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**Food Security, Agricultural Policy & Environmental  
Interface: An African Perspective**

**The case of Botswana**

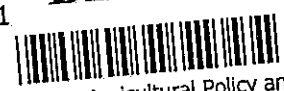
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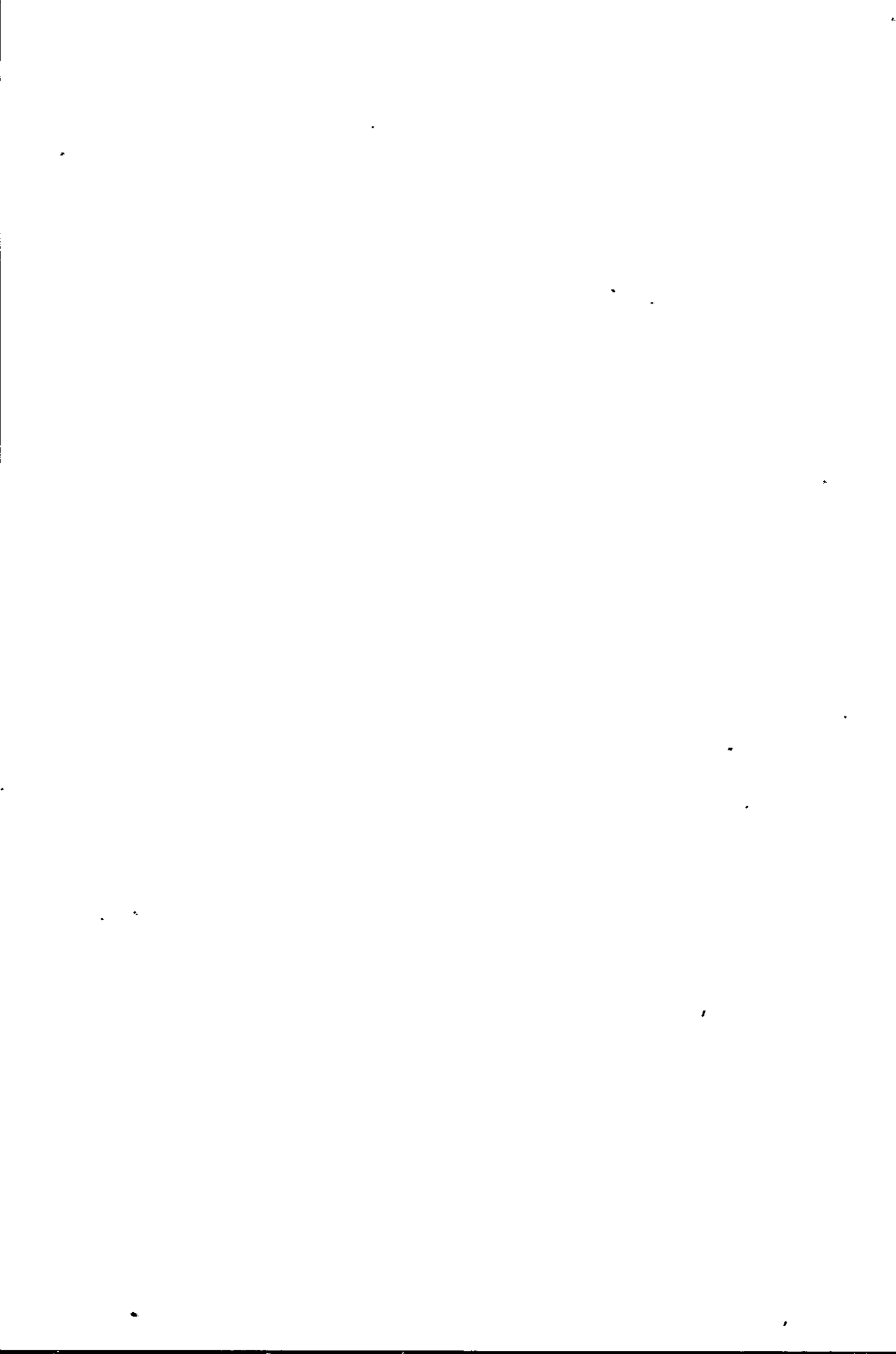
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## TABLE OF CONTENTS

|   |           |
|---|-----------|
| <b>1.0 INTRODUCTION</b> .....                         | <b>1</b>  |
| <b>2.0 BACKGROUND</b> .....                           | <b>1</b>  |
| <b>3.0 FOOD SECURITY IN SOUTHERN AFRICA</b> .....     | <b>3</b>  |
| 3.1 DEFINITION .....                                  | 3         |
| 3.2 FOOD SECURITY ISSUES IN BOTSWANA .....            | 4         |
| 3.2.1 <i>Peace, Governance and Democracy</i> .....    | 4         |
| 3.2.2 <i>Growth and Monetary Policy</i> .....         | 5         |
| 3.2.3 <i>Population and Incomes</i> .....             | 6         |
| 3.2.4 <i>Fiscal policy</i> .....                      | 7         |
| 3.2.5 <i>Food Prices</i> .....                        | 8         |
| 3.2.6 <i>Investment in Rural Infrastructure</i> ..... | 9         |
| 3.2.7 <i>Agricultural Trade</i> .....                 | 10        |
| 3.2.8 <i>Export Led-Growth</i> .....                  | 11        |
| 3.2.9 <i>HIV/AIDS, Health and Nutrition</i> .....     | 12        |
| 3.2.10 <i>Safety Nets</i> .....                       | 13        |
| 3.2.11 <i>Institutional Needs</i> .....               | 14        |
| <b>4.0 CONCLUSIONS</b> .....                          | <b>14</b> |
| <b>5.0 REFERENCES</b> .....                           | <b>16</b> |



## **1.0 INTRODUCTION**

Food insecurity is critical in most parts of Southern Africa because of widespread poverty, civil wars, recurrent droughts and minimum levels of trade. Botswana is among the smaller states in the region who have managed to maintain sustainable food security levels for long periods because of peace, democracy, prudent macroeconomic management and openness. This paper will begin with an outline of Southern African region's background, then define food security in the region, and discuss food security issues in terms of macroeconomic and agricultural policy perspective. The environmental interface is discussed as an integral part of the overall discussion and concludes that Botswana can strengthen her food security objectives through export led growth in agricultural areas where she has comparative advantage. The country should also join regionalism that will lead to free trade which will link her to the wider regional market and open up opportunities for economies of scale.

## **2.0 BACKGROUND**

Southern African Development Community (SADC) region comprises 14 independent countries with a population of 195.4 million (mn). The Democratic Republic of Congo (DRC) and Angola with populations of 49 mn and 12.9 mn respectively are in civil wars. Tanzania, Mozambique, Zambia, and Malawi with populations of 32mn, 16mn, 10.4mn and 10mn and Angola and DRC are listed by the World Bank

as Heavily Indebted Poor Countries (HIPC). This picture provides a general understanding the critical situation of food insecurity is in region (Swaminathan 2001). Zimbabwe with a population of 13mn is facing unprecedented economic crisis and the erosion of the basic freedoms with daily reports of political violence and police repression (Southscan 2002). Although Zimbabwe was once a major food supplier after South Africa in the region, it is now forced import maize, and more than half a million of its population survive on international humanitarian assistance. Botswana with a population of 1.7million in an area of 582 000 square kilometres, the size of France or Texas, and is among the five smaller independent countries in SADC. The country is landlocked and shares borders with Namibia, South Africa, Zambia and Zimbabwe.

Botswana is a flat country with occasional rock outcrops. The Kalahari Desert covers more than two thirds of the country. The majority of the population live in the east where there are more fertile soils suitable for rain-fed arable agriculture. Okavango Delta, and the Chobe National Park in the north-west are major tourist attractions. The mean annual rainfall ranges from 650mm in the north-east and less than 250mm in the south-west.

Botswana's GDP per capita of US\$ 3000.00 is the third highest after Seychelles (US\$ 7448.00) and Mauritius (US\$ 3901.00). Diamonds mining dominates the Botswana economy. Mining share of GDP is 31.1 percent whereas agriculture's share is 3 percent (Bank of Botswana 2001). Except Mauritius, Namibia, Seychelles and South Africa, agriculture's share of GDP is significant in the region (SADC Review 2002). In terms of direct employment, Botswana government is the major employer with 29.7 percent share of the total labour force in employment, followed by agriculture 15.5 percent, trade 12.8 percent, construction 11.9 percent and manufacturing 8.6 percent. Mining's share of the total labour force in employment is 4.4 percent.

### **3.0 FOOD SECURITY IN SOUTHERN AFRICA**

#### **3.1 Definition**

Food security has been widely defined (American Heritage Dictionary 1985, OXFAM website, The International Famine Centre 2000, Ellis 1992, FAO 1997, Menezes 2001). In this paper, food security will refer to access by all people at all times to enough acceptable food for an active, healthy life (FAO, 1997). The emphasis will be on access to acceptable food or whether people have sufficient command over food. The paper will investigate whether individuals and social groups at risk have access to food based on overall food availability or supply and whether the ability to

acquire it are adequate. In Botswana, chronic<sup>1</sup> food insecurity has not been reported but transient<sup>2</sup> food insecurity is most prevalent. Food insecurity in Botswana is associated with high rates of crop failure and lack of employment. The mining industry has almost no linkages to the rest of the economy and hence the need for diversification (MFDP, 1997).

### **3.2 Food Security Issues in Botswana**

The main objective of Botswana's food security policy is to stabilise food supply and enhance household access to food through reduction of the incidence of poverty (EWTC 2002, MFDP 1997, McCalla 1998). It is generally agreed that household food security can only be achieved if macro-level availability of food is guaranteed, and opportunities to access acceptable food either through own production or purchase or transfers are also available (Rooyen and Sigwele 1998, McCalla 1998, Southscan 2002). Critical elements necessary towards the achievement of food security and prevention of famines are peace, democracy and transparent participatory processes (Sen 1999 and Stiglitz 1999) and this has formed the basis for Botswana's approach.

#### **3.2.1 Peace, Governance and Democracy**

Since independence in 1966, Botswana Constitution established a non-racial democracy, which maintains aims to guarantee fundamental

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<sup>1</sup> Chronic food insecurity – is a continuous inadequate diet caused by persistent inability to acquire enough food.

<sup>2</sup> Transient food insecurity is a temporary decline in a household's access to enough food.



human rights. National elections are held every five years since 1965. The independent judiciary with a High Court is presided by a Chief Justice. This and the culture of openness in the Kgotla<sup>3</sup> traditional system contributed to sustained peace and stability and led to positive attainment of food security. War and civil instability are a deliberate generation of food insecurity and famine (Sen 1999, The International Famine Centre 2000, Southscan 2002, and World Bank website). Angola, the Democratic Republic of Congo, Mozambique and Zimbabwe are examples in the region.

### 3.2.2 Growth and Monetary Policy

Macroeconomic policy in Botswana has been stable over the last ten years and supportive to the food security concerns in the country. The average GDP growth rate was 6.9 percent over the last five years more than a population growth rate of 2.4 percent (CSO<sup>4</sup>, 2001) during the period 1991 to 2001. Although mining contributed significantly to the acceleration in growth between 2000 and 2001 (Bank of Botswana, 2001) an average 6.2 percent non-mineral GDP growth over the last five years (BIDPA, 2002) compared favourably with overall growth rates in the same period.

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<sup>3</sup> The Kgotla is the focal point of all settlement activities, governance and development

<sup>4</sup> Central Statistics Office

In Botswana, households acquire a significant part of their food through purchases. For instance, 80 percent of total consumption was purchased while 8 percent was from own produce in the year 2000 (CSO, 2001). Therefore, job creation and price stabilization are part of important macroeconomic indicators towards food insecurity reduction. Average employment growth of 4.7 percent and an average rate of inflation of 7.22 over the last five (BIDPA, 2002) contributed to stable food security situation in the country.

### 3.2.3 Population and Incomes

Botswana's experienced a declining population growth from 3.5 percent in 1971-81 and 1981-91 periods to 2.4 percent in 1991-2001. This trend and a 6 percent economic growth rate in the last five years suggests that national food security situation is presently safe because the demand for food is not likely to increase in the short term.

The economic diversification process<sup>5</sup> is slow and threatens the long-term food security in the Botswana. Average unemployment was 15.5 percent in the last three years while average formal employment growth was 3.7 percent in the same period.

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<sup>5</sup> Diversification process of the Botswana economy from mineral led to more sustainable economic sectors has been a major focus and theme for the just ending six-year national development plan. The diamonds that Botswana rely on are faced with the risk of consumer discontent as a result of conflict diamond found elsewhere in Africa.

### 3.2.4 Fiscal policy

The Botswana Government has tended to rely heavily on emergency programmes like the Drought Relief Programmes to address transient food insecurity problem because the diversification process is facing employment creation difficulties (Bank of Botswana 2001). However, increased spending options are no longer easy because of a P1.62 billion deficit (about 4.2 percent of GDP) predicted for the 2002/2003 financial year (BIDPA 2002).

Under the current plan period (NDP 8), fiscal policy aimed to facilitate private sector development and ensure improved efficiency<sup>6</sup> in the use of Government resources (MFDP<sup>7</sup> 1997). These would provide employment and enable households to have cash to access food. Citizen Empowerment Development Agency (CEDA) has replaced the inefficient Financial Assistance Policy to improve targeting. This might improve sustained long-term food security concerns through effective long-term employment creation opportunities.

Progressive tax system implementation ensures a more equitable distribution of the tax burden (MFDP 1997) to protect those with low incomes. In spite of this, the CSO (2001) observed that the GINI

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<sup>6</sup> Efficiency achieved through measures that included reduction of taxes to attract investors and introduction of cost recovery measures to save resources.

<sup>7</sup> Ministry of Finance and Development Planning (MFDP)

coefficient<sup>8</sup> at 0.537 for disposable income was very high relative to the country's target of 0.3. But it showed marginal improvement from the 0.556 for all incomes in 1985/86 HIES<sup>9</sup> (CSO 2001) indicating progress towards household food security.

### 3.2.5 Food Prices

Food prices are a major factor towards food security in Botswana. The poor spend between 50 and 80 percent of their increments to income on food (Mellor, 1988). Botswana can not influence food prices through production. Arable agriculture is constrained by low and erratic rainfall, endemic droughts (the last five years were all drought years (EWTC<sup>10</sup> 2002)), and uncertain and scattered water resources for irrigation (Ministry of Agriculture 2000). Price stabilization through a tight monetary policy and a stable macroeconomic performance have contributed significantly to stability in food security.

Past agricultural policy in Botswana concentrated on input subsidies instead of high producer prices to encourage increased farm output. These efforts, the Arable Land Development Programme<sup>11</sup> (ALDEP)

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<sup>8</sup> GINI Coefficient is a measure of the extent of the relative inequality based on the Lorenze Curve

<sup>9</sup> Household Income and Expenditure Survey (19985/86) by the Central Statistics Office

<sup>10</sup> Early Warning Technical Committee (EWTC)

<sup>11</sup> ALDEP was an input grant scheme targeted to smallholder farmers with less 40 herd of cattle and ploughed less than 10 hacters of land. Its aim was to increase productivity in subsistence farming.

and Financial Assistance Policy<sup>12</sup> (FAP), were not successful in generating desired employment in agriculture (BIDPA, 2000). Although both were popular and successful distributive mechanisms of farm inputs, no increased productivity in subsistence farming production was observed. Reasons included implementation during a prolonged drought period, inadequate monitoring, and over-trading in some sectors. The proposed agricultural policy should focus on the development of commercial arable agriculture in high potential zones for sustainable output and job creation. This is expected to increase new employment creation opportunities for the poor by 50 percent and develop linkages that would provide a further 15 percent total employment which will contribute towards food security (MoA<sup>13</sup> 2000).

### 3.2.6 Investment in Rural Infrastructure

Investment in rural infrastructure is a critical factor in facilitating the achievement of food security (Mellor, 1988). In Botswana, rural infrastructure includes a single-track railway in the east running across from South Africa to Zimbabwe. Most major centres are connected through a good road network. Electricity and telecommunications infrastructure are non-existent in all production areas in the traditional sub-sector, but are necessary to facilitate small

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<sup>12</sup> FAP was the Government incentive scheme aimed at encouraging development in manufacturing but also covered agriculture outside cattle ranching and dry land farming, small scale mining and service related activities in Tourism.

holder farmers productivity and access to markets (BIDPA 2001, Swaminathan 2001).

### 3.2.7 Agricultural Trade

Botswana is a net food importer and trade is very critical to generate employment within the country in areas where she has a comparative advantage. Work in the region has shown that wage employment brings more returns than subsistence production in areas not suitable for cultivation of that crop (Maasdorp 1998). The SADC region is currently working towards a free trade area (Maasdorp 1998) and aims to address the dismantling of existing excessive trade barriers within each country (Stanton, 2000). Botswana is also a member of Southern Africa Customs Union (SACU)<sup>14</sup> and enjoys the preferential treatment under the Lome Agreement<sup>15</sup> between the European Union and the Africa Caribbean Pacific (ACP) countries. Free trade in the region would facilitate large-scale production of white maize in SADC countries with comparative advantage and improve regional food security, even in drought periods, because regional stocks can be made

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<sup>13</sup> Ministry of Agriculture (MoA)

<sup>14</sup> SACU is a Customs Union Agreement between South Africa, Botswana, Lesotho, Namibia and Swaziland. Its aim is to maintain the free interchange of goods between member countries. It provides for a common external tariff and a common excise tariff to this common customs area. All customs and excise collected are paid into South Africa's national Revenue Fund. The Revenue is shared among members according to a revenue-sharing formula as described in the agreement. South Africa is the custodian of this pool.

<sup>15</sup> ACP countries enjoy non-reciprocal duty free and quota free access to the EU market for most of their exports

available to food importing ones like Botswana faster than imported cereals from overseas. Another advantage of free trade in the region would be access to a larger market by Botswana firms, which can allow them to enjoy economies of scale and increase employment opportunities. By 1998, 20.4 percent of Botswana's exports went to SADC region with 85 percent of these going to the SACU region which is home to a quarter of the region's population (CSO 2000).

### 3.2.8 Export Led-Growth

Export-led growth is a must for overall diversification process of the economy given Botswana's small market. Botswana is primarily a beef producer because of good grazing resources. However, the current trend towards globalisation brings with it competition and possible collapse of the current Lome Agreement. New markets, especially in the region would be important once free trade is in place because of the savings from the transport costs.

Export led livestock sector has led to overgrazing particularly in communal land systems where the majority of the poor keep their livestock. It is in these areas where land use and planning should be addressed to account for the bequest interest in the livestock sector. Overgrazing in settlements, watering points and other communal areas inhabited by the poor threaten this sector's contribution to food security.

Export led growth in other sectors especially in potential vegetable and fruit production (MoA 2000) and textile manufacturing under the diversification process should influence future policy development.

### 3.2.9 HIV/AIDS, Health and Nutrition

Botswana has the world's highest HIV prevalence at 36 percent of the 15-49 years age group (UNDP 2000). A separate project to address this epidemic under the Office of the President has been allocated an equivalent of 53 percent of the total development budget for Ministry of Health's (Gaolathe 2002). This shift in fiscal policy has negative implications to government expenditure that is already limited by a narrow economic base for sustainable food security objectives.

Food insecurity, disease, poor sanitation, inadequate education and under-nutrition linkages require that effort to improve nutrition should be consolidated to contain or reverse the problem (FAO, 1997). Nutrition education and programmes in Botswana have reduced under-nutrition problems and prevented famine despite recurrent droughts and continuous crop failure. During the last three years, national average total malnutrition rates for children under 5 years were falling from 13 percent in 1999 to 11.1 percent in 2000 to 9.3 percent in 2001 (EWTC, 2002) compared to the Medium Human Development countries's average under-weight for age of 24 percent (UNDP 2001).



### 3.2.10 Safety Nets

Botswana has an extensive safety net system with specific programmes to address particular food insecurity problems of the vulnerable groups in society. Safety net programmes include the Old Age Pension Scheme, supplementary feeding programmes to (i) all children below the age of 5 years and are attending growth monitoring clinics (especially during drought periods), ii) pregnant women, iii) and terminally ill patients. The Remote Area Dweller Programme targets people based on regional location (Basarwa), the Destitute Programme targets beneficiaries through means testing, and Orphans Support Programme address food security needs of orphans especially with their current increase as a result of HIV/AIDS related deaths. Labour-based public works programme is a work for cash programme targeted at the able-bodied persons experiencing transient food insecurity problems because of crop failure or lack of employment. Overall, the supplementary feeding programme had a direct impact in famine prevention and reduction of high-income poverty<sup>16</sup> impacts. BIDPA (2001) rural survey revealed that government transfers contributed 25 percent of household income consistent with an earlier observation also by BIDPA (1996) Poverty Study that transfers were extremely important. For instance female headed households and the rural poor

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<sup>16</sup> Income poverty is 47 percent using 1993/94 data (BIDPA 1997)

derived 43 percent of their total income from transfers and 18 percent from own production.

### 3.2.11 Institutional Needs

Botswana has an established early warning system that is supported at the regional level by a SADC early warning unit based in Zimbabwe. The local system is based on a regular reports through a normal monitoring system and rapid rural assessment system that relies primarily on its analysis of the rainfall deficiencies or otherwise in terms of amounts and extent. The system is supervised by the chief executives of government ministries and appointed representatives of the civil society, business, traditional leadership and non-governmental organisations whom are members of the Rural Development Council that is chaired by a Minister of Finance and Development Planning. The system is operational and active with a strong political support to address food security issues.

## 4.0 Conclusions

Most parts of the SADC region are experiencing critical food insecurity problems as a result of widespread poverty, civil wars, political instability poor economic management, insufficient trade and recurring droughts. Botswana has maintained a stable food security situation because of stable macroeconomic policies, transparency and minimal levels of corruption, social responsibility and an effective

monitoring system. For this small SADC state to maintain a long-term sustainable food security situation, she will have to develop and exploit her potentials in agricultural production areas she has comparative advantage and engage in regional trade beyond the SACU region.

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