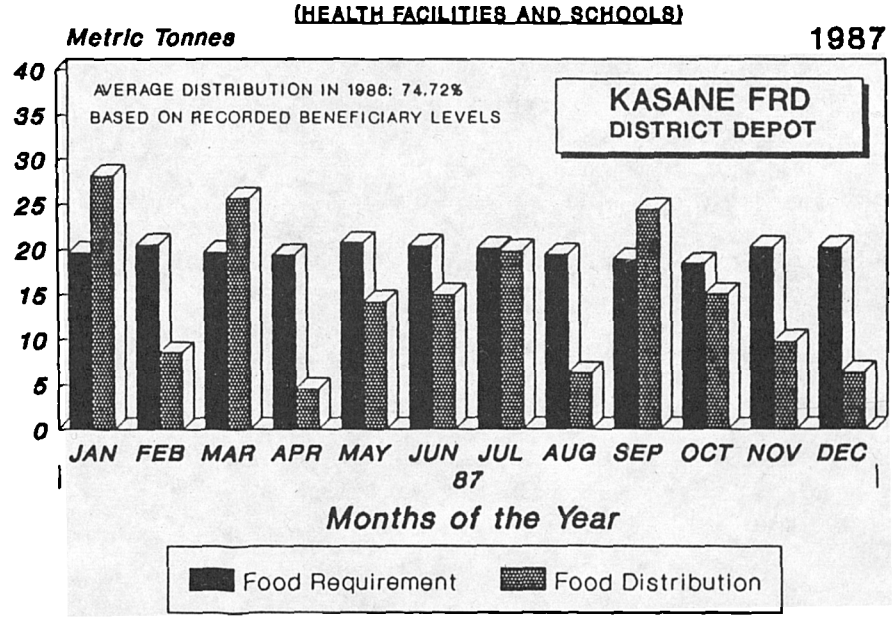


Source: FRD Stock Analysis Ledgers, 1987

Fig.A32:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(HEALTH FACILITIES AND SCHOOLS)

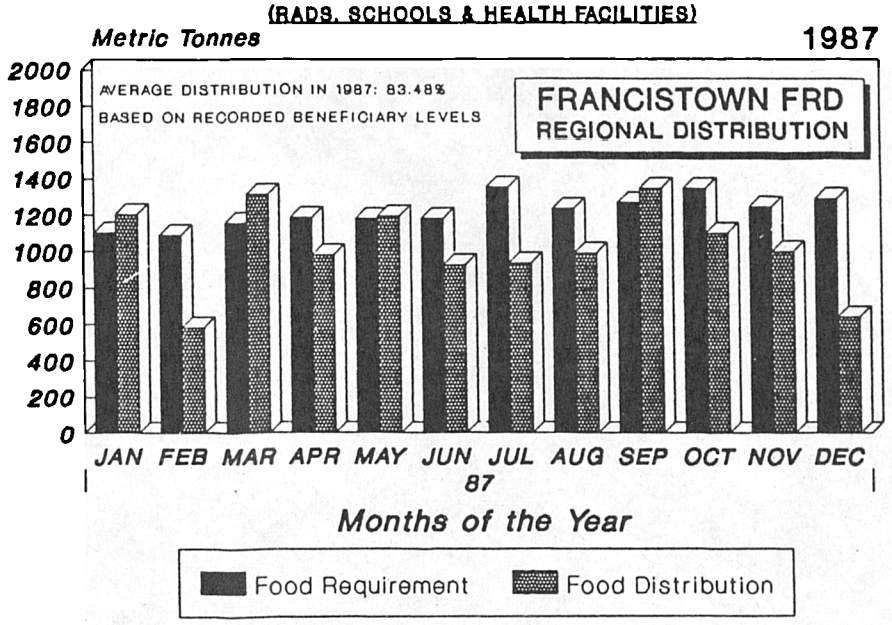


Source: FRD Stock Analysis Ledgers, 1987

Fig.A33:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

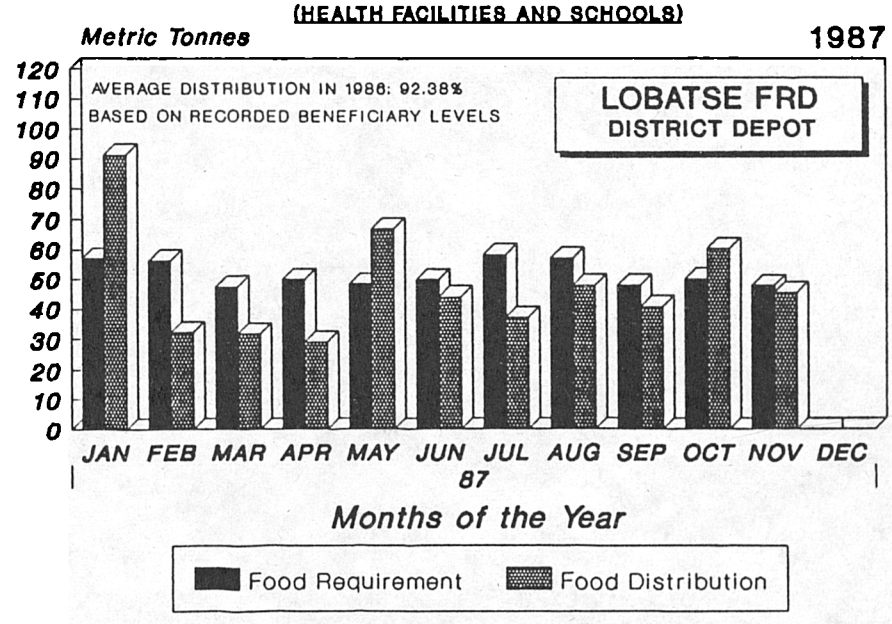


Source: FRD Stock Analysis Ledgers, 1987

Fig.A34:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(HEALTH FACILITIES AND SCHOOLS)

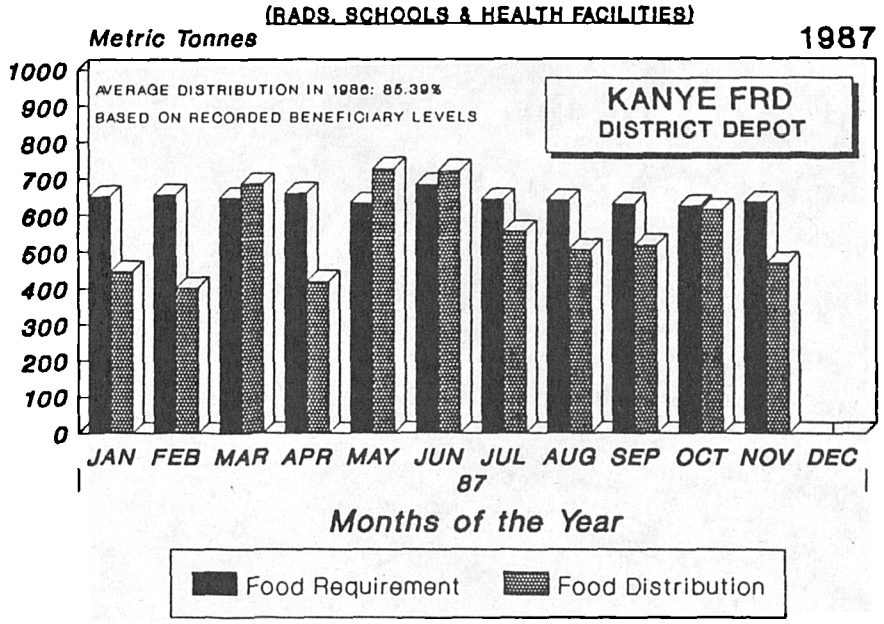


Source: FRD Stock Analysis Ledgers, 1987

Fig.A35:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

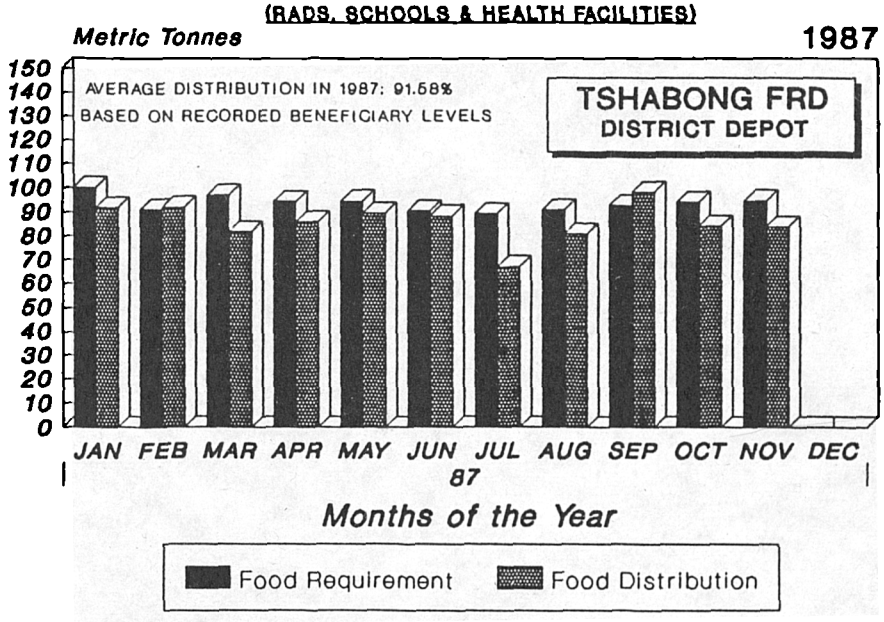


Source: FRD Stock Analysis Ledgers, 1987

Fig.A36:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

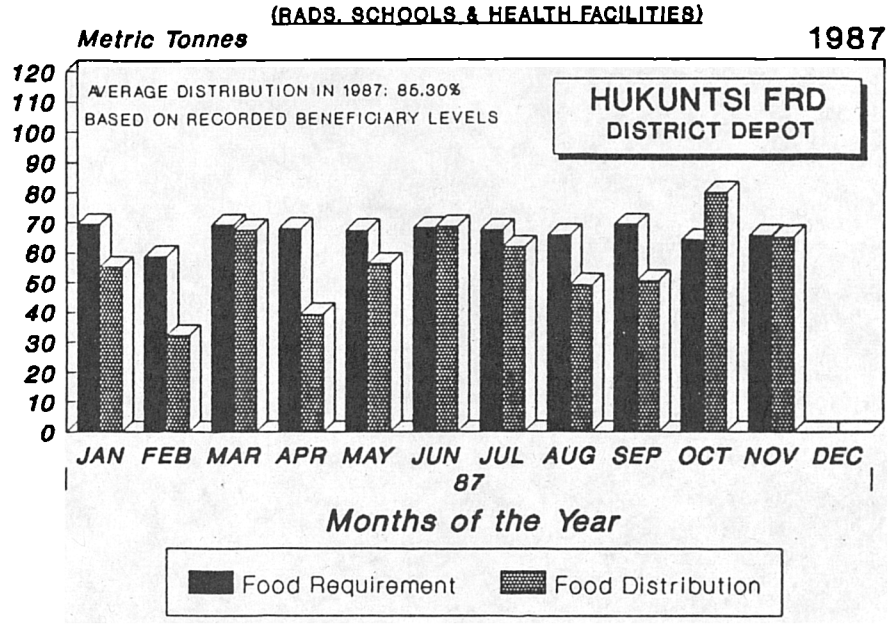


Source: FRD Stock Analysis Ledgers, 1987

Fig.A37:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

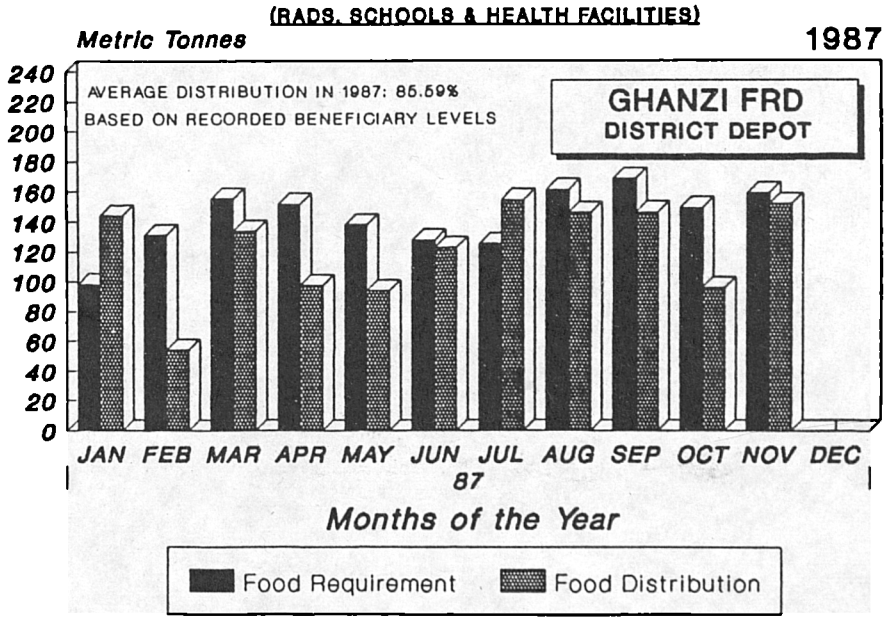


Source: FRD Stock Analysis Ledgers, 1987

Fig.A38:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

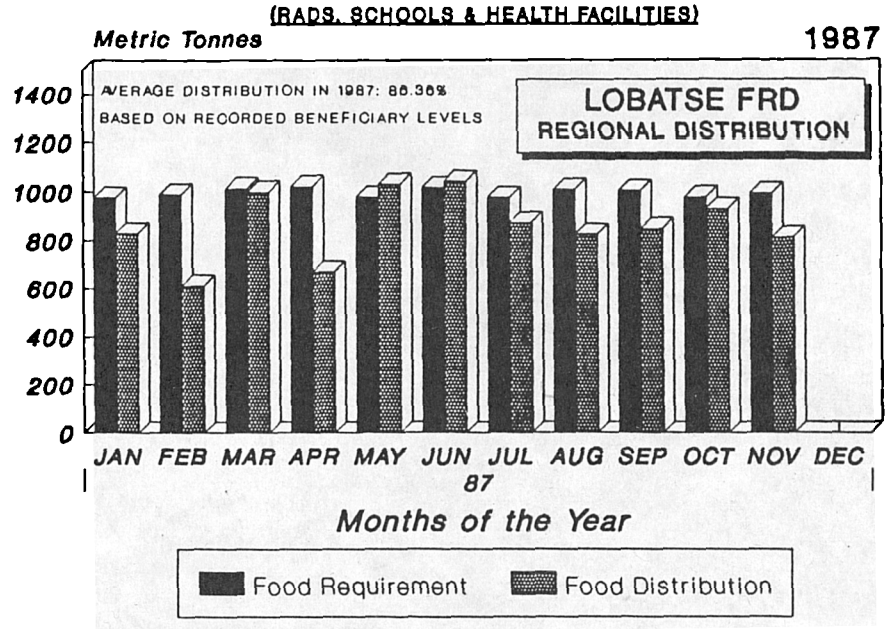


Source: FRD Stock Analysis Ledgers, 1987

Fig.A39:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

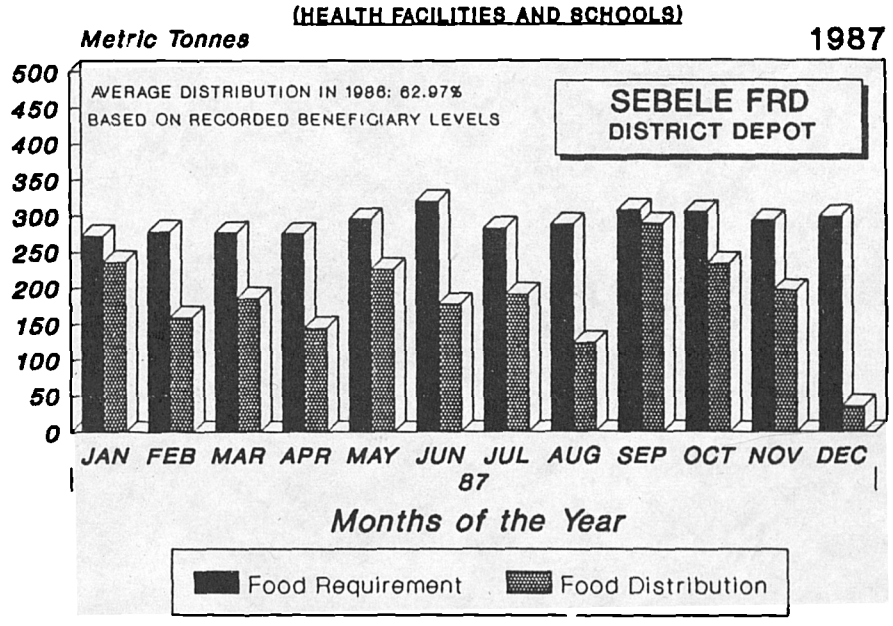


Source: FRD Stock Analysis Ledgers, 1987

Fig.A40:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(HEALTH FACILITIES AND SCHOOLS)

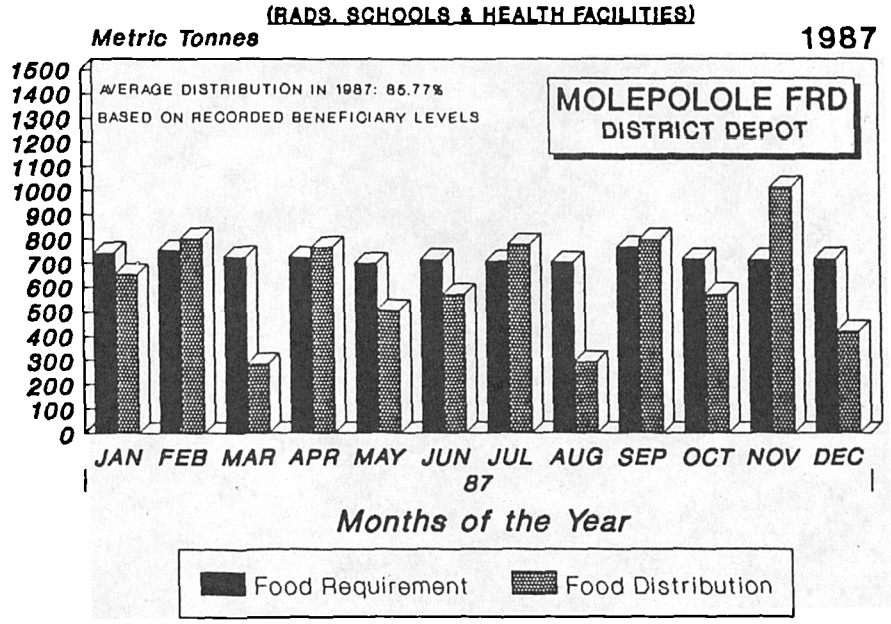


Source: FRD Stock Analysis Ledgers, 1987

Fig.A41: BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

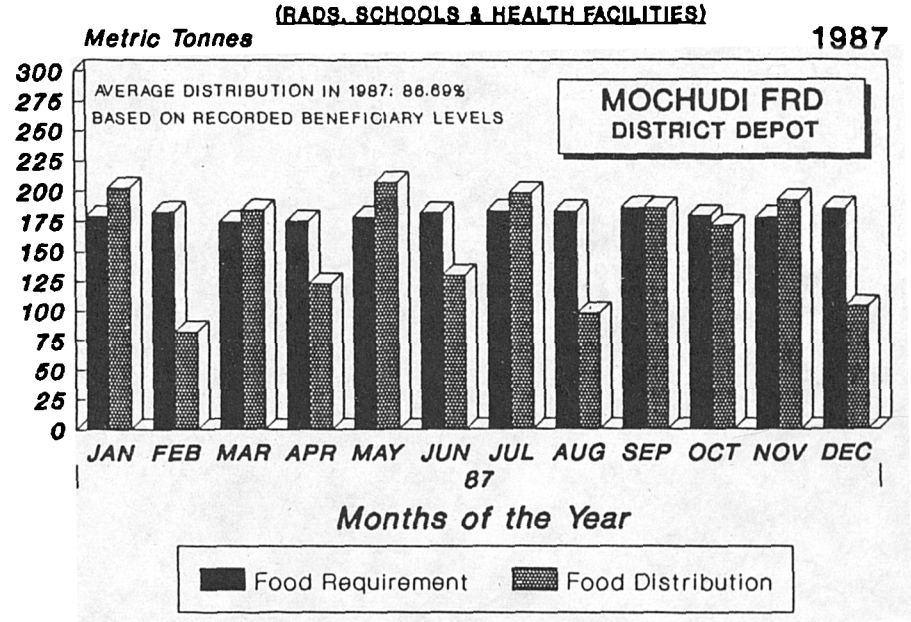


Source: FRD Stock Analysis Ledgers, 1987

Fig.A42:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

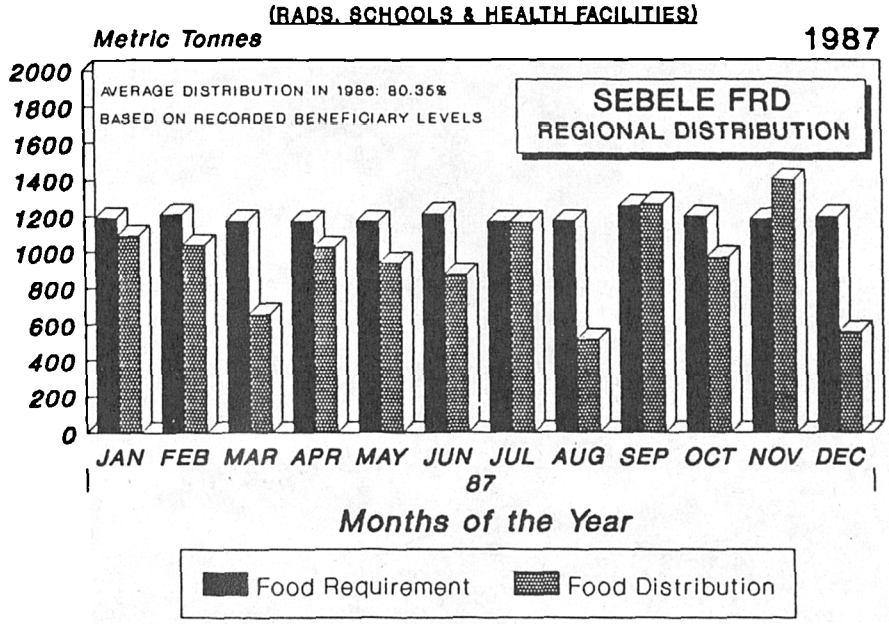


Source: FRD Stock Analysis Ledgers, 1987

Fig.A43:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

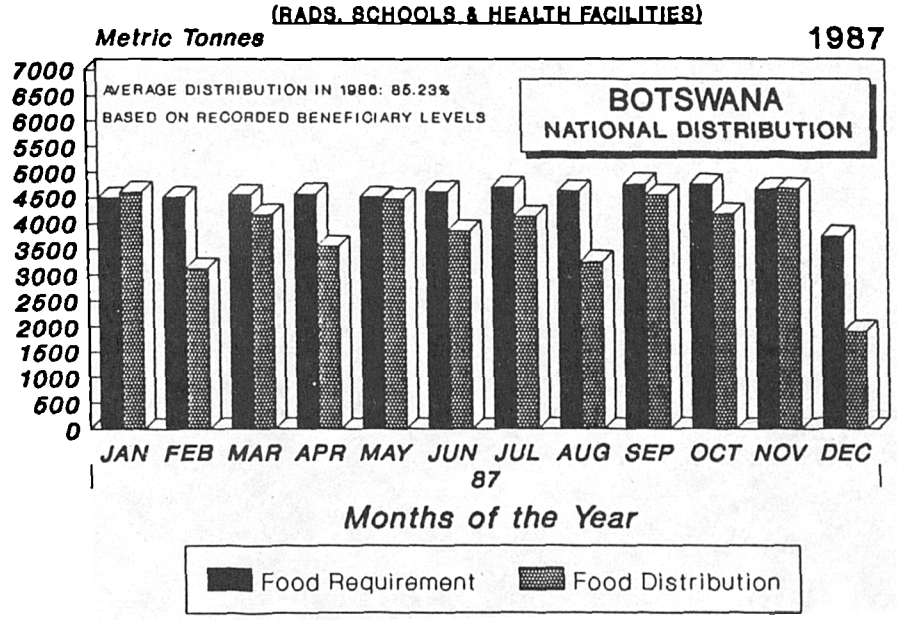


Source: FRD Stock Analysis Ledgers, 1987

Fig.A44:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

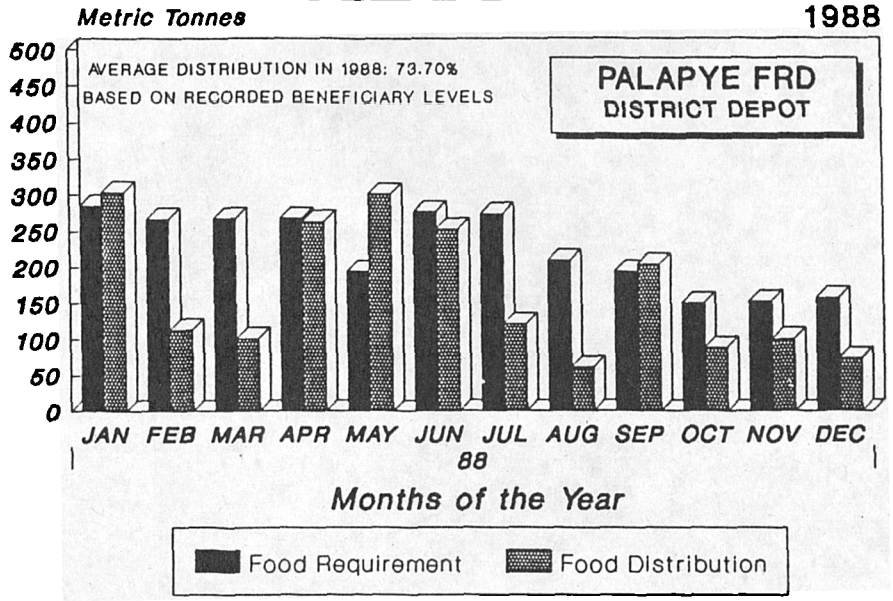


Source: FRD Stock Analysis Ledgers, 1987

Fig.A45: BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(HEALTH FACILITIES AND SCHOOLS)

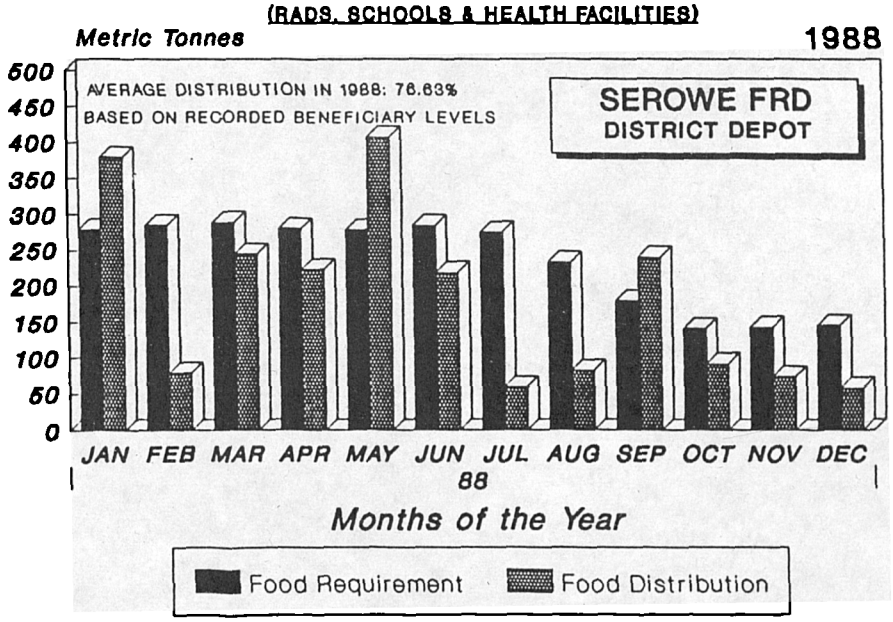


Source: FRD Stock Analysis Ledgers, 1988

Fig.A46: BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

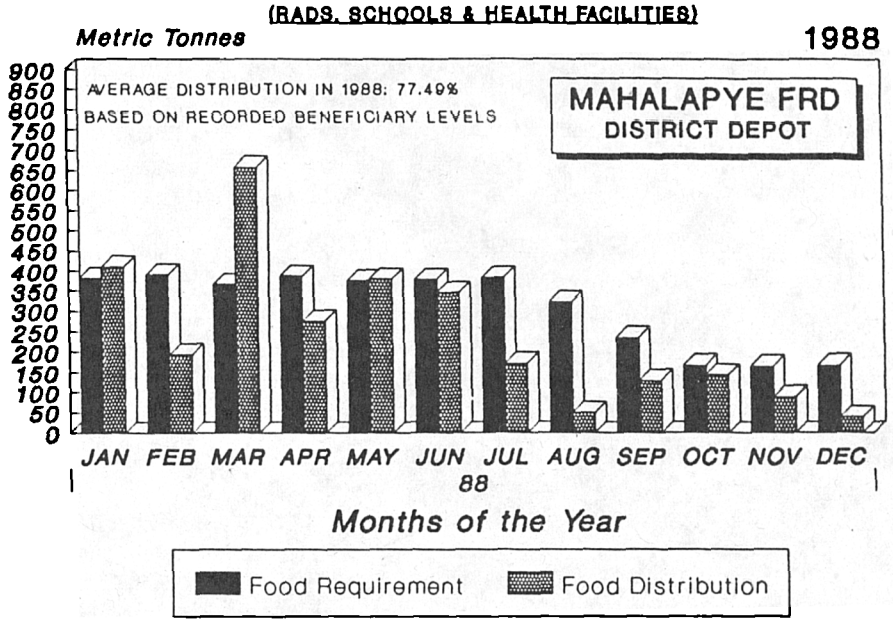


Source: FRD Stock Analysis Ledgers, 1988

Fig.A47:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

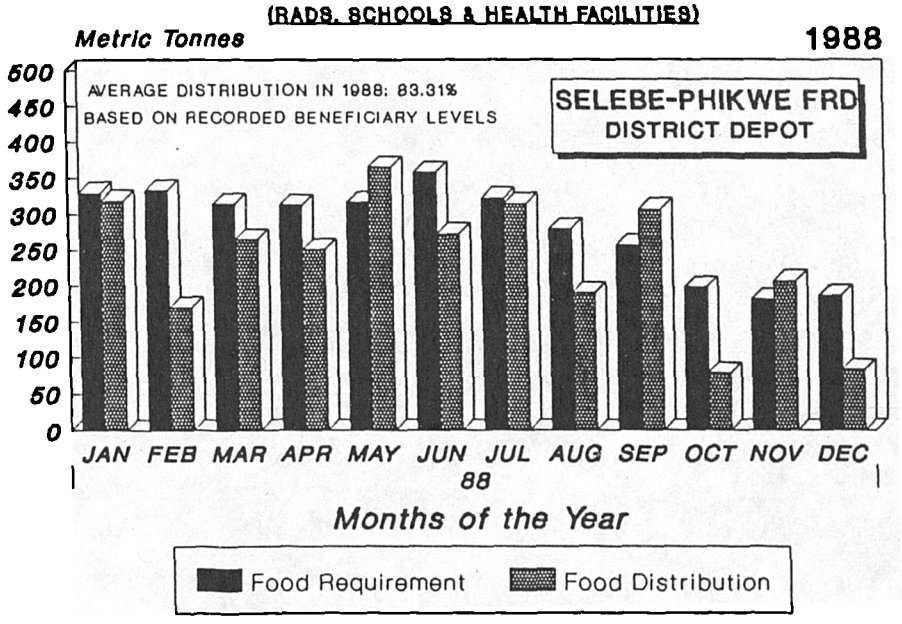


Source: FRD Stock Analysis Ledgers, 1988

Fig.A48:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

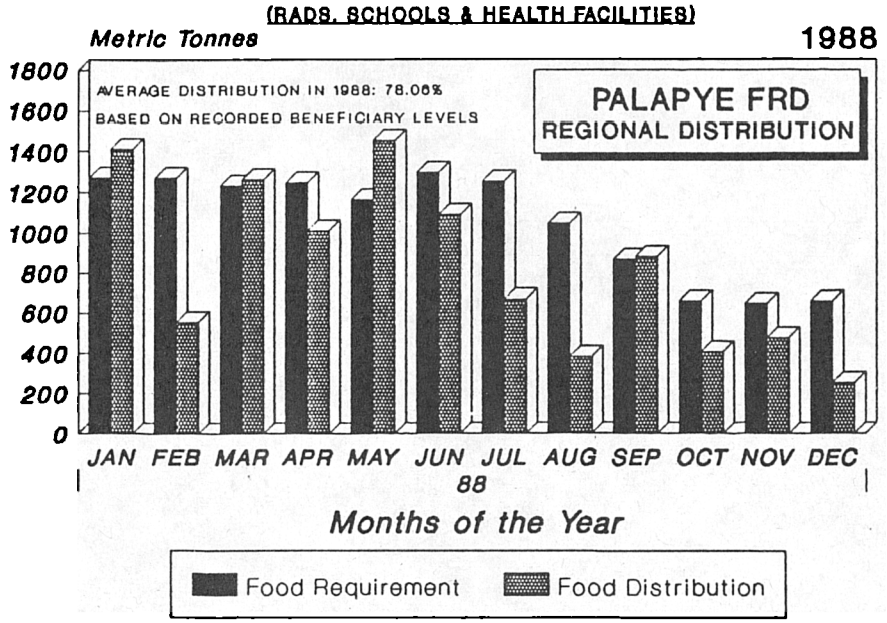


Source: FRD Stock Analysis Ledgers, 1988

Fig.A49:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

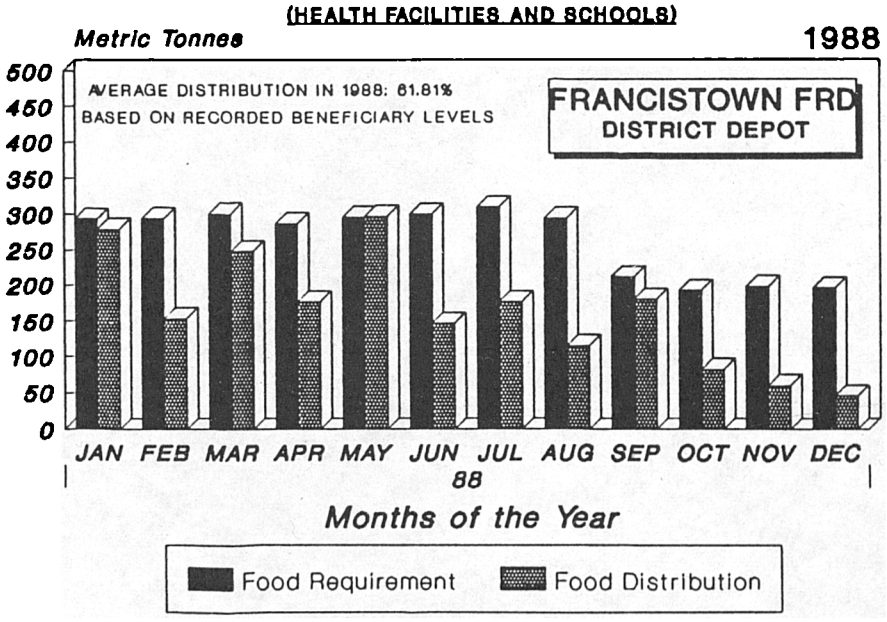


Source: FRD Stock Analysis Ledgers, 1988

Fig.A50:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(HEALTH FACILITIES AND SCHOOLS)

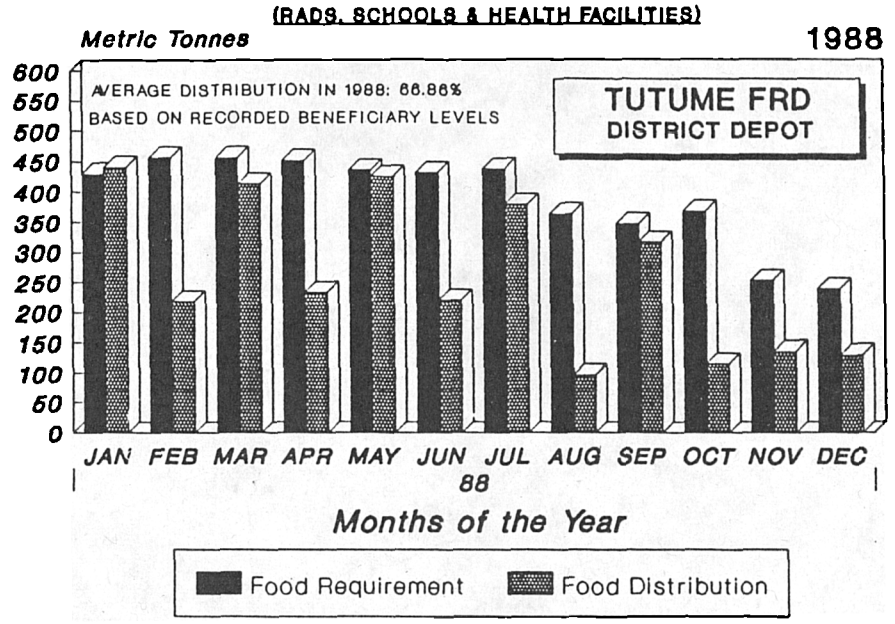


Source: FRD Stock Analysis Ledgers, 1988

Fig.A51:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

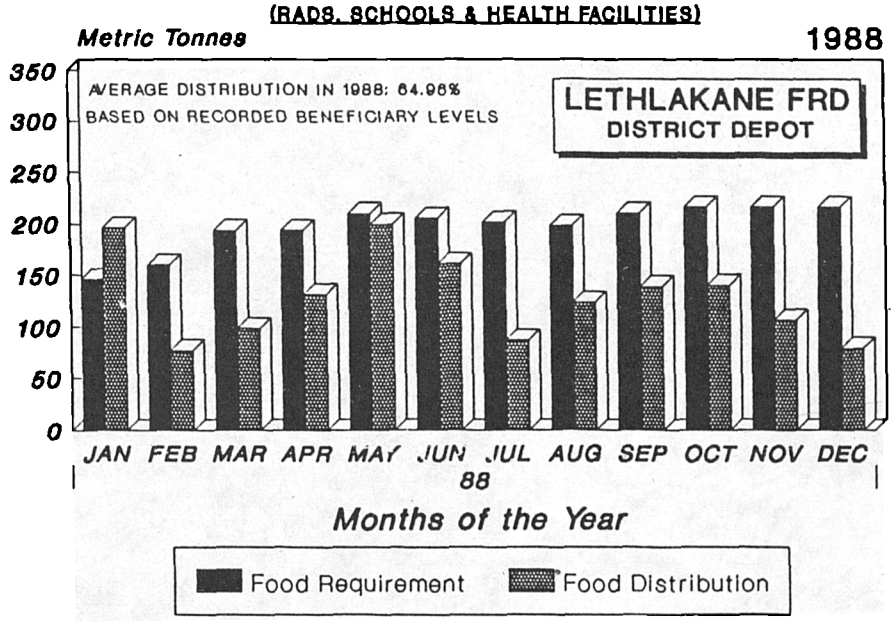


Source: FRD Stock Analysis Ledgers, 1988

Fig.A52:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

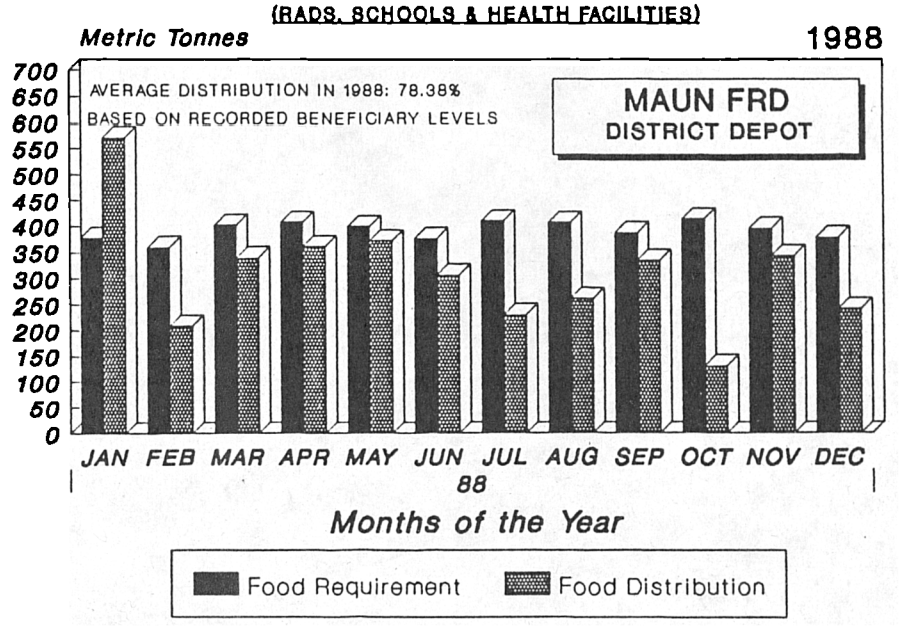


Source: FRD Stock Analysis Ledgers, 1988

Fig.A53:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

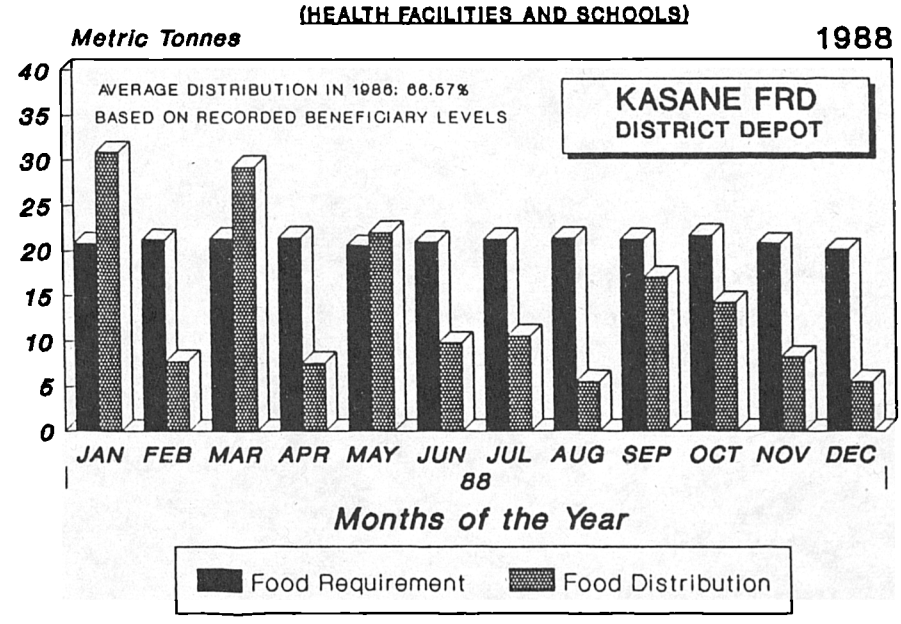


Source: FRD Stock Analysis Ledgers, 1988

Fig.A54:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(HEALTH FACILITIES AND SCHOOLS)

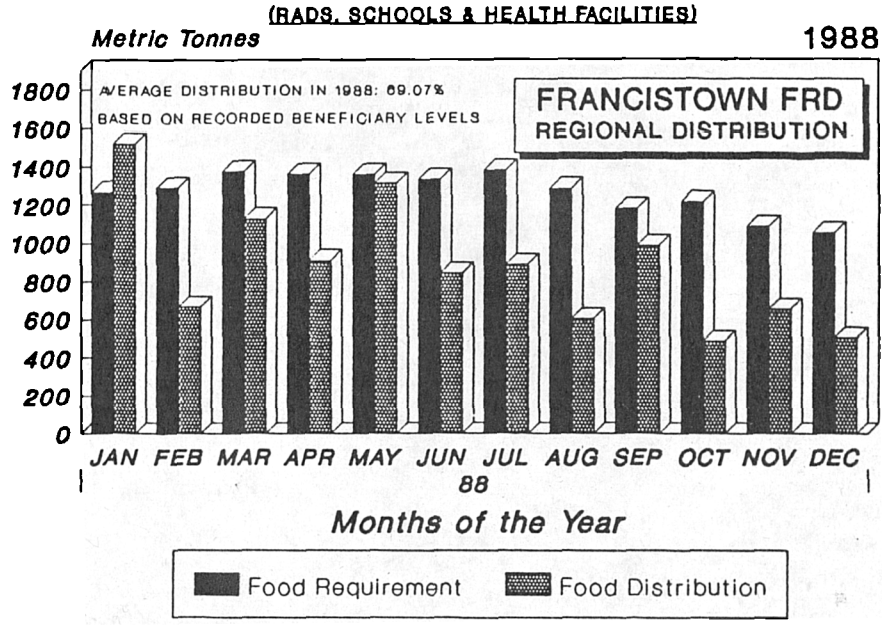


Source: FRD Stock Analysis Ledgers, 1988

Fig.A55:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

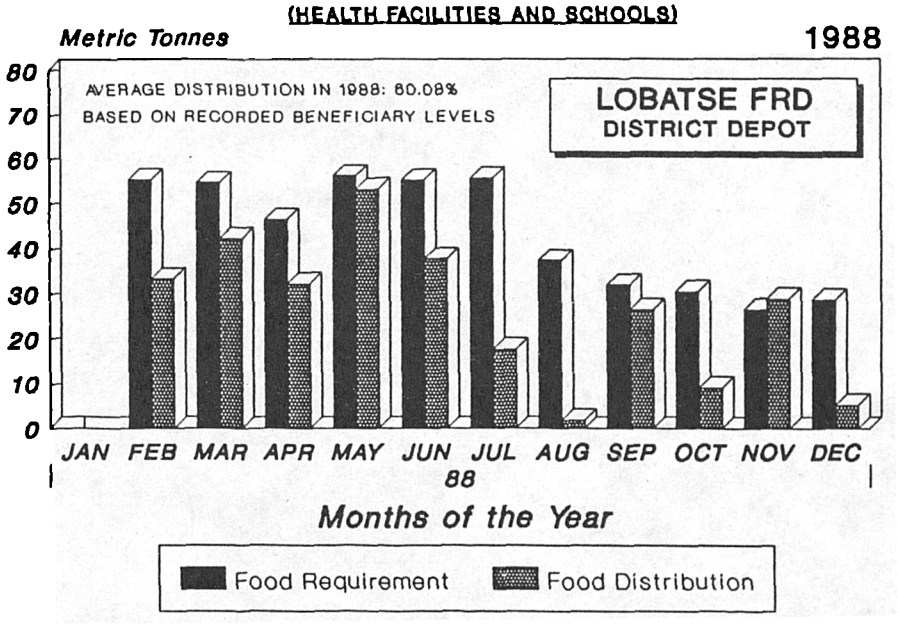


Source: FRD Stock Analysis Ledgers, 1988

Fig.A56:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(HEALTH FACILITIES AND SCHOOLS)

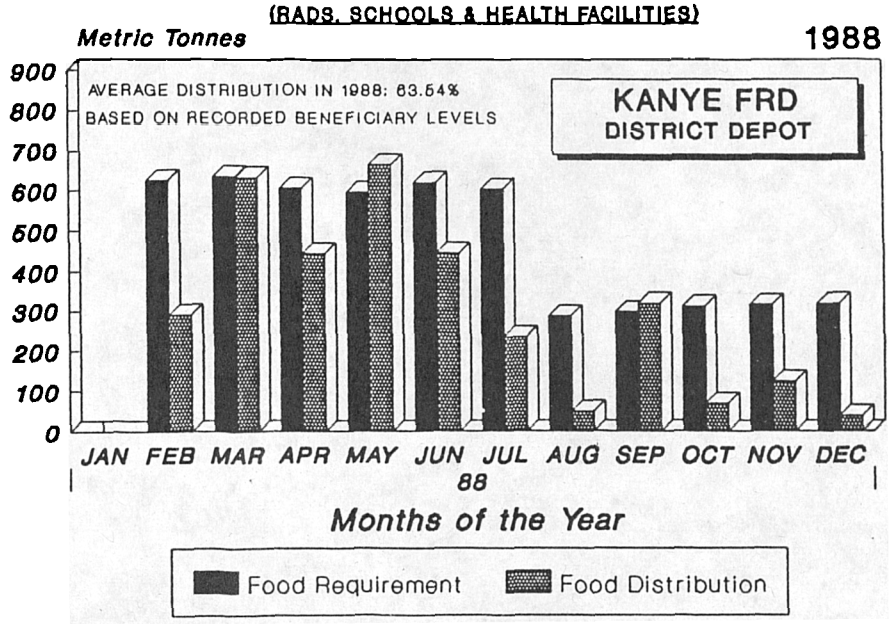


Source: FRD Stock Analysis Ledgers, 1988

Fig.A57:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

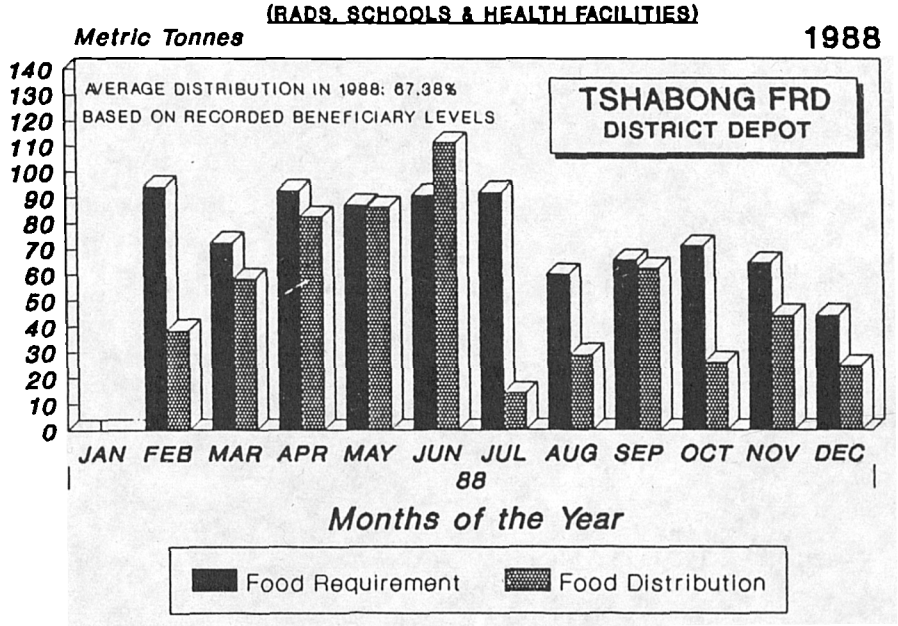


Source: FRD Stock Analysis Ledgers, 1988

Fig.A58:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

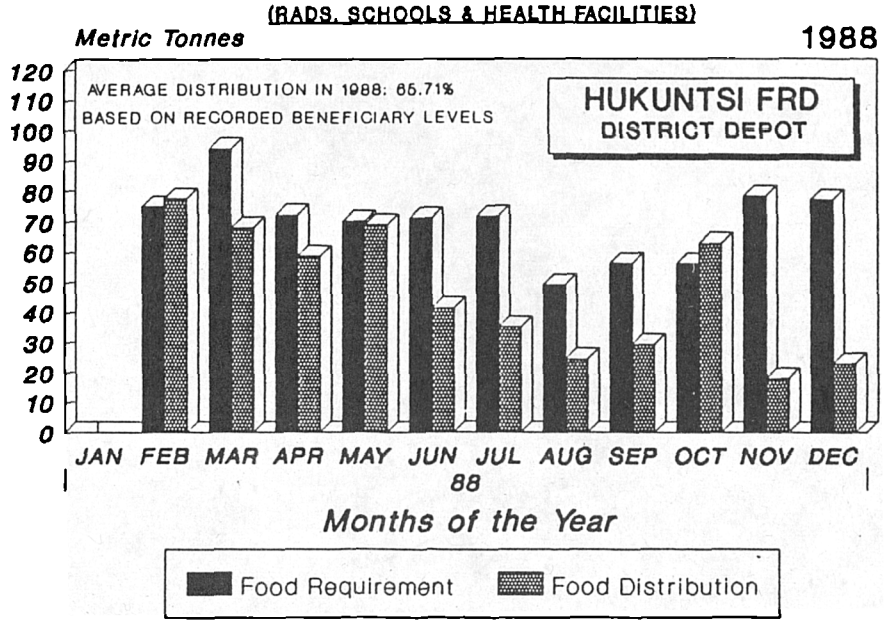


Source: FRD Stock Analysis Ledgers, 1988

Fig.A59:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

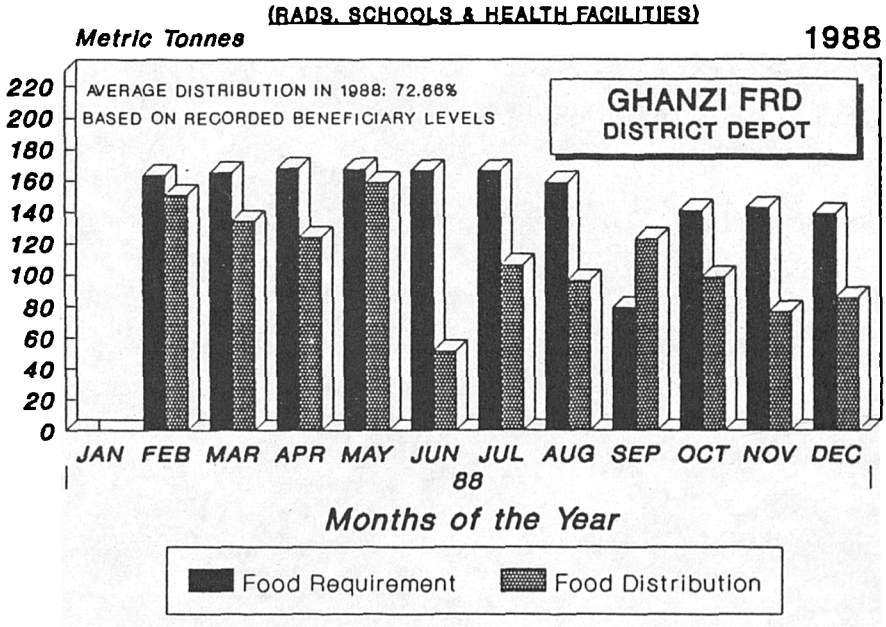


Source: FRD Stock Analysis Ledgers, 1988

Fig.A60:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

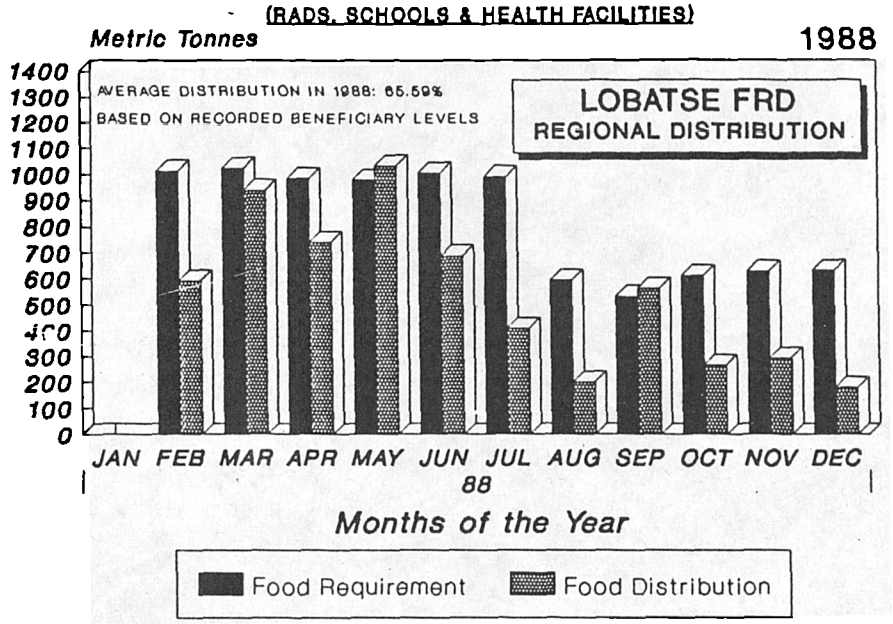


Source: FRD Stock Analysis Ledgers, 1988

Fig.A61:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

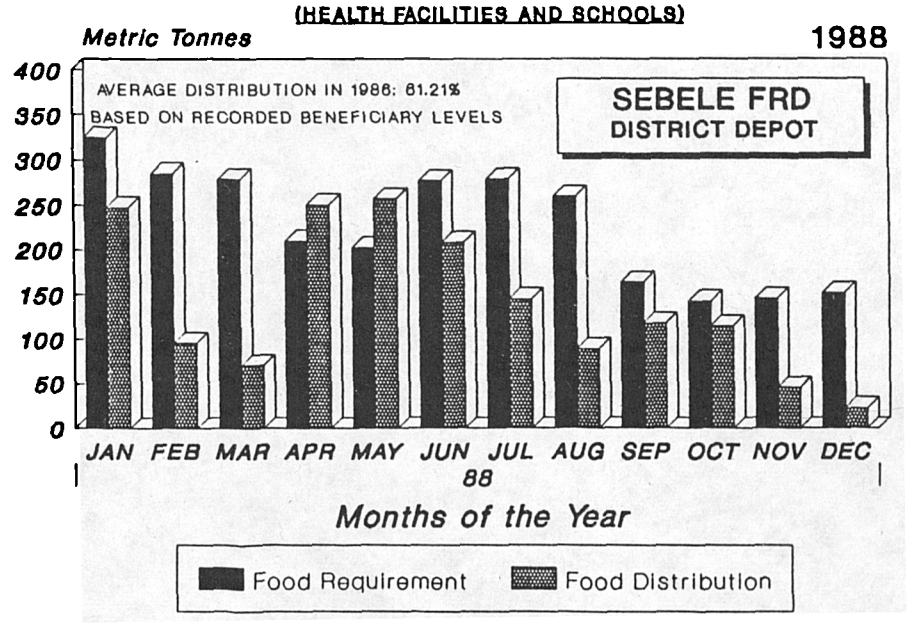


Source: FRD Stock Analysis Ledgers, 1988

Fig.A62:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(HEALTH FACILITIES AND SCHOOLS)

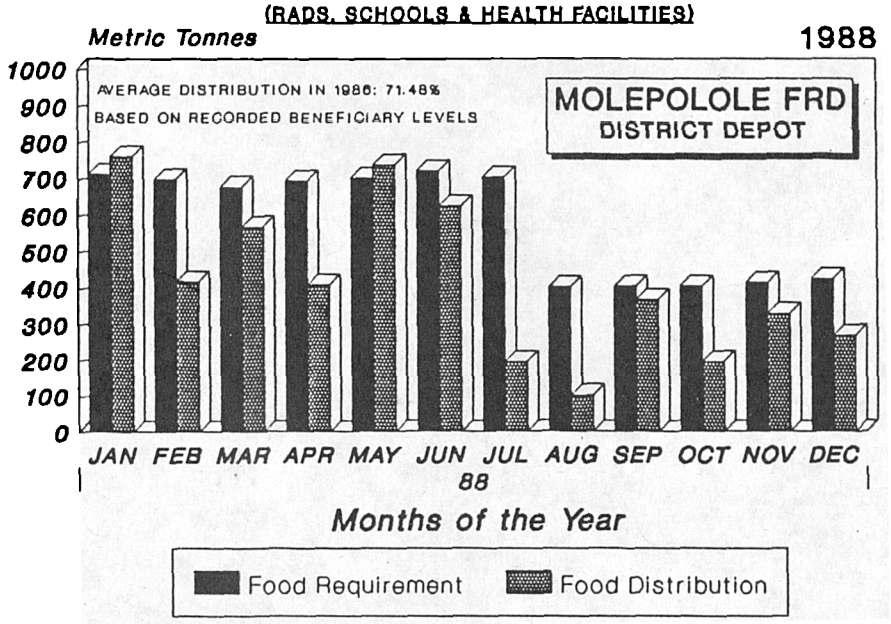


Source: FRD Stock Analysis Ledgers, 1988

Fig.A63: BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

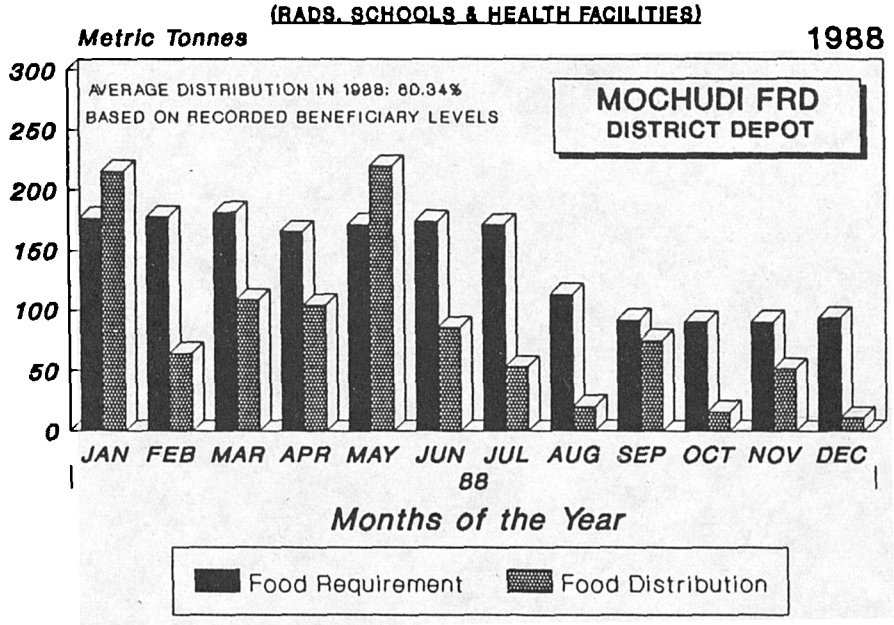


Source: FRD Stock Analysis Ledgers, 1988

Fig.A64:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

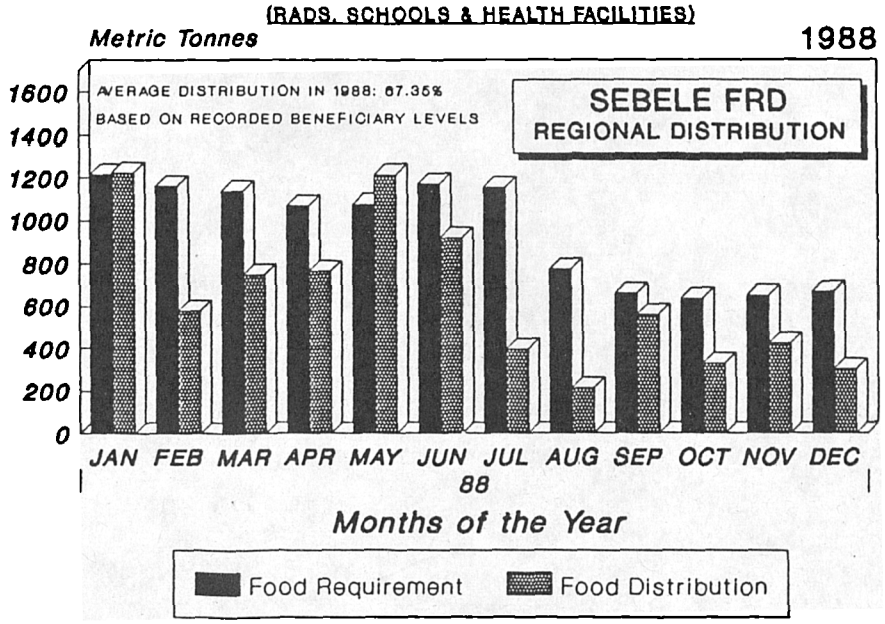


Source: FRD Stock Analysis Ledgers, 1988

Fig.A65:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

(RADS, SCHOOLS & HEALTH FACILITIES)

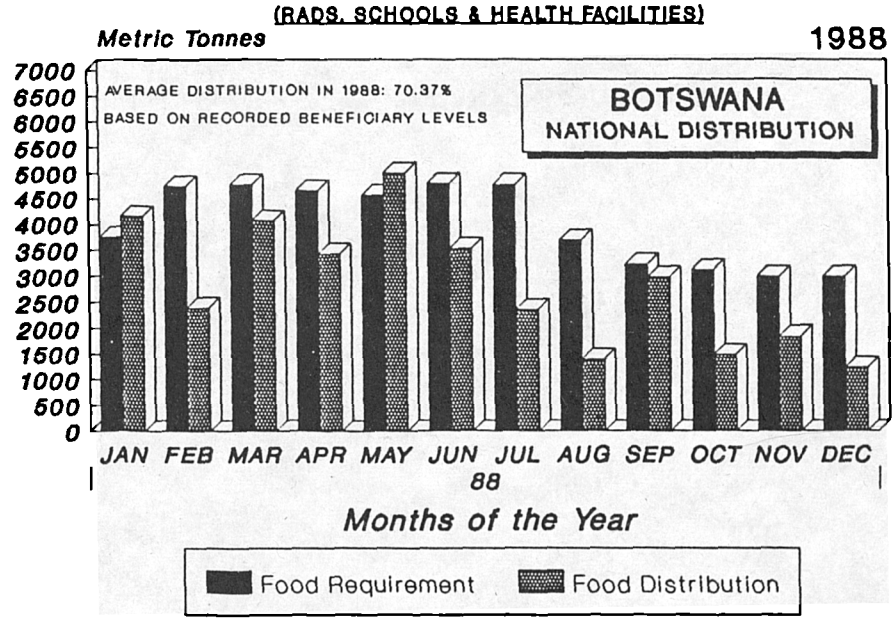


Source: FRD Stock Analysis Ledgers, 1988

Fig.A66:BOTSWANA: FOOD AID DISTRIBUTION

FRD Monthly Distributive Performance

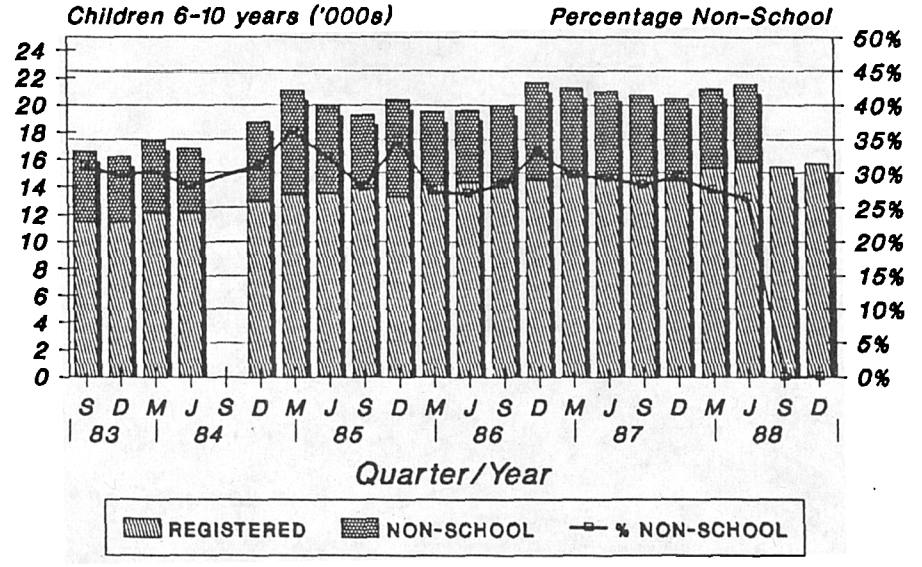
(RADS, SCHOOLS & HEALTH FACILITIES)



Source: FRD Stock Analysis Ledgers, 1988

Fig.A67: PALAPYE FRD

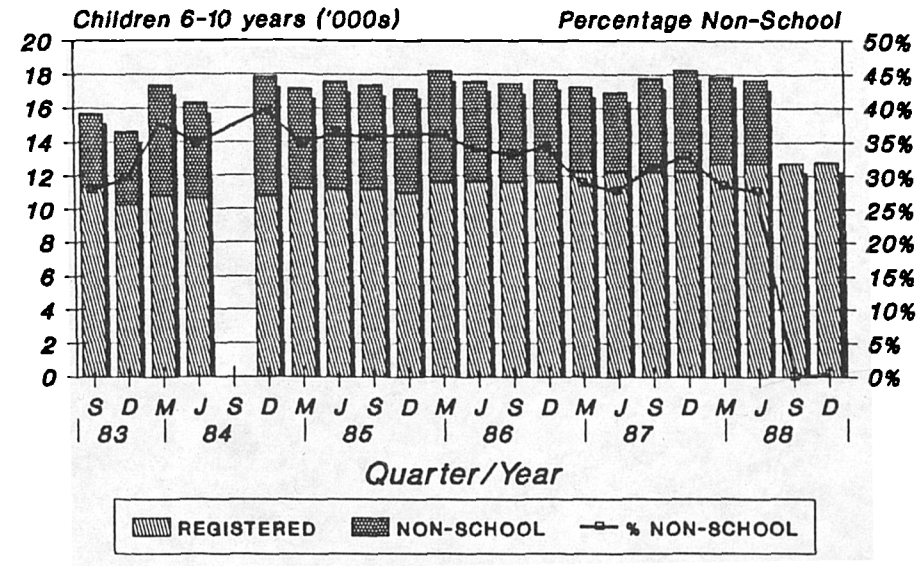
PROPORTION OF PRIMARY SCHOOL AGE
CHILDREN REGISTERED AT SCHOOL: 1983-88



Source: FRD, Gaborone 1983-1988.

Fig.A68: SEROWE FRD

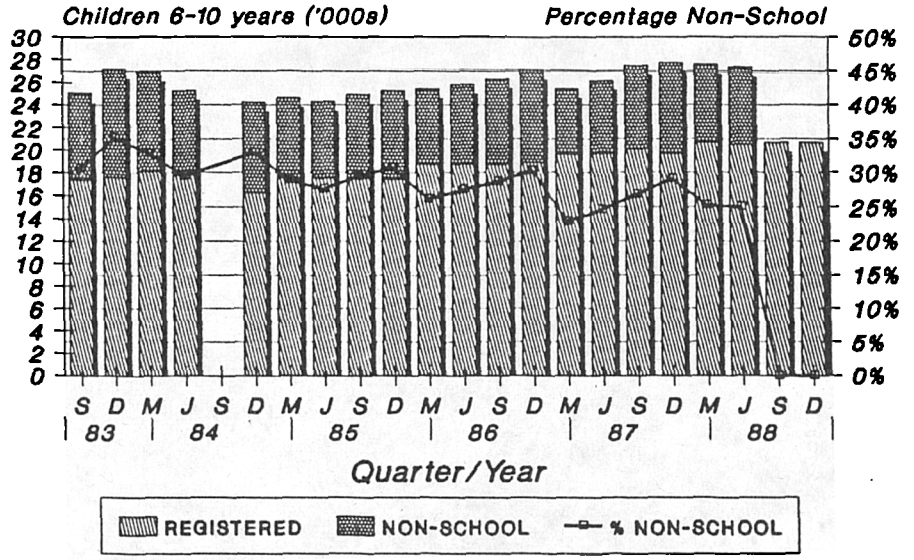
PROPORTION OF PRIMARY SCHOOL AGE
CHILDREN REGISTERED AT SCHOOL: 1983-88



Source: FRD, Gaborone 1983-1988.

Fig.A69: MAHALAPYE FRD

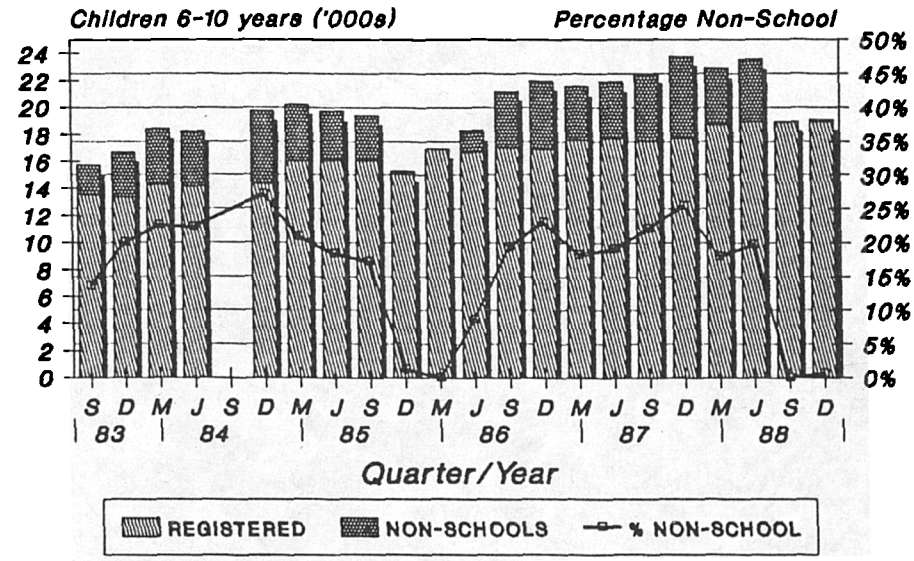
PROPORTION OF PRIMARY SCHOOL AGE
CHILDREN REGISTERED AT SCHOOL: 1983-88



Source: FRD, Gaborone 1983-1988.

Fig.A70: SELEBE-PHIKWE FRD

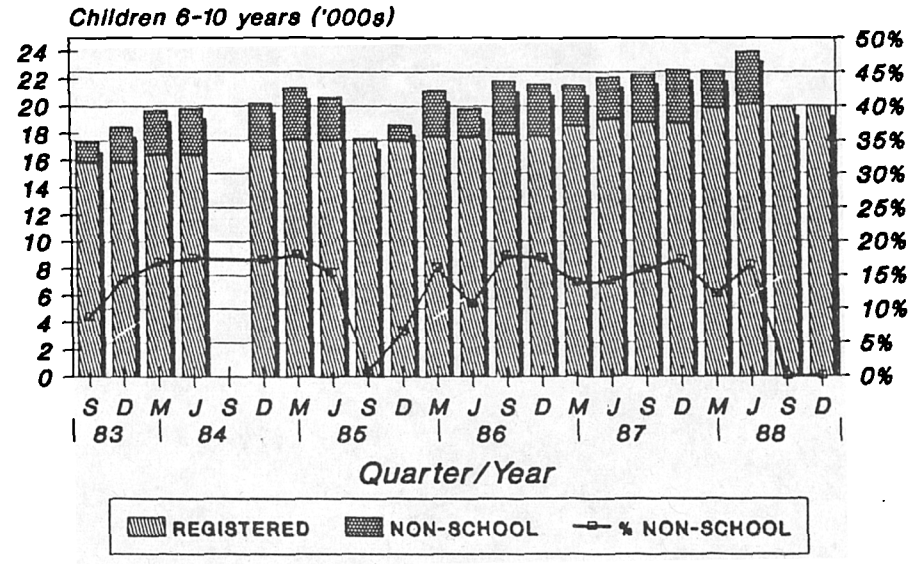
PROPORTION OF PRIMARY SCHOOL AGE
CHILDREN REGISTERED AT SCHOOL: 1983-88



Source: FRD, Gaborone 1983-1988.

Fig.A71: FRANCISTOWN FRD

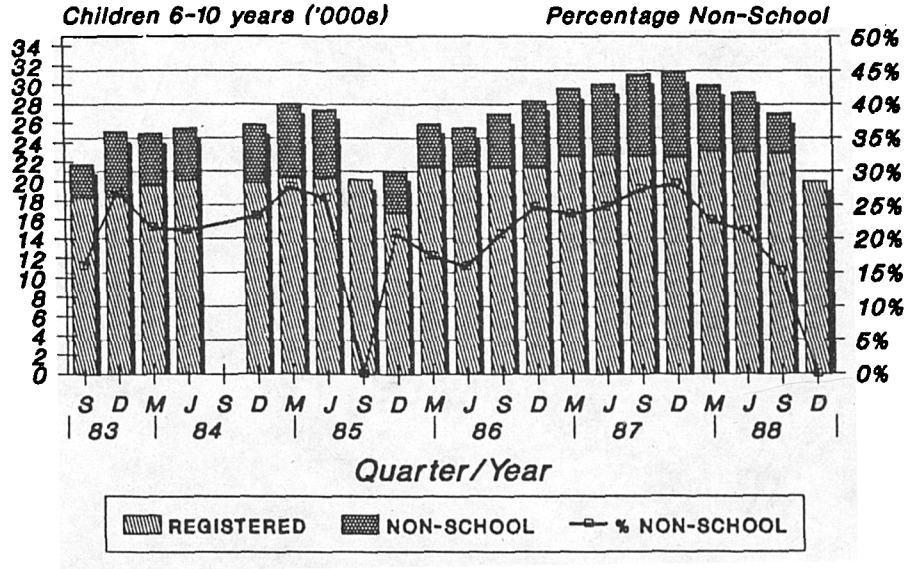
PROPORTION OF PRIMARY SCHOOL AGE
CHILDREN REGISTERED AT SCHOOL: 1983-88



Source: FRD, Gaborone 1983-1988.

Fig.A72: TUTUME FRD

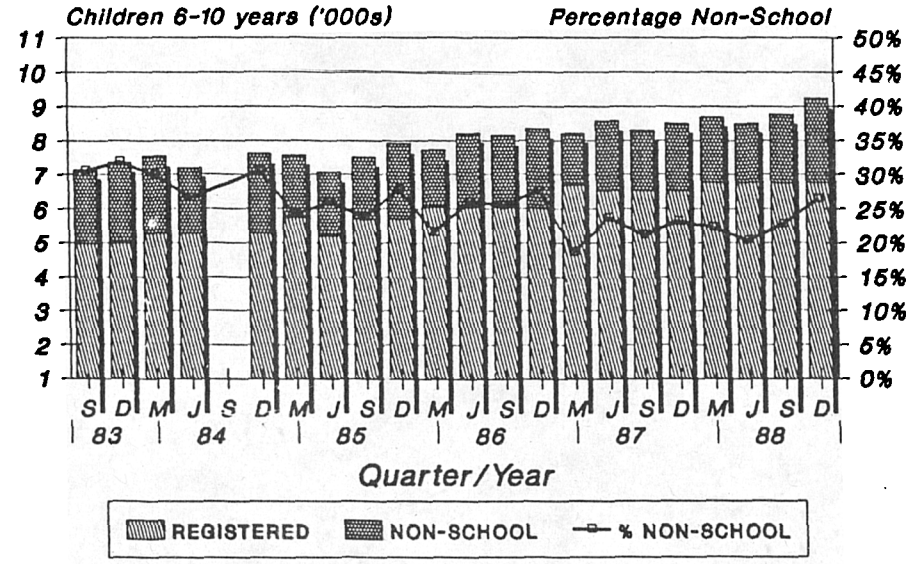
PROPORTION OF PRIMARY SCHOOL AGE
CHILDREN REGISTERED AT SCHOOL: 1983-88



Source: FRD, Gaborone 1983-1988.

Fig.A73: LETLHAKANE FRD

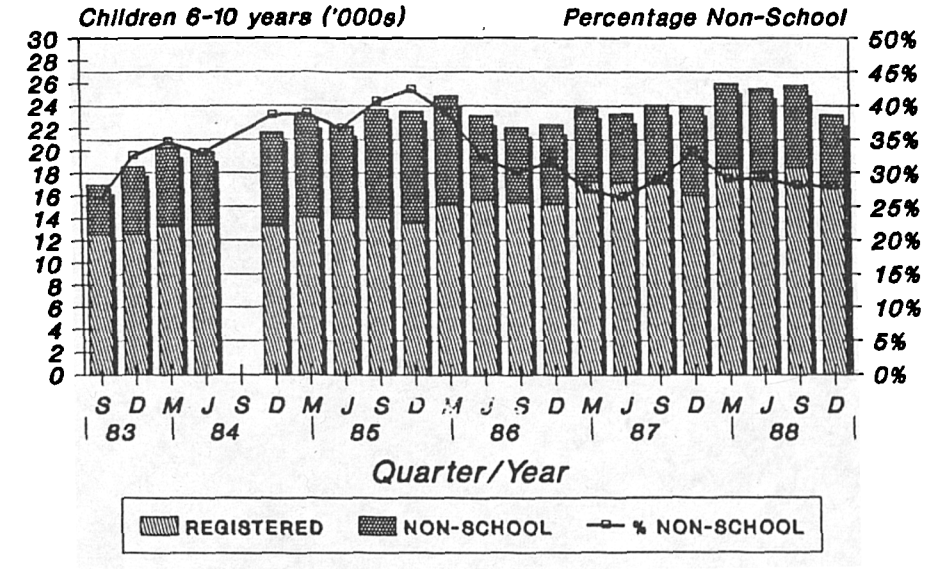
PROPORTION OF PRIMARY SCHOOL AGE
CHILDREN REGISTERED AT SCHOOL: 1983-88



Source: FRD, Gaborone 1983-1988.

Fig.A74: MAUN FRD

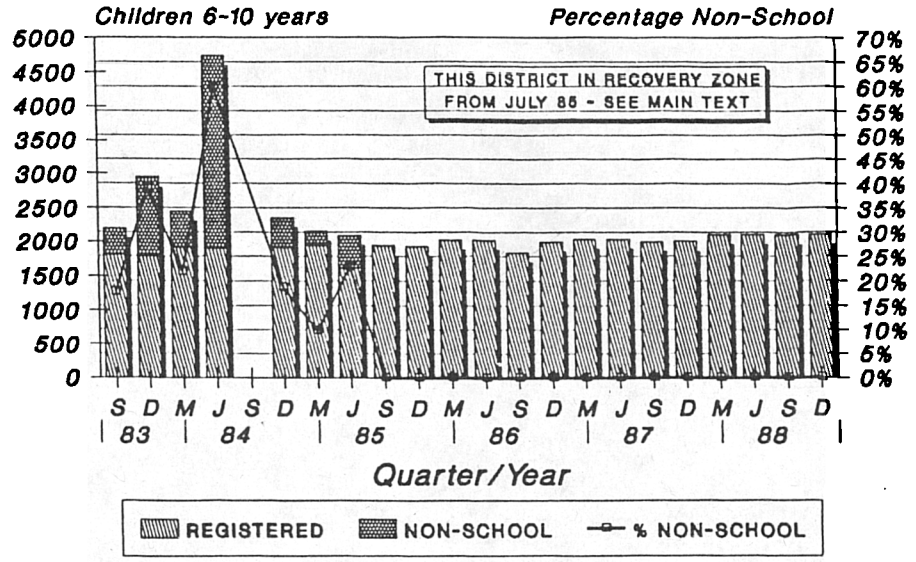
PROPORTION OF PRIMARY SCHOOL AGE
CHILDREN REGISTERED AT SCHOOL: 1983-88



Source: FRD, Gaborone 1983-1988.

Fig.A75: KASANE FRD

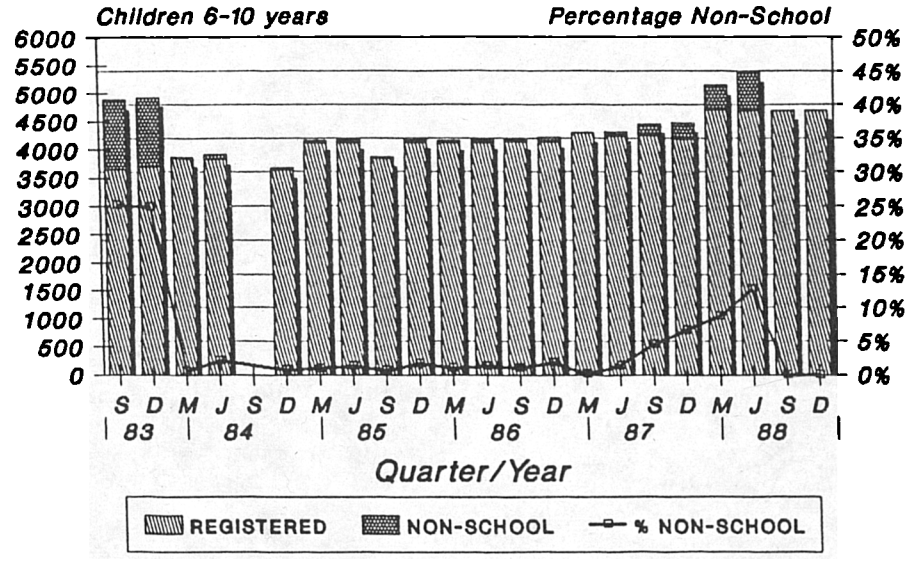
PROPORTION OF PRIMARY SCHOOL AGE
CHILDREN REGISTERED AT SCHOOL: 1983-88



Source: FRD, Gaborone 1983-1988.

Fig.A76: LOBATSE FRD

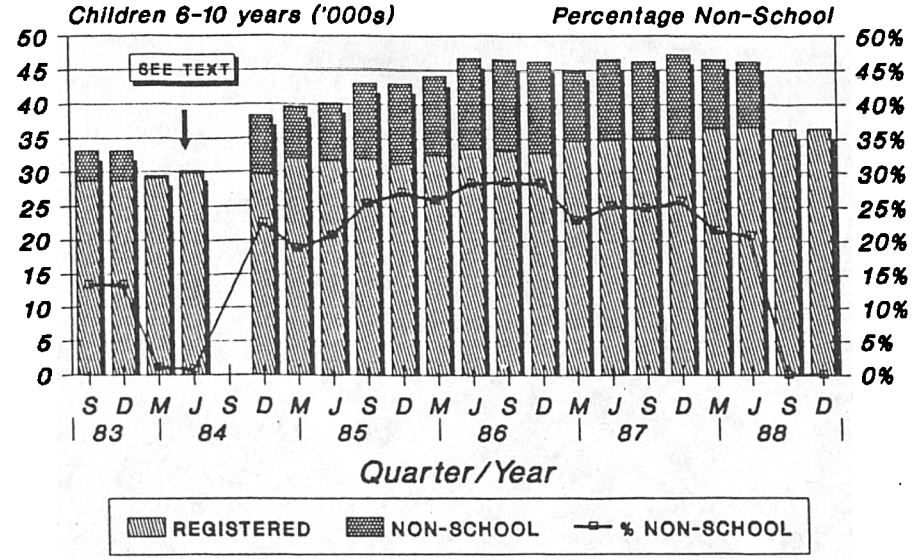
PROPORTION OF PRIMARY SCHOOL AGE
CHILDREN REGISTERED AT SCHOOL: 1983-88



Source: FRD, Gaborone 1983-1988.

Fig.A77: KANYE FRD

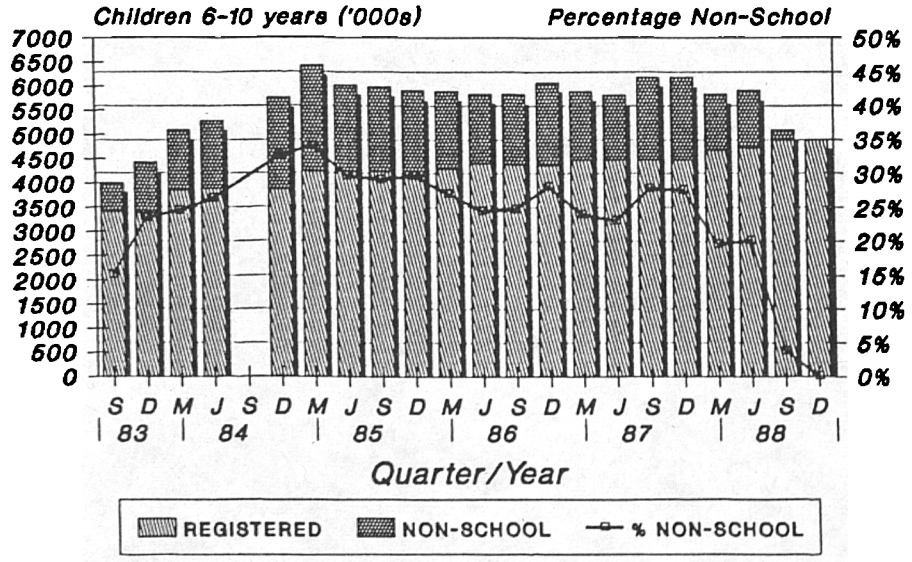
PROPORTION OF PRIMARY SCHOOL AGE
CHILDREN REGISTERED AT SCHOOL: 1983-88



Source: FRD, Gaborone 1983-1988.

Fig.A78: TSHABONG FRD

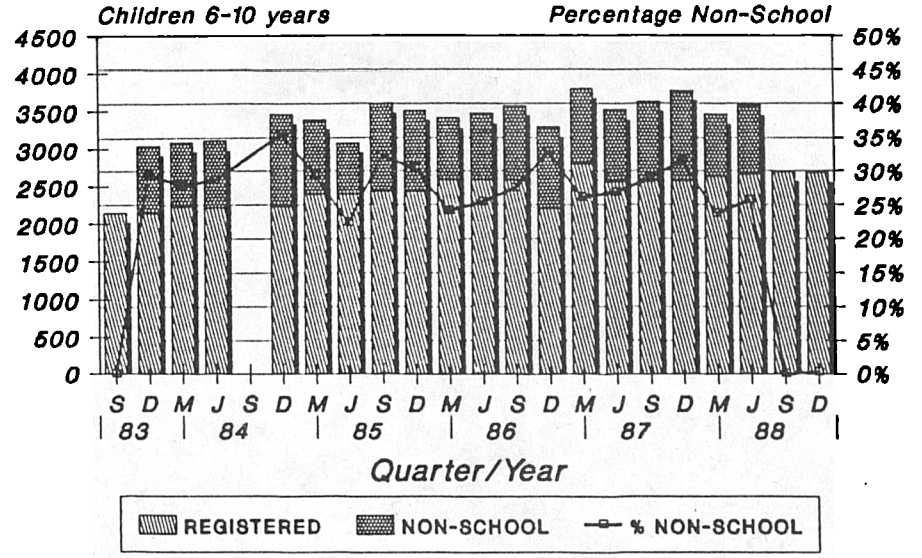
PROPORTION OF PRIMARY SCHOOL AGE
CHILDREN REGISTERED AT SCHOOL: 1983-88



Source: FRD, Gaborone 1983-1988.

Fig.A79: HUKUNTSI FRD

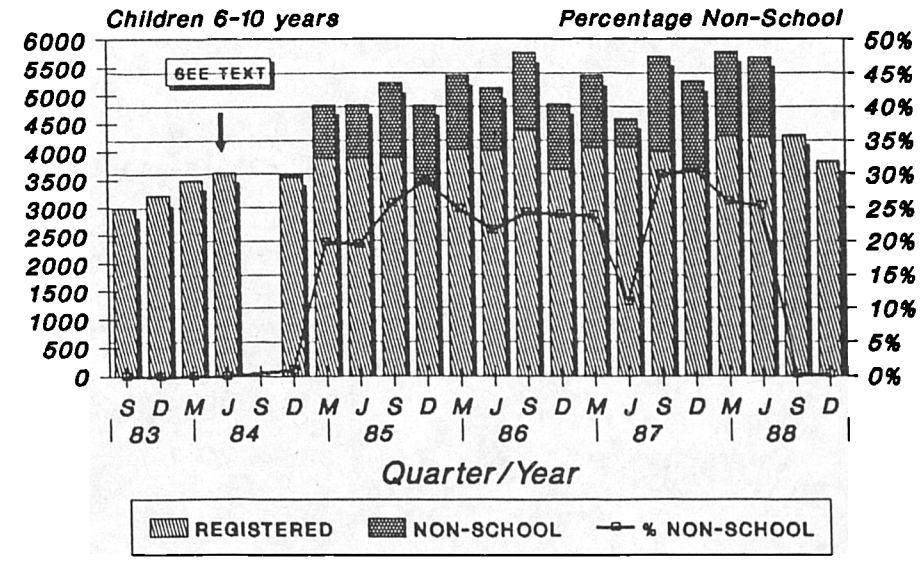
PROPORTION OF PRIMARY SCHOOL AGE
CHILDREN REGISTERED AT SCHOOL: 1983-88



Source: FRD, Gaborone 1983-1988.

Fig.A80: GANTSI FRD

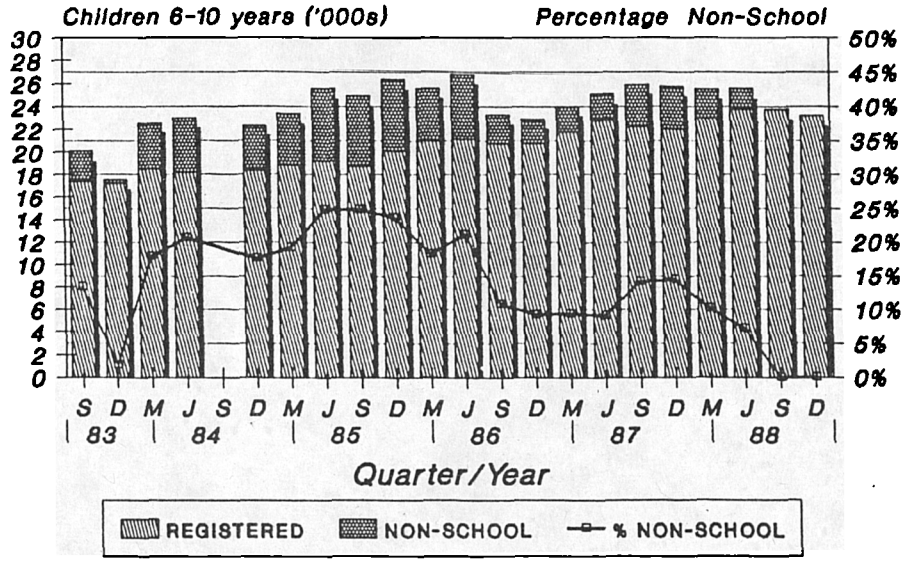
PROPORTION OF PRIMARY SCHOOL AGE
CHILDREN REGISTERED AT SCHOOL: 1983-88



Source: FRD, Gaborone 1983-1988.

Fig.A81: SEBELE FRD

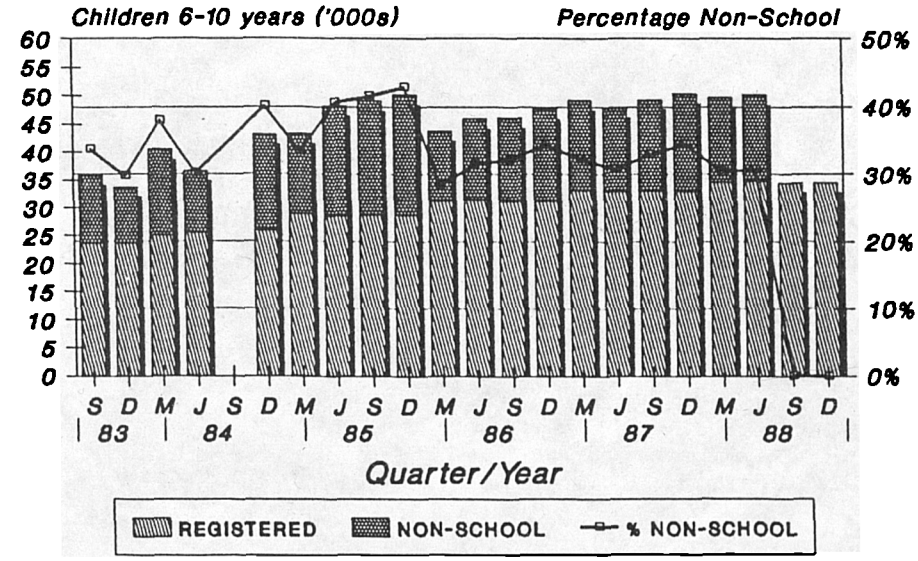
PROPORTION OF PRIMARY SCHOOL AGE
CHILDREN REGISTERED AT SCHOOL: 1983-88



Source: FRD, Gaborone 1983-1988.

Fig.A82: MOLEPOLOLE FRD

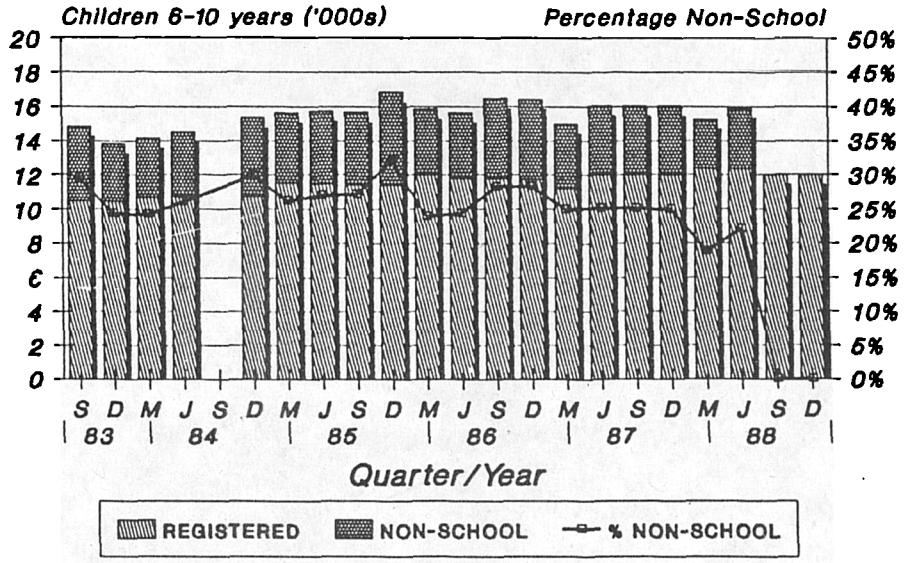
PROPORTION OF PRIMARY SCHOOL AGE
CHILDREN REGISTERED AT SCHOOL: 1983-88



Source: FRD, Gaborone 1983-1988.

Fig.A83: MOCHUDI FRD

PROPORTION OF PRIMARY SCHOOL AGE
CHILDREN REGISTERED AT SCHOOL: 1983-88



Source: FRD, Gaborone 1983-1988.

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