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Botswana's Development: Its Economic
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**Botswana's Development:
Its Economic Structure and Rural Poverty**

ABSTRACT

Botswana was among the highest growing economies in the world during 1985-2005 and achieved a reduction in its overall incidence of poverty from 60 per cent in 1985/86 to 30 per cent in 2002/03. The incidence of rural poverty in Botswana decreased from 55 per cent in 1985/86 to 40 per cent in 1992/93, however, it increased to 45 per cent in 2002/03. The reversal of gains in rural poverty reduction has motivated this study. An analysis of Botswana's overall economic performance, demographic changes and movements and policy responses contribute to the understanding of the occurrence of the incidence of rural poverty in Botswana. In conclusion, it is found that Botswana's rural and non-rural economy might appear to be characterised by dualism using the economic input-output analysis, whereas in fact important economic linkages exist between these sectors because of government spending policy, private remittances, government transfers and rural development policy. Therefore, there is no economic dualism in Botswana, and the rural population benefits directly from Botswana's sustained economic growth.

Botswana's Development: Its Economic Structure and Rural Poverty

1. Introduction

Botswana economy has experienced one of the highest economic growth rates in the world over the last two decades and has also halved its incidence of overall poverty from 60 per cent in 1985/86 to 30 per cent in 2002/03. If the economy is analysed using the theoretical W. Arthur Lewis two sector economic model of the linkage between agriculture outputs in the traditional economy and manufacturing sector inputs in the modern economy (Lewis 1954), Botswana economy appears to be characterised by dualism. But in this study, it will be argued that this is not the case. Even though significant overall poverty reduction has been recorded, it is also reported by the national surveys that the incidence of rural poverty in Botswana has increased during the period 1992/03-2002/03.

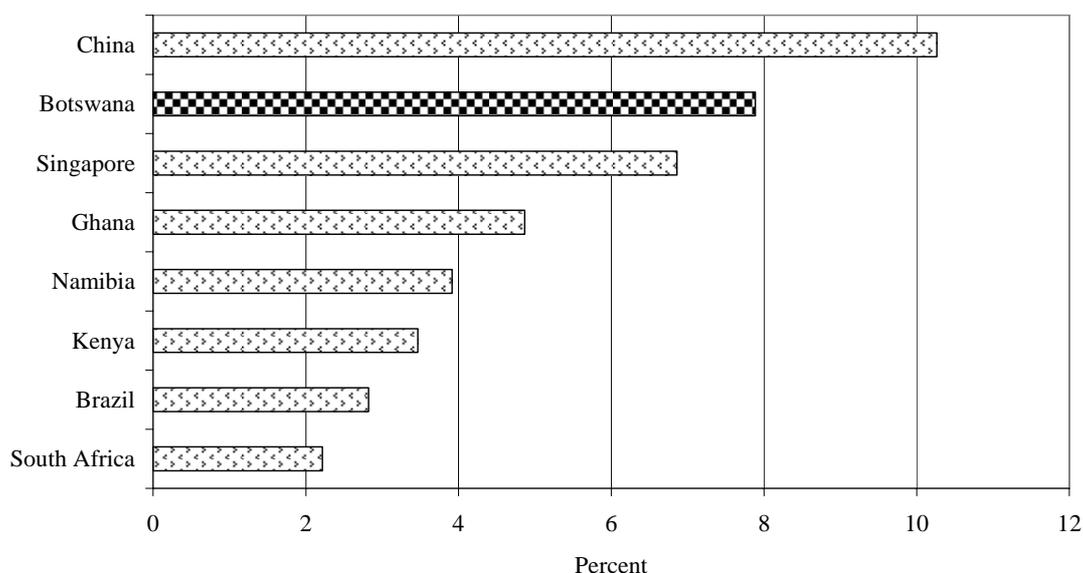
This article discusses the economic background of Botswana to illustrate the nature of progress in its economic growth compared to selected countries in developing countries in Africa, Asia and South America. Further, a description and discussion of the share composition of GDP and employment by sector will be provided as will be the demographic composition and changes. In addition, land use institutions will be discussed after which data on the nature and extent of poverty and economic deprivation, particularly in rural areas will be presented using the results of the Botswana Central Statistics Office information. Then various existing government and non-government response to the problem of poverty in rural areas will be outlined and discussed. In conclusion, this paper will describe and explain the nature of the Botswana economy and how it has affected the rural poverty in the last 20 years.

2. Botswana economy: background and trends

2.1. Overall Macroeconomic Performance

Botswana is one of the few countries that recorded average annual economic growth of GDP of almost 8 per cent over the 20 years period of 1985-2005. During this period, the country's average annual GDP growth rate was somewhat lower than China (10 per cent) but higher than Singapore's, which averaged approximately 7 per cent (Figure 1). Botswana has also been recognised as having one of the highest average rates of annual growth of per capita income in the world (Acemoglu et al. 2001; Stiglitz 1988; The World Bank 2004; UNDP 2004).

Figure 1 Average Annual Growth Rate of Botswana's GDP 1985-2005

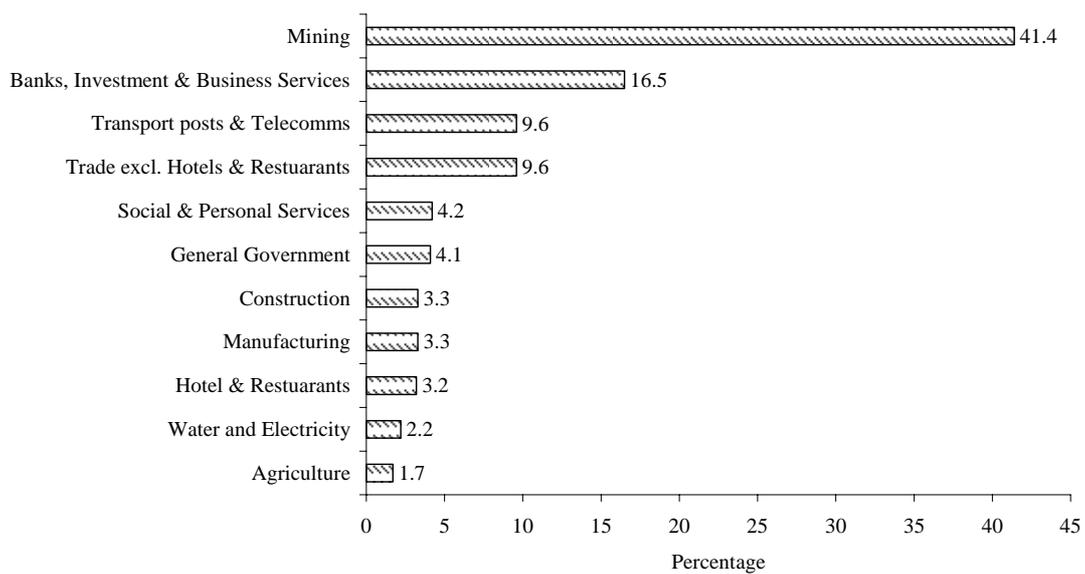


Source: Based on The World Bank (2006)

Economic activity in Botswana is dominated by mining, which had a share of 41 per cent of the gross domestic product (GDP) in 2005/06 (Figure 2). The Banks, Investment and Business Services sector has the second largest share with 16.5 per cent followed by Trade (excluding Hotels and Restaurants) with 9.6 per cent share and Transport Post and Telecommunications with 9.5 per cent share. Between 2003/04 and 2005/06 there were notable changes in the share of GDP by economic activity with mining increasing from 35 per cent in 2003/05 to 41 per cent in 2005/06 while the share of General Government sector declined from second position in

2003/04 with 16 per cent to sixth position in 2005/06 with a 4.1 per cent share of the GDP (Bank of Botswana 2007). Despite past government programmes to further diversify the economy into manufacturing, tourism (represented by Hotel and Restaurants) and agriculture through the National Development Plans 7 and 8, each of these sectors are still among those with the lowest share of GDP (Figure 2.2) (Bank of Botswana 2007; Ministry of Finance and Development Planning 2003). Agriculture and manufacturing shares for 2005/06 were very low consisting of 1.7 and 3.3 percent of GDP respectively (Bank of Botswana 2007). Such low shares of agriculture and manufacturing in the total Botswana GDP when mining is increasing suggests very limited linkages between growing mining industry and the potential local supply side in the manufacturing and agriculture. Hence the Botswana rural economy seems to be an enclave because the modern sector does not use the local economy for its supply of inputs (Hirschman 1958; Nath 1999).

Figure.2: Botswana GDP by Type of Economic Activity 2005/06



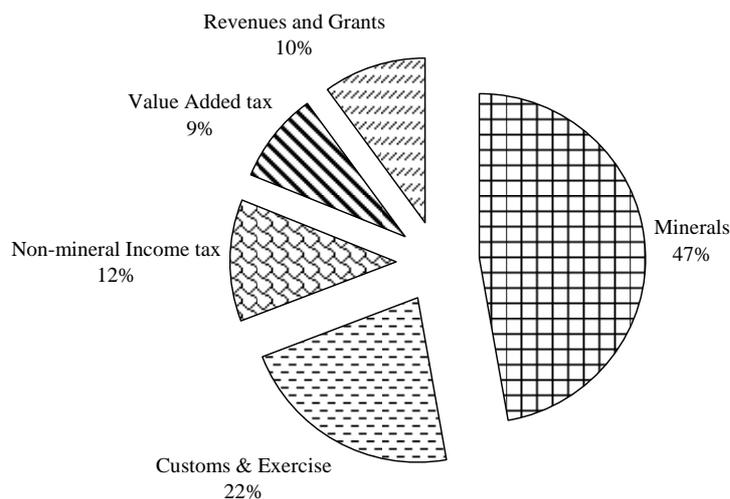
Source: Based on Bank of Botswana (2007)

2.2. Share of Revenue Sources for 2006/07 Financial Year

The following Figure 3 shows the type of sources of revenue in Botswana and the share of each type's contribution to the budget of 2006/07 financial year. Mining revenue's share of 47 per cent is the largest contributor to total revenue in Botswana,

followed by customs and exercise which contributes 22 per cent. Non-mineral income tax revenue account for 12 per cent of the revenue, revenues (which include foreign reserves and dividends from parastatals) and grants contribute 10 per cent share of total revenue and value added tax contributes 9 per cent. These shares of revenue contribution by type of source indicate that Botswana is highly dependent on mineral revenue and the revenue from customs and exercise imply that mineral revenue are also used for imports of goods and services by the private sector in the general functioning of the economy. Non-mineral income taxes are low and could be generated from income in the public and parastatal services that are financed from the mineral revenue.

Figure 3 Share of Government Revenue in 2006/07



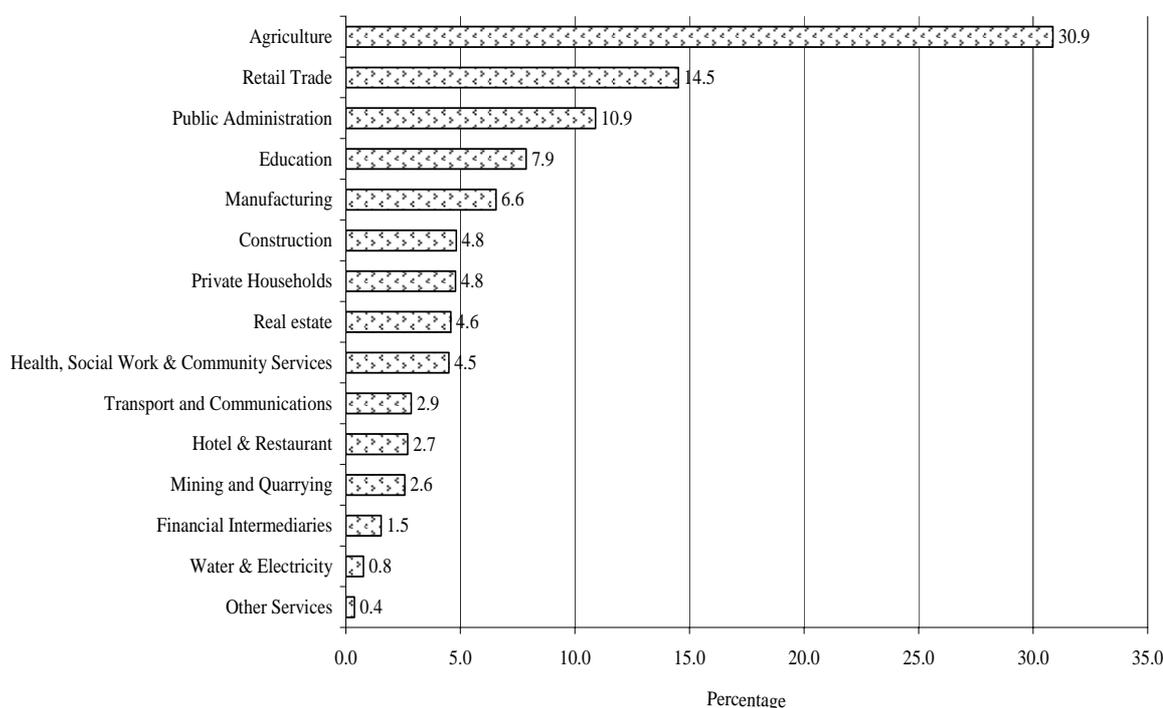
Source: Based on Gaolathe 2006

2.3. Share of Total Employment by Economic Sector

The share of total employment in Botswana by sector for 2005/06 was dominated by agriculture with 30.9 per cent followed by Retail Trade with 14.5 per cent (Figure 4). For the same period, public administration accounted for approximately 11 per cent of employment while education accounted for approximately 8 per cent (Central Statistics Office 2006). If it is assumed that most education is provided by the Botswana government, then direct government share of total employment was 19 per

cent, which makes this sector the largest in formal jobs creation in Botswana. If the fifteen economic sectors are ranked from the lowest to the highest employment contributor in the Botswana economy, mining is the fourth lowest sector with the smallest share of total direct employment and accounted for 2.6 per cent of total employment in 2005/06. The contrast between the agricultural sector, which contributes only 1.7 per cent to the GDP, and mining and other modern sectors that have a much higher contribution to the GDP suggests that, if assessment is based on direct employed that is generated by each sector, the Botswana economy might be characterised by economic dualism (Aligica 2003; Hodson and Kaufman 1982; Ray 1998). However, given that in Botswana, the mining sector is main source of revenue for government, and such revenue is used to generate public sector jobs, promote the services sector and the education sector, Botswana economy can not be characterised as a dual economy. This is the case because there is an active economic linkage between the modern and traditional economy, even though this does not take the form of the market exchange of primary goods supply from agriculture and supply of value added goods from the modern sector as expected from the traditional economic development theory (Bardhan and Udry 1999; Hirschman 1958).

Figure 4 Botswana Share of Total Employment by Sector



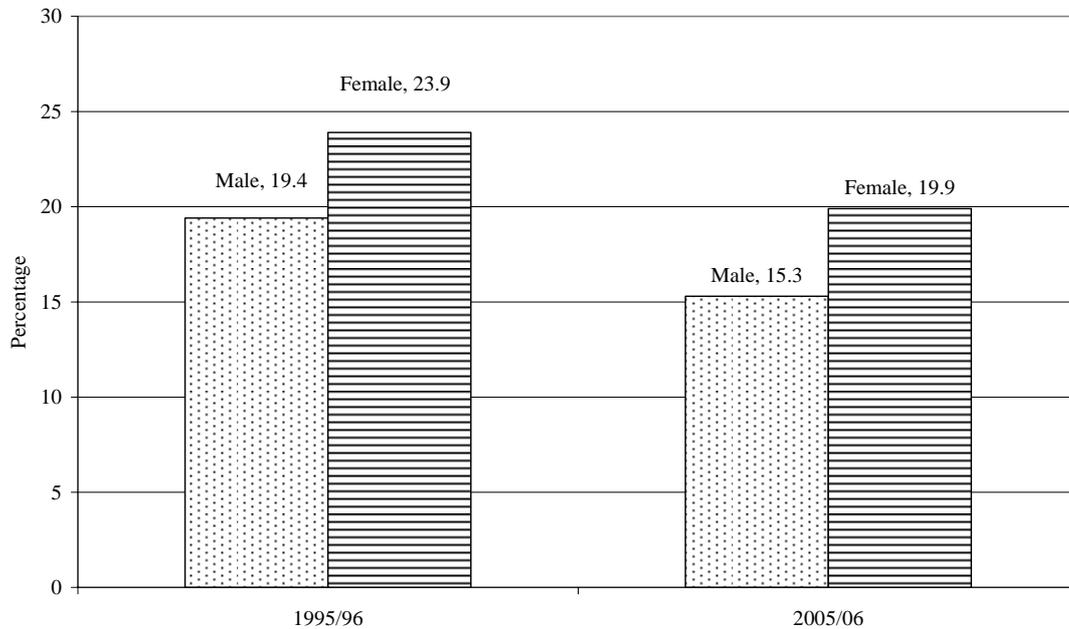
Source: Based on Botswana Central Statistics Office (2006)

2.4. Unemployment and Dualism as Factors of Poverty

Unemployment in Botswana fell from 23.8 per cent in 2002/03 to 17.6 per cent in 2005/06 (Central Statistics Office 2006; Central Statistics Office Botswana 2004; Siphambe 2003). Figure 5 shows a comparison of the unemployment rates by gender for the period 1995/06 to 2005/06. These results show that the female unemployment rate fell from 23.9 percent in 1995/96 to 19.9 per cent in 2005/06 while the male unemployment rate fell from 19.4 in 1995/96 to 15.3 per cent in 2005/06 (Central Statistics Office 2006). These results demonstrate that unemployment rate is high among females than males. Such differences in unemployment rates by gender can imply that females face more economic deprivation than their male counter parts. Overall, falling unemployment rate in Botswana demonstrates that sustained high economic growth is a positive contributor to poverty reduction both in urban and rural areas because rural migrants are likely to be absorbed in the modern sector and remittances to rural areas can increase. Females are however facing more problems to migrate in search of opening job opportunities in urban areas than men, if they have

children going to school or infants to look after. In addition, less educated women in middle-ages, it might be difficult for them to take jobs that require physical strength such as construction, men in the same age would be able to do.

Figure 5 Unemployment Rate in Botswana by Gender 1995-2006



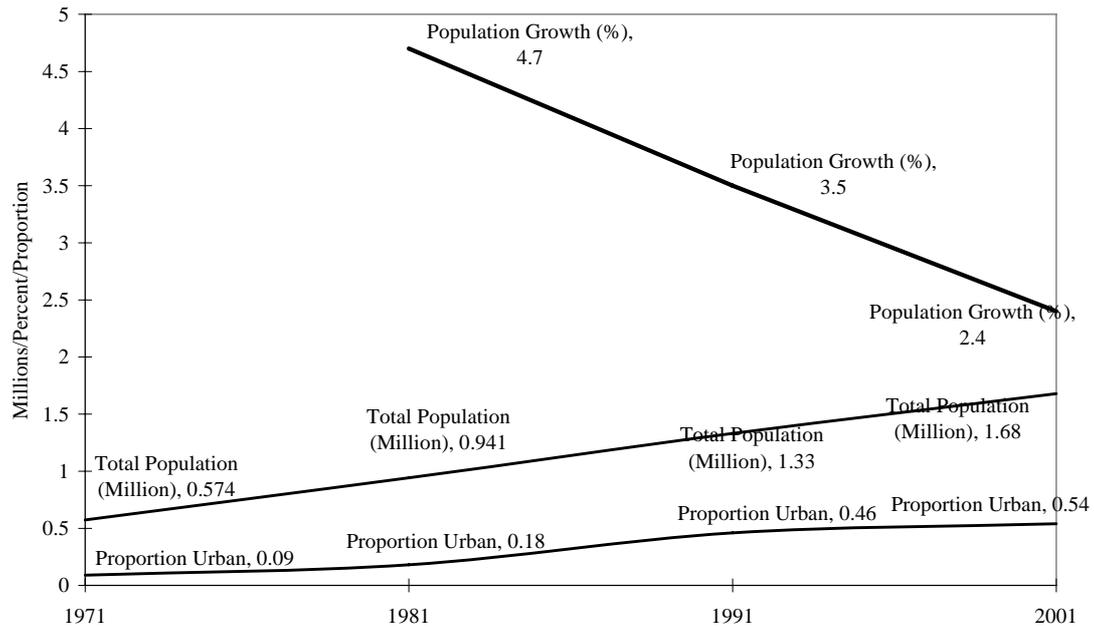
Source: Based on Botswana Central Statistics Office (2006)

2.5. Demographic Indicators

Figure 6 presents the trends in total population, population growth and urbanisation during 1971-2001. This figure shows that the total population of Botswana increased from just below 1 million in 1981 to 1.7 million in 2001. During this same period, the proportion of urban population increased from 18 per cent in 1981 to 54 per cent in 2001 and reflects a rapid transfer from a traditional agricultural economy to a more modern urban economy. Gwebu (2003) has demonstrated that re-designation of agriculture based rural villages into urban villages after 1991 was the primary reason for rapid urbanisation in Botswana. The share of urban villages in urban population increased from 9 per cent in 1981 to 56 per cent in 2001 (Gwebu 2003), and is might be attributed to the rapid changes in rural infrastructure and sources of income as a result of re-investment of diamond revenues during the 1980s when implementation of a Rural Development Policy of 1973 was at its peak. Rural to urban villages and cities migration and a public service decentralisation programme that introduced rural

administration centres such as in Tutume, also influenced urbanisation in Botswana outside the capital Gaborone and regional centres such as Serowe. Population growth also declined over this period dropping from 4.7 per cent per annum in 1981 to 2.4 per cent per annum in 2001. The estimated annual population growth rate for the period 1991-2001 was 1.7 per cent (Ministry of Finance and Development Planning 2003).

Figure 6 Botswana Population Trends



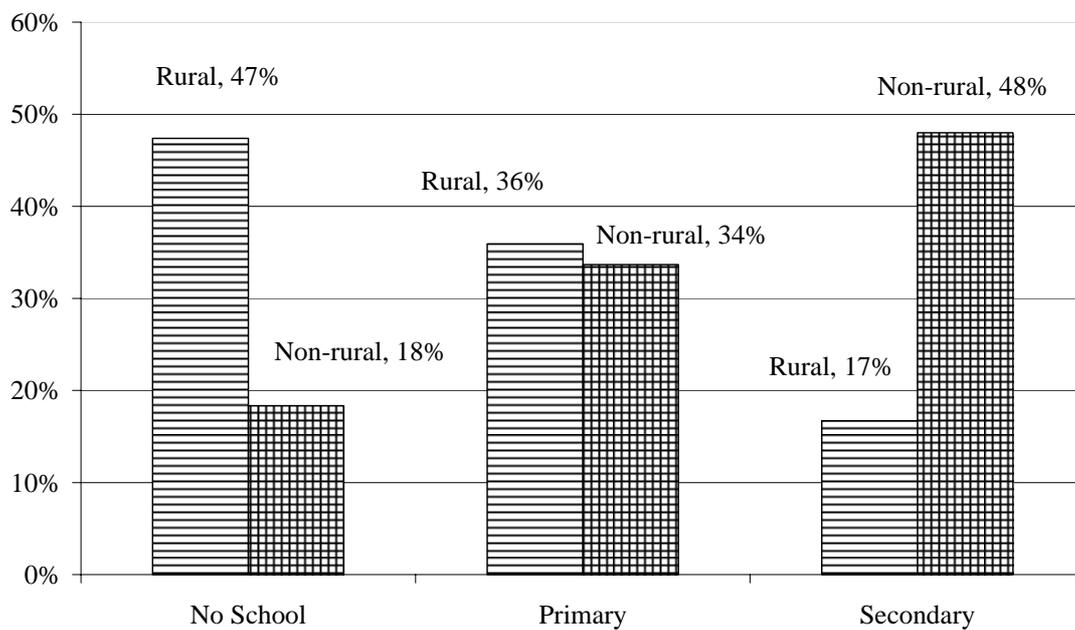
Source: Based on Botswana Central Statistics Office (2001b)

2.6. Household Heads Education Status by Location

The relative frequency of household heads by education status and by location in 2002/03 for Botswana is shown in Figure 7. This figure shows that rural areas in Botswana are characterised by the highest proportion of heads of household with no schooling compared to non-rural areas. The relative frequency of household heads with primary education level is comparable in both rural and non-rural areas. The distribution of heads of household by location and by level of education in Botswana might be used to explain the relationship between household poverty and education attainment of the head of household. The higher levels of education of household heads observed in non-rural areas imply that as rural areas increase the proportion of their educated population and develop, they are more likely to be re-designated to non-rural areas (Figure 2.6 above). Therefore, as more rural areas are re-designated

into non-rural because of the benefits of sustained economic growth, a large proportion of the total rural population is transferred out and the remaining rural population tend to exhibit a higher concentration of the less educated population because the more educated are now classified under non-rural areas. Such location re-designation can contribute to statistical results that indicate worsening rural poverty indicators.

Figure.7 Relative Frequencies of Household Heads by Education Level and by Location in 2002/03



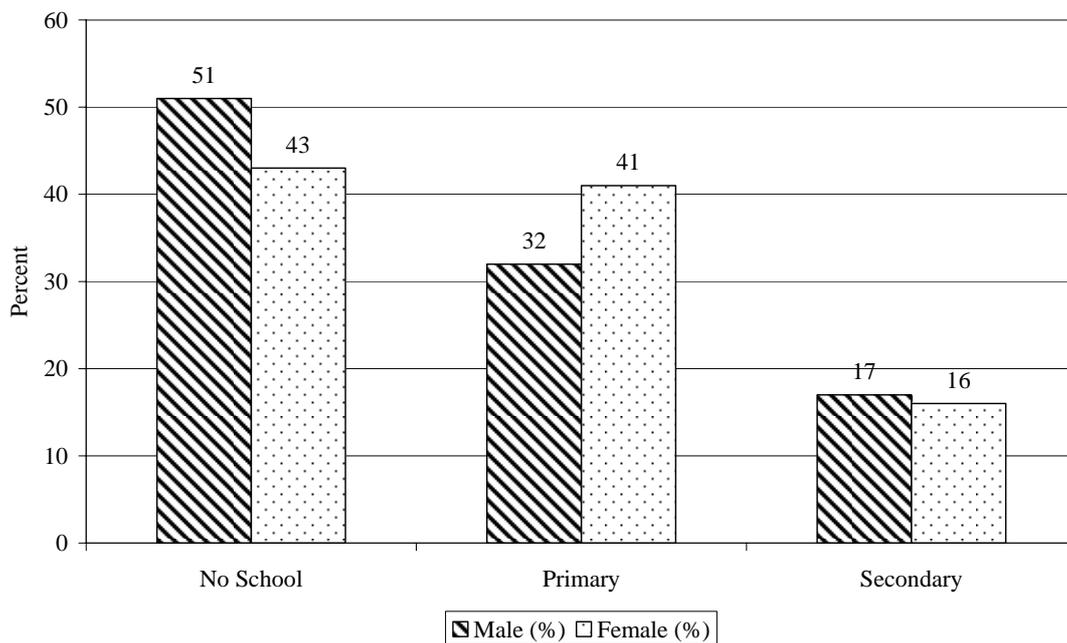
Source: Based on Botswana Central Statistics Office (2004)

2.7. Household Heads Education Status by Gender

Figure 8 shows the frequency distribution of heads of household by gender and education level in rural areas of Botswana in 2002/03. This figure shows that approximately 80 per cent of the heads of household from rural areas had only primary level education or no schooling at all. The high proportion of heads of household with primary or below education status might explain that there is high proportion of elderly persons in rural areas than in non-rural areas. People in this age group grew up during the colonial period when education opportunities were very limited. The other explanation is that heads of household with low level education in rural areas have better opportunities to make a living from own farming activities

available in rural areas than in non-rural areas where they could be unemployed because the modern sector attracts people with higher education than those with lower education. The high concentration of people with low level education in agriculture might also explain the declining importance of agriculture sector because the active farmers might not adopt new technologies that are consistent with the rapid changes in economic structure. Female heads by education are comparable to their male heads counterparts.

Figure 8 Rural Heads of Household by Gender and Education Level



Source: Based on Botswana Central Statistics Office (2004)

Figure 8 also indicates that 32 per cent of all male heads of household had primary education compared to 41 per cent of all female heads of household. This disparity in the proportions of male and female indicates that it could be easy for men with primary education to migrate to non-rural areas where the modern economy provides higher wage employment opportunities (Schultz 2001). The proportions of heads of household with secondary education in rural areas of Botswana are similar for males and females with 17 per cent and 16 per cent respectively. The comparable rates of heads of household with secondary education indicate that after independence, education opportunities were gender neutral (Acemoglu et al. 2001).

2.8. HIV/AIDS and Population Growth Indicators

Given the high profile response the HIV/AIDS problem has attracted in Botswana and the limited resources for this study, efforts and progress made in dealing with the problem are noted and health issues will not form a significant part of analysis of the understanding of rising rural poverty in Botswana. Reports of high HIV/AIDS prevalence of 37.4 per cent among women in reproductive age group (UNDP 2004; 2004), might be associated with low total female fertility rates (Table 2.1). This is possible because HIV positive individuals were discouraged from producing children as an HIV/AIDS management strategy. Total fertility[§] per woman has declined from 6.6 in 1981 to 3.27 in 2001 as shown in Table 1.1 (Central Statistics Office Botswana 2001b). Another reason for declining fertility rates could be that adult wages are high and families might afford to keep children out of the labour force and in attend school for longer periods because sustained economic growth provide such alternatives opportunities which are demonstrated by a general improvement in poverty levels (Bardhan and Udry 1999; Central Statistics Office Botswana 1994). In addition, increased urbanisation imply more educated women were engaged in formal employed and had little time for looking after more children, which reduces population growth rates.

Table 1 Botswana's Total Fertility Trends and Urbanisation

Demographic Indicator	Year		
	1971	1981	2001
% Of Population Urban	9	17.7	54
Total Fertility per Woman	6.5	6.6	3.27

Source: Based on Botswana Central Statistics Office (2001b)

The consequences of HIV/AIDS that are related to problems of poverty include an increase in the number of orphans to the current level of 67 000 (USAID 2004). USAID (2004) also reported that for the 15-19 years age group, 22.8 per cent of females were infected compared to 1.8 per cent of infection among males. HIV/AIDS destroys the lives of people who are economically active and this could increase the

[§] The number of children a woman would have if she was subject to prevailing fertility rates at all ages from a single given year and survives throughout all her childbearing years

risk of many households to poverty, especially those with a single head of household and particularly if the breadwinners are female it seems.

The Botswana government response to the HIV/AIDS epidemic has been more rapid and open than most other governments in southern Africa. The government formed a central HIV/AIDS management agency (National AIDS Coordinating Agency (NACA)) in 1999 (National Aids Coordinating Agency 2005) with multidisciplinary membership that includes stakeholders from government and outside government. The agency developed feeder committees from the village level to the national level. The activities of this agency includes prevention of HIV infection, provision of care, treatment and support of patients, impact mitigation and the legal and ethical environment for those affected (National Aids Coordinating Agency 2005).

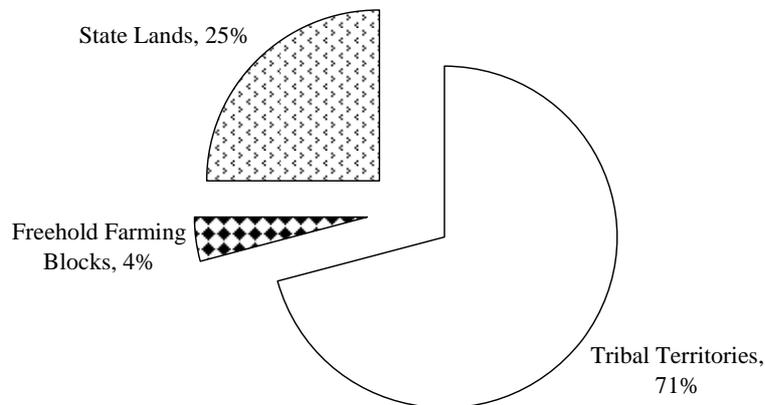
Some of the results of early government intervention to the HIV and AIDS problem include establishment of government partnerships with international stakeholders such as The African Comprehensive HIV/AIDS Partnerships (ACHAP) in 2000, the Bill & Melinda Gates Foundation, and The Merck Company Foundation/Merck & Co., Inc. (African Comprehensive HIV/AIDS Partnership 2005). The results of these initiatives have been the rolling out of free antiretroviral drugs to the infected to prolong their lives, and provision of free testing and counselling services (USAID 2004). In addition there is a Home Based Care Programme, an Orphan Assistance Programme and a NGO network were implemented to address immediate problems of the HIV/AIDS epidemic. Other collaborations include that with the Harvard School of Public Health that led to an establishment of a Botswana-Harvard HIV/AIDS Research Institute in Gaborone that commenced in 1996 in Gaborone, which conducts epidemiological and laboratory research (Botswana-Harvard School of Public Health Initiative 2003). Some of the significant results of this initiative have included the first trials of a new vaccine on 25 May 2005 in Botswana and South Africa (Botswana-Harvard School of Public Health Initiative 2005).

2.9. Land Ownership, Agriculture and Livestock Activities

Land tenure in Botswana is dominated by communal land use system as shown in the following Figure 9. Land tenure under the communal land system increased from 49 per cent in 1973 to 71 per cent in 1998 (BIDPA 2001). Most agricultural activities

occur on communal land where most production units are owned by families and old techniques of production are used. Consequently, productivity is very low especially for arable agriculture, which is exacerbated by recurring droughts. However, cattle production by large herders on communal land who depend on underground water sources are efficient because they have control of water rights, which restricts cattle numbers and these cattle owners tend to be educated as well (Behnke et al. 1993; Fidzani 2001). The land used for grazing tends to be highly regulated by the owners of the water rights in an area because of the strict control on water rights. The communal land use system in the land surrounding the settlements for the people who use surface water sources and river systems tend to be inefficient because of problems of overgrazing (BIDPA 2001; Watson and Dlamini 1999; White 1993). As a result, people who are faced with this land use system experience very low productivity and low returns in the form of wages and profits compared to those in the modern economy. However, rich farmers who also use communal land grazing but have exclusive water rights have incentives to adopt new technology and increase their labour productivity because they can limit access to the grazing land surrounding their water right, which raises their returns to labour and investment. As a result, the few farmers who have water rights enjoy high returns and income whilst the majority of farmers who depend on common land in the vicinity of their villages tend to have less skills, face overgrazing and low productivity output that contribute to poverty in rural areas.

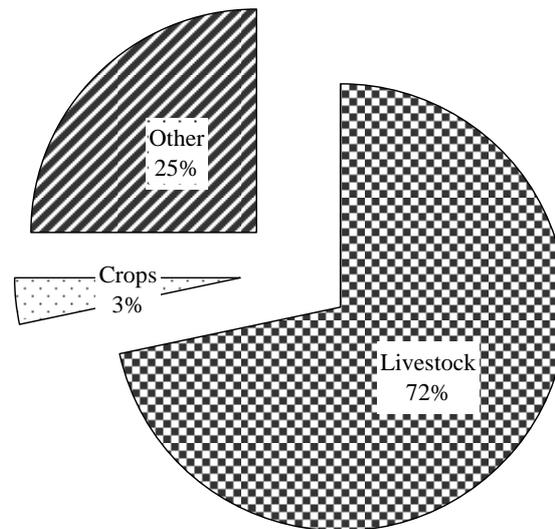
Figure.9 Land Use by Tenure System



Source: Based on Ministry of Finance and Development Planning (2003)

In Botswana, the livestock sector is the single most important sector in agriculture and the following Figure 10 demonstrated this observation. Figure 1.10 shows that the share of the livestock sector for the period 1993-2000 was 72 per cent of the overall value added of average gross agricultural production. Small farms owning between 1 and 39 heads of cattle constitute approximately 35 per cent of all households in Botswana (Central Statistics Office Botswana 2004) and these are dominated by traditional farmers, many of whom, the primary objective is to build up their herds in order for their households to be economically viable (Deloitte and Touche 1996). However, given the low productivity conditions they face, their returns and wages from traditional agriculture are likely to be kept far lower than those who are engaged in the modern sector. This sector is one of the potential contributors to income inequalities and problems of economic deprivation in rural areas.

Figure 10 Average Gross Agricultural Production Value Added 1993-2000



Source: Based on Botswana Central Statistics Office (2002)

The credit market in rural areas of Botswana is not developed and many rural households cannot access credit from the normal market operations because rural institutions are not only weak but in many cases there are not titles to property. As a result, households might keep cattle for consumption smoothing during emergencies that require substantial amounts of finance in a short period such as funeral, education, wedding and drought expenses. In other cases, people in Botswana keep cattle for cultural reasons that upholds their self-esteem and inclusiveness in society such as a need to own a cow that can be slaughtered for mourners at a funeral, or used as bride price in marriages (Fidzani 2001). Therefore, it is common to find households who hold at least a few head of cattle on the communal land. However, all households that have small herds of cattle tend to hold many cattle in open access conditions which have now characterised themselves into some phenomenon similar to tragedy of the commons^{**} problem (Hardin 1968). This study notes that small herd ownership operate under low productivity environment and that this practice is based on a cultural tradition that might be difficult to influence using only economic theory. However, modernisation of the economy through infrastructure development can

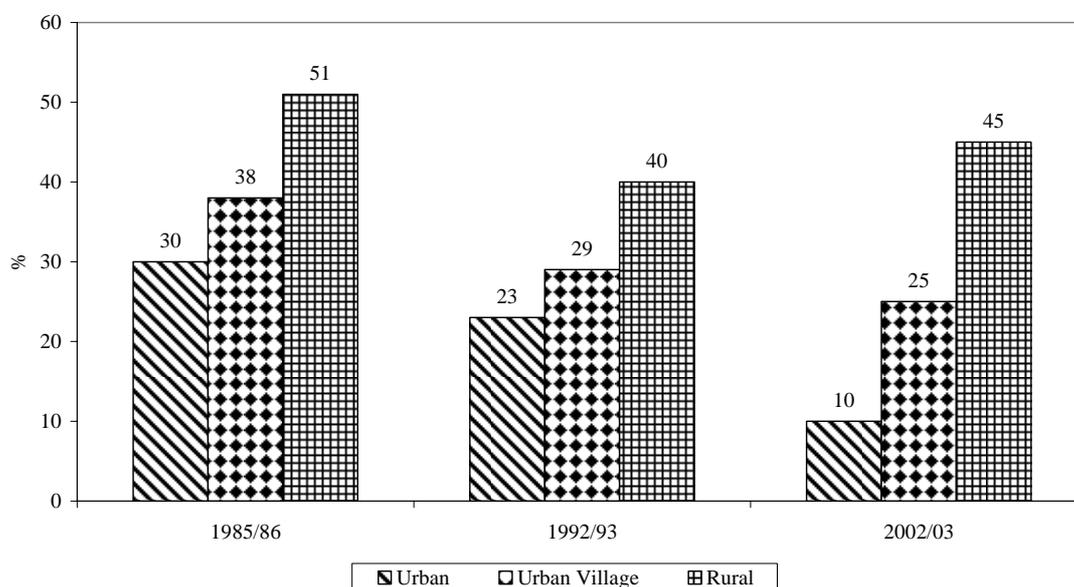
^{**} As each farmer adds more and more cattle to their stock to maximize their returns in an unlimited land, beyond a certain limit, productivity will fall until it is no longer useful to keep cattle on that land and expect returns.

provide different opportunities that provide higher returns than the livestock sector and more people will move out from the livestock sector if they consider it less attractive than other emerging investment choices. It is expected that when returns to agricultural productivity increase, new farmers with higher skills will invest in modern agriculture and introduce higher wages and improved management practices that might require enforcement of institutions that encourage environmental protection and facilitate market operations. A trend in this direction is already shown by increased urbanisation. Hence, more people will be withdrawn from the traditional sector to a more modern and well-paying sector.

3. Poverty and Economic Deprivation in Botswana

The Central Statistics Office (2004) provides information about the incidence of poverty using the poverty headcount rates calculated with a national poverty line that is based on the cost of basic needs by region in Botswana over a period of 17 years and are summarised in Figure 11. This figure shows that the incidence of poverty in urban areas decreased from 30 per cent in 1985/86 to 10 per cent in 2002/03. In urban villages, the incidence of poverty declined from 38 per cent in 1985/86 to 29 per cent in 1992/93 to 25 per cent in 2002/03. However for rural areas, the incidence of poverty declined from 51 per cent in 1985/86 to 40 per cent in 1992/93, then it increased to 45 per cent in 2002/03. This reverse trend of the incidence of poverty in rural Botswana demonstrates an outcome of the poverty strategy in Botswana that is not consistent. Therefore, there could be something special about rural areas in Botswana that reveal results that are different from the rest of the country. Such factors need to be identified and appropriately targeted to improve the understanding of rural poverty and ensure that if there is unfair treatment of the rural population in Botswana, such practice should be discontinued and enable people living in rural areas to also enjoy improvements in their living standards similar to that the population that lives in non-rural regions enjoy.

Figure 11 Incidence of Poverty by Region in Botswana from 1985/86-2002/03



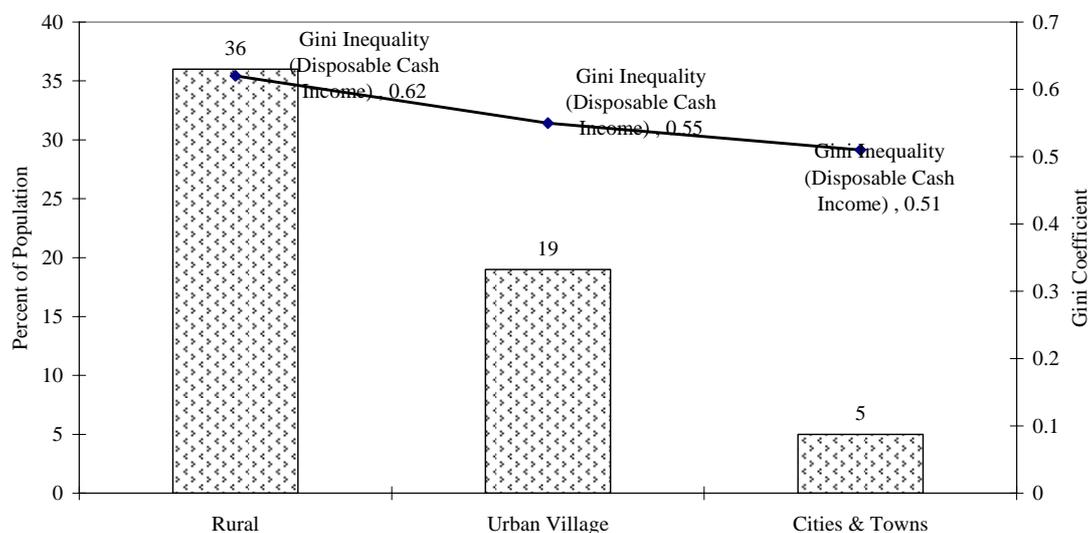
Source: Based on Botswana Central Statistics Office (2004) and Tumelo (2004).

Botswana population and housing census results show that rural areas share of total population fell from 82 per cent in 1981 to 46 per cent in 2001 (Central Statistics Office Botswana 2001b). On the opposite, urban villages, and cities and towns' share of total population increased. Urban villages' share of total population increased from 1.7 per cent in 1981 to 31.8 per cent in 2001. Cities and towns' share of the total population increased from 16 per cent in 1981 to 22 per cent 2001. An increase of the urban villages' share of total population was a result of in-migration from rural areas and a re-classification of some rural areas into urban areas after they were declared planning areas (Gwebu 2003). These changes might also contribute to explain the high incidence of rural poverty if the total number of poor people remained unchanged in rural areas when the actual rural population was becoming smaller. If an increase in migration to the urban areas was a result of the more educated rural population being absorbed in the modern sector jobs in non-rural areas, then after some time, incidence of rural poverty situation would appear to be on the rise if those with limited abilities to join the modern labour force remained in rural areas where incomes were low, because that is where they are more concentrated even when their actual population did not increase proportionately. However, if better education in rural areas assisted the population from rural areas to find jobs with higher incomes in urban areas, then

Botswana's rural development policy has indeed made a significant contribution to rural poverty over the years. But this can not be observed by reductions in rural population, instead such improvements can be observed in the overall poverty situation. The benefits of sustained growth to the overall population including those in rural areas is demonstrated by the importance of income transfers in Botswana that occur between non-rural and rural economies (2001).

Figure 12 shows for Botswana, the frequency of the incidence of household poverty using a US\$ 1.00 a day poverty line and economic deprivation through a Gini inequality of disposable cash incomes by region in 2003/04. This Figure reveals that for this period, 36 per cent of the 'rural' population lived below a US\$1.00 a day poverty line while for 'urban villages' and 'cities and towns', the proportion was 19 per cent and 5 per cent respectively. Rural areas had the highest Gini inequality index of 62 per cent followed by urban villages with 55 per cent and cities and towns with 5 per cent. In summary, absolute poverty is more prevalent in rural areas than non-rural areas in Botswana. These observations also indicate that economic deprivation and uneven distribution of resources is high in rural areas than in non-rural areas. High income inequality might be a source of future economic problems that include increase in the incidence of poverty among the rural population and require appropriate policy response to increase the welfare of Botswana citizens who are in rural areas.

Figure 12 Incidence of Poverty and Inequality in Botswana by Region



Source: Botswana Central Statistics Office (2004)

4. Poverty Alleviation Policies and Rural Development

4.1. Good Political and Civil Liberties Environment

One of the major objectives of Botswana is to be an open, democratic and accountable nation (Republic of Botswana 1997). The World Bank (2001) has claimed that lack of participation in the development process, weakness in the rule of law and the absence of involvement of civil society were some of the main concerns that prevented the poor from taking advantage of new economic opportunities or engaging in activities outside their main zone of security. Botswana has used multi-party democracy and consultation in development planning and implementation as a form of participatory mechanism to address poverty problems since independence in 1966. Freedom House (2007) results of a survey of political rights and civil liberties in Sub-Saharan Africa shows Botswana as one of the 11 countries rated free among the 48 countries surveyed. The overall reduction of poverty in Botswana from 60 per cent in 1985/86 to 30 per cent in 2002/03 is consistent with the view that the continuous existence of participatory democracy since 1966 could be related to an overall poverty reduction in the country. However, an increase in the incidence of rural poverty whilst the incidence of poverty in the national and non-rural areas is declining suggests that participatory democracy alone is not adequate to address poverty in rural areas. There

is a need to study the rural poverty situation so that more information about factors that influence poverty in rural Botswana are identified and such information will provide policy tools to target and improve the lives of people in rural areas so that they also use the benefits of sustained economic growth effectively and improve their welfare.

4.2. *The Monitoring and Review of Poverty in Botswana.*

Botswana was one of the poorest countries in the world at the time of its independence in 1966 with a per capita income of US\$80.00 (Valentine 1993). Since almost everyone was poor at the time the overall government policy was about addressing poverty through the development of infrastructure for basic needs such as water, primary schools and health clinics. Thereafter, studies about poverty and related issues were initiated and undertaken by the government (BIDPA 1997; BIDPA 2000a; BIDPA 2001; Central Statistics Office Botswana 1994; Central Statistics Office Botswana 2004; Sigwele 1993). The first major study concerned the distribution of income in rural areas - the Rural Income Distribution Survey of 1975 that indicated a Gini coefficient of 0.52 – and rural areas had a share of 92 per cent of Botswana's population at that time (Central Statistics Office Botswana 2001b). The second major study was the 1985/86 Household Income and Expenditure Survey that found that 59 per cent of the population was below a poverty line based on a cost of basic needs (CBN) method (Central Statistics Office Botswana 1994). Then the results of a 1992/93 Household Income and Expenditure Survey results found that the incidence of national poverty had dropped to 47 per cent.

In 1997, the Botswana Government commissioned a first ever poverty study. This was conducted by Botswana Institute for Development Policy Analysis (BIDPA). The recommendations from the BIDPA (1997) “Study of Poverty Alleviation in Botswana” were generally accepted by government and developed into policies and programmes. Since this report, a number of programmes have been introduced such as the Old Age Pension and War Veterans scheme in 1998, the 2001 review of the 1973 Rural Development Policy, and the introduction of a National Arable and Dairy Products Development Programme in 2002 (BIDPA 1997; Ministry of Finance and Development Planning 2002). In addition, a long-term vision of how Botswana should develop called the Botswana Vision 2016, which became a strategic framework for

addressing problems of poverty and inequality in the Botswana, was launched in 1997. The strategy provides a list of targets or goals that the country was to achieve in the 20 years from 1996 and 2016, and this strategy also provided a monitoring mechanism of how the economy is progressing towards poverty reduction among other objectives (Republic of Botswana 1997).

After the drought of 1982-87, the government developed an annual early warning monitoring system of the household food security situation in rural areas to provide signals for action to prevent unnecessary catastrophic consequences such as death from disasters, hunger, diseases and drought effects. Such an early warning system helped Botswana to avoid the emergence of famines despite recurring droughts and ensured effective control of malnutrition (Early Warning Technical Committee 2003). Through this system, early warning signals about the problems of vulnerable groups such as children less than five years old, school children and individuals with health risks were detected, which facilitated the implementation of programmes that reduced the impact of these problems on most poor families. The early warning system involved the Central Statistics Office monitoring price levels and their potential impact on the purchasing power of the people with low incomes. It was through the early warning system that a policy change in 1990 from a food self sufficiency focus to a food security focus was monitored and drought relief programmes were integrated into the rural development planning programme. This was part of a long-term response to the recurrence of drought and the high cost of diverting development projects to relief measures. Whilst the early warning system for household food security was successful in preventing death from hunger and improved the management of under-five year olds malnutrition problems, this system did not monitor the incidence of rural poverty and the erosion of household incomes over time.

There is no known private study about poverty and related topics in Botswana that has so far addressed the problem of an increase in the incidence of poverty in rural areas when incidence of poverty in non-rural areas is declining. The first published private study related to poverty in Botswana was a PhD Thesis entitled “Inequality in Botswana” submitted to the University of Salford (Lyons 1990) that concluded that economic development in Botswana preserved and intensified inequality. These findings were almost a repeat of the findings of the Botswana government’s survey of

1975. In 1993, another private study found that between 1975 and 1986, rural income inequality did not increase significantly in Botswana because during this period, there was an increase in private transfers between rural households and their members working elsewhere in country and government transfers to the needy (Valentine 1993). Increases in government transfers to the most vulnerable population were later confirmed by another study about the impact of Common Pool Resources on rural welfare in western Botswana. This found that marginal households received 18 – 51 per cent of their income from common pool resources and the balance was from transfers (Kerapeletswe and Lovett 2001). A study of rural livelihoods in Botswana seems to confirm the relevance of the dual nature of Botswana economy as it found that households with the resources to succeed in the modern economy have increased their standard of living considerably over the last twenty years while households with few resources have become marginalized and proletarianized and live from handouts from the state or relatives (Wikan 2001). Zitzmann (1999) in a study of “Multiple Use and Livelihood Strategies in Mopane Woodland” of Ditladi village in the Northeast District found that all households engaged themselves in multiple use of forestry products. Although people in Ditladi acknowledged their low productivity problems as a result of overuse of natural resources, they did not consider over harvesting of natural among their urgent problems. These studies mentioned in this section did not consider the potential for introduction of low-cost reliable measures of rural poverty in Botswana which could be critical to poverty monitoring and appropriate response.

4.3. Education and Health Sectors as Long-term Policy of Poverty Alleviation.

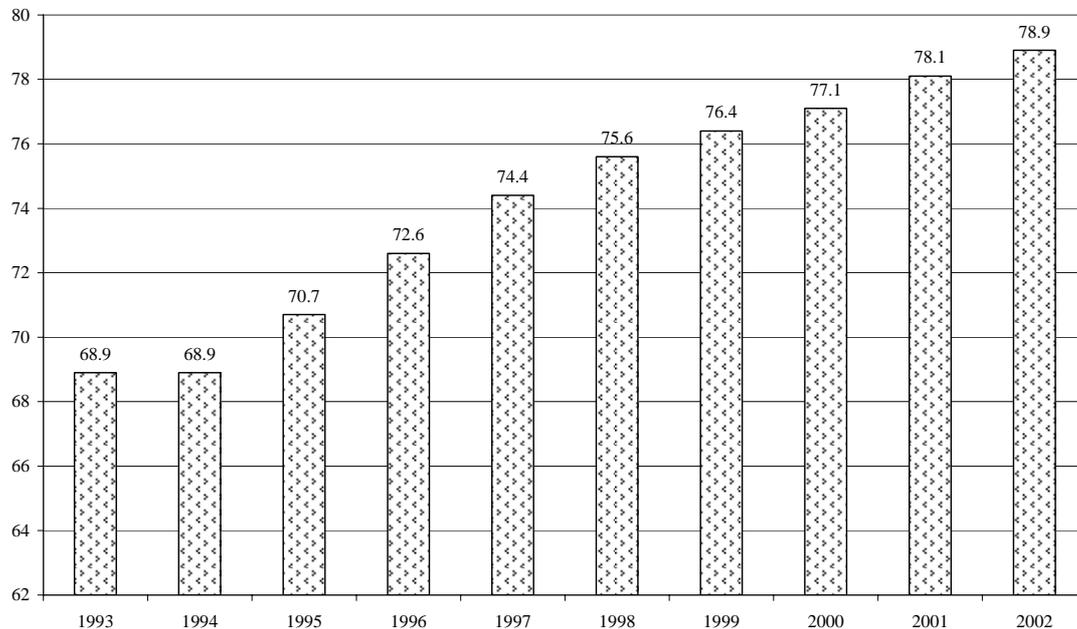
Botswana’s long-term policy of poverty alleviation prioritised education as a critical human capital investment and used it to develop skills and knowledge that were expected to produce lifetime impacts on, amongst other things, labour productivity and returns to labour. The importance of human resource development as a number one priority is shown in the Botswana National Development Plan 8 of 1997/98 to 2002/03, which argued that skilled and higher quality human resources would promote economic competitiveness both internally and externally, and that approach was expected to lead to sustained capital formation and economic growth (Ministry of Finance and Development Planning 2003). Such prioritisation was demonstrated in subsequent annual budget allocations where education consistently earned the largest share of approximately 29 per cent (Gaolathe 2004; Gaolathe 2005; Gaolathe 2006).

Some of the outputs during this period included the improved quality of secondary education through equipment upgrading in all schools and provision of additional facilities (Ministry of Finance and Development Planning 2003). The introduction of free 10-year basic education for all children in the 1980s led to over 100 percent enrolments rates in primary schooling and transition to junior secondary education. However, because of limited access for senior secondary education, only 50 percent of the junior secondary grandaunts were absorbed were admitted which also caused even lower numbers of student who transferred to tertiary education (Central Statistics Office Botswana 2001a). Even though there were limited places for tertiary enrolments, implementation of planned targets for tertiary enrolments and outputs were successful. In 2001, enrolments at university level had reached 72 per cent of the plan targets for undergraduate levels and about 73 per cent the student population planned to enrol in that plan period had graduated.

Figure 13 shows that adult literacy increased from about 69 per cent in 1993 to 79 per cent in 2003 (UNDP 2005). The pursuit of education or an upgrading of the skills of the people in Botswana under an open and democratic political administration contributed much to the sustained national reduction of poverty from 60 per cent in 1985/86 to 30 per cent 2002/03 (Central Statistics Office Botswana 2004). Such inference is based on empirical evidence that has shown that schooling creates occupational choice for individuals to consider working outside the agriculture sector and allows educated individuals to migrate out of rural areas and work in the modern sector where returns of labour are higher (Huffman 2001). Similar positive long-run benefits of education on poverty reduction were observed in some states in India (Rosenweig 2003). A higher initial literacy rate has also been found to entail a higher rate of poverty reduction compared to places with low initial literacy rates, even when the environmental and physical conditions are similar (Datt and Ravallion 1998). The differences in education background of the population in rural and non-rural areas in Botswana might explain the differences in the incidence of poverty between rural and non rural areas of Botswana. As indicated in section 2.2.6 [Figure 2.7], rural areas have the highest proportion of heads of household in that have not had school education compared to non-rural areas. Therefore the rural population are more likely to depend on traditional agriculture. Since in Botswana the traditional sector has a very low linkage with the modern sector in terms of input supply, the rural population

might not have direct benefit from high economic growth of the country through exchange of goods and services produced in rural areas.

Figure 13 Adult Literacy in Botswana 1993-2002



Source: Based on UNDP 2005

As rural areas of Botswana tend to have a low stock of educated workers, such an environment is conducive for very high income inequalities between a few government workers and the majority of the rural population that do not have regular incomes even when the rate of growth in an economy is healthy (Eicher and Garcia-Penalosa 2001). Few skilled workers in rural areas might imply that the less than 20 per cent of the rural population that earns wages are covered by minimum wages legislation whilst the 80 per cent that is dependent on subsistence agriculture might not be covered by the minimum wage legislation. Such differences in labour remuneration might also imply that the skilled heads of household have incentives to adopt technical change, which can increase their labour productivity and enable them to earn higher wages. As a result, educated heads of household would invest in the education of their children. However, heads of household with low level education status might fail to make similar investments in the education of their children. This is possible because their wages are very low and limit them to pay for all the education expenses of their children while some might not place a high value on education if they are unsure of its benefits. There is evidence that a major cause of poverty

anywhere is the low returns to labour, which is often the case for many people who work in the traditional or non-modern sectors (LeBlanc 2001). The free education system that Botswana adopted might have contributed to high inequalities and differences in poverty reduction outcomes as most poor people might not have been able to utilize the benefits of the system as members from the higher income heads of household would have. This is possible because, even though the education tuition and books are free, the children still have to buy school uniform, pay pot fee and for some pay transport fees. Children from poor families who might not qualify in programmes meant to assist individuals who are destitute could be excluded from the full benefit of free education system. This study will observe the education level of heads of household in rural Botswana and find how it influences rural household poverty.

Apart from responses to the HIV/AIDS epidemic discussed in sections 2.7 and 2.8, primary health provision is another major component of social policy that aims to address problems of poverty, disadvantage and productivity. Botswana's policy on health has been to provide free medical assistance that the country could afford and ensure that all citizens were within 15 km of the nearest health facility. Increases in both human skills and physical capital have enabled a reduction of unattended birth from 10 per cent in 1991 to less than 2 per cent in 2000 (UNDP 2005). UNDP (2005) also indicated that for children under 5 year of age, malnutrition rates declined from 15 per cent in 1991 to 10 per cent in 1999. In rural areas, 90 per cent of the population had access to improved water sources (The World Bank 2006).

4.4. Credit Finance and Productivity as a Poverty Alleviation Policy.

The Botswana economy is characterised by a limited development of a market system in rural areas compared to the non-rural areas. Almost all households engaged in farming own small farms that operate at subsistence levels and most farmers are absentee owners, who are available on weekly or monthly farms visits as they live in non-rural areas where they are engaged in modern jobs. Although agriculture is generally a high risk business because production is based on biological processes, in Botswana recurring drought, poor arid land and a largely communal property rights regime make the rural sector unattractive for the development of private financial markets. Given such constraints and the need to address rural poverty through

diversified economic growth in Botswana, the government has provided public credit and subsidies to stimulate agricultural productivity through technology adoption and the development of linkage sectors to promote modern sector employment that were expected to increase returns to labour. These programmes were known as Financial Assistance Policy –FAP- of 1982 and Arable Lands Development Programme - ALDEP- of 1981 (Ministry of Finance and Development Planning 2003).

The FAP initially made notable contributions to the emergence of the manufacturing sector and skills development, but due to aggressive international competition in the labour intensive manufacturing sector and the relatively high labour costs compared to the world's lowest cost producers this programme had not made significant impact in reducing factor market dualism in Botswana (BIDPA 2000b). Other agricultural economists in Botswana like Seleka (2004) assert that some of the reasons for the failure of FAP was the inability of beneficiary entrepreneurs to invest in capital asset replacement. Such observations are not easy to dispute as the FAP had inbuilt target inefficiency because its implementation was driven more by re-distribution of income objectives than by a correction of market failure. Empirical evidence about government credit subsidies suggest that they create incentives for beneficiaries to treat them as a gift, and administrative agents are generally limited to ensure applicant eligibility requirements and monitoring of repayments are effective because of political intervention (Barry and Robison 2001). BIDPA (2000b) found that political interference in the FAP policy implementation turned this policy into a poverty alleviation project with a blanket target objective to turn every citizen who applied into an entrepreneur rather than focusing on sustainable job creation enterprises. Other problems were increased abuse as abusers gained more experience in dealing with the scheme, monitoring system effectiveness and the legitimacy of grant claims rather than sustainability.

The government strategy to stimulate modern sector employment shifted from low-skilled labour industrial manufacturing to compete in the manufacture of products that were relatively more skill-intensive; whose benchmarks for competition would be quality and price, instead of price alone. In 2001, the government terminated the FAP and introduced a Citizen Entrepreneurial Development Agency, CEDA, which is a public credit programme that provides subsidised loans, training, monitoring and

mentoring (Ministry of Finance and Development Planning 2003). Emphasis of the new scheme were on mentoring and monitoring projects through private consultants and implementation focused on priority to the service sector at 45 percent, followed by retail trade at 25 percent and manufacturing was much lower taking the fourth position of 10 percent (Gaolathe 2003). The results of this change in strategy are demonstrated by a change in the composition of the share of GDP by economic activity in 2005/06 compared to 2002/03. As shown in section 2.2.1, in 2005/06, banks, investment and business services comprised the second largest sector after mining while trade was the third largest share of GDP whereas in 2002/03 general government had the second largest share of GDP followed by banks, investment and business sector and trade had the least share of GDP. Such changes possibly indicate the prominence of public credit programmes in influencing the composition of GDP and type employment growth in Botswana.

4.5. Safety Nets for Vulnerable Groups

Botswana's planning system uses safety nets to address a wide range of circumstances that put different population groups vulnerable to the risk of food insecurity and poverty. These policies and programmes are summarized in Table 2 and include Destitute Person's Policy, Drought Relief Programme and Old Age Pension Scheme. The common determinant for targeting safety nets is that most of the causes of vulnerability are a result of natural causes such as lack of rain, terminal diseases, old age and remote geographical locations. Although these programmes cover a wide range of groups, and social welfare constituted 4 per cent of the 1996 recurrent budget, the planning strategy aims to ensure that safety nets protect the poor and the vulnerable whilst preventing the creation of a dependency syndrome among beneficiaries (Gaolathe 2006; Ministry of Finance and Development Planning 2003).

Table.2 Safety Nets and Targeting in Botswana

Age Cohort	Employment Status	Source of Deprivation	Social Protection Intervention
0 – 15	Inactive	Living in a poor family Being an orphan	<ul style="list-style-type: none"> • Needy Children Programme • Orphans Support Programme
16-65	Active	<u>Low income</u> because: <ul style="list-style-type: none"> • Chronically poor • Low returns to agriculture • Living in a difficult environment 	<ul style="list-style-type: none"> • Destitute Persons Policy • Labour Intensive Public Works • Remote Area Development Programme
		<u>Vulnerability to shocks</u> such as: <ul style="list-style-type: none"> • Drought 	<ul style="list-style-type: none"> • Drought Relief Programme
16-65	Inactive	<u>Inability to work</u> because: <ul style="list-style-type: none"> • Chronically ill (e.g. AIDS) • Physical or mental disability 	<ul style="list-style-type: none"> • Home-Based Care Support • People With Disabilities Policy
65+	Inactive	Old age	<ul style="list-style-type: none"> • Old Age Pension • World War II Veterans Allowance

Sources: BIDPA (2001)

The existence of a wide active safety net provision in Botswana might not only indicate the country's adherence to its social justice principles but also be an indicator of the effectiveness of participatory democracy which puts pressure on the decision makers to attract votes. Such safety nets also indicate that the benefits of sustained high economic growth rates allow for the redistribution programmes to cater for those that are left out from direct benefits of economic growth. There is a need for more information about factors that influence rural poverty in Botswana so that more relevant conclusions about the high incidence of poverty than in non-rural areas are drawn.

5. Concluding Observations

An overview of the background of the Botswana economy reveals that the overall incidence of poverty in terms of the cost of basic needs method fell from 60 per cent in 1985/86 to 30 per cent in 2002/03. In rural areas, the incidence of rural poverty fell from 55 per cent in 1985/86 to 40 per cent in 1992/93, but in 2002/03, the incidence of rural poverty had increased to 45 per cent. Although Botswana economy might give an impression of a dual economy when an economic input-output analysis is applied because there is nearly non-existent production linkage of agriculture from rural areas to the rest of the economy, it is not. This is because the rural and urban economy in Botswana is linked by means of income transfers. These take the form of government transfers, private remittances, employment generated by public works, and income paid to government employees such as teachers in rural areas. These linkages tend to be stronger than in countries such as Nigeria which obtains considerable income from oil wells.

It is also shown that Botswana experienced dramatic increase in urbanisation from 18 per cent in 1981 to 54 per cent in 2001. This performance indicates that after 20 years, economic growth has been used to transform a largely agrarian economy to an economy that is more dominated by the modern sector. In the process, the rolling out of infrastructure and modernisation accelerated urbanisation because after 1991, many rural villages were re-designated urban villages. Provision of better education and primary health for all in the country assisted rural people to migrate to urban areas to take advantage of modern job opportunities as they opened. Therefore, as the rural population who succeeded in education migrated to urban areas and earned higher incomes than in agriculture. As a result, the amount and frequency of private remittances to rural areas also increased. Urbanisation through infrastructure development as a result of sustained high economic growth was a major source of overall reduction of national poverty rate because it created employment that paid wages above the minimum wages, which is not possible in the traditional agriculture that is carried out under recurring drought years. Both out migration from rural areas and reclassification of rural areas to become urban villages reduced the population in rural areas. A majority of people who remained in rural areas had low levels of education and relied in traditional agriculture that is characterised by low productivity

because of recurring droughts and lack of innovation. Therefore, most poor people are likely to be concentrated in rural areas because they do not have the skills to be absorbed in the modern sector jobs that are created from sustained economic growth in non-rural areas. Such concentration of poor people in rural areas might explain an increase in the incidence of rural poverty and not a dramatic increase in the number of the rural population that are poor.

6. Reference:

- Acemoglu, D., Johnson, S. and Robinson, J. A. (2001) 'An African Success Story: Botswana', in D. Rodrik (ed.), *In Search of Prosperity: Analytic Narratives of Economic Growth*, Princeton University Press, Princeton, New Jersey.
- African Comprehensive HIV/AIDS Partnership (2005) *Partnerships for an AIDS Free Generation*, ACHAP, viewed 22 June 2005, <<http://www.achap.org/>>.
- Aligica, P. D. (2003) 'Structural Constraints: Implications of Economic Dualism for the Development and International Integration of South Eastern Europe', *Journal of Southern Europe and the Balkans*, Vol. 5, No. 3.
- Bank of Botswana (2007) *Annual Report 2006*, 31 July 2007, <<http://www.bankofbotswana.bw/article.php?articleid=1705>>.
- Bardhan, P. and Udry, C. (1999) *Development Microeconomics*, Oxford University Press, Oxford.
- Barry, P. J. and Robison, L. J. (2001) 'Agricultural Finance: Credit, Credit Constraints, and Consequences', in B. Gardner and G. Rausser (eds), *Handbook of Agricultural Economics*, Elsevier, Amsterdam, Vol. 1A.
- Behnke, R. H., Scoones, I. and Kerven, C. (1993) *Range ecology at disequilibrium*, Overseas Development Institute in association with the International Institute for Environment and Development and the Commonwealth Secretariat, 1993., London.
- BIDPA (1997) *Study of Poverty and Poverty Alleviation in Botswana*, Ministry of Finance and Development Planning, Gaborone.
- BIDPA (2000a) *Impact of HIV/AIDS on Poverty and Income Inequality in Botswana*, 20, Gaborone.
- BIDPA (2000b) *Financial Assistance Policy (FAP) Fourth Evaluation*, Government Printer, Gaborone.
- BIDPA (2001) *Consultancy on the Review of the Rural Development Policy*, Ministry of Finance and Development Planning, Gaborone, Botswana.
- Botswana-Harvard School of Public Health Initiative (2003) *Botswana-Harvard School of Public Health HIV/AIDS Partnership*, Botswana-Harvard School of Public Health AIDS Initiative - Partnership for HIV Research and Education, viewed 21 January 2007.

- Botswana-Harvard School of Public Health Initiative (2005) *HIV Vaccine Trial Injects First Participant*, BHP, viewed 22 February 2007, <http://www.hsph.harvard.edu/bhp/news_publications/press_releases/new_vaccine.html>.
- Central Statistics Office (2006) *2005/06 Labour Force Survey Preliminary Results*, viewed 01/08/ 2007, <<http://www.cso.gov.bw/>>.
- Central Statistics Office Botswana (1994) *Household Income and Expenditure Survey:1993/94*, Government Printer, Gaborone.
- Central Statistics Office Botswana (2001a) *Education Statistics 2001*, Government Printer, Gaborone.
- Central Statistics Office Botswana (2001b) *Population and Housing Census*, Central Statistics Office, Gaborone.
- Central Statistics Office Botswana (2002) *Agriculture Statistics Report: 1997*, Government Printer, Gaborone, Botswana.
- Central Statistics Office Botswana (2004) *Household Income and Expenditure Survey 2002/03*, Government Printer, Gaborone.
- Datt, G. and Ravallion, M. (1998) 'Why have some Indian States done better than Others at Reducing Rural Poverty', *Economica*, Vol. 65, No. 257.
- Deloitte and Touche (1996) *Financial and Economic Review of Livestock Sector in Botswana*, Deloitte and Touche Tohmatsu, Gaborone.
- Early Warning Technical Committee (2003) *Household Food Security Outlook* Ministry of Finance and Development Planning
Gaborone.
- Eicher, T. S. and Garcia-Penalosa, C. (2001) 'Inequality and Growth: the Dual Role of Human Capital in Development', *Journal of Development Economics*, Vol. 66, pp. 173-97.
- Fidzani, N. H. (2001) *Property Rights and Their Effects on the Livestock Sector in Botswana*, Goteborg; Goteborg University.
- Freedom House (2007) *Freedom in Sub-Saharan Africa 2007: A Survey of Political Rights and Civil Liberties*, Freedom House, viewed 02 August 2007, <http://www.freedomhouse.org/uploads/press_release/africa_report_jul07.pdf>.
- Gaolathe, B. (2003) *Budget Speech 2003*, Government Printer, Gaborone.
- Gaolathe, B. (2004) *Budget Speech 2004*, Government Printer, Gaborone.
- Gaolathe, B. (2005) *Budget Speech 2005*, Government Printer, Gaborone.
- Gaolathe, B. (2006) *Budget Speech 2006*, Government Printer, Gaborone.
- Gwebu, T. D. (2003) *Urbanisation in Botswana*, Botswana Central Statistics Office, Gaborone, September 8 - 11, 2003, <<http://www.cso.gov.bw/>>.
- Hardin, G. (1968) 'The Tragedy of the Commons', *Science*, Vol. 162, No. 1968, pp. 1243-8.

- Hirschman, A. O. (1958) *The Strategy of Economic Development*, Yale University Press, New Haven.
- Hodson, R. and Kaufman, R. L. (1982) 'Economic Dualism: A Critical Review', *American Sociological Review*, Vol. 47, No. 6, pp. 727-39.
- Huffman, W. E. (2001) 'Human Capital: Education and Agriculture', in B. Gardner and G. Rausser (eds), *Handbook of Agricultural Economics*, Elsevier Science, Amsterdam, Vol. 1.
- Kerapeletswe, C. K. and Lovett, J. C. (2001) *The Role of Common Pool Resources in Economic Welfare of Rural Households*, Environment Department, University of York, York.
- LeBlanc, M. (2001) 'Poverty, Policy and the Macroeconomy', *US Department of Agriculture Technical Bulletin*, Vol. 1889, No. February.
- Lewis, W. A. (1954) 'Economic Development with Unlimited Supplies of Labour', *Manchester School*, Vol. 22, p. 139191.
- Lyons, S. (1990) 'The Political Economy of Inequality: Poverty, Drought and Aid Programmes', University of Salford PhD Thesis.
- Ministry of Finance and Development Planning (2002) *Revised National Policy for Rural Development*, Government Printer, Gaborone.
- Ministry of Finance and Development Planning (2003) *National Development Plan 9*, Government Printer, Gaborone, Botswana.
- Nath, H. K. (1999) *The Rise of an Enclave Economy*, Southern Methodist University, Dallas, Texas, 2 August 2007, <http://www.shsu.edu/~eco_hkn/nath_enclave.pdf>.
- National Aids Coordinating Agency (2005) *Overview of National Aids Coordinating Agency*, NACA, viewed 22 June 2005 2005, <<http://www.naca.gov.bw/about.htm>>.
- Ray, D. (1998) *Development Economics*, Princeton University Press, Princeton.
- Republic of Botswana (1997) 'Long Term Vision for Botswana', *Vision 2016*, Vol. 1.
- Rosenweig, M. R. (2003) *Openness and Poverty Reduction in the Long and Short Run*, Yale University, New Haven, Connecticut USA, 10-11 October 2003.
- Schultz, T. P. (2001) 'Women's roles in the Agricultural Household: Bargaining and Human Capital Investments', in B. L. Gardner and G. C. Rausser (eds), *Handbook of Agricultural Economics*, Elsevier, Amsterdam.
- Seleka, T. B. (2004) *Diversification in Botswana's Agricultural Sector: Issues, Prospects and Challenges*, BIDPA, BIDPA, Gaborone.
- Sigwele, H. (1993) *Food Security Versus Food Self-sufficiency: Which way Forward?*, The Botswana Society, Gaborone, 18-20 October 1993.
- Siphambe, H. (2003) *Economic Activity and Labour Force*, Central Statistics Office, viewed 02 August 2007, <<http://www.cso.gov.bw/>>.
- Stiglitz, J. E. (1988) 'Economic Organization, Information, and Development', in H. Chenery and T. N. Srinivasan (eds), *Handbook of Development Economics*, Elsevier Science Publishers, Amsterdam.

- The World Bank (2001) *World Development Report, Attacking Poverty 2000/01*, Oxford University Press, Washington.
- The World Bank (2004) 'World Development Indicators', *World Development Report*, Vol. 1, No. 1.
- The World Bank (2006) *World Development Report, Equity and Development*, Oxford University Press, Oxford.
- Tumelo, S. (2004) *16th December 2004 Press Release of the Results of "The Household Income and Expenditure Survey (HIES)", "Literacy Survey" and "Botswana Aids Impact Survey II (BAIS II)"*, Central Statistics Office, viewed 20 March 2006, <<http://www.cso.gov.bw/>>.
- UNDP (2004) *Human Development Report 2004*, UNDP, viewed 10/12/ 2006, <http://hdr.undp.org/reports/global/2004/pdf/hdr04_complete.pdf>.
- UNDP (2005) *Botswana Human Development Report 2005: Harnessing Science and Technology for Human Development*, UNDP, viewed 22 July 2007, <http://hdr.undp.org/docs/reports/national/botswana/botswana_2005.pdf>.
- USAID (2004) *US Government HIV/AIDs Programme in Botswana*, USAID, viewed 21 August 2007, <http://www.usaid.gov/our_work/global_health/aids/Countries/africa/us_botswana.pdf>.
- Valentine, V. T. (1993) 'Drought, Transfer Entitlements, and Income Distribution: The Botswana Experience', *World Development*, Vol. 21, No. 1, pp. 109-26.
- Watson, H. K. and Dlamini, T. B. (1999) *An Assessment of the Sustainability of the Utilisation of Savanna Products in Botswana*, Department of Geography and Environmental Studies, University of Durban Westville, Durban.
- White, R. (1993) *Livestock Development and Pastoral Production on Communal Rangeland in Botswana*, Botswana Society, Gaborone, Botswana.
- Wikan, G. (2001) 'Cash, crops and cattle. A study of rural livelihoods in Botswana', in *Herdmark College, Holland, Norway*, Vol. 7.
- Zitzmann, G. (1999) *Multiple Use and Livelihood Strategies in Mopane Woodland - The Case of Ditladi, North East District Botswana.*, Institute of International Forestry, Tharandt.

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