CAUSES OF FOOD INSECURITY IN SOUTHERN AFRICA: AN ASSESSMENT

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Thesis presented in partial fulfilment of the requirements for the degree of Master of Science in Agriculture at Stellenbosch University

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December 2007

DECLARATION

I, the undersigned, hereby declare that the work contained in this thesis is my own work and that I have not previously, in its entirety or in part, submitted it at any university for a degree.

Signature: …….. Date: ……..

ABSTRACT

Regional food security is considered one of the major challenges for the Southern African Development Community (SADC) countries. SADC is one of the regions in the world currently facing widespread transitory and chronic food insecurity (malnutrition), as well as persistent threats of acute food insecurity (famine). The objective of this thesis, therefore, was to investigate and assess the prevailing causes of food insecurity in Southern Africa.

The research revealed that transitory and chronic food insecurity (malnutrition) in the SADC region exists due to the problems experienced with both the supply and demand sides of the food security equation. However, though SADC has made limited attempts to tackle the problem of food insecurity in the region, the Community did not appear to learn from the 1991/92 food insecurity crisis when it recurred in 2001/02. This study consequently recommends that further investigations take place into the primary data available in an attempt to address various issues relating to the causes of food insecurity in Southern Africa in order to ensure long-term food security. Such issues include the following: mobilising agriculture to increase food production rapidly enough to meet the needs of the growing population of the region; bridging the prevailing gap between the public actors, on the one side, and the private and informal actors, on the other, in order to deliver effective food security services to the needy in the region; the designing of well-targeted food pricing policies as an interim compromise between the social concerns relating to high and volatile food prices and long-term economic growth and food security in the region; and the identification of the role of women as food producers and agents of food security in the region.

On the supply side, the main food availability problems in the region lie on the agricultural level. Low productivity and frequent disasters have been of a cyclic nature in SADC, leading to additional difficulties with supplies. Such difficulties have been compounded by the inadequate political support of the sector; a lack of investment therein; the instability of the world market; and an increasingly unfair trade environment. Other major dimensions of the problem include: the imposition of trade barriers, such as tariff, non-tariff and technical barriers, particularly the complex and confusing tariff structure imposed by the Southern African Customs Union (SACU) countries against other non-SACU SADC countries; the high cost of transport, especially in landlocked countries, which has come about as a result of the weakening of the capacity and efficiency of the

transport system in the region, due to a lack of investment in, as well as the poor performance of, the transport sector. A lack of a diversified production structure in the SADC region was cited as the main obstacle to the successful trade integration and economic development of the region.

Looking at the demand side, the main food access problems in the region consisted of a lack of food entitlement (poverty) due to the weak economic growth resulting from unsuccessful macro-economic policies; a poor balance of payments situation; highly skewed patterns of income and wealth distribution, resulting from maladministration due to short-sighted past colonial policies; high levels of unemployment and land tenure insecurity; the failure of governance, both as regards a lack of accountability and opposition to democratisation; and financial mismanagement. Rapid population growth in the region resulted in an escalation in the demand for agricultural products, in particular foodstuffs, and the reduced availability of arable land. The widespread preponderance of Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) infection was complicating the task of fighting hunger and undermining any attempts to strengthen the livelihoods of the poor by depleting the adult agricultural labour potential in Southern Africa. A lack of financial resources and institutional capacity (in the form of policy gaps) were the main constraints to the implementation of successful poverty and food insecurity alleviation programmes in the region, as comprehensive government intervention aimed at maintaining food security in the region for most Southern Africans was unfeasible in the near future.

The research was conducted using the qualitative method of literature study, which proved a useful descriptive and analytical framework for revealing significant causes of food insecurity prevailing both in individual, households and at national levels in the SADC region. The study focused mainly on the availability, and the ability to acquire, food, in an attempt to see how balance could be achieved between the supply and demand sides of the food security equation by means of relevant investigations. Documentary data were consulted in investigating the problem, in the light of the fact that publications, such as books, academic journals and documents, illustrate the problem most clearly.

In the planning of policy interventions, food insecurity in Southern Africa appears open to improvement in the long term only if the actual income of households is increased, so that they can afford to obtain enough food. Such improvement can take place in two ways: *Firstly*, by giving the people who face transitory and chronic food insecurity the opportunity to earn enough to ensure that

they can maintain an adequate food supply through domestic production, by improving agricultural yield, and hence ensuring food security, at household level, and *secondly*, by means of the facilitation of trade (in the form of food imports), by eliminating tariff, non-tariff and technical barriers, and investing in the development of the transport infrastructure in the SADC region.

OPSOMMING

Voedselsekerheid in die streek word as een van die vernaamste uitdagings vir die lidlande van die Suider-Afrikaanse Ontwikkelingsgemeenskap (SAOG) beskou. Die SAOG is een van die streke van die wêreld wat tans wydverspreide kortstondige (transitory) en chroniese voedselonsekerheid (wanvoeding) asook aanhoudende bedreiging van akute voedselonsekerheid (hongersnood) in die gesig staar. Die doel van hierdie tesis was daarom om die heersende oorsake van voedselonsekerheid in Suider-Afrika te ondersoek en te bepaal.

Hierdie navorsing het getoon dat kortstondige en chroniese voedselonsekerheid (wanvoeding) in die SAOG-streek bestaan as gevolg van die probleme wat aan sowel die vraag- as aanbodkant van die voedselsekerheidsvergelyking ondervind word. Alhoewel die SAOG beperkte pogings aangewend het om die probleem van voedselonsekerheid in die streek aan te pak, skyn die Gemeenskap egter nie uit die voedselonsekerheidskrisis van 1991/1992 te geleer het toe dit weer in 2001/2002 voorgekom het nie. Hierdie studie beveel gevolglik aan dat die beskikbare primêre data verder ondersoek word in ’n poging om aandag te skenk aan die verskeie kwessies wat met die oorsake van voedselonsekerheid in Suider-Afrika verband hou ten einde langtermyn-voedselsekerheid te verseker. Sodanige kwessies sluit die volgende in: die mobilisering van die landbou om voedselproduksie vinnig genoeg te verhoog om aan die behoeftes van die streek se groeiende bevolking te voldoen; die oorbrugging van die heersende gaping tussen die openbare akteurs aan die een kant en die private en informele akteurs aan die ander kant, ten einde doeltreffende voedselsekerheidsdienste aan die behoeftiges in die streek te lewer; die ontwerp van ’n goed gerigte beleid oor die prysbepaling van voedsel as ’n tussentydse kompromie tussen die maatskaplike aangeleenthede wat met hoë en onbestendige voedselpryse verband hou, en langtermyn-ekonomiese groei en voedselsekerheid in die streek; en die identifisering van vroue se rol as voedselprodusente en agente van voedselsekerheid in die streek.

Wat aanbod betref, lê die vernaamste probleme ten opsigte van die beskikbaarheid van voedsel in die streek op die vlak van die landbou. In die SAOG is lae produktiwiteit en gereelde rampe siklies van aard, wat bykomende probleme ten opsigte van voorraad tot gevolg het. Sodanige probleme is deur die volgende vererger: die ontoereikende politieke ondersteuning aan die sektor; ’n gebrek aan belegging in die sektor; die onstabiliteit van die wêreldmark; en ’n toenemend onbillike handelsomgewing. Ander vername dimensies van die probleem is die volgende: die instelling van handelsbelemmeringe, soos belemmeringe binne en buite tariefverband asook tegniese

belemmeringe, in die besonder die ingewikkelde en verwarrende tariefstruktuur wat gehef word deur lidlande van die Suider-Afrikaanse Doeane-unie (SADU) op ander SAOG-lidlande wat nie lede van SADU is nie; die hoë vervoerkoste, veral in lande sonder seehawens, wat as gevolg van die verswakking van die kapasiteit en doeltreffendheid van die vervoerstelsel in die streek onstaan het, as gevolg van ’n gebrek aan belegging in asook die swak prestasie van die vervoersektor. ’n Gebrek aan ’n gediversifiseerde produksiestruktuur in die SAOG-streek is genoem as die vernaamste struikelblok vir die streek se suksesvolle handelsintegrasie en ekonomiese ontwikkeling.

Wat vraag betref, het die vernaamste probleme ten opsigte van toegang tot voedsel in die streek bestaan uit ’n gebrek aan die reg op voedsel (armoede) as gevolg van die swak ekonomiese groei wat uit onsuksesvolle makro-ekonomiese beleid spruit; ’n slegte betalingsbalanssituasie; uiters skewe patrone in die verdeling van inkomste en rykdom, wat spruit uit wanadministrasie as gevolg van kortsigtige voormalige koloniale beleid; hoë vlakke van werkloosheid en onsekerheid oor grondbesit; die mislukking van bestuur, ten opsigte van ’n gebrek aan toerekenbaarheid asook opposisie teen demokratisering; en finansiële wanbestuur. Snelle bevolkingsgroei in die streek het gelei tot ’n toename in die vraag na landbouprodukte, in die besonder voedingsmiddele, en die verminderde beskikbaarheid van bewerkbare grond. Die wye voorkoms van MIV/vigs het die taak om honger te bestry, gekompliseer en enige pogings om die armes se lewensbestaan te verbeter, ondermyn deur die volwasse arbeidspotensiaal in die landbou in Suider-Afrika uit te put. ’n Gebrek aan finansiële hulpbronne en institusionele kapasiteit (in die vorm van beleidsgapings) was die vernaamste beperkinge ten opsigte van die implementering van suksesvolle programme vir die verligting van armoede en voedselonsekerheid in die streek, aangesien omvattende regeringsintervensie gemik op die handhawing van voedselsekerheid in die streek vir die meeste Suider-Afrikane in die nabye toekoms onuitvoerbaar was.

Die navorsing is gedoen deur ’n literatuurstudie as kwalitatiewe metode te gebruik. Dit het gedien as ’n nuttige beskrywende en analitiese raamwerk om beduidende oorsake van voedselonsekerheid in sowel individuele huishoudings as op nasionale vlak in die SAOG-streek bloot te lê. Die studie het hoofsaaklik gefokus op die beskikbaarheid van voedsel en die vermoë om voedsel te bekom, in ’n poging om te bepaal hoe balans tussen die vraag- en aanbodkante van die voedselsekerheidsvergelyking deur middel van tersaaklike ondersoek bewerkstellig kan word. Dokumentêre data is in die ondersoek van die probleem geraadpleeg, op grond van die feit dat publikasies, soos boeke, vaktydskrifte en dokumente, die probleem die beste omskryf.

In die beplanning van beleidsintervensies skyn daar slegs ruimte vir verbetering ten opsigte voedselonsekerheid in Suider-Afrika op die langtermyn te wees as huishoudings se werklike inkomste verhoog word, sodat hulle kan bekostig om genoeg voedsel te bekom. Sodanige verbetering kan op twee maniere geskied: *Eerstens*, deur mense wat kortstondige en chroniese voedselonsekerheid in die gesig staar die geleentheid te bied om genoeg te verdien om te verseker dat hulle ’n voldoende voedselaanbod deur plaaslike produksie kan handhaaf, deur landbou-opbrengs te verbeter, en sodoende voedselsekerheid op die vlak van die huishouding te verseker, en *tweedens*, deur handel (in die vorm van voedselinvoer) te fasiliteer, deur belemmeringe binne en buite tariefverband asook tegniese belemmeringe uit die weg te ruim, en deur in die ontwikkeling van die vervoerinfrastruktuur in die SAOG-streek te belê.

ACKNOWLEDGEMENTS

A research project such as this is impossible without the help of God, and would be quite difficult without the support of various individuals and institutions. I wish to extend my sincere appreciation to:

- My God, Allah, who created me and granted me good health, patience and the ability to work at night and study by day.
- The Department of Agricultural Economics, Stellenbosch University, South Africa, for offering me this study opportunity.
- My supervisor, Prof. N. Vink, at the Department of Agricultural Economics, Stellenbosch University, who guided me on this journey, providing helpful comments, positive criticism and unending support with patience and humbleness. Without his support, it would not have been possible to do this study.
- My parents, Khadmallah and Ismael, and older brother, Suleiman, whose support encouraged me to continue my education to this level.
- Dr Scotney Watts at the Department of Conservation Ecology, University of Stellenbosch, and Mr Sabir Ibrahim for their continuous help and advice.
- My lecturers, Prof. S. Bekker, Prof. J. Ewert, Dr. J.P. Lombard and Dr M. Karaan.
- Shell South Africa (Parktown Motors) and my employers, Mr Ibrahim Shaheen and Mr Chris Maeyer, for offering me a job opportunity to fund this study.
- And last, but not least, my family members and friends for their support.

I dedicate this thesis to the memory of my mother, Khadmallah, who died in my absence in 2000.

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ABBREVIATIONS

AGOA	Africa Growth and Opportunity Act
AMD	Agricultural Market Division
ASF	African Swine Fever
BLNS	Botswana, Lesotho, Namibia and Swaziland
BLS	Botswana, Lesotho and Swaziland
CBI	Cross-Border Initiative
CBPP	Contagious Bovine Pleuropneumonia
CBR	crude birth rate
CCSA	Competition Commission of South Africa
CDG	care dependency grant
CDR	crude death rate
CMA	Common Monetary Area
COMESA	Common Market for Eastern and Southern Africa
CSG	child support grant
CTB	contributions to trade balance
DG	disability grant
DoA	Department of Agriculture
DRC	Democratic Republic of Congo
EAC	East Africa Co-operation
EC	European Community
ECI	Ebony Consulting International
ECOWAS	Economic Community of Western African States
ESRF	Economic and Social Research Foundation
EU	European Union
EWS	early warning system
FANR	Food and Natural Resources
FANRPAN	Food and Natural Resources, Policies Analysis Network
FAO	Food and Agriculture Organisation
FAOSTAT	Food and Agriculture Organisation Statistics
FCG	foster care grant
FDI	foreign direct investment
FFSSA	Forum for Food Security in Southern Africa

FIVIMS	Food and Income Vulnerability Information Mapping System
FMD	foot-and-mouth disease
FTA	Free Trade Agreement
GDP	gross domestic product
GIA	grant-in-aid
GIEWS	global information and early warning system
GM	genetically modified
GRP	growth regional product
HIPC	highly indebted poor countries
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
HVFs	high-value foods
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
IOC	Indian Ocean Commission
IOR	Indian Ocean Rim
MT	metric tonne
ND	Newcastle disease
NEPAD	New Partnership for Africa's Development
NGO	non-governmental organisation
NAFTA	North American Free Trade Area
NTB	non-tariff barrier
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
PPP	purchasing power parity
RCA	revealed comparative advantage
RDMTC	Regional Disaster Management Technical Committee
REWU	regional early warning unit
RVF	Rift Valley fever
SACU	Southern African Customs Union
SADC	Southern African Development Community
SADCC	Southern African Development Co-ordinating Conference
SAFEX	South African Futures Exchange

SARIPS	Southern Africa Regional Institute for Policy Studies
SGR	strategic grain reserve
SOAP	state old age pensions
SSA	sub-Saharan Africa
TDCA	Trade, Development and Co-operation Agreement
TIPS	Trade and Industry Policy Strategies
TSG	The Service Group of Anastasia Gerkis
UK	United Kingdom
UN	United Nations
UNAIDS	United Nations Programme on HIV/AIDS
USA	United States of America
USAID	United States Agency for International Development
WB	World Bank
WCFIA	Weatherhead Centre for International Affairs
WFP	World Food Programme
WRSI	Water Requirements Satisfaction Index
WTO	World Trade Organisation

CHAPTER ONE

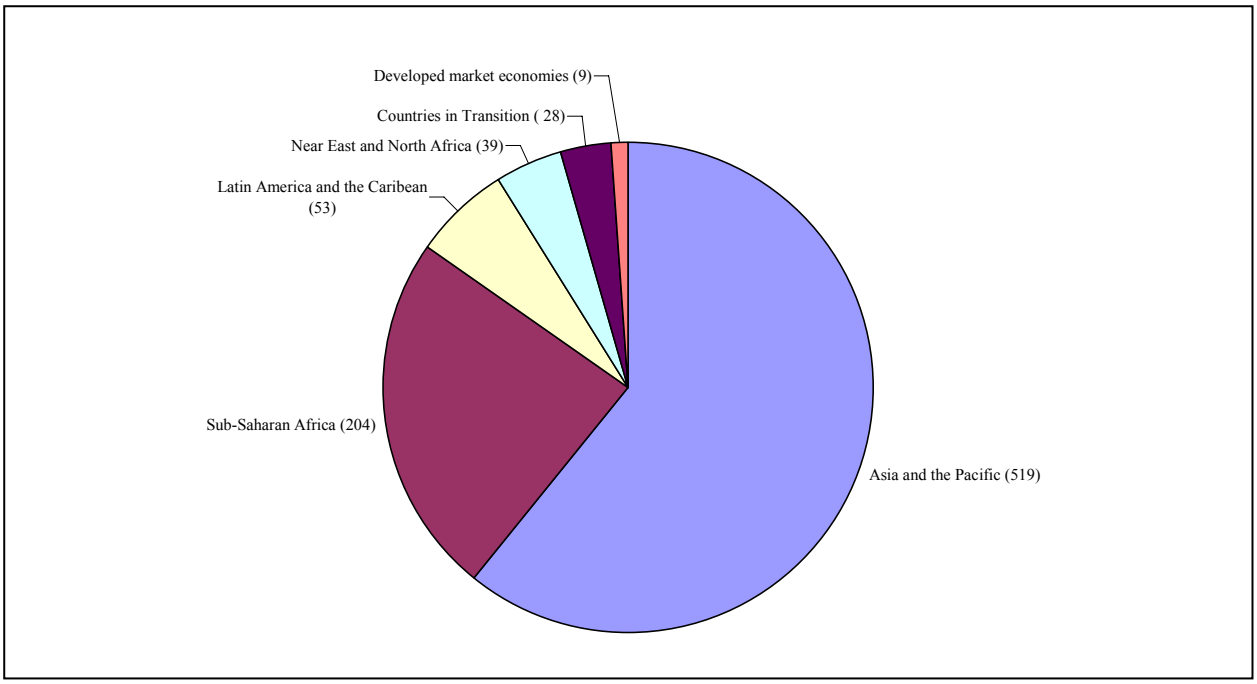
Introduction

1.1 INTRODUCTION

1.1.1 World food situation

The heads of state and government representatives gathered at the World Food Summit in November 1996 in Rome, Italy, to reaffirm the right of all to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger (FAO, 1996). According to the Food and Agriculture Organisation (FAO) of the United Nations (UN), the delegates committed to achieving food security for all and an ongoing effort to eradicate hunger in all countries, with an immediate view to reducing the number of undernourished people to half the present level by no later than 2015 (FAO, 1996).

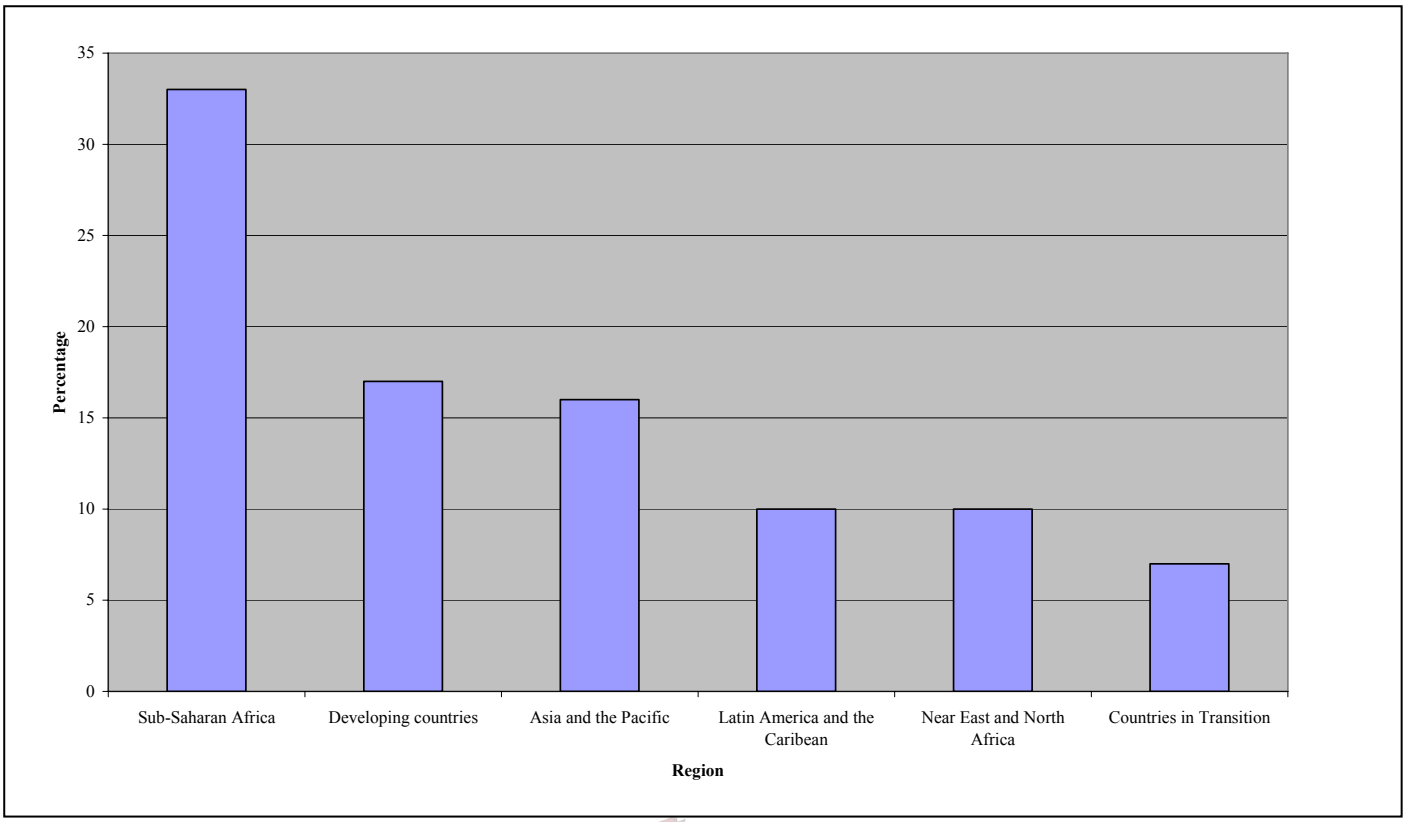
The FAO (2005) estimates the number of undernourished people in the world in 2000–2002 to be 852 million. This figure includes 815 million in developing countries, 28 million in countries in transition, and 9 million in developed market economies (see Figure 1). By region, the largest share of the total number of undernourished is found in Asia and the Pacific, with 60%, followed by sub-Saharan Africa (SSA), which accounts for 25% of the total.



Source: Adapted from FAO (2005).

Figure 1. Undernourished population by region, 2000–2002 (millions)

According to the FAO (2005), the proportion of the population that is undernourished varies between the different developing country regions (see Figure 2). The highest incidence of undernourishment was detected in SSA, where 33% of the population was found to be undernourished. Such a figure is well above the 16% estimated for Asia and the Pacific and the 10% estimated for both Latin America and the Caribbean, and the Near East and North Africa.



Source: Adapted from FAO (2005).

Figure 2. Percentage of population undernourished by region, 2000–2002

In 1960, the world's population reached 3 billion, with a third being chronically undernourished. Forty years later, the world's population has doubled to 6 billion, but food production has grown even faster, and the number of people who are chronically undernourished has fallen (FAO, 1999; 2000, cited in Wiebe, 2003). Despite these achievements, challenges nevertheless remain, as more than 800 million people, most of whom live in Asia and Africa, are still chronically undernourished (Wiebe, 2003). The FAO estimates that one out of every eight people in the world suffers from chronic malnutrition, while the World Bank (WB) estimates that almost 400 million people suffer from a severe food deficiency and an additional 350 million cannot afford even the minimum diet necessary for good health (World Bank, 1986). For most of such people, food security depends on the production and income that they receive from agriculture.

1.1.2 Food situation in Southern Africa

The food problem has deeper historical roots in developing countries than is usually appreciated. Colonial agricultural policies of the past were such that food production was not given a priority at central government level. For example, Eicher (1982), Hansen (1981) and Dinham *et al.* (1984, cited in Kalibwani, 2005) all agree that, during the entire colonial period, food production was not a

priority for capital investment in most African countries. Land, labour and other resources of the colonies were diverted away from the production of food into the production of industrial raw materials. The infrastructural development that took place during this period, and for decades after independence, was mainly aimed at servicing the production, transportation and marketing of industrial crops, such as cotton, tobacco, coffee and cocoa (Kalibwani, 2005). Agricultural policy must in future contribute to national economic growth objectives, reducing income inequalities and eliminating poverty through increased agricultural production, increased incomes for the poorest groups, creation of additional employment opportunities and improved household food security (SA, 1998, 2000 cited in Hendriks & Lyne, 2003).

During the early 1960s, at a time when 17 African states gained their independence, SSA was a modest net exporter of food. However, during the late 1960s SSA became a net food importer, due to the Sahelian drought, crop failure and rapid population growth (Paulina, 1986, cited in Rukuni & Eicher, 1988). In 1985, SSA imported 12 million tonnes of grain, and three commodities accounted for 87% of grain imports: wheat (50%), rice (22%) and maize (15%) (Rukuni & Eicher, 1988). The main features of food production at that time were that such production was growing at half the population growth rate and the increasing importance of food aid. Even in recent years, SSA has been the only region in the world facing widespread chronic food insecurity, as well as persistent threats of famine (Devereux & Maxwell, 2001).

The Southern African Development Community (SADC),[1] which superseded the Southern African Development Co-ordinating Conference (SADCC), was formed in 1992 and currently consists of 14 member countries (see Appendix 3), representing a total population of approximately 200 million people and covering an area of 9,1 million km^2 (World Bank, 2001, cited in SARPN, 2003). Across eastern and southern Africa three countries (the Democratic Republic of Congo (DRC), South Africa and Tanzania) account for roughly two-thirds of the total population (64,4%) (see Figure 10), while the six smallest members (the Seychelles, Swaziland, Mauritius, Botswana, Namibia and Lesotho) comprise only 4% of the total population (World Bank, 2001, cited in SARPN, 2003).

Agriculture is the main economic sector in the region and lies at the heart of the issue of food security. Furthermore, the agricultural potential of the region is immense, far exceeding present and future needs (SADC, 2003). Unfortunately, over the past 20 years, agricultural growth in the SADC

[1] For further details about SADC, see section 6.4.

region has been slow, with an estimated annual growth of 1,5% (SADC, 2003). Agricultural growth is lagging behind demographic growth, leading to increased poverty and hunger in the region (SADC, 2003). The major reasons for this are the increasing frequency of natural disasters, the inadequate political support granted the sector, a lack of investment in the sector, the instability of the world market and an increasingly unfair trade environment (SADC, 2003). Furthermore, civil strife and wars have for a long time prevented SADC member states from reaching their full potential as regards agricultural output (SADC, 2003).

Although there have been improvements in some of the member countries, the average per capita dietary energy and protein supplies have decreased over the past 15 years in the region as a whole, with the supplies currently standing at 2 160 kcal (an average intake of 2 700 kcal per capita per day is roughly estimated to be the level necessary to satisfy the food needs of the region) and 49 g per day respectively (SADC/FAO, 2002). Food imports have almost doubled over the past 15 years, a burden compounded by the weight of servicing debt[2] in the SADC countries (SADC/FAO, 2002). The FAO estimates that the cereal demand in the SADC will reach about 58,4 million tonnes in 2015, which is more than double the current requirement of 28,4 million tonnes (SADC/FAO, 2002).

Agriculture can potentially contribute to growth as: food; a provider of livelihoods; a market for producers of other goods and services; a source of raw materials to downstream industries; an earner of foreign exchange, and a producer of savings surplus (Johnston & Mellor, 1961; Nicholls, 1964, cited in Maxwell, 2001).

The agricultural sector in Africa provides by far the greatest part of the food that Africans eat, as the dependency ratio (imports/total consumption) was around 15%. In 1995, for example, cereal imports into SSA amounted to 12 million tonnes, though production was close to 80 million tonnes (Maxwell, 2001). However, for some years and in some countries, the dependency ratio was higher, and it needs to be noted that the degree of self-sufficiency achieved was at relatively low levels of consumption. According to Maxwell (2001), agriculture is also a major source of livelihood in that it generates employment opportunities. Some of these jobs are in food production, but many are not. The cash crop sectors, which earn some cash by way of exports, such as tea, coffee, cocoa and cotton, as well as non-traditional crops like cut flowers, are often more labour-intensive per unit

[2] For the servicing of debt in the SADC countries, see Figure 11.

area than are food crops. All these cash crops are considered major employers and generators of livelihoods. Furthermore, agriculture provides a market, both directly, in the form of inputs, machinery and processing equipment requirements, and indirectly, through the expenditure of agricultural workers. Agriculture also provides raw materials for nascent industries, such as textiles. It also generates foreign exchange, which can be used to purchase capital equipment and intermediate goods for the agricultural sector (Maxwell, 2001). A leading contribution made by the agricultural sector is that it provides the most important, and sometimes the only real source of savings surplus, needed for growth, especially in the case of low-income countries where the sector is dominant. Farmers save and invest in their own communities (Maxwell, 2001). According to Hendriks and Lyne (2003), agriculture could drive widespread increases in rural household income, because most rural households have access to farmland. Income shocks that generate a broad-based benefit to rural communities generally come from the increased production of tradable commodities, such as sugar cane and timber.

In assessing the status of food insecurity, it is clearly important to consider the issue at various levels, including individual and household (micro), country (national) and regional (macro) levels, because a country might be food secure at the national level, but food insecure at the household and individual levels. South Africa is a good example of such a disparity. The majority of South Africans, particularly those who live in the rural areas, are food insecure, in spite of the high levels of national food self-sufficiency. Currently, more than 40% of the population lives below the poverty datum line, and it is calculated that more than 2,5 million people in South Africa are nutritionally needy (Cooper & Van Zyl, 1994; Van Niewenhuizen, 1995; Van Rooyen *et al.*, 1997, cited in Leroy *et al.*, 2001).

A region could also be food secure at its macro level, but food insecure at the individual country level. Such disparity between the macro and individual country level is the core focus of this research, as several countries in Southern Africa are presently facing acute food insecurity issues. On the macro-economic level, food security means that enough food has to be available to cater for all the population's nutritional requirements. On the micro level namely, that of households and individuals; three conditions need to be respected: sufficient food at macro level, stability in supply, and regular access to the corresponding availabilities for all households and their members (Dubois, 2003). Lofgren and Richard (2003) have stated that, for all the complexity of agricultural systems and policy issues, only three ways of obtaining food exist: own production, trade and grants.

Food insecurity in Southern Africa became pronounced when the region experienced two major food crises[3] over a period of 10 years (1991–92 and 2001–2003). After the 1991–92 crisis, there was much expectation that new thinking on food security in the context of structural adjustment and market liberalisation aimed at generating economic growth would make the countries and populations of the region less vulnerable to food crises in the future, though the result was not as substantive as expected, as evidenced by the 2001–03 crisis (FFSSA, 2004, cited in Kalibwani, 2005). There were two types of food insecurity in the region: chronic and transitory. According to Sadoulet and De Janvry (1995) and Valdes and Konandreas (1981, as cited in Nichola, 2006), *chronic* food insecurity refers to situations where, on average, food availability is below the required level, of which the root cause is poverty. The short-term decline in food supplies due to drought, fluctuations in income or unrealistic pricing is referred to as *transitory* food insecurity.

In 1986, the World Bank issued a food security policy paper, *Poverty and Hunger*, in which food security was defined as "access by all people at all times to enough food for an active and healthy life"*: pp1*. Two essential elements are "the availability of food and the ability to acquire it". Food insecurity, in turn, is regarded as the lack of access to enough food (World Bank, 1986). The World Bank's definition gained wide international acceptance due to its simplicity and comprehensiveness.

The concept of food (in)security has evolved substantially since it was first introduced into the development discourse in the 1970s. Devereux and Maxwell (2001) have argued that the most significant aspect of this empirically and theoretically driven advancement is the awareness that: "Food security is no longer seen simply as a failure of *agriculture* to produce sufficient food at the *national* level, but instead a failure of *livelihoods* to guarantee access to sufficient food at the *household* level*: pp1−12*" and this in line with Sen's (1981) 'entitlements approach'.

Food security policies in developing countries can be broken down into three main categories: right pricing, optimal storage and supply enhancement. There are economic and political dimensions to all of these policies (Berck & Bigman, 1993). There were two interacting parts of the food security policy and research agendas in the SADCC region: (1) food availability through domestic production, storage and/or trade, and (2) access to food through domestic production, the market, or food transfers (Rukuni & Eicher, 1988).

[3] The term 'crises' in this argument refers to any specified period during which the occurrence of certain events or shocks necessitates the granting of assistance to those worst affected by the crisis.

Rukuni and Eicher (1988) have also argued that the SADCC and donor agencies had given priority to food availability – in other words, the supply side of the food security equation, for example food production research (e.g. International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)/SADCC research on sorghum and millet), food production campaigns, early warning systems (EWSs) and expanded grain storage capacity. On the demand side of the equation (food access), Botswana had taken the lead in the SADCC region, and probably in all of Africa, by implementing four innovative programmes to cope with droughts and household and national food insecurity. These programmes were the Pula for Work Programme; supplementary feeding for underweight children; school feeding programmes, and the development of irrigation projects to reduce the dependence on rainfall (Rukuni & Eicher, 1988). More recently, food security policies in the SADC have focused mainly on the implementation of subsidised agricultural input provision programmes.

While there is usually consensus in favour of such programmes as recovery measures, there is debate about their scope and long-term role. Other options (cash payments and seed fairs) have been explored and successfully piloted. In the case of Zimbabwe, for example, a tight input pricing policy regime was introduced, which threatened the viability of the private agro-industry and contributed to the development of a parallel market for agricultural inputs (Mano *et al*., 2003). Mano *et al*. (2003) have also argued that most SADC governments have liberalised markets for cash crops; that food markets are still restricted to varying degrees; that inappropriate and constraining policies may, in some cases, be the reason behind market failures, and that countries with minimal government interference in domestic food markets are amongst the more food secure in the region. Accordingly, the liberalisation of domestic markets should be extended to cover all food crops.

There is considerable agreement among both scholars and policy-makers about long-range strategies to cope with the food problem. According to Berck and Bigman (1993), such strategies can be grouped into three main categories: (1) population control, which is required for economic assistance aimed at improving the social and economic conditions of the poor and reducing their motivation to have large families; (2) economic growth, the counterpart of population control as far as the relationship between food and mouths to feed goes; with a higher rate of economic development, poverty and undernutrition will steadily be pushed back, whereas, if present trends continue, poverty will affect an ever larger number of people; and (3) income distribution, which

focuses on the reallocation of existing wealth, and which is more difficult to implement. The most difficult measure is that of agrarian reform, because of the patterns of land ownership occurring in many developing countries.

In conclusion, despite some efforts and achievements toward poverty reduction and maintaining food security at micro, national and macro levels, challenges remain, as millions of people, particularly those living in developing countries, are still chronically undernourished. The reason is that the food problem has deeper historical roots in developing countries than is usually appreciated. Colonial agricultural policies were such that food production was not given priority at central government level. Though agriculture is not the only sector responsible for maintaining food security at all levels, it is the main economic sector, lying at the heart of food security in the SADC region, of which the agricultural potential is immense, far exceeding present and future needs. Unfortunately, agricultural growth is lagging behind demographic growth in the region, resulting in increased poverty and hunger.

When formulating food security policies for the region, it is crucial to consider the two essential elements of food security: the availability of food and the ability to acquire it. The balancing of both the supply and demand sides of the food security equation is important in overcoming food insecurity in Southern Africa.

1.2 PROBLEM STATEMENT AND PURPOSE

This research study proposes to assess causes of food insecurity problems in Southern Africa. Regional food security is considered one of the major challenges for the SADC countries. SADC is one of the regions in the world currently facing widespread transitory and chronic food insecurity (malnutrition), as well as persistent threats of acute food insecurity (famine). Due consideration needs to be given to the question of what the root cause of such a problem is, as well as to what should be done about it. The current study seeks to address the problem of food insecurity by answering these questions (see Chapter 7) by means of analysing the causes and planning appropriate policy interventions.

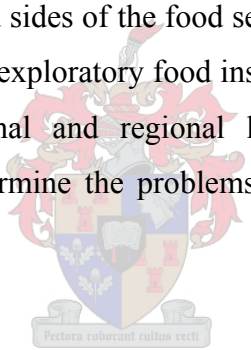
In the light of the vulnerability of the population to food insecurity in Southern Africa, natural disasters and unfavourable policies, limited economic opportunities, Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) and rising poverty, it is worthy that

causes of food insecurity in the region be assessed. This study investigates whether the SADC region has the potential to ensure food security to all people in the region at all times. Food security in this study is defined as access by all Southern African people at all times to sufficient nutritious food to enable the pursuit of a healthy and productive life.

1.3 RESEARCH METHOD

The research was conducted using the qualitative method of literature study. A broad literature review was undertaken, enabling the author to assess causes of food insecurity in Southern Africa. Documentary data were employed in investigating the problem. The study is mainly descriptive and analytical in nature, as relevant publications (books, academic journals and documents) were consulted in order to investigate the problem more closely.

The study focused mainly on the availability of food, as well as the ability to acquire it, and how a balance between the supply and demand sides of the food security equation can be achieved. Such a study was undertaken in the form of an exploratory food insecurity analysis conducted at individual and household, as well as at national and regional levels, using secondary data. Further investigations were undertaken to determine the problems that food security programmes in the region face.



1.4 LAYOUT OF DOCUMENT

Chapter 1, the **Introduction**, investigates food insecurity at the micro, national, macro and global levels, showing how such insecurity changes over time, due to factors such as rapid population growth and natural disasters. The historical roots of the food problem in developing countries are also identified.

This chapter highlights the fact that, though agriculture is not the only sector responsible for maintaining food security at all levels, it is the main economic sector, lying at the heart of food security in the SADC region, of which the agricultural potential is immense, far exceeding present and future needs. The reasons for agricultural growth lagging behind population growth, which has resulted in increased poverty and hunger in the region, are also explored.

Chapter 1 also identifies the *problem* of food insecurity in Southern Africa, as regional food

security is considered one of the major challenges for the SADC countries. The *purpose* of this study is also explored in this chapter. In the light of the vulnerability of the population of Southern Africa to food insecurity, natural disasters, unfavourable policies, limited economic opportunities, HIV/AIDS and rising poverty, food insecurity analysis in the region should be investigated. Thus, the *importance* of the study is highlighted.

Finally, Chapter 1 explains the research method that was used, according to which the study was conducted in terms of the qualitative method of literature study, employing documentary data in resolving the problem of food insecurity in the Southern Africa region. The study is, therefore, mainly descriptive and analytical in nature.

Chapter 2, **Food security: a literature review**, articulates and clarifies the concept of food security, discusses the historical perspective on food security, and explores the evolution of thinking about the food security concept through its fundamental shifts since the 1970s: at the *level of analysis* – from global and national to households and individuals; in the *scope of analysis* – from a narrow 'food first' perspective to a broader 'livelihoods' perspective, and in the *assessment* of food (in)security – from objective (measured) indicators to subjective (self-reported) perceptions.

This chapter also discusses causes of food insecurity in Southern Africa, specifically *adverse climatic conditions*, such as a lack of rainfall (intense droughts) and massive floods, as the major causes of serious damage to human lives, widespread damage to property and significant decline to livestock and food crop production in the region. The role of *economic problems*, such as macro-economic performance; inconsistent food policies; successive years of conflict; chronic malnutrition; inflation; increased vulnerability of the region, and decreased purchasing power of households in the region, is also investigated. The chapter also discusses *mismanagement and poor governance*, focusing on the numerous inappropriate food security strategies adopted in the past at national level. The chapter argues that SADC countries should maintain permanent budgets for purposes of helping to alleviate the effects of unexpected disasters, such as droughts and floods.

Chapter 2 also highlights the prevailing HIV/AIDS rate in Southern African countries and its linkage to all dimensions of food security, including the availability, stability of supply, access to and use of food. Particular attention is given to the impact of HIV/AIDS on household agricultural production in the region.

Also identified in this chapter is a lack of food entitlement (in other words, poverty), of which the major causes are identified as transitory shocks to the production systems; weak economic growth performance, resulting from the implementation of unsuccessful macro-economic policies; the poor balance of payments situations, and the highly skewed patterns of income and wealth distribution resulting from past colonial policies, and its effect on food security in the region.

Southern African population growth is also discussed in this chapter in relation to the exploration of pessimists' and optimists' views about the relationship between population growth and food security, and in order to identify whether rapid population growth poses serious problems for the supply and demand of food in the region.

Chapter 3, **Domestic food production in Southern Africa**, examines food production in the region, focusing on the main reasons for food self-insufficiency that have made SADC countries vulnerable to reliance on food imports. Recognition is given to the fact that domestic production is extremely risky and severely limited by the constraints of nature.

In regional field crop production, the focus is on the current regional cereal situation and the main causes for crop failures. The chapter provides an overview of regional livestock production, the regional situation and the performance of the livestock sector in the SADC region. The chronic problems faced by livestock production and their effect on food security in the region are also identified.

The section on regional marine fisheries production explores the current status of marine fisheries in the SADC region, of which there are seven coastal member countries, namely Angola and Namibia on the west coast of Southern Africa, and Mozambique, Mauritius, the Seychelles and Tanzania on the east coast, as well as the vast marine waters of South Africa, whose maritime region is divided between the east and west coasts. The role played by the marine fisheries as a leading socio-economic sector of SADC, in terms of national and regional food supply, employment and a source of foreign currency income, is also identified.

The section on regional horticultural production highlights the problems faced by regional

horticulture production. Southern African countries are revealed as having a large market for their horticultural produce (consisting of vegetables, fruit and flowers) in the EU, despite the attempts that the European Union (EU) makes to exclude African horticultural produce from its markets by subsidising the production of such produce by its own farmers.

Chapter 3 also explores food production per capita in the region, and analyses food security, based on the food production per capita indicator, which acts as a measure of the ability of a country to feed itself.

Chapter 4, **Trade in Southern Africa**, briefly discusses trade in Southern Africa by addressing the comparative advantage of the SADC countries in regards to regional and international trade: These countries gain from trade due to a difference in the relative cost of producing different commodities. Supply differences between countries due to technological differences and resource availabilities are also explained.

In Chapter 4, the focus is on regional trade. The chapter examines the regional specialisation undergone in producing 'cash crops' and other goods for export, and in the use of its export earnings to import food. Commercial food imports in the region are also discussed in an attempt to determine the ability of SADC countries to maintain national food security through commercial food purchases. The terms of trade in the Southern Africa region are considered to show the countries' ability to finance food imports.

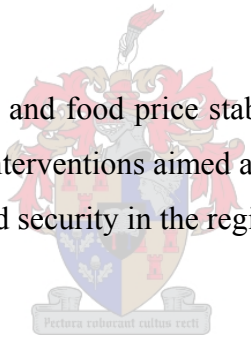
However, this chapter also highlights that the aim of international trade is not only to achieve the availability of food, but also food security through ensuring access of the poor to adequate and sufficient food on an on-going basis. It also discusses whether the current international trade system ensures fair and efficient trade (in regards to both exports and imports), based on considerations of equity and, in particular, fair access to markets for developing Southern Africa countries.

Chapter 5, **An assessment of food security programmes in Southern Africa**, assesses the existing food security programmes in Southern Africa, generalising as to whether such policies are, indeed, successful.

This chapter highlights the role played by EWSs at a national level in a food monitoring system, using details related both to food self-reliance and to the implementation of household food access. EWSs are shown to have focused on food information, rather than serving only as a warning device of threats associated with climate variability, such as droughts and floods.

A regional grain-stocking programme was able to reduce the national supply variability more than was food aid, by offering substantial advantages, such as security, time and shipping cost savings, as well as price cushioning, and that it might therefore provide a policy option for both the donors and countries so affected. In contrast, a number of negative factors are considered, such as storage and opportunity costs. However, it is argued that the food commodity exchanges examined in this chapter and hedging through futures and options strategies by means of private commodity exchanges aimed either at contracting for the forward supply of grains at a fixed price at a future date, or at purchasing grain at a given price at some future time, might be seen as an alternative to public stocks.

Chapter 5 also discusses food subsidies and food price stabilisation in order to gain greater clarity on the existing regional governments' interventions aimed at subsidising and stabilising food prices. The effects of such interventions on food security in the region are also recognised.



The section on social protection programmes focuses on whether Southern African governments have made special attempts to address the food security needs of the poor in the region. The problems that these governments face in delivering social protection services are identified.

The existing two forms of international food assistance in the region, *food aid* and *food-related international finance*, as well as the delivery or distribution problems faced by the recipient governments or NGOs, are also considered.

Chapter 6, **The contribution of regional trade integration to food security**, clarifies the purpose behind regional trade integration in Southern Africa and the fact that African countries are too small to negotiate with powerful trading blocs.

Economic structures and growth performance in the countries of the SADC region are explained in

this chapter. An overview of the Southern African Customs Union (SACU) is also presented here. Whether Southern African economies have interventionist or protectionist trade regimes on both export and import sides is discussed, and existing economic blocs and regional trade agreements in Southern Africa, as well as the contribution of these groupings to the issue of regional food security are explored. The historical role played by SADC is highlighted. Whether SADC as an economic community will foster economic growth and development through increased intra-regional trade and cross-border investment is also considered. South Africa's trade position among the rest of the member states of the SADC region is identified, and the role played by the existing regional trading partners is recognised.

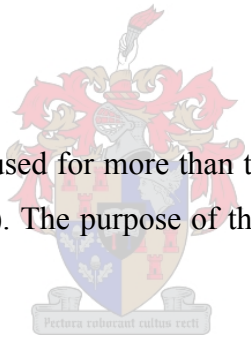
The last chapter, Chapter 7, **Findings and recommendations**, summarises the key findings that have emerged from the addressing of different issues in regards to the problem of food insecurity in Southern Africa. This chapter, after highlighting the planning of policy interventions, makes recommendations for further research.

CHAPTER TWO
Food security: a literature review

2.1 INTRODUCTION AND DEFINITION

2.1.1 Introduction

The aim of this chapter is to familiarise readers with the theoretical a literature review of food (in)security. This will be done by articulating and clarifying definitions of food (in)security, as well as by discussing the historical perspective on food security. Of particular importance are the causes of food insecurity in Southern Africa, including the adverse weather conditions, such as droughts and floods, experienced in this region. Economic problems, mismanagement and poor governance, HIV/AIDS, a lack of food entitlement (poverty), and population growth in Southern Africa will also be addressed.



2.1.2 Definitions of food (in)security

The concept of food security has been used for more than two decades as an indicator of the status of development of a region (ECI, 2002). The purpose of this section is to articulate and clarify the concept of food (in)security.

Relevant literature offers various definitions of food (in)security (see Appendix 1), with the most widely accepted definition being that presented by the World Bank in 1986 in its food security policy paper, *Poverty and Hunger*. In this paper, food security is defined as "access by all people at all times to enough food for an active and healthy life". The two essential elements are the availability of food, and the ability to acquire it. Food insecurity, in turn, is defined as the lack of access to enough food to sustain life (World Bank, 1986). These definitions have been internationally accepted, due to their simplicity and comprehensiveness. This study focuses mainly on the availability of food and the ability to acquire it, as well as on the achievability of balance between the demand and supply sides of the food security equation.

Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (FAO, 1996). Such a definition is also in line with the following statements: "Food security,

whereby every person has the physical and economic right to sufficient food to lead a healthy, productive life", is determined by access to and availability of food. Access to food is closely related to poverty and economic growth: the poor usually do not have adequate means to gain access to food in the required quantities (Pinstrup-Andersen *et al.*, 1997, cited in Lado, 2001).

Food security is conventionally defined as consisting of an income, an access and a utilisation component (McCalla, 1999). According to Ebony Consulting International (ECI) (2002), people cannot be food secure if they lack sufficient *income* to buy food. Similarly, people cannot be food secure if they do not have *access* to food (i.e. if the food is not physically available or if there is some physical, social or legal barrier to their access to food). The notion of access encompasses the notion of entitlement to food, such as entitlement to the financial means to purchase food (whether such entitlement refers to the receipt of a government pension, or lies in having one's income protected from theft). Finally, people cannot be food secure if they do not correctly use the food to which they have access (i.e. if they do not follow a diet that ensures that they enjoy nutritional security). Effective food utilisation depends on the knowledge held by each and every household of food storage and processing techniques, the basic nutritional principles, and proper childcare and illness management techniques (ECI, 2002).

Food security should not be defined as synonymous with either food self-sufficiency or agricultural development. Food self-sufficiency, which is a narrower concept than food security, can be narrowly defined as the ability of a nation to supply 100% of its staple food needs from domestic production and/or storage under all weather probabilities. Agricultural development entails the process of increasing agricultural output per capita (Rukuni & Eicher, 1988). Food security should neither be confused with agricultural development, nor be viewed in terms of the narrow definition of food self-sufficiency or national food availability. Most household food security definitions and conceptual models agree that the key defining characteristic of household food security as a phenomenon is the security of access at all times to sufficient food (Maxwell & Frankenberger, 1995).

Although many food insecurity cases have been referred to as *food crises* in the past, no satisfactory definition of the term 'food crisis' exists in the literature. An implicit definition of 'food crisis' is that of a process in which African governments, and ultimately international donor agencies, have become involved in extraordinary responses to what is perceived to be famine-induced conditions

and their associated risks, as experienced in many parts of the continent (e.g. Cape Verde, Ethiopia, Sudan, Mozambique, Somalia, Chad, Mali, Angola, Botswana and Lesotho). Indeed, the drought-induced or drought-intensified 'food crisis' of 1982–1985 appears to have been the worst in several decades, affecting not only the Sahelian zone countries, but also Eastern and Southern Africa (Christensen & Stack, 1991; Christensen & Witucki, 1986, cited in Lado, 2001).

From the literature it is clear that food (in)security may be defined both at individual and household levels, as well as at national and regional levels. As all such levels are inter-related, the issue of regional food insecurity status cannot be properly analysed without due consideration being given to individual and household, as well as national, levels. All these levels are therefore to be regarded as important in a study such as this.

2.2 HISTORICAL PERSPECTIVE ON FOOD SECURITY

The roots of concern with food security can be traced back to the world food crisis of 1972–1974, and even beyond that, at least to the Universal Declaration of Human Rights in 1948, which recognised the right to food as constituting a core element of what can be defined as an adequate standard of living (UN 1948, cited in Maxwell & Frankenberger, 1995). The concept of food security has evolved, developed, expanded and diversified in recent years, as a result of the diverse nature of the problem (ODI, 1997, cited in Drimie & Mini, 2003). The purpose of this section is to explore the evolution of thinking on the food security concept through the fundamental shifts that it has made since the 1970s: at the levels of analysis, the scope of the analysis, and the assessment of the issue of food (in)security.

The history of thinking on food security since the World Food Conference in 1974 may be conceptualised as consisting of three important and overlapping paradigm shifts (Maxwell, 1996). These three shifts are: (1) from global and national, to households and individuals; (2) from a 'food first' perspective to a livelihood perspective; and (3) from the consideration of objective indicators to the consideration of subjective perception.

During the 1970s, understanding of the concept of food security was based mainly on the idea that food insecurity was a food supply problem. The result was that much attention was focused on the self-sufficiency strategies adopted at a national level, such as strategies of ensuring the production of adequate food supplies and of maximising the stable flow of such supplies. In realising these

strategies, the focus was laid on the implementation of measures aimed at reducing price variability and financing the additional costs of exceptional imports at the international level (Maxwell, 2001).

In 1981, Amartya Sen initiated the paradigm shift that moved the issue of access to food to the centre stage. Since the early 1980s, it has been impossible to speak credibly of food security as being a problem of food supply without referring to the importance of issues of access and entitlement (Devereux & Maxwell, 2001). Sen (1981) stated, in terms of his 'entitlement approach', that ownership of food is one of the most primitive property rights, which is governed by rules in every society. The entitlement approach concentrates on each person's entitlement to commodity bundles, including food, and views starvation as resulting from the failure to entitlement to a bundle including enough food. Sen's view is a very clear shift from that of seeing food security as a food supply problem, which is concerned with issues of national self-sufficiency and proposals for world food stock or import stabilisation schemes, to that of seeing such security as encompassing the access to food allowed to individuals in a household, a view that entitles people to order that they have food, so that they can avoid having to suffer from the effects of starvation and famine.

In the 1980s, the concept of food security shifted from a 'food first' perspective to a livelihood perspective, particularly after the African famine experienced during 1984/85. The conventional view of food security saw food as a primary need. Such a view was well expressed by Hopkins, who argued that "food security stands as a fundamental need, basic to all human needs and the organisation of social life. Access to necessary nutrients is fundamental, not only to life per se, but also to stable and enduring social order" (Hopkins, 1986, cited in Maxwell, 2001).

Later, the view of food security came to recognise that the consumption of food, especially in the form of short-term nutritional intake, is only one of the objectives that people pursue. De Waal found that, during the 1984/85 famine in the Darfur region of the Sudan, people chose rather to go hungry in the short term in an effort to preserve their assets and future livelihoods. "People are quite prepared to put up with considerable degrees of hunger, in order to preserve seed for planting, cultivate their own fields or avoid having to sell an animal" (De Waal, 1991, cited in Maxwell, 2001). In such a predicament, the long-term demands of livelihood outweighed the short-term demands of nutritional adequacy.

Recently, perceptions of food security have shifted from a concentration on objective indicators to

consideration of more subjective issues. Poverty literature has long distinguished between 'the conditions of deprivation', referring to objective analysis, and 'feelings of deprivation', related to the subjective (Townsend, 1974, cited in Maxwell, 2001). Varying objective measurements form the basis of such food security approaches as the following: the 'target' levels of consumption (as identified by Siamwalla & Valdes, 1980, cited in Maxwell, 2001), the consumption of less than 80% of the amount required for adequate energy (as expounded by the World Health Organisation), and the average required daily calorie intake approach (adopted by Reardon & Matlon, 1989, cited in Maxwell, 2001).

One of the major problems with the above-mentioned quantitative measures is that qualitative aspects of food security, in terms of which nutritional adequacy is a necessary, though insufficient, condition for food security, are ignored. In terms of qualitative assessment, not only is quantity a key factor for consideration in food entitlement, but also quality. Some observers have consequently shifted their thinking to the consideration of the subjective dimension of food security. Such a shift can be seen in Maxwell's description of "a country and people are food secure when their food systems operate in such a way as to remove the fear that there will not be enough to eat. In particular, food security will be achieved when the poor and vulnerable, particularly women and children and those living in marginal areas, have secure access to the food they want." (Maxwell, 1988 cited in Maxwell & Frankenberger, 1995)

2.3 CAUSES OF FOOD INSECURITY IN SOUTHERN AFRICA

Achieving long-term food security is inextricably linked to overcoming other global crises, such as those of excessive population growth, unemployment, debilitating debt levels, undue energy consumption, environmental pollution and political insecurity – all of which have significant national and local components that impact negatively on one another (ODI, 1997, cited in Drimie & Mini, 2003). However, the direct causes of food insecurity include poverty, ill health, regional and national conflict and natural disasters. According to Mbaya (2003), food insecurity has so far affected over 15 million people in Southern Africa in forms ranging from the lack of access to food to malnutrition and famine.

In Southern Africa, large populations, who are concentrated mainly in the rural areas, face on-going food insecurity and poverty. Food insecurity in the region is intensified by adverse weather conditions, such as droughts, which impact negatively on farm-level food production (Van Rooyen,

2000). Many causes of food insecurity exist in Southern Africa (Drimie & Mini, 2003), including macro and micro issues, which are basically either directly or indirectly, caused by the relationships maintained with other countries. Examples of such issues are political instability, poor economic governance, poverty and a lack of sustainable household income. The issue of HIV/AIDS has added another critical dimension to the search for food security. This section aims to identify the main causes of food insecurity in Southern Africa.

2.3.1 Adverse climatic conditions (droughts and floods)

Droughts and floods pose extraordinary threats to the social and economic advancement of the SADC region. As the region witnessed in the years preceding the current study, floods have undermined SADC efforts in the region to reduce poverty, to promote social and economic development, and to accelerate regional integration (SADC, 2001). Rapid-onset *floods* frequently were found to threaten thousands of lives, to displace populations, to damage property and to disrupt the provision of basic necessities that households were accustomed to acquire through the existing economic and social infrastructure. Slow-onset *droughts* were found to be equally destructive, even, in some ways, potentially more so than floods (SADC, 2001). This section of the study describes how an almost complete lack of rainfall (intense droughts) and massive floods cause extensive harm to people living in the region, as well as wide-ranging destruction to their property, livestock and food crops.

The worst drought of the century in Southern Africa, which occurred in 1991/92, placed millions of households in the region under severe stress, increasing their vulnerability to malnutrition and disease, resulting in raised mortality rates. Subsistence agricultural production dropped sharply, increasing the number of households that depended on food supplies that they could obtain from the market, at the same time as prices were increasing and employment opportunities shrinking (Thompson, 1993). Thompson (1993) also states that in a number of Southern African countries, the rural economies, which were based on agricultural production and employment and small-scale commerce, deteriorated to such an extent that millions became dependent on outside assistance from relatives, governments and international agencies.

The annual rainfall over the African continent varies from near zero in the heart of the Sahara to over 1 600 mm in the equatorial rain forest (Rasmusson, 1987). Drought, which is a recurring phenomenon in the semi-arid regions of Africa, has been defined in a number of ways, but no single

parameter (whether it be precipitation, run-off, evapotranspiration, temperature, soil moisture or crop yields) can serve as an adequate or comprehensive index of drought. Drought implies an extended and significant absence of rainfall, relative to that present at the time of the stabilisation of a society (Rasmusson, 1987). If the total amount of rainfall is inadequate, or if the rainy season ends early, the crops in the region may not mature, with a resulting low yield. Thus, it is often the distribution, rather than the total amount of precipitation experienced during the rainy season, that is the more relevant factor in regards to food production (Wilhite & Glantz, 1985, cited in Rasmusson, 1987). Agricultural drought occurs when there is insufficient moisture available at the right time to allow for the growth and development of crops, resulting in a decline in yield and/or absolute production decline (Glantz, 1987). Rasmusson (1987) suggests a two-time scale conceptual framework for viewing African drought. Simply stated, in terms of this framework, the major African drought events are seen to occur on two time scales: (a) relatively short, intense drought 'episodes', which usually last no longer than one to three years; and (b) long, dry 'regimes' of predominantly sub-normal rainfall, spanning a decade or more, which may include several intense drought 'episodes'.

According to Wiggins (2003), the immediate causes of the food insecurity experienced in Southern Africa include the drought suffered throughout much of the region during the 2001/02 crop season, as well as the flooding that occurred in Mozambique and Malawi, and the frosts and hailstorms endured in Lesotho. The weather during the aforesaid season was, in many parts of Southern Africa, the worst that had been experienced by farming since the severe drought of 1991/92. Consequently, farm output fell and food prices rose, often well above the levels of inflation. In Lesotho, for example, maize prices rose by 45% in 2002, against an overall inflation rate of just 14%. Some families in the region survived by managing to sell off their assets, most significantly their livestock, but, when there is a shortage of food, or when such food is costly, the livestock prices fell relative to the increase in the price of cereals, as is often the case. In Zimbabwe, for example, a cow could be bartered for less than 300 kg of cereals by December 2002, compared to the best part of a tonne that it would have reached under normal conditions (Wiggins, 2003). Although over 20 million people were seriously affected by the drought of 1991/92, no widespread famine was experienced in Southern Africa. Significant levels of starvation only occurred in war-torn areas within Mozambique and Angola, more as a result of externally-backed destabilisation efforts than of the drought itself (Thompson, 1993).

During the 1992/93 season, the total regional requirement for cereals was 14,8 million metric tonne

(MT), with import requirements of 7,7 million MT. By the end of December 1992, four months before the next harvest, 3,8 million MT of imported cereals had been delivered – 49% of the total required. In addition to the grain yet to arrive, 1,5 million MT had to be obtained from additional sources to meet the basic needs of the populace (Thompson, 1993). Thompson (1993) also found that the SADC/UN appeal of June 1992 estimated the non-food requirements (for health, water, agriculture, etc.) at US$197 million. By December of that year, only about 36% of these essential needs had been met. The region's capacity to control the outbreak of epidemic diseases (e.g. cholera) and childhood diseases was constrained as a result, as was its ability to promote post-drought recovery.

With regard to the impact of floods on Southern Africa, the 1999/2000 crop season was characterised by the delayed onset of rain, followed by exceptional rainfall during December and January, which started flooding parts of Botswana, Mozambique, South Africa and Swaziland. The arrival of Cyclone Elaine compounded the situation, leading to extensive flooding not seen in previous years, as well as to extensive losses of life and crops, mainly in the above-mentioned four countries. Close on 700 people living in Mozambique, over 70 in Zimbabwe, and 13 in Botswana lost their lives. Crop output was also drastically reduced in the affected countries (SADC, 2001).

In general, a lack of rainfall (seen as intense droughts) and massive floods are major threats to the social and economic advancement of the SADC region, and can cause significant harm to people, as well as damage to their property, livestock and food crops.

2.3.2 Economic problems

Over the past two or more decades, the countries of Southern Africa have struggled a great deal to develop their economies and to create job opportunities and sufficient income to allow their citizens to build livelihoods that would boost their standard of living beyond the poverty line, thereby reducing their vulnerability to shocks. This section aims to identify economic problems, such as poor macro-economic performance, rising external debt, generally increasing inflation and food prices, as well as inconsistent food policies, successive years of conflict, high unemployment rates and the lack of purchasing power experienced by inhabitants of the region.

African countries have been implementing macro-economic reform programmes since the early 1980s in response to the generally experienced economic decline, rapid inflation, difficulties with

balance of payments, external debt burdens, and other problems plaguing their economies (see Johnson, 1994, cited in Kargbo, 2003; World Bank, 1986, 2000). Exchange rates and food prices have been seen to be more volatile in Africa since the implementation of numerous adjustment programmes. For example, real food prices increased from between 7% and 11% per year in several African countries from 1980 to 1998 (Kargbo, 2000, cited in Kargbo, 2003).

Over the past 20 years, the economic growth performance in Southern Africa has been relatively poor compared to that experienced in other developing regions. As can be seen in Table 2.1, the average annual growth experienced in the SADC region during the 1980s was just 1,4%. Unfortunately, between 1991 and 1999, the average annual growth, in contrast, decreased by 0,2% in the region (Chauvin & Gaulier, 2002), while growth in other emerging blocs, such as that of the Mercosur,[4] significantly increased during the same period.

Table 2.1. Real GDP (PPP) growth rate in developing countries, 1960–1999

	1960–1980	1981–1990	1991–99
SACU	3,1	0,9	1,9
SADC	2,6	1,4	1,2
SSA	2,2	1,9	2,2
Mercosur	2,5	1,7	3,4
South-East Asia*	3,1	5,4	4,2

Source: Chauvin & Gaulier (2002).
** South-East Asia encompasses Malaysia, the Philippines and Thailand. Simple average.*

Positive outcomes of the regional neo-liberal economic stance adopted have been a general reduction in fiscal deficits throughout the region and a significant curbing of the inflation rate since 1995 (see Table 2.2) in South Africa, the BLNS countries (Botswana, Lesotho, Namibia and Swaziland), Zambia, and, most spectacularly, in Mozambique. However, the inflation rate has remained high in Angola, the DRC and Malawi, while soaring in Zimbabwe (McCord, 2002). Unfortunately, McCord (2002) also found that the region's gross domestic product (GDP) growth is still far below the target of 6%, as set by the New Partnership for Africa's Development (NEPAD) as a minimum requirement for sustained economic development, and in line with the reduction of poverty by half by 2015 envisaged in terms of the Millennium Development Goals.

[4] Mercosur is a customs union between Argentina, Brazil, Paraguay, Uruguay and Venzuela. It is also known as the Commonmarket of the South.

Table 2.2. Macro-economic trends experienced in Southern Africa

Indicator	1990	1995	2000
Real GDP growth rate (%)	0,6	3,2	2,6
GDP per capita (US$)	1 640	1 801	1 464
Inflation (%)	33,9	70,7	23
Fiscal balance (% of GDP)	−4,4	5,7	−2,6

Source: African Development Report (2001, quoted in Pillary, 2002, cited in McCord, 2002).

Exchange rate policy reform, which has been the main focus of structural adjustment programmes adopted by many African countries, have aimed to improve the external competitiveness of their economies. However, according to Wiggins (2003), the development models and strategies followed have disappointed and failed across the main production sectors of Southern African economies, namely mining, industry and agriculture. Although most SADC countries have adopted structural adjustment programmes, which has led to improved growth and performance in the export sector, the adoption of such programmes has also led to higher rates of unemployment and poverty (Siphambe, 2004). The performance of the economy in terms of growth alone is, therefore, an inadequate measure of food security in the region. In order to be able to assess the entire picture, the issues of poverty, income distribution and general human development have to be examined.

In 2002, the farm-gate prices of basic agricultural commodities in South Africa started to soar. Given the high rates of unemployment and poverty experienced in South Africa, any increase in food prices should be a cause for concern. Therefore, as a result of the soaring food prices, the National Treasury commissioned an investigation into the causes of food price inflation (Vink & Kirsten, 2002, cited in Vink *et al.*, 2004). According to Vink *et al.* (2004), the investigation showed that the trigger for the increase in food prices was the sharp depreciation of the Rand towards the end of 2001. Such an unexpected slump in the currency over a short period, combined with other factors (historically high world prices; a regional shortage of basic staple foods during that time; the climate of uncertainty created by the circumstances surrounding the land reform programme and the elections in Zimbabwe, and a lack of competition in the supply chain beyond the farm gate), all these have contributed to food prices increase.

The data in Table 2.3 provides an indication of the prices charged in certain food retail stores (the Shoprite Group, Pick 'n Pay Group, Spar, and Woolworths Food Division) in South Africa, as well as elsewhere in Southern Africa in 2001. The basket of goods described here was about 50% more expensive in Mozambique and Zambia than it was in South Africa, while it was twice as expensive in Malawi. The highest prices were charged for processed products, such as cooking oil, flour, rice and cheese (Vink & Kirsten, 2002). Vink and Kirsten (2002) also argued that the South African consumer market, at that time, was still segmented, inequality was decreasing, and the purchasing power of the wealthiest part of the population was increasing. As a result, the largest impact of food prices was felt by the poor, most of whom lived, at that stage, in the rural and peri-urban areas of the country. In line with such a finding, the Competition Commission of South Africa (CCSA) found that the exceptional levels of food price inflation were causing considerable hardship among consumers, especially among low-income households and the unemployed (CCSA, 2002). Nevertheless, the observed price increases appeared to be related to certain prevailing micro- and macro-economic conditions, including the decline in the exchange rate, the monetary policy stance, the effects of administered price increases, and the shortage of maize in the region.

Table 2.3. A comparison of grocery retail prices in the SADC region

Product	Description/Notes	South Africa Price[1] (R)	Zambia Price[2] (R[3])	Malawi Price (R[4])	Mozambique Price (R[5])
Eggs	6 x large (packaged in cardboard tray)	3,19	5,20	7,10	4,71
Cooking oil	750 ml (in plastic bottle)	5,69	8,60	12,35	8,56
White sugar	2 kg (packaged in paper bag)	8,63[6]	10,50	12,35	14,12[7]
Flour	2,5 kg all-purpose (packaged in paper bag)	7,99	18,96	30,87	10,59[8]
Chicken	Whole fresh chicken per kg (packaged in= polystyrene tray covered with cellophane)	14,99[9(a)]	20,50	21,61	17,11
Tomatoes	Grade 1 per kg (sold loose)	8,79	3,88	10,80	3,64
Potatoes	Grade 1 per kg (sold loose)	3,49	5,00	10,19	5,13
Milk	Litre (in plastic bag)	3,39	5,15	7,72	5,34
Bread	Standard brown loaf	2,79	3,50	4,63	1,28
Cheese	Per kg – cut from block (packaged in cellophane)	33,90	87,53	73,64	58,61
Tea	100 g loose tea (packaged in silver foil)	3,20[10(b)]	2,00	12,35	13,90
White rice	1 kg (packaged in sealed plastic bag)	3,59	7,25	7,72	6,63
Maize meal	12,5 kg breakfast roller meal (packaged in cloth bag)	29,99[11(c)]	23,96	57,88	42,78
Body soap	250 g (packaged in sealed plastic)	1,49[12(d)]	3,88	5,71	3,20
Total		**131,12**	**205,91**	**274,92**	**195,60**

[1]Prices collected from Shoprite Stellenbosch on 13/11/2001. [2] Prices collected from Shoprite Manda Hill on 9/11/2001. [3]1 ZAR = 399,864 ZMK (13/11/2001). [4]1 ZAR = 6,47899 MK (13/11/2001). [5]1 ZAR = 2,337,31 MZM (13/11/2001). [6]SA sugar sold in 2,5 kg (converted to 2 kg) paper bags. [7]Price per kg. [8]No equivalent packaging; average price for 1 kg and 5 kg. [9]Thick plastic without polystyrene tray. [10]Tea bags; loose tea not available; 62,5 g converted to 100g. [11]Converted to 12,5 kg; SA product 10 kg in paper packaging. [12]Paper packaging. Comments: (a) Packaged in plastic bag. (b) Tea bags in foil packaging. (c) Packaging = paper. (d) Packaging = paper wrapping.

Source: Vink & Kirsten (2002).

Twenty-five countries in Africa faced food emergencies in 2003, of which 10 were experiencing civil strife, and 4 were emerging from conflicts.[5] Conflicts were deflecting scarce resources into military costs (related to the feeding of armies and the purchasing of weapons) and away from critical development needs, resulting in collapsed infrastructures (Clover, 2003). According to Thomson (1993), in a situation in which over 80% of the population were living in rural areas, any attempts to secure food security and the reduction of poverty required that the rural inhabitants live

[5] The countries that were, during this time, experiencing civil strife were Burundi, the Central African Republic, the DRC, Côte d'Ivoire, Liberia, Sierra Leone, Somalia, Sudan and Uganda. The countries emerging from conflict were Angola, Eritrea, Ethiopia and Guinea.

on their own land, which would then enable them to plant their own crops.

In the decade preceding the current study, South Africa has made such remarkable strides in its transition to democracy, freedom and unity that it has become a leader on the African continent. As such, South Africa is the only country in the region that is currently food secure at the national level. The country produces its own main staple foods, exports its surplus foods, and imports what it needs to meet its food requirements. National food security indicators reveal that South Africa has been meeting the majority of the food needs, except for those relating to rice and wheat, of its growing population from domestic sources during the past 20 years. As South Africa lacks a domestic resource base for the production of rice and wheat, both products are imported (DoA, 2002). Unfortunately, however, at household level, South Africa faces food insecurity. Hendriks (2005, summarising Labadarios & Nel, 2003); Rose (2004); Rose & Charlton (2003), and Gerike *et al*. (2003), all cited in Hendriks & Msaki (2005), the available data suggests that between 58,5% and 73% of South African households may experience food insecurity, with 15,9% consuming less than the amount required for adequate energy. As a result, stunting affects about 22% of children under nine years of age, while wasting occurs in approximately 3,7% of children under nine years of age. Approximately 30% of households may, in effect, experience hunger. According to Statistics SA (1998), many South African households are unable to afford to purchase food. Underlying their lack of purchasing power is the limited scope of income opportunities, especially in the rural areas. Unemployment rates have remained high at 38%, despite other economic indicators have remained more stable.

With regard to the failure of food policy in Southern Africa, a forum has been established in the region to examine the underlying political economy and governance issues, particularly in relation to agricultural development and food security, which have contributed to food insecurity in the SADC region. The forum focused on five case study countries: Mozambique, Malawi, Zambia, Zimbabwe and Lesotho (Bird *et al*., 2003). According to Bird *et al*. (2003), neo-patrimonialism[6] in the aforesaid countries has influenced food policies and the outcomes thereof in the following ways:

- Agricultural policies have been formulated as a means of guaranteeing political support, particularly in the run-up to elections.
- State intervention in the supply of agricultural inputs, pricing and food distribution persists

[6] Max Weber (1974, cited in Bird *et al*., 2003) has identified 'patrimonialism' as a type of traditional political authority in which the 'chief' uses his position for his own gain.

for political reasons, while a technical case can be made for instituting some measure of official intervention to help make markets accessible to the poor.

- State resources are unofficially diverted for personal gain by way of corruption and nepotism, despite the life-threatening nature of such behaviour to the general population. Effective domestic accountability cannot account for such occurrences.

2.3.3 Mismanagement and poor governance

Mismanagement and poor governance are reflected in the inappropriate food security strategies adopted at national level. This section sets out to define the inappropriate food security strategies of some SADC countries, which entail waiting for natural disasters before requesting help from the international community; the failure of governance both through lack of accountability and resistance to democratisation; financial mismanagement, such as the selling off of a country's strategic grain reserve (SGR); and widespread corruption.

According to Drimie and Mini (2003), some SADC countries – of which Zimbabwe and Malawi are prime examples – wait for droughts before requesting help from the international community, which is often slow to respond, and which sometimes responds inappropriately. One reason for such slow response time is the view that drought is an *event*, rather than the result of a *process* (Glantz, Betsill & Crandall, 1997, cited in De Klerk *et al*., 2004). There is therefore a need to find ways in which to press governments to use their resources wisely and to combine efforts, so that an EWS is not seen as a reactive operation separate from the government itself, but rather as part of on-going data collection (e.g. nutrition data or clinical information) and monitoring – thus serving as a rationale for an expanded food information system.

In Zimbabwe, the failure of governance – both in terms of lack of accountability and in opposition to the process of democratisation – and, in particular, the way in which the land reform programme has been instrumentalised and implemented, has resulted in the severe undermining of the previously robust agricultural economy (Clover, 2003). Clover (2003) has also explored the fact that the land reform programme in Zimbabwe offers both promise (in the longer term) and threat. There is currently concern over the underutilisation of newly settled land and the possibility of lower crop yields. At the end of 2002, an estimated 90% of the 300 000 Zimbabweans who were given land by the government as part of the land reform programme still lacked farm inputs, and some 94% did not yet have seed for the coming season. The situation was further aggravated by the

uncertainty of tenure, as it appeared that the government still owned the land, making it difficult for farmers to access credit at the banks. By the end of 2002, Zimbabwe's average farming output was down by about 75% from that of the previous year (Clover, 2003).

Malawian financial mismanagement in its sale of the country's SGR has also played a major role in contributing to the food insecurity being experienced in Southern Africa. For example, the Malawian government sold its SGR of 110 000 tonnes in 2001 at the behest of the International Monetary Fund (IMF), in order to balance its payments, despite the fact that there were already signs of food insecurity.[7] As a result, Malawi needed US$21,6 million to cover its 600 000 tonne maize deficit barely a year later. Corruption charges were levelled at some of Malawi's elite for buying this reserve and reselling it in the country at a 500% profit (*Sunday Independent*, 19 May 2002, cited in Drimie & Mini, 2003).

Bird *et al.* (2003), finding that there was an absence of formal accountability mechanisms in Mozambique, Malawi, Zambia, Zimbabwe and Lesotho, said: "We show that one might expect a vigorous media to play a positive role. However, the regional media was strangely silent during the whole of the food insecurity crisis." According to Bird *et al.* (2003), domestic media and political debates focused on specific instances of corruption and interpersonal wrangling, while, despite the hunger and hardship experienced by both the rural and urban populations, remaining mute on the question of the food crisis. In some countries, such silence may mostly be due to self-censorship and/or state control of large parts of the media. But, whatever the cause, it has meant that governments have had little trouble in blaming either the climate or outside actors, such as donors, for the on-going problem of food insecurity.

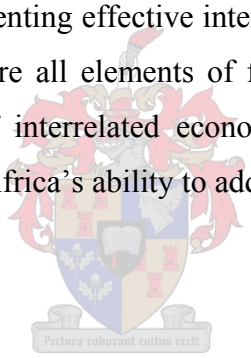
Prior to the onset of the emergency, few countries in Southern Africa had disaster management contingency plans in place aimed at guiding an effective response. Most countries were not adequately prepared to provide a widespread humanitarian response, which led to significant response delays in some countries, such as Zambia (Mano *et al.*, 2003). Mano *et al.* (2003) have also argued that SGRs were at low levels in most SADC countries at the onset of the emergency, as they had already largely been depleted due to production shortfalls that had occurred in the preceding year. In some cases, such shortfalls had increased the level of food aid required at the

[7] A similar difficult choice that had to be made between economic pressures and food security objectives almost brought Zimbabwe to the brink of famine in 1990/91, when the Bretton Woods institutions instructed the government to sell its grain reserves immediately prior to the 1991 agricultural drought.

time of crisis.

In terms of democracy and governance debates in Southern Africa, national governance challenges continue to provoke sporadic political unrest and national conflicts of varying degrees of intensity across the SADC region. Some argue that political instability is often a direct cause of food insecurity (Hugon & Alii, 2003, cited in Mano *et al.*, 2003). In the sub-region, such instability also tends to force insecure governments to promulgate economic and food security policies in order to satisfy selfish short-term goals of political survival and rent-seeking, thus restricting the development of an enabling environment that might otherwise encourage farmers and their buyers to do business. In such a distrustful environment, economic players tend to withhold from making investment and economic decisions (Hugon & Alii, 2003, cited in Mano *et al.*, 2003).

What is needed is an understanding that goes beyond conventional orthodox wisdom to focus more strategically on developing and implementing effective international, national and regional policies. Availability, access and affordability are all elements of food security that give rise to complex issues encompassing a wide range of interrelated economic, social and political factors, both internal and external, which challenge Africa's ability to address the problem (Clover, 2003).

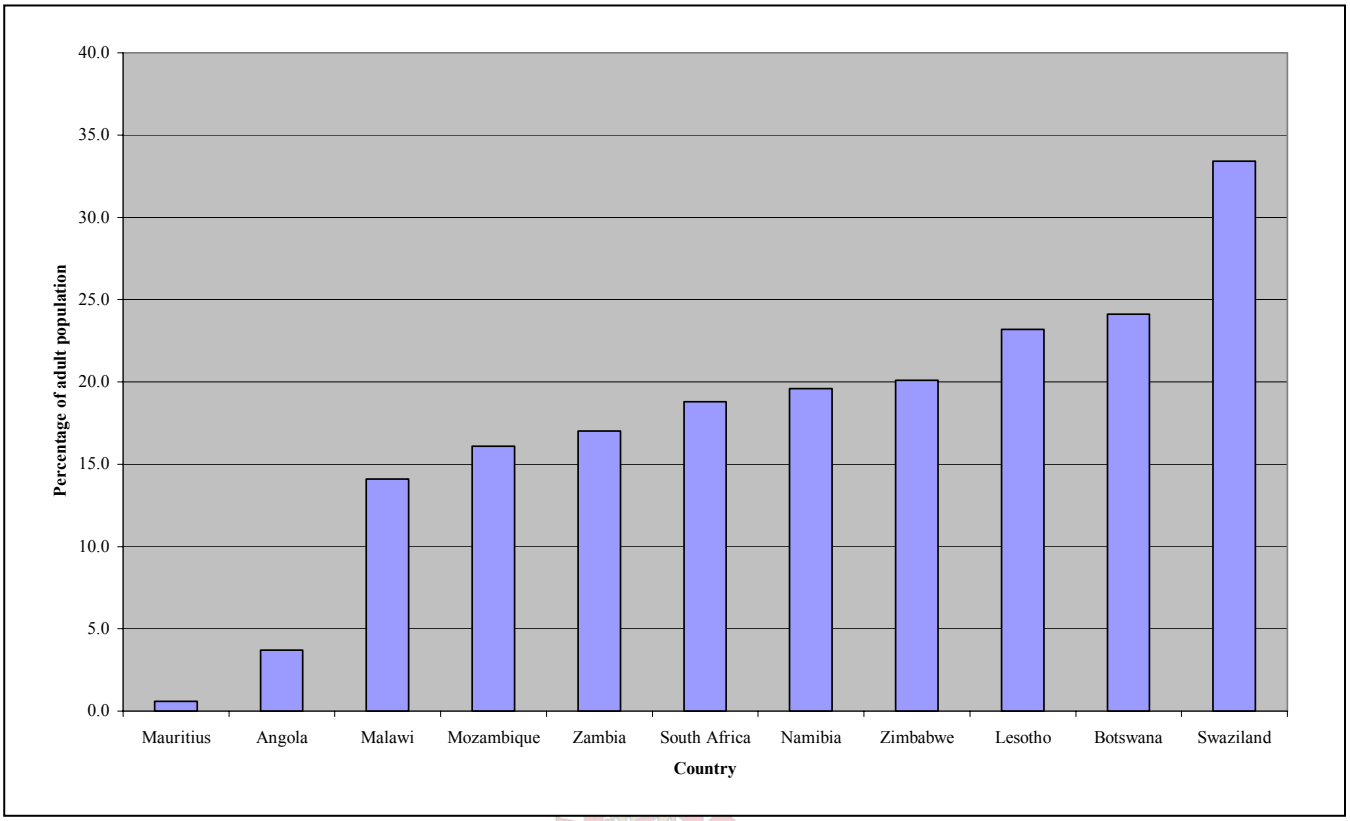


2.3.4 HIV/AIDS

The HIV/AIDS pandemic is the focus of increasing concern in the SSA region, not only because of the serious health and social implications that it holds, but also because of the negative effect of the prevalence of such illness on agricultural performance and food security (FAO, 2001). This section therefore aims to determine the rate of HIV/AIDS prevalence in Southern African countries and the linkage thereof to all dimensions of food security – the availability of food, the stability of supply, and the access to and use of food – and to explore the impact of HIV/AIDS on household agricultural production and the food security status in the region.

FAO (2001) estimated that in 2000, of the 36,1 million people worldwide estimated to have contracted HIV/AIDS, 25,3 million, or 70%, were living in the SSA. According to Dubois (2003), the widespread nature of HIV/AIDS in Southern Africa breaks the chain of knowledge and capability transfer stretching, in the past, from one generation to the next, as well as the possibility of dividing labour up among generations.

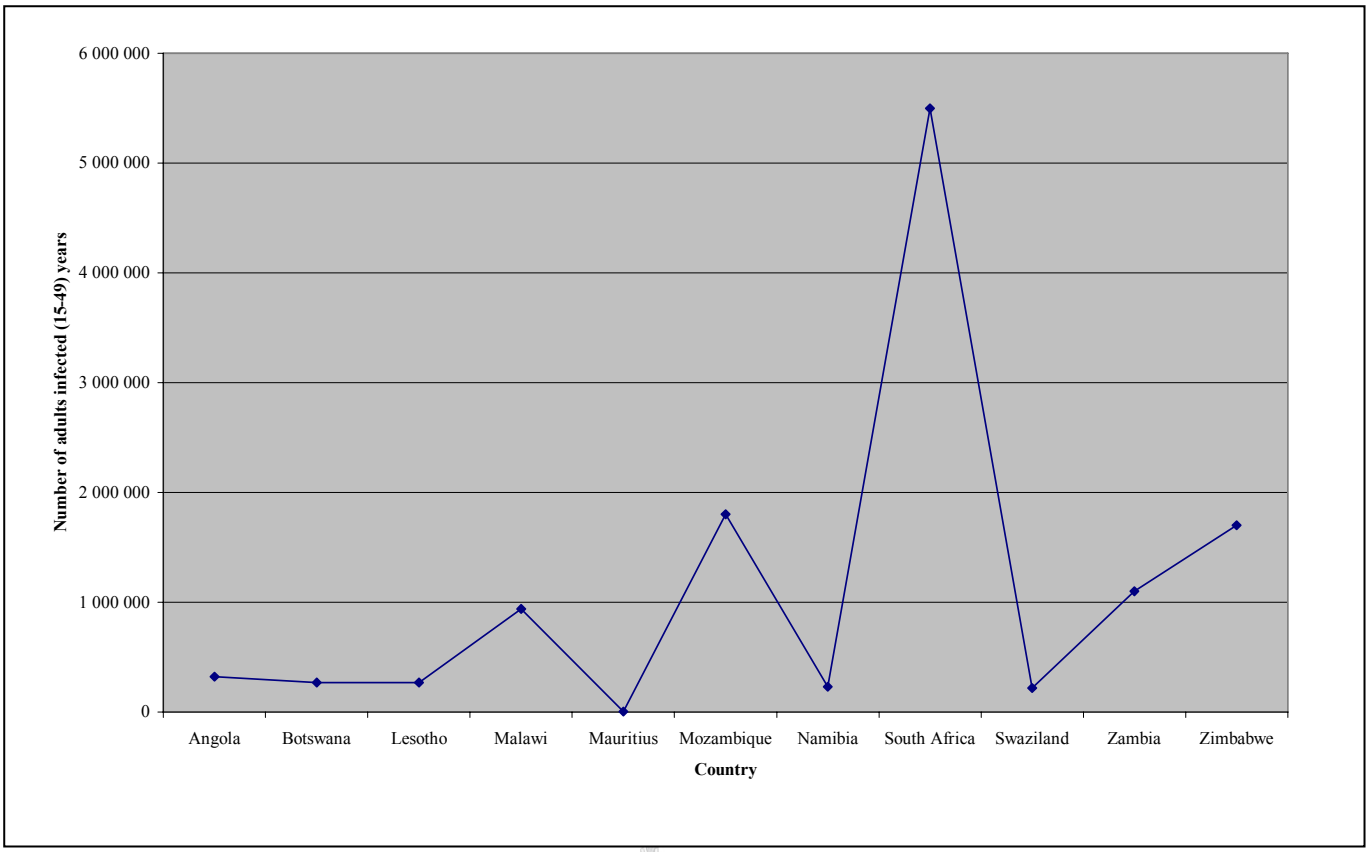
A consultative meeting organised by the United Nations Programme on HIV/AIDS (UNAIDS) and the Regional Interagency Co-ordination Support Office in November 2002 discussed the issue of food insecurity in Southern Africa (Drimie & Mini, 2003). At the meeting, over 70 participants from various UN agencies and civil society organisations concluded that the devastating impact of HIV/AIDS, especially in the worst affected areas, such as Southern Africa, was complicating the task of fighting hunger and debilitating efforts to ensure the livelihoods of the poor. The pandemic had created large new vulnerable groups and was rapidly eroding food and livelihood security at the time. At that stage, Southern Africa had the highest HIV/AIDS prevalence rate in the world, namely Lesotho 31%; Malawi 16%; Mozambique 13%; Swaziland 33%; Zambia 22%, and Zimbabwe 34%, with infection levels at around 25% of the population (UNAIDS, 2002, cited in De Klerk *et al.*, 2004). The result was that all the dimensions of food security to which reference has already been made had already been affected. In 2006, UNAIDS determined the percentage of the adult population in Southern African countries infected with HIV/AIDS as standing at the following (see Figure 3): Mauritius 0,6%; Angola 3,78%; Malawi 14,1%; Mozambique 16,1%; Zambia 17%; South Africa 18,8%; Namibia 19,6%; Zimbabwe 20,1%; Lesotho 23,2%; Botswana 24,1%, and Swaziland 33,4% (UNAIDS, 2006).



Source: Adapted from UNAIDS (2006).

Figure 3. Percentage of adult population infected by HIV/AIDS in Southern Africa, 2006

The age group most infected with HIV/AIDS in Southern Africa was that of the 15 to 49 year olds, of which the highest number was to be found in South Africa (see Figure 4), where 5 500 000 adults were reported as already infected (UNAIDS, 2006).



Source: Adapted from UNAIDS (2006).

Figure 4: Prevalence of HIV/AIDS in Southern Africa, 2006

Several studies have been undertaken in order to measure the effects of HIV/AIDS morbidity (illness) and mortality (death) on household income. In Botswana, the per capita household income for the poorest quarter of households was predicted to fall by 13% in the coming years, while income earners in this category were expected to provide for an additional four dependents as a result of HIV/AIDS (Botswana Institute for Development and Policy Analysis, 2000, cited in Naidu & Harris, 2005). In the rural Kafue District of Zambia, households affected by chronic illness, including HIV/AIDS, as in 1999 reported annual income levels 46% lower than those of non-affected households (Mutangadura and Webb, 1999, quoted in Topouzis, 2000, cited in Naidu & Harris, 2005). In the rural Limpopo Province of South Africa, Oni *et al.* (2002) found that the average annual income was approximately 35% lower in households affected by HIV/AIDS than in non-affected households (Oni *et al.*, 2002, cited in Naidu & Harris, 2005). These income changes, combined with the high associated morbidity and mortality costs, had resulted in changes to expenditure on foodstuffs, which threatened household food security in the region.

According to the FAO (2001), the impact of HIV/AIDS on agricultural production and food availability is felt in terms of the quantity and quality of food available. In Zimbabwe, for example,

the communal agricultural output has decreased by 50% over the past five years, largely due to the prevalence of HIV/AIDS, combined with other factors. The production of maize, cotton, sunflowers and groundnuts had been particularly affected at the time of compilation of the current study. In most of the highly affected countries, agriculture continues to provide a living for the large majority of the population. Agriculture, particularly food production, had been affected in several ways by the number of those with HIV/AIDS. The toll exacted on the agricultural labour force responsible for food production was severe, as full-blown AIDS leads to sickness and death (FAO, 2001). The FAO Conference on HIV/AIDS and agriculture estimated that in the 27 most affected countries in Africa, 7 million agricultural workers had died from AIDS since 1985, and 16 million more deaths were likely in the next two decades. In the 10 most affected African countries, labour force decreases ranging from 10% to 26% were anticipated (see Table 2.4).

Table 2.4. The impact of HIV/AIDS on agricultural labour in the most affected countries in the SSA

Country	Estimated % lost in 2000	Projected % loss in 2020
Namibia	3,0	26,0
Botswana	6,6	23,2
Zimbabwe	9,6	22,7
Mozambique	2,3	20,0
South Africa	3,9	19,9
Kenya	3,9	16,8
Malawi	5,8	13,8
Uganda	12,8	13,7
Tanzania	5,8	12,7
Central African Republic	6,3	12,6
Ivory Coast	5,6	11,4
Cameroon	2,9	10,7

Source: FAO (2001).

HIV/AIDS-affected households generally have been known to experience a decline in agricultural production of both cash and food crops, as compared to non-affected households. The major impacts of such ill health on agriculture include the depletion of human resources, the diversion of capital from agriculture, the loss of farm and non-farm income and other psychosocial impacts that affect productivity negatively (Mutangadura, Jackson & Mukurazita, 1999, cited in De Klerk *et al.*, 2004). For example, the UN estimated that, while 9,6% of Zimbabwe's agricultural labour force was lost in 2000, 5,8% was lost in Malawi, where 70% of the households suffered a decrease in their labour force due to the disease. In Zimbabwe, smallholder production of cattle decreased by

29%, production of vegetables by 49%, and production of maize by 61% in households where somebody died of AIDS (Dubois, 2003).

De Klerk *et al.* (2004) summarised the potential impact of HIV/AIDS on household agricultural production as follows:

- a decrease in the area of land under cultivation at household level, due to a lack of labour stemming from the severe illness and death of infected household members;
- a decline in crop yields, due to delays in carrying out certain agricultural interventions, such as weeding and other intercultivation measures, as well as cropping patterns;
- a decline in yield resulting from a lack of sufficient input, such as fertiliser and seeds;
- a reduction in the range of crops produced at household level;
- a loss of agricultural knowledge and farm management skills, due to the loss of key household members due to AIDS; and
- a decline in the livestock production of affected households, as the need for cash and the loss of knowledge and skills forced some of the worst affected families to sell their animals.

Thus, such losses of adult agricultural labour potential may affect food security through decreases in both the number of areas planted and in the extent of yield. Furthermore, food security can be adversely affected through loss of labour quality by reducing the income earned at household level, and by the amount of time diverted from production to care-giving and the attendance of funerals.

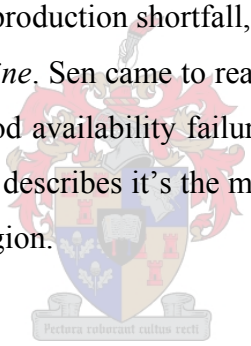
The International Fund for Agricultural Development (IFAD) suggested that the HIV epidemic disproportionately affects agriculture, relative to other sectors (IFAD, 2001, cited in De Klerk *et al.*, 2004). De Waal and Tumushabe (2003) argues that such devastating effects are not due to HIV rates being higher among workers in the agricultural sector than elsewhere, but because the structure of the agricultural sector is such that it is much less able than other sectors of the economy to absorb the impacts of the human resource losses associated with the epidemic.

With regard to HIV/AIDS-related costs, direct costs to households represent out-of-pocket costs or actual expenditure on goods and services (UNAIDS, 2000). In HIV/AIDS studies, direct costs represent the actual expenditures on treatment (Booysen *et al.*, 2002; Danziger, 1994; Bowie, 1996,

cited in Naidu & Harris, 2005) and funerals (Pitayanon *et al.*, 1995; Booysen *et al.*, 2002, cited in Naidu & Harris, 2005). A study in rural Thailand found that a household spent, on average, US$1 000 per patient during the last year of an AIDS patient's life, which is equivalent to the average annual household income (UNAIDS, 2000). In rural Tanzania, households spent more on funerals (60% of the total cost of medical and funeral expenses) than on medical care (Kagera study, World Bank, 1999, cited in Naidu & Harris, 2005). In South Africa, the high cost of a funeral can threaten the economic security of a bereaved family (Ayieko, 1997, cited in Naidu & Harris, 2005). These studies all emphasise the large proportion of total household income consumed by health care and funeral expenditure.

2.3.5 Lack of food entitlement (poverty)

Sen called poverty the lack of food entitlement (in reference to the lack of access to land, credit, income and family support systems), which was found to be the major cause of famine and hunger (Sen, 1977, cited in Rukuni & Eicher, 1988). Sen challenged the prevailing view of the time that famine was caused primarily by a food production shortfall, later expanding his entitlement thesis in his widely read book, *Poverty and Famine*. Sen came to realise that people starve because of a food entitlement failure, not because of a food availability failure. This section identifies a lack of food entitlement (poverty) as a phenomenon, describes it's the major causes, and reveals the effect that it has so far had on food security in the region.



Starvation is the phenomenon of some people not *having* enough food to eat – it is not the characteristic of there not *being* enough food to eat (Sen, 1981). Starvation statements can be translated into statements of ownership of food by persons. Therefore, a relationship of ownership is one kind of *entitlement* relation. According to Sen (1981), entitlement relations accepted in a private ownership market economy typically include the following:

- *trade-based entitlement*, in terms of which one is entitled to own what one obtains by means of trading something one owns with a willing party (or, multilaterally, with a willing set of parties);
- *production-based entitlement*, in terms of which one is entitled to own what one obtains by way of arranging production using one's own resources, or by way of the resources hired from willing parties meeting the agreed conditions of trade;
- *own-labour entitlement*, in terms of which one is entitled to one's own labour power, and thus to the trade-based and production-based entitlements related to one's labour power; and

- *inheritance and transfer entitlement*, in terms of which one is entitled to own what is willingly given to one by the legitimate owner thereof, which can take effect after the latter's death (if so specified by him/her).

Sen's 'entitlements approach' provides a framework for analysing the relationship between rights, interpersonal obligations and individual entitlement to things (ODI, 2001, cited in Drimie & Mini, 2003).

Income levels, which vary significantly in Southern Africa, are linked to per capita food consumption. During the late 1990s, Mozambique, which was recovering from civil war, had one of the world's lowest per capita income levels – US$140, while Mauritius had the region's highest per capita income – US$3,870 (World Bank, 1998, cited in Trueblood *et al*., 2001). Nine of the 12 SADC countries recorded positive per capita growth rates over the 1988 to 1997 period (see Table 2.5). The fastest growing economies on an annual per capita basis were Mauritius and Botswana – both with over 4% annual growth rate. Only Angola, which had continued to experience political instability, showed a deeply negative growth rate (−8%). Inhabitants of the SADC region consumed, on average, 2 231 calories per person per day, which is quite substantially below the world average of 2 760. Average daily per capita calorie consumption was highest in Mauritius (2 923) and South Africa (2 956), where incomes were highest, while consumption was below the nutritional requirement of 2 100 calories (as recommended by the FAO) in the poorer countries, such as Angola (1 900), Mozambique (1 782), and Zambia (1 958) (Trueblood *et al*., 2001).

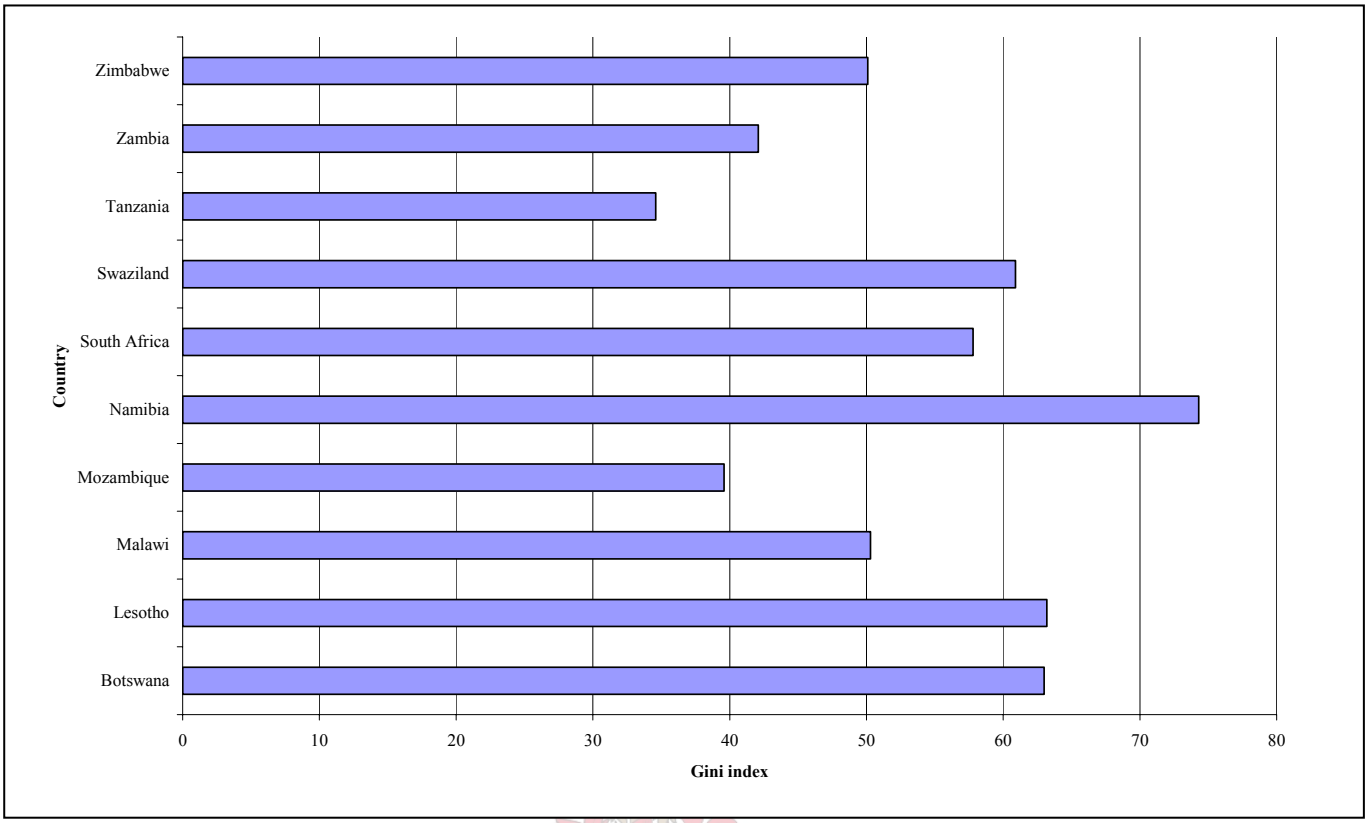
Table 2.5. Per capita incomes and calorie consumption levels

Country	Per capita GNP, 1997	Annual real per capita GNP growth rate, 1988–1997	Average per capita calorie supplies per day, 1995–1997	Average share of grain in calorie supplies, 1995–1997
	US$	Per cent	Number	Per cent
Angola	260,0	−8,5	1 900,0	31,4
Botswana	3 310,0	4,0	2 228,0	49,4
Lesotho	680,0	1,4	2 236,0	75,3
Malawi	210,0	1,3	2 068,0	68,4
Mauritius	3 870,0	4,1	2 923,0	44,3
Mozambique	140,0	2,7	1 782,0	41,5
Namibia	2 110,0	2,1	2 141,0	48,9
South Africa	3 210,0	−0,7	2 956,0	52,9
Swaziland	1 520,0	1,6	2 479,0	50,5
Tanzania	210,0	0,7	2 000,0	48,7
Zambia	370,0	−0,9	1 958,0	66,2
Zimbabwe	720,0	0,0	2 095,0	61,5
SADC	1 420,0	−0,6	2 231,0	53,2

Source: World Bank (1998), UNFAO (1999, both cited in Truebloodl et al.*, 2001).*

International studies have shown that income changes (usually calculated in terms of national change) are linked to concomitant changes in health and nutrition (Gillespie, 1997, cited in Hendriks, 2003). In South Africa, for example, various expenditure studies have served to confirm that increased household incomes are likely to increase the local demand for meat, poultry, vegetables and fruit, which would significantly positively influence food intake (Hendriks, 2003).

Recent data has revealed that Southern Africa experiences a high percentage of income inequality. The World Bank (2006) Gini index measures the extent to which the distribution of income (or consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. Figure 5 shows that 50% or more of the population living in 70% of the countries in the region had suffered from the adverse effects of an unequal distribution of income. Of these, the Namibian population (74,3%) had suffered most, followed by those of Lesotho (63,2%); Botswana (63%); Swaziland (60,9%); South Africa (57,8%); Malawi (50,3%), and Zimbabwe (50,1%) (World Bank, 2006).



Source: Adapted from World Bank, World Development Indicators (2006).

Figure 5. Distribution of income or consumption in Southern Africa, 2006

A lack of food is one of the most acute forms of absolute poverty, when poverty is defined in terms of the lack of, and the non-accessibility to, basic goods (Dubois, 2003). Access to an adequate supply of food is the most basic of human needs. Ensuring that their people have enough to eat is not only the moral duty of governments but also in their own economic and political best interest.

Since Southern African economies are highly dependent on land-based agricultural production and access to land is a critical component of 'food entitlements' – especially for those without income and employment, addressing land access issues in the region is of great importance. Unfortunately, the inequitable distribution of land and uncertain land tenure security tend to be hindered, rather than helped, by the land policies currently in place in Southern African countries. According to Hendriks and Lyne (2003), the supply of tradable and non-tradable agricultural commodities in rural areas is constrained by issues of insecure tenure and inadequate physical and legal infrastructures. The disadvantages of managing land as communal areas raise the related transaction costs in all markets, denying prospective farmers access to land, credit, inputs and buyers. In addition, the region made less arable land available throughout the past four decades than in the

past. According to Moyo (2006), the per capita arable land area available in all SADC countries shrank from 1965 to 2000. Consequently, the amount of arable land in the region decreased from 0, 47/ha in 1965 to 0, 22/ha in 2000 (see Table 2.6).

Table 2.6. Per capita arable land in the SADC region

Country	Per capita arable land area (ha)				
	1965	1980	1987	1990	2000
Angola	0,53	0,41	0,34	0,31	0,25
Botswana	0,73	0,44	0,35	0,33	0,22
DRC	0,36	0,25	0,20	0,18	0,14
Lesotho	0,37	0,22	0,20	0,18	0,16
Malawi	0,28	0,20	0,20	0,18	0,18
Mauritius	0,12	0,10	0,10	0,09	0,08
Mozambique	0,30	0,24	0,21	0,20	0,17
Namibia	0,92	0,64	0,53	0,49	0,47
Seychelles	0,02	0,02	0,01	0,01	0,01
South Africa	0,62	0,45	0,38	0,38	0,28
Swaziland	0,38	0,33	0,23	0,23	0,18
Tanzania	0,17	0,12	0,12	0,12	0,12
Zambia	1,34	0,89	0,73	0,67	0,55
Zimbabwe	0,46	0,35	0,30	0,28	0,24
SADC	**0,47**	**0,33**	**0,28**	**0,26**	**0,22**

Source: Moyo (2006).

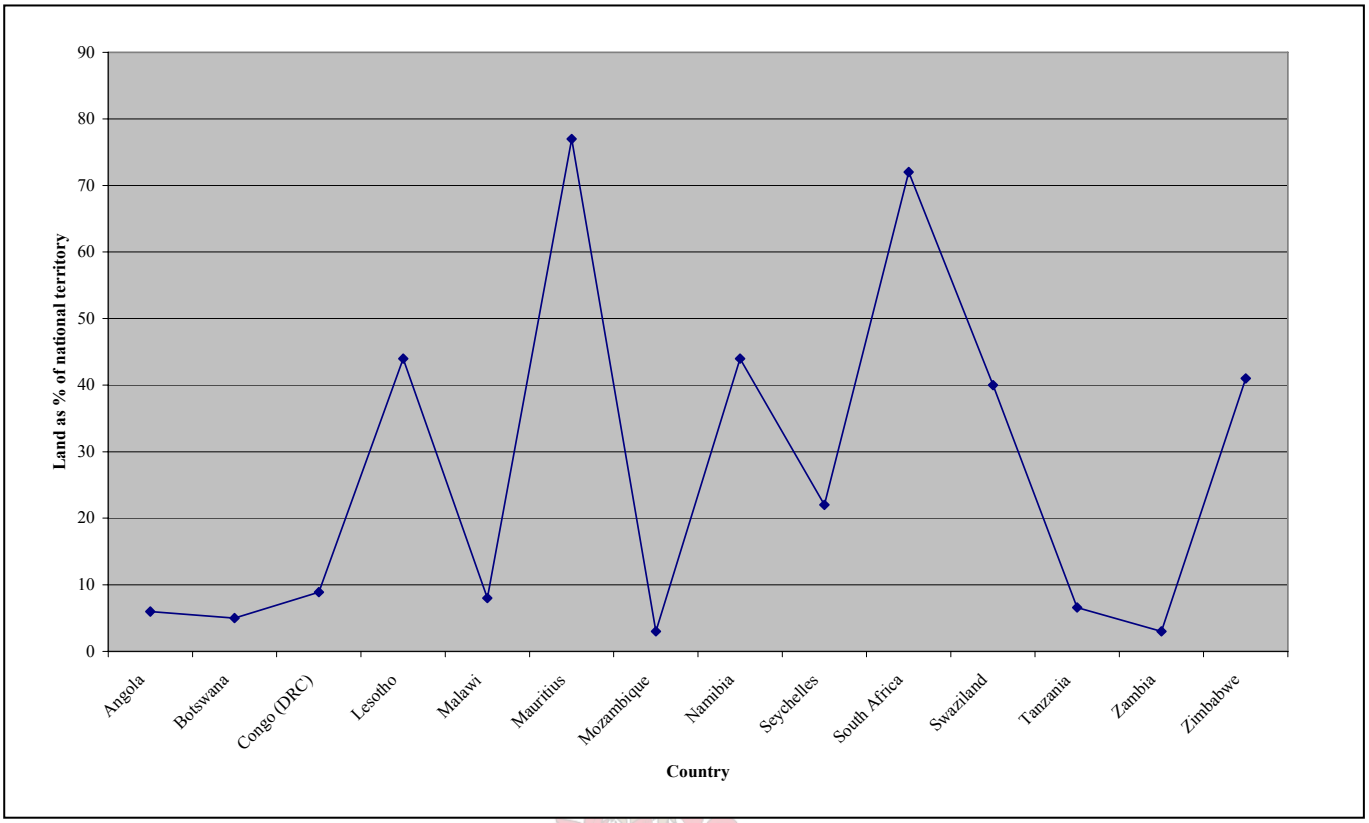
Land tenure is the system of rights and institutions that govern access to and use of land (Adams, 2001 cited in UN, 2003). It can be further defined as the terms and conditions under which land is held, used and transacted and is one of the principal factors determining the way in which resources are managed and used and the manner in which benefits are distributed.

SAIIA (2004), in a recent publication of the South African Human Sciences Research Council, comments that land reform policies in the Southern African region have been applied inconsistently. Neither colonial nor contemporary practices have ever been uniform. Another major concern in Southern Africa is the failure to integrate land reform with tenure issues, resettlement programmes and meaningful land-use policies that cover all land, whether rural or urban. Land reform policies should also apply to non-agricultural land, because fertile soil is too scarce a resource in many countries to be made available to everybody. Only 7% of all land in Africa is arable, while, in Southern Africa, this percentage is only 6%, with Malawi having the highest amount at 18%, and Botswana the lowest, at 0.5%,. Two other SADC countries where the land reform debate is particularly public fall into the middle range, with Zimbabwe having 8% and Namibia 1% of land fertile enough for the growing of crops. Regional organisations, such as SADC, have still to express

an opinion on land reform.

According to the United Nations, the main forms of land tenure insecurity include the insecurity of minority groups (as in Botswana and Malawi); unclear or overlapping land rights (as in South Africa); overcrowding (as in Lesotho, Malawi and South Africa); land alienation in the form of leasehold (as in Malawi, Mozambique and Zambia); the insecurity of farm workers and farm labour tenants (as in South Africa); corrupt and exploitative administrative practices, and limited women's land rights (which affect all countries in the region) (UN, 2003).

Land rights in freehold include the ability to sell the land, to rent it to others and to use it as collateral for a mortgage. Before colonisation, the dominant form of land tenure system was customary. Today, virtually all countries in the region have a dual land tenure system, wherein customary or communal system co-exists with statutory private, freehold and leasehold land rights. According to the UN (2003), Mauritius (77%) had the highest percentage of land ownership under the statutory tenure system, followed by South Africa (72%); Namibia (44%); Zimbabwe (41%) and Swaziland (40%) (see Figure 6). SAIIA (2004) found that state ownership varied from 100% in some SADC countries (Mozambique and Zambia) to 1% (Zimbabwe) to 0% (Namibia). Twenty-five percent of land in South Africa, at the time of this study, was state owned.

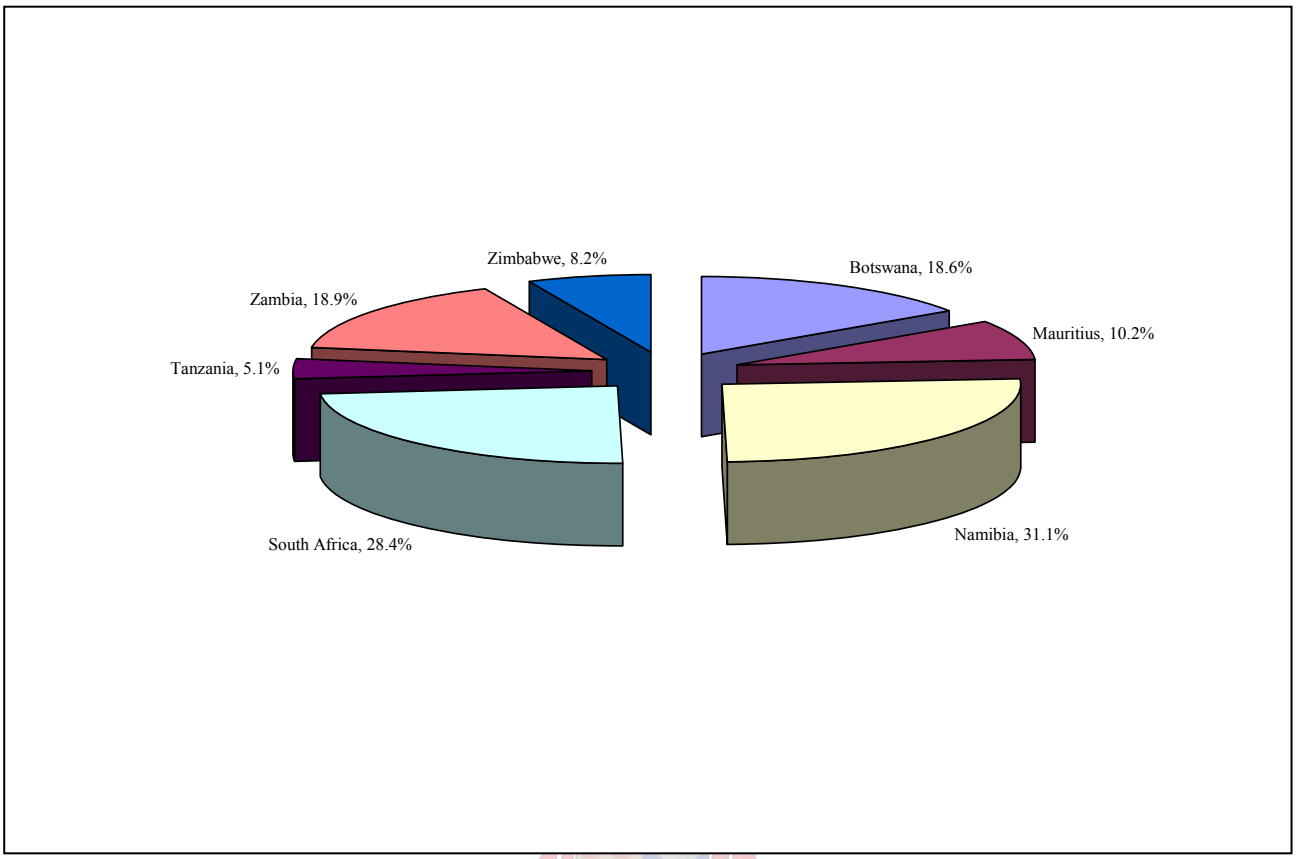


Source: Adapted from UN, 2003 & Moyo (2006).

Figure 6. Land ownership under private/freehold and leasehold, as % of national territory in Southern Africa, 1999–2006

Unemployment also constitutes a major cause of lack of food entitlement in Southern Africa, as the unemployment rate is very high in the region. Though unemployment can be seen to be a universal problem, political leaders, nevertheless, have to wrestle to keep the level of unemployment as low as possible. Both the World Bank (2006) and the International Labour Organization (ILO) define unemployment in terms of the number of the economically active population that is without work, though available for and seeking work, including people who have lost their jobs and those who have voluntarily resigned from their jobs.

According to the World Bank (2006), the unemployment rate is extremely high in Southern Africa, with the rate being the highest in Namibia (31,1%), followed by South Africa (28,4%), Zambia (18,9%), Botswana (18,6%), Mauritius (10,2%), Zimbabwe (8,2%) and Tanzania (5,1%) (see Figure 7). The socio-economic impact of such unemployment is that it tends to lead to participation in criminal activities as being regarded as the only means of survival by certain groups of the unemployed.



Source: Adapted from the World Bank, World Development Indicators (2006).

Figure 7. Unemployment rate in selected countries in Southern Africa, 2000–2004

Given the complexity of food security and the range of factors and elements that affect food supply, access, adequacy, utilisation, safety and cultural acceptability, measurements of food security are appreciably complex, extensive and expensive (Hendriks, 2005). Household *vulnerability analyses* are used by various international aid agencies (including the Food and EWS, the Food and Income Vulnerability Information Mapping System (FIVIMS), and the World Food Programme (WFP)) to facilitate the identification of *long-term* mitigation activities, the targeting of food aid and emergency activities and the monitoring of interventions. *Vulnerability approaches* attempt to determine the change in consumption (in terms of the total food budget) and income sources undergone as the result of a crisis compared to those present during baseline 'normal' periods for each socio-economic group identified by way of key informant interviews (Riely, 2000, cited in Hendriks, 2005). Such a focus on vulnerability, which complements that on poverty, implies firstly identifying the threats and, more generally, the risks that affected people may encounter, and secondly, assessing the capacity of those affected in this way to cope with the consequences of the

related dramatic event (Dubois, 2003).

Rolling national vulnerability assessments have been carried out in Lesotho, Malawi, Mozambique, Swaziland, Zambia and Zimbabwe during the 2002/03 crisis in order to assess and monitor the vulnerability of households to food insecurity (Mdladla *et al.*, 2003, cited in Hendriks, 2005). Two of the indicators that were used to assess food insecurity in each country were the number of people requiring emergency food aid, and the levels of malnutrition in children under the age of five. The performance of the countries in the region in relation to these indicators is compared in Table 2.7. As a result of the assessment of these and other indicators, Zimbabwe, Zambia and Malawi have been recognised to be the worst affected in terms of food insecurity, though acute malnutrition rates were reported as being low in general, with wasting in under-5's being below 10% (Mbaya, 2003). With regard to the macro-economic picture of vulnerability assessments in Southern Africa, Marsland (2003) found a domestic cereal gap at macro level: 1 600 500 MT for the six countries, of which the cereal gap for Zimbabwe alone was 897 000 MT.

Table 2.7. Food insecurity in six Southern African countries, 2002/03

Country	People needing food aid	Malnutrition in children under the age of five	
	% of population	Wasting	Stunting
Lesotho	34%	7,5%	34,7%
Malawi	31%	6%	49%
Mozambique	3%	5,5%	43,8%
Swaziland	28%	2,2%	40%
Zambia	28%	4,4%	39,9%
Zimbabwe	52%	7,35%	49,3%

Source: SADC (2002).

According to Mbaya (2003), the factors underlying the ongoing poverty and food insecurity were varied, but generally included transitory shocks to production systems; weak economic growth performance resulting from unsuccessful macro-economic policies; poor balance of payments

situations, and highly skewed patterns of income and wealth distribution resulting from past colonial policies.

One of the most common coping strategies in times of food insecurity in Southern Africa lay in reducing food consumption. For example, in badly affected parts of Zimbabwe, households have sought to cope with the situation by initially eating smaller portions. As the scarcity of food supplies worsened, families intensified their efforts at coping by skipping a meal during the day. This graduated to skipping more than one meal per day. In extreme cases, families then resorted to skipping whole days without eating a proper meal (Mbaya, 2003). The adoption of such an extreme response has negative consequences on one's daily routine. According to the SADC Monthly Report of November 2002, about 80% of the households surveyed in Lesotho, Malawi, Mozambique, Swaziland, Zambia and Zimbabwe indicated that they had already changed their consumption patterns in response to the ongoing food insecurity (SADC, 2002, cited in Mbaya, 2003).

A study based on subjective assessment has been conducted in South Africa in order to assess household food insecurity. The results (see Table 2.8) show that during 1994 and 1995, and from 1996 to 1998, the number of households not having 'enough money to feed children' and that 'could not afford to feed children' may indicate that household food security deteriorated over the survey rounds. The results should be interpreted with caution, as the questions across survey rounds were inconsistent (HSRC, 2004, cited in Hendriks, 2005).

Table 2.8. Subjective assessment of food insecurity in South Africa by province and area of residence, 1994–1999

	Did not have enough money to feed children in household		Could not afford to feed children in household		Children under 7 went hungry due to insufficient money to buy food	
	1994	**1995**	**1996**	**1997**	**1998**	**1999**
National	41,0	31,7	27,0	25,5	31,1	23,4
Rural	49,2	n/a	29,1	29,9	37,2	27,6
Urban	34,1	n/a	25,5	22,3	26,4	19,1

Source: Statistics SA, 1994–99 quoted by HSRC, 2004 (both cited in Hendriks, 2005).

Bradshaw *et al*. (2000) and Statistics SA (2003) (both cited by HSRC, 2004, cited in Hendriks, 2005) confirm that malnutrition (in terms of rates of underweight and stunted children) worsened in

South Africa during the late 1990s. Rose and Charlton argue that, while research may indicate the efficiency of using national-level household data in identifying food insecurity as an alternative to expensive anthropometric measurement, it does not enable an understanding of household responses to food insecurity to be gleaned (Rose & Charlton, 2002, cited in Hendriks, 2005). According to Statistics SA, about 35% of the total population, or 14,3 million South Africans, were vulnerable to food insecurity. Among these, women, children and the elderly were particularly vulnerable (Statistics SA: Measuring Poverty in SA, 2000).

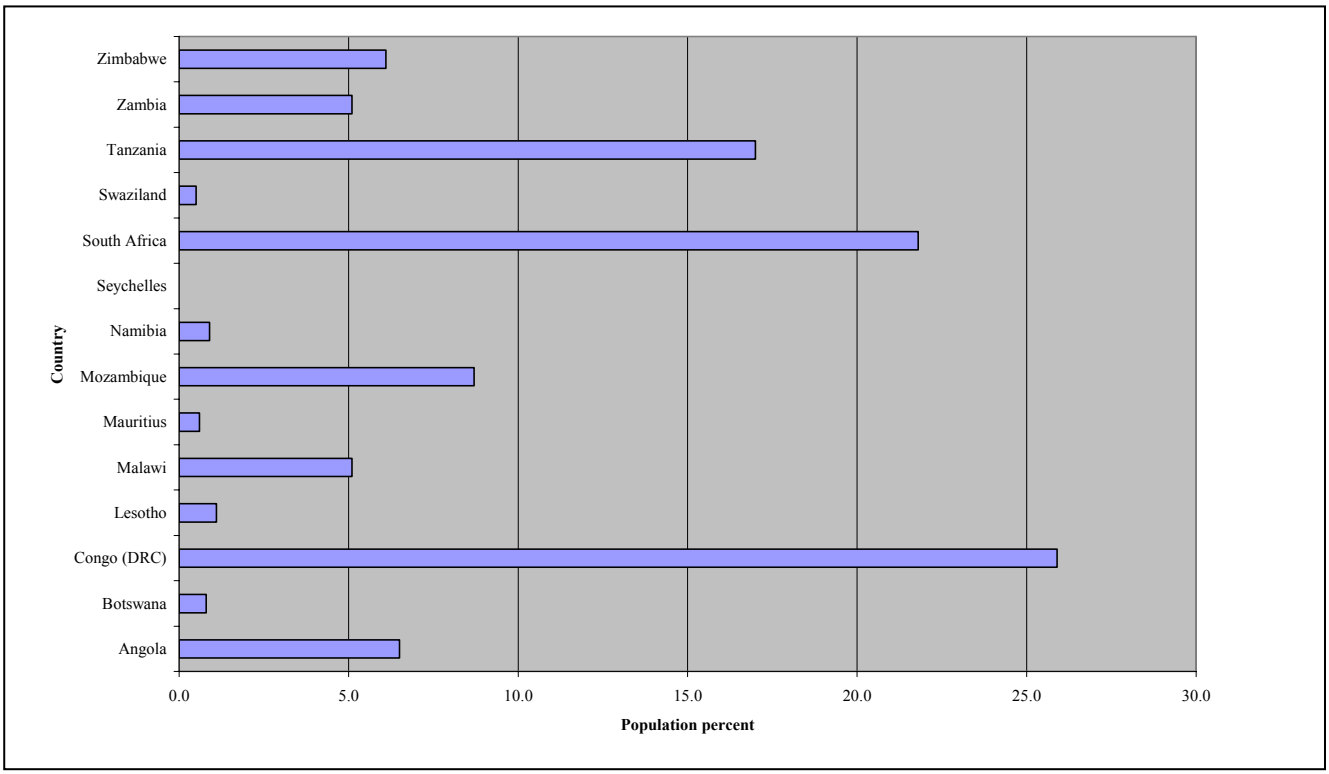
Based on the available data it can be concluded that poverty or lack of food entitlement existed in Southern Africa. Sen views the lack of food entitlement as a major cause of famine and hunger, though the availability of food is also crucial for balancing the food security equation.

2.3.6. Southern African population growth

The world food supply and population growth are considered important variables in today's debate on economic and environmental development, and the interaction between population growth, economic growth and resource availability is still a key issue (Maskey, 2001). This part of the study aims to explore pessimists' and optimists' views on the relationship between population growth and food security in Southern Africa, and to identify whether rapid population growth poses serious problems for the supply of, and demand for, food in the region.

Numerous studies have shown a positive relationship between population densities or growth and deforestation, overgrazing, soil erosion, declining soil fertility and other resource and environmental problems (Panayotou, 1993; Stern *et al.*, 1996; Templeton & Scherr, 1997, cited in Pender, 1998). Two conflicting views exist in regard to the future prospects of food supply being sufficient to cope with population growth – the pessimists' and the optimists' views. In the pessimists' view, the population is likely to grow at a geometric rate, while land and food supply can only expand arithmetically. The growth in food supplies, therefore, will not be able to keep pace with ever-growing populations and per capita incomes will fall, leading to a stable population existing at a subsistence level (Maskey, 2001). In the optimists' view, increasingly more experts think that global food supplies will be able to match the population growth rate. Such a view was supported by studies presented in early 1994 by the FAO, the World Bank and the International Food Policy Research Institute (IFPRI) (Maskey, 2001).

According to Rousseau *et al*. (2002), the combined population of the SADC member states in 2000 totalled almost 200 million. The countries with the largest share in the total population were the DRC (25,8%), South Africa (21,5%) and Tanzania (16,9%), (see Figure 8). The Seychelles, Swaziland and Mauritius, in contrast, had the smallest populations, with relative shares of 0,04%, 0,5% and 0,6%, respectively. The DRC had the highest population growth rate. Given that the country had the largest population of all SADC member countries, the share of the DRC in the region's total population was set to increase significantly in the foreseeable future, if the existing trends persisted.



Source : Adapted from Rousseau et al. *(2003:3).*

Figure 8. Total population of Southern Africa in 2000

In contrast, countries with the smallest populations had the lowest population growth rates. Rousseau *et al*. (2002) also argue that one reason for the above-average growth rates of 2,5% in the DRC and Angola was the age structure of the population in these countries. The mentioned populations were relatively young, which implies that they had a higher potential for natural growth than did the rest of the member countries. Countries with the lowest population growth rates, the Seychelles and Mauritius, had the smallest proportion of people younger than 15 years of age (Rousseau *et al*., 2002).

The trends in population growth offer a bleak prognosis for meeting the escalating demand for food and water. Crude birth rate (CBR) is the number of live births occurring during the year, per 1 000 population. In SADC, the birth rate ranged from 16 in Mauritius to 50 in the DRC in 2004. The regional average was 32 (World Bank, 2006) (see Table 2.9).

Table 2.9. Demographic profile of the SADC: 1990–2004

Country/Region	Population (millions)	Population (millions)	Population growth rate (%)*	Crude death rate per 1,000 people	Crude birth rate per 1,000 people
	1990	2004	1990–2004	2004	2004
Angola	10,5	15,5	2,8	22	28
Botswana	1,4	1,8	1,5	26	26
DRC	37,8	55,9	2,8	20	50
Lesotho	1,6	1,8	0,9	25	28
Malawi	9,5	12,6	2,1	21	43
Mauritius	1,1	1,2	1,1	7	16
Mozambique	13,4	19,4	2,6	20	39
Namibia	1,4	2,0	2,6	6	23
South Africa	35,2	45,5	1,8	22	24
Swaziland	0,8	1,1	2,7	20	34
Tanzania	26,2	37,6	2,6	17	37
Zambia	8,4	11,5	2,3	22	41
Zimbabwe	10,6	12,9	1,4	23	30
SADC	**157,9**	**218,8**	**2,092**	**19,308**	**32,231**

Source: Author's calculations, based on World Bank data. World Development Indicators (2006).
*Note: Subtracting the crude death rate from the crude birth rate provides the rate of natural increase, which is equal to the population growth rate in the absence of migration.

However, the average crude death rate (CDR), meaning the number of deaths per 1 000 of the population, was estimated at 19 for the same period. This combination of high fertility and low mortality has generated an average annual population growth rate of 2% (see also Table 2.9) in the region for the period 1990–2004. This growth rate suggests that the population should have increased from 158 million people in 1990 to 219 million people in 2004 (World Bank, 2006). According to Mpande and Tawanda (1998), one immediate consequence of rapid population growth is also an escalation in the demand for agricultural products. Vink *et al.* (2006) have also argued that the population of the region has increased even more rapidly than was anticipated, and it is evident that there are limits to the extent to which expansion is instrumental in meeting the needs of the growing number of people.

2.4 CONCLUSION

The available data and the literature on the different issues addressed in this chapter have resulted in the following findings:

- Food security can be defined at individual and household levels, at national level, and at regional level. These three levels are interrelated, as the regional food insecurity status cannot be assessed without considering the individual, household and national levels.
- The chronological perspective on the food security concept has experienced three basic changes since the 1970s:
  - at the *level of analysis*, from the global and national level to the household and individual level;
  - in the *scope of analysis*, from a narrow 'food first' perspective to a broader 'livelihoods' perspective; and
  - in the *assessment* of food (in)security, from measured indicators to self-reported perceptions.
- Intense droughts and massive floods were the major causes of extensive harm to people, and damage to their property, livestock and food crops. Such environmental disasters posed unexpected threats to the social and economic development of the SADC region, ultimately resulting in food insecurity.
- Weak macro-economic performance, such as rising external debt, increasing food price inflation, contradictory food policies, successive years of conflict, high rates of unemployment, inconsistent land reform policies and a lack of buying power, due to the narrow scope of income opportunities, mainly in the rural areas in the region, have been identified in Southern Africa as contributing to food insecurity in the region.
- The unsuitable food security strategies adopted in some SADC countries; the disappointing performance of authorities in regards to both their lack of responsibility and opposition to democratisation; their financial misconduct, such as selling off their country's SGR; and widespread fraud are all common features of mismanagement that have played a crucial role in contributing to the current situation of food insecurity in Southern Africa.
- Southern African countries have been reported as having the highest HIV/AIDS incidence rate in the world, which has complicated the mission of combating hunger and supporting the livelihoods of the poor in the region. As an increasing number of people have fallen prey

to the virus, large new vulnerable groups have formed, which has led to the rapid erosion of food and livelihood security. The loss of adult agricultural labour potential has undoubtedly affected the food security of the region by way of decreases in both the number of areas planted and the yield obtainable from such areas.

- The fundamental causes of ongoing poverty and food insecurity in Southern Africa, though varying between the different countries in the region, have included temporary shocks to production systems; weak economic growth performance resulting from failed macro-economic policies; reduced balance of payments situations, and extremely skewed patterns of revenue and assets distribution resulting from past colonial policies; the wrongful integration of land reform issues with issues of tenure, and the very high unemployment rate experienced in the region.

- The combination of a high fertility rate with a low death rate has resulted in an average yearly population growth rate of 2% in Southern Africa. One direct effect of fast population growth is an increase in the demand for agricultural products, namely foodstuffs in particular. Since the population has grown faster than has agriculture in the SADC region, much pressure has been caused on agricultural land. In addition, the current increase in food production, as a result of area expansion rather than yield increase, in terms of which expansion has been instrumental in meeting the needs of the growing number of people could prove to be problematic in the long term, by reducing the per capita availability of natural resources, such as land, in the region.

CHAPTER THREE
Domestic food production in Southern Africa

3.1 INTRODUCTION

Food security is no longer viewed as an 'exclusive' agricultural issue. The drive for food self-sufficiency through domestic agricultural production in many countries in the region has failed to enable such countries to feed their own populations (SADC, 1997, cited in Van Rooyen, 2000). The reason for this has been the increasing frequency of natural disasters; the inadequate political support of the sector; a lack of investment in the sector; the instability of the world market, and an increasingly unfair trade environment. Furthermore, civil strife and wars have for a long time prevented SADC member states from reaching their full potential in agricultural output (SADC, 2003). The purpose of this chapter is to familiarise readers with the main reasons for food self-insufficiency in the domestic food production that have made SADC countries vulnerable to reliance on food imports, and to encourage them to realise that domestic food production is highly risky and severely limited by the constraints of nature.

3.2 FOOD PRODUCTION IN THE REGION

Southern Africa is a region of considerable diversity, rich in renewable natural resources – land, water, livestock, forestry, wildlife and fish – that have not yet been fully exploited. Agriculture dominates the economy, employing 70% to 80% of the total labour force and contributing about 35% of the region's gross national product, and about 30% of its foreign exchange earnings (Rwelamira & Kleynhans, 1998). SADC (2003) also found that up to 80% of the population and labour force in the SADC region was dependent on agriculture for subsistence, as well as for employment and income. Agriculture is, therefore, the major foreign exchange earner in all countries, except for those countries that are mineral-rich – Angola, Botswana, Namibia and South Africa.

According to Vink *et al*. (2006), the physical output of most agricultural commodities has at least doubled over the past four decades (1961–2004). The fact that most of the increase has come about as a result of area expansion rather than as a result of increase in yield has led to the dominance of South Africa in the production of virtually all commodities; however, physical output has grown more slowly in South Africa than it has in the rest of the region.

3.2.1 Regional field crop production

Crop production accounts for approximately 60% of the agricultural output. A wide variety of crops can be grown in the region, with the principal food crop being maize, especially in the southern parts of the region. Tubers, mainly consisting of cassava and bananas, are grown mostly in the northern parts of the region (SADC, 2003). This section aims to explore the current regional cereal situation, the crop failures that are experienced in this region and the main causes thereof.

A strong grain production performance in the region during 1999 and 2000 turned into a regional deficit of 4 million tonnes in 2002. Zimbabwe's production was estimated to have fallen from 1,8 million tonnes to that of only 0,48 million between 2000 and 2002, compounding the impact of a harvest that failed across the entire region for numerous climatic and political reasons, which was exacerbated by reductions in state subsidies for seeds and fertiliser in Zambia and Malawi (McCord, 2002). The result of these events has been a series of grain shortages of varying degrees of severity in parts of Angola, Swaziland, Zambia, Zimbabwe, Malawi, Lesotho, and Mozambique. McCord (2002) also argues that those countries with inadequate foreign exchange to purchase imports on the world market are faring worst, with the shortfall in funding contributing to the inflationary pressures exerted on the price of staple foods across the region, with serious effects for the poor. The large-scale fall in production in Zimbabwe is likely to be sustained throughout the next half decade, with production stagnating as long as current agricultural and land policies persist, resulting in an ongoing national grain deficit. If weather conditions are favourable, however, and agricultural reforms set to support fertiliser and seed distribution are implemented as planned in Zambia and Malawi, a return to normal regional production levels in the rest of the region can be anticipated, and the 2002 crisis need not translate into a second year of near famine or of regionally inflated food costs (McCord, 2002).

SADC experienced a cereal deficit of over 3,22 million tonnes in the 2001/02 season, including a maize deficit (the staple crop) of 1,10 million tonnes (Drimie & Mini, 2003). This food crisis has partly resulted from the accumulation of poor harvests that have occurred over a long period of time, which has been further aggravated by a decrease in crop harvests of over 50%. However, according to the FAO/WFP, food output and availability in Southern Africa in 2002/03 has been affected by a number of factors, such as poor rainfall, mismanagement, corruption, macro-economic problems, poor governance and the impact of HIV/AIDS (Drimie & Mini, 2003). The 2004 cereal production (including rice in paddy) in Southern Africa has been estimated to be 21,9 million

tonnes, a slight decrease from the previous year's output. Consequently, cereal import requirements for 2004/05 were estimated at about 7 million tonnes, 8% higher than the preceding year's estimated imports.

Although cereal surpluses in South Africa and Zambia and trade among the other countries in the Southern African region are expected to meet many of such requirements commercially, substantial amounts of emergency food aid (about 930 000 tonnes) are also expected to be required (FAO/GIEWS, 2004). In SADC countries, about 12 million people were in need of emergency food assistance in the marketing year 2005/06 (mostly during the months of April/March) in Zimbabwe, Malawi, Swaziland, Lesotho, Mozambique and Zambia, following a poor cereal harvest that occurred early in 2005. The resulting food shortages, rising staple food prices (especially in Zimbabwe and Malawi) and diminished income-earning opportunities and remittances have led to an upward revision of the number of people at risk of food insecurity in many of these countries (FAO/GIEWS, 2005).

In Southern Africa, the five key food staples that have caused agriculture in the SADC countries to be viewed as a cornerstone in maintaining food security in the region are maize, wheat, rice, sorghum and millet. Each of these staples will now be considered in turn.

3.2.1.1 Maize

Maize is the cereal that is produced and consumed in the largest quantities in the Southern African region. Despite its popularity, most of the SADC countries (except Zimbabwe, South Africa and, to a large extent, Tanzania, Zambia and Malawi) supplement their maize supplies with commercial imports (Van Rooyen, 2000). Maize is the most consumed cereal on a per capita basis and is also the largest source of calories, protein and fat. The trend of high maize consumption will continue for many years unless fundamental per capita income changes take place, accompanied by a preference for other commodities, such as some wheat products and vegetables (e.g. potatoes), which have a higher income elasticity. Such trends are also expected to occur in South Africa in the near future (Van Rooyen *et al.*, 1996, cited in Van Rooyen, 2000).

Throughout the 2001/02 period, maize harvests totalled US$16,34 million, presenting a 3% increase in production. Such an increase, combined with 803 000 tonnes of opening stock, positioned maize availability estimated at US$17,15 million (Zondi, 2004). However, Zondi (2004) states that such

production was insufficient to meet the sub-region's required 3,03 million tonnes, worsening the year's maize deficit to 3,20 million tonnes in contrast to the previous year's 1,15 million tonnes. Due to the accumulation of such a deficit, hardly any maize stock could be set aside for export. Only South Africa had surpluses above 800 000 tonnes for export.

On a brighter note, the South African maize harvest was estimated to produce a record level of 12,4 million tonnes in the marketing year 2005/06, which was about 28% higher than that of the low price-affected harvests of the previous two years. The resulting closing stocks of about 5 million tonnes of maize were more than enough to cover the region's total import requirements of 2,8 million tonnes, of which 1,8 million tonnes consisted of commercial imports (FAO/GIEWS, 2005).

Despite a better regional harvest being experienced in 2003/04 than was originally expected, maize production levels were still below the levels achieved in 2002/03. Table 3.1 shows the trend in maize production in the SADC region over the past 10 years. In general, most countries have had better maize crops in the five years (1999/2000–2002/03) than they did in the earlier part of the last decade, when multiple droughts were experienced, following the severe regional drought of 1991/92. Notable exceptions are Zimbabwe, Lesotho and Swaziland, which experienced better crops during the mid-nineties than they have done post 1999/2000 (FEWS NET, 2004).

Table 3.1. Maize production trends 2003/04 compared to 2002/03 and previous 5-year averages ('000 MT)

Country	Average 1994/95–1998/99	Average 1999/2000–2002/03	Trend	2002/03	2003/04
Angola	341	469	+	619	531
Botswana	10	4	−	2	6
Lesotho	126	98	−	75	38
Malawi	1,558	2,026	+	1,983	1,773
Mozambique	875	1,169	+	1,250	1,375
Namibia	28	32	+	33	43
South Africa	8,642	8,958	+	9,714	8,140
Swaziland	103	80	−	69	78
Tanzania	2,360	2,544	+	2,526	2,652
Zambia	955	957	+	1,207	1,328
Zimbabwe*	1,881	1,298	−	945	1,400
SADC	**15,322**	**17,634**		**18,426**	**17,364**

Source: SADC Food Security Early Warning System, National Early Warning Unit and FEWS NET (2004).

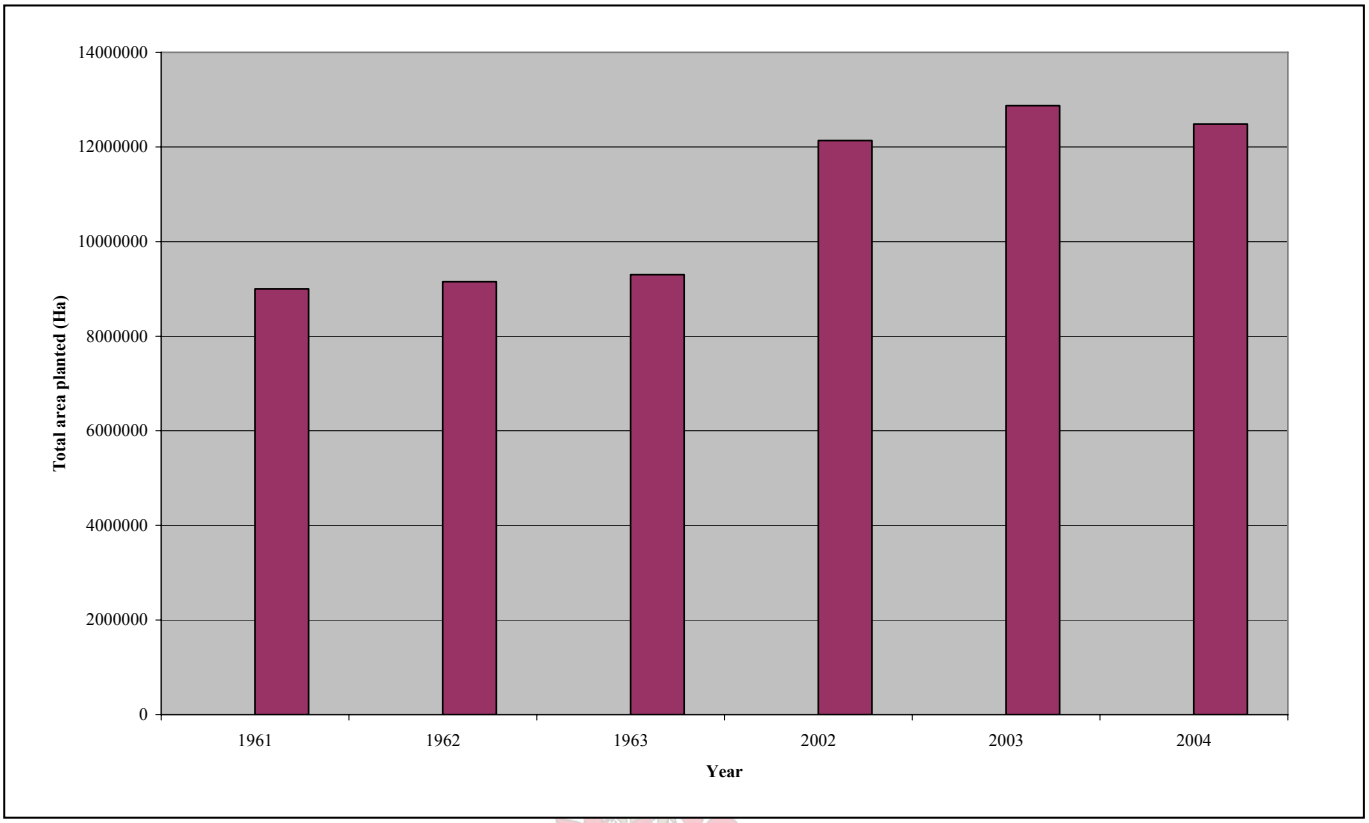
** Zimbabwe estimate, derived using WRSI model.*

Average maize production in Zimbabwe fell from 1,88 million MT in the years 1994/95–1998/99 to an average of 1,30 million MT in the years 1999/2000–2002/03. Apart from the poor crop-growing conditions experienced during some of these years (notably during 2001/02 and 2002/03), the downward trend has been exacerbated by the land resettlement programme embarked on by the government, which has seen a drastic decline in the commercial farming sector. For the past four rainy seasons (2000–2003), Lesotho and Swaziland have endured consecutive years of drought conditions, which have adversely affected agricultural production (food and cash crops) and hence the livelihoods of the affected communities. Extended periods of food insecurity and the impact of HIV/AIDS have also weakened the resiliency of households, as well as setting back agricultural recovery (FEWS NET, 2004).

According to Vink *et al.* (2006), maize production in the SADC region doubled in the 43 years from 1961 to 2004.[8] South Africa accounts for only some 49% of total maize production in the SADC region, compared to between 54 and 63% two decades ago. Of the roughly 10m tonnes in increased maize production since 1961, South Africa has contributed 43.85%, while the countries on the eastern seaboard of the SADC region (Mozambique and Tanzania) have contributed 30.47% and the landlocked countries in the centre (the DRC, Malawi, Zambia and Zimbabwe) have contributed just over 20%. The rest of the contribution came from Angola and the BLNS countries.

According to Vink *et al*. (2006), the reason for such an increase in growth could originate in the expansion of the extent of area planted to maize, an increase in yield, or a combination of the two. Land planted to maize has increased throughout the region over the past four decades (see Figure 9), excepting in South Africa, which has seen almost 1m ha of land taken out of maize. The largest proportional increase has been in the countries of the eastern seaboard, namely Mozambique and Tanzania. Together, they have added some 1.665m ha, about 900 000 ha of which is to be found in Mozambique.

[8] Mauritius has been excluded from the calculation of maize trends, due to its miniscule production.



Source: Adapted from Vink et al. *(2006).*

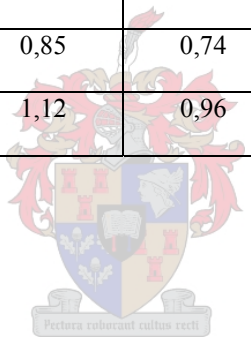
Figure 9. Total area planted to maize in SADC (Ha), 1961–2004

Vink *et al*. (2006) also found that the countries of the SADC region have followed widely divergent paths in terms of the adoption of yield-increasing technologies. Producers in Angola, Botswana, Lesotho and Zimbabwe have, on average, been unable to maintain the yield levels that they reached in 1961 (see Table 3.2). Producers in Malawi, Mozambique and Namibia have not fared much better: their yield levels are not much higher that those achieved 43 years ago. Such figures, in effect, reveal that only farmers in South Africa, Swaziland, Tanzania and Zambia have produced significant yield increases. In the case of South Africa, such an increase in yield should be seen in the context of the decline by roughly 1m ha of the extent of area planted to wheat, enabling it to improve production by increasing yields, while using less land.

Table 3.2. Growth in average maize yields in SADC, 1961–2004

Country/Year	1961	1962	1963	2002	2003	2004
Angola	0,81	0,81	0,77	0,52	0,55	0,52
Botswana	0,45	0,68	0,75	0,29	0,21	0,12
DRC	0,69	0,69	0,62	0,80	0,80	0,80
Lesotho	0,81	0,81	0,81	0,81	0,64	0,83
Malawi	1,02	1,06	0,90	1,05	1,28	1,12
Mozambique	0,87	0,83	0,89	0,97	0,96	0,96
Namibia	1,18	1,17	1,17	1,32	1,43	1,43
South Africa	1,29	1,39	1,41	2,85	2,66	3,04
Swaziland	0,40	0,43	0,44	1,02	1,02	1,17
Tanzania	0,75	0,75	0,89	1,70	1,61	1,77
Zambia	0,88	0,85	0,74	1,40	1,55	1,55
Zimbabwe	1,19	1,12	0,96	0,38	0,67	0,71

Source: Vink et al. *(2006).*



3.2.1.2 Wheat

Practically all the SADC member states import this commodity, as wheat is basically a temperate climate product. During the period under consideration, however, Zimbabwe and South Africa produced most of their wheat domestically, although at a substantial cost (Van Rooyen, 2000). Van Rooyen (2000) has also found that, despite there being very few localised areas that are suitable for wheat production in these countries, farmers received subsidies and attained producer prices well above the world producer prices. Furthermore, highly subsidised irrigation was used to produce the wheat. The SADC region as a whole (except for those members who have recently joined the organisation, like the DRC) faces serious shortages of water for human consumption and other important sectors.

SADC was not self-sufficient in wheat production in 2002, with flour production essentially an import substitution industry in the region, entering into little cross-border trade. Outside South Africa and Zimbabwe, only modest volumes of wheat were produced in Lesotho, Tanzania and

Zambia (see Table 3.3). Almost 50% of the region's wheat consumption was imported. South Africa and Zimbabwe, the two largest producers, must import wheat to meet the requirements of flour millers. South Africa, Zambia and Zimbabwe produce 60% of their domestic wheat requirements, while Tanzania produces 36%. The remaining SADC countries all produce less than 10% of their requirements, with Mauritius, Mozambique and Swaziland producing less than 1% (TSG, 2004).

Table 3.3. Wheat production, consumption, imports and exports in SADC, 2002 ('000 tonnes)

Country	Production	Consumption	Imports	Exports
Botswana	1	78	81	3
Lesotho	5	70	74	9
Malawi	2	60	58	0
Mauritius	0	103	133	30
Mozambique	0	108	180	0
Namibia	6	60	57	3
South Africa	1,800	2,500	830	130
Swaziland	0	40	40	0
Tanzania	90	250	190	30
Zambia	70	115	45	0
Zimbabwe	300	420	190	70
Total	**2,274**	**3,876**	**1,878**	**275**

Source: Flatters (2002a, cited in TSG, 2004).

According to Vink *et al.* (2006), wheat production in the SADC region also increased twofold (to 2 million tonnes) between 1961 and 2004. Production has increased in all regions, except Angola. These trends are the result of changes in South African wheat production patterns – South Africa, which is also a net importer of wheat, still produces more than 80% of the region's crop, albeit that percentage is down from its production of 90% four decades ago. However, even though the growth rates are high, they are invariably from a small base. The reduction in the extent of area planted in South Africa dominates the trend for the region, which must be seen against the general increase in production: hence, yield increases in South Africa have also dominated land productivity increases for the region. As South Africa is a net importer of wheat, it is expected that the region, as a whole, will also remain a net importer.

In Southern Africa, the estimated 3,81 million tonnes of wheat produced in the marketing year 2001/02 falls short of the required 4,84 million tonnes the region had to import as food aid, as well as the bought commodities of 1,03 million tonnes required to cover the projected shortfall (Zondi, 2004). The 2002 wheat crop in the region yielded an aggregate output of around 2,6 million MT,

9% lower than the good crop of the previous year, but above the average of the preceding five years. Such figures reflect a production decline of 9% in South Africa, the largest producer of wheat in the region, where production was down to 2,3 million tonnes, mainly as a result of lower yields, following adversely high temperatures experienced in the northern growing areas during October. In Zimbabwe, production was 213 000 tonnes, one of the lowest production rates that it has had in the past decade, as a result of the lower yields following on land reform activities (FAO/GIEWS, 2002). Its 2003 wheat crop was close to 1,7 million tonnes, which was still 28% lower than that of the previous year, and below average. In South Africa, the crop yield was steadily improving, but in Zimbabwe, the wheat crop was below both the reduced level of the previous year, as well as the average, reflecting a decline in the extent of area planted following on the implementation of land reform policies (FAO/GIEWS, 2003). An early estimate of the 2004 wheat crop in Southern Africa was about 2,2 million tonnes, an increase by nearly 20% over that of the drought-affected 2003 season (see Table 3.4). In South Africa, which accounts for about 85% of the region's aggregate production, favourable weather and improved international wheat prices at planting time resulted in a significant increase in the extent of area cultivated. Production was increased by almost 30% from the previous year, but remained slightly below the average level of 2 million tonnes (FAO/GIEWS, 2004). The 2005 wheat crop was 2,1 million tonnes for the region, less than produced earlier, but still an improvement over the drought-reduced crops of the two previous seasons. The downward revision was primarily due to the effect of dry weather on yields in parts of South Africa, where output was estimated to be 9% higher than in the previous year, but still below the average level (FAO/GIEWS, 2005).

Table 3.4. Wheat production in Southern Africa, 2001–2005 (in million/tonne)

Marketing years	2001	2002	2003	2004	2005
Wheat production in Southern Africa	3,81	2,6	1,7	2,2	2,1

Source: Adapted from FAO/GIEWS (2001–2005).

3.2.1.3 Other cereals

For the supply of other cereals, such as sorghum and millet, most SADC countries depend largely on their domestic production. There is little trade among the SADC member states in these small grains, though the production of such crops is suited to dry areas. Sorghum is the third most important source of nutrients in the SADC region. For countries such as Botswana, Tanzania and Mozambique, sorghum is the second most consumed cereal after maize. Millet is also consumed in

significant quantities in Namibia, Angola, Zambia and Zimbabwe. In Malawi and, to some extent, Tanzania, cassava provides the largest source of calories after maize. The largest import of most SADC countries is rice, a crop which is produced through irrigation. Most of these countries, however, lack sufficient water resources to venture into the viable irrigation of such a crop (Van Rooyen, 2000).

The 1,95 million tonnes of sorghum/millet production in the 2001/02 season, which was actually a 2% increase from the preceding year's harvest of 1,91 million tonnes, fell short of the demand. The sorghum/millet shortfall was actually 475 000 tonnes, compared to the previous year's 380 000 tonne deficit. Tanzania and Mozambique have significantly increased their sorghum/millet output consistently over the previous two years. Although such output was insufficient for export, these countries should not run short of these commodities for internal supply in the near future (Zondi, 2004).

With regard to the rice crop situation in the region, Zondi (2004) has argued that the decline in rice production experienced in Zambia and Tanzania accounts for the increase in the rice deficit from about 362 000 tonnes in 2000/01 to 517 000 tonnes in 2001/02. According to FAO/GIEWS (2000), the 2000 rice season has been one of the poorest experienced by the region during the current decade, as the major producer, Mozambique, was severely stricken by drought, tropical storms and cyclones in the first half of that year.

A deficit in key food staples has made the supply situation critical in Southern Africa. Table 3.5 illustrates cereal availability in Southern Africa, which imports more than is available from domestic production. SADC's Monitoring Weather and Climate for Disaster Management report for 2001/02 stated that the decline in food production in the region was a fundamental part of the agrarian crisis. There are various reasons for current production shortfalls, among them being the adverse climatic conditions experienced, as in the 1999–2001 period. Massive floods and intense droughts caused extensive harm to people, as well as damage to their property, livestock and crops during this period (SADC/WFP/FAO, 2002, cited in Zondi, 2004).

Table 3.5. Cereal availability for six Southern African countries, 2000

(in '000 MT)

Item	Lesotho	Malawi	Swaziland	Mozambique	Zambia	Zimbabwe	Total
Domestic availability	74	1747	72	1811	762	955	5420
Total utilisation	412	2242	204	2256	1 462	3283	9859
Import required	**338**	**495**	**132**	**445**	**701**	**2328**	**4439**
Commercial imports	191	277	96	592	352	312	1820
Food aid pledges	147	208	15	50	175	645	1240
Food import gap	**0**	**10**	**21**	**−197**	**174**	**1371**	**1379**

Source: SADC/WFP/FAO (2002 cited in Zondi, 2004).

3.2.2. Regional livestock production

The livestock sector has, by far, been the fastest growing sub-sector in agriculture over the past several decades. Due to the growing population, rising incomes and urbanisation, the demand for meat and milk products is expected to double over the next two decades in the developing world. Delgado *et al*. (2001) estimates the annual demand for meat in this area will grow from that for 111 million tonne in 1997 to 213 million tonne in 2020. Over the same period, milk consumption should, by all estimates, grow from 194 million tonne to 324 million tonne per year in the same area. Under the current economic and regulatory conditions prevailing in the region, projections show that by far the largest share of this increased demand will come from intensive, largely industrial pig and poultry production units located in the developing world. According to the FAO (2005), while per capita consumption of livestock products in developed countries grew by only 1% per year, in developing countries growth rose to 5,4% (a total increase of 88% over a period of 12 years). Increases, at this rate, are mainly being met through an increase in intensive systems of production, which has raised concerns about their potential impact on the environment, their potential negative effects on the poor, and the increased risk of animal diseases (which in some cases affect humans as well) associated with such systems of production. The livestock sector plays a vital role in the economies of many developing countries, as it does in Southern Africa, too. The sector provides food for people in the form of animal protein, income, employment and, possibly, foreign exchange. For low-income producers, livestock also serves as a store of wealth, provides

draught power and organic fertiliser for crop production, and serves as a means of transport (FAO, 2002). SADC (2006) livestock provides a steady stream of food and income, helps to raise the level of farm productivity and, for many inhabitants of the SADC region, offers a livelihood option that opens up common resources for exploitation for purposes of private gain. An estimated 70% of the rural poor consists of vulnerable groups, including women and children, for whom livestock plays an important role, not only by providing a source of income, but also by conferring status on those who own it. Livestock also creates opportunities for employment beyond the immediate household environs.

SSA has the world's fastest growing human population, coupled with the lowest average annual per capita consumption of livestock products (FAOSTAT, 2002). Growth in livestock production in the SSA has barely kept pace with the growth in demand for food of animal origin, with the annual per capita consumption of meat and milk being estimated to remain low at 9,6 kg and 28,3 kg respectively (FAO, 2002), if the current trends noted for production growth and population increase persist. This section aims to review the performance of the livestock sector in the SADC region, to identify the chronic problems facing livestock production and to assess the consequences thereof on food security in the region.

The role played by livestock in relation to the levels of food security experienced in a remote rural area may be critical – due to the dependence of certain incomes on livestock, due to the relatively drought-resistant nature of livestock and due to the fact that acquiring livestock is often the main means by which poorer people can escape being subject to food insecurity (Hubbard, 1995). A large number of inhabitants of the SADC region depend on the livestock industry for employment, capital and agricultural inputs. Given the common poor status of grazing land, the sector faces many challenges, including overstocking, poor breeding stock and inadequate support services for the control of diseases that tend to spread across national boundaries (SADC, 2003).

In 2005, the estimated livestock population in the SADC region comprised 53 million cattle, 33 million sheep, 32 million goats, 5 million pigs, and over 276 million poultry (see Table 3.6) (FAOSTAT, 2005). Game farming, especially ostrich and deer farming, is also becoming an important livestock enterprise in the region.

Table 3.6. Livestock population in SADC countries, 2005

Country	Cattle	Sheep	Goats	Pigs	Poultry
Angola	4,150,000	340,000	2,050,000	780,000	6,800,000
Botswana	3,100,000	300,000	1,950,000	8,000	4,000,000
*Lesotho	n/a	n/a	n/a	65,000	1,800,000
Malawi	750,000	115,000	1,900,000	456,300	15,200,000
Mauritius	28,000	11,500	93,000	12,925	9,800,000
Mozambique	1,320,000	125,000	392,000	180,000	28,000,000
Namibia	3,133,000	2,663,795	2,043,479	28,000	3,500,000
South Africa	13,764,000	6,407,000	6,407,000	1,648,000	121,000,000
Swaziland	580,000	274,000	274,000	30,000	3,200,000
Tanzania	17,719,091	12,550,000	12,550,000	455,000	30,000,000
Zambia	2,600,000	1,270,000	1,270,000	340,000	30,000,000
Zimbabwe	5,400,000	2,970,000	2,970,000	610,000	23,000,000
Total	**52,544,091**	**33,179,724**	**31,899,479**	**4,613,225**	**276,300,000**

Source: FAOSTAT (2005).

*Note: 2005 data for cattle, sheep and goat production in Lesotho was not available at the time of the study.

According to the Food and Agriculture Organisation Statistics (FAOSTAT) (2005), South Africa had the largest number of livestock units in 2005, followed by Tanzania, Zambia, Zimbabwe, Angola, Namibia and Botswana. Many countries gave a single figure for all poultry, including both commercial and traditional village chicken. South Africa also produced the largest number of poultry, followed by Tanzania, Zambia, Mozambique, Zimbabwe, Malawi, Mauritius and Angola.

According to Vink *et al*. (2006), beef production in the SADC region increased by almost twofold from 1961 to 2004. South Africa, at the time of this study, was by far the dominant producer of beef in the region. The production of poultry meat in the SADC region also increased dramatically (more than tenfold) between 1961 and 2004. Although the production figures exhibit steady overall growth, the increase experienced from 1990 to 2001 was more pronounced. Much of the increase in

poultry production in the region can be attributed to the increased production of South Africa.

Considerable diversity across SADC countries prevailed with regard to the importance of smallholder livestock-keeping for the maintenance of rural livelihoods. In Zimbabwe, there was broad consensus that investment in livestock was central both as a means of escaping poverty for many smallholder households (Jackson & Collier, 1991, cited in Poulton & Dorward, 2003) and as a strategy for ensuring food security.[9] However, whilst most households were found to keep some small stock and a proportion (25%–50%) were found to keep some cattle, the importance of livestock-keeping lies not so much in its contribution to income generation as in:

- ✓ its contribution to direct household nutrition (as a milk and meat supply) and crop production activities (especially as regards the contribution made by cattle in the form of draught power and manure); and
- ✓ the reliance on livestock as a savings mechanism, and as an insurance policy to be cashed in during a drought.[10]

According to Poulton and Dorward (2003), the importance of livestock (especially cattle) to rural livelihoods in Malawi has declined over time, as a result of the increasing population pressure that has led to the shrinkage of grazing land, as well as to increased insecurity. The dire effects of increasing population pressure in the absence of wider economic growth and increased agricultural productivity are seen in growing competition, rather than in the development of a synergy between livestock and crops. The prevalence of livestock diseases has restricted member countries' access to lucrative external markets, both regionally and beyond the borders of the Community itself. The most diseases with the most devastating impacts in the region are transboundary animal diseases, specifically foot-and-mouth disease (FMD), contagious bovine pleuropneumonia (CBPP), African swine fever (ASF) and Rift Valley fever (RVF). Transboundary animal diseases negatively affect the livelihoods of millions of farmers in the region, hampering their possibilities of benefiting from the rapid increase in animal production and trade expected in the coming 20 years, which might otherwise offer them an opportunity to escape hunger and poverty. Other less well known animal diseases that equally affect food security and trade are tuberculosis, salmonellosis and Newcastle disease (ND) (SADC/FAO, 2002). SADC/FAO (2002) also argue that currently, these diseases are

[9] This argument held valid at least for the period before the onset of the current situation of political and economical instability in Zimbabwe.
[10] The fact that livestock prices can fall precipitously when many households try to sell at once notwithstanding.

not effectively controlled due to the lack of enforcement of existing control regulations and/or the failure to impose or develop appropriate control mechanisms. For instance, no country fighting FMD in isolation can obtain lasting success.

3.2.3. Regional marine fisheries production

Fisheries production is central to food security worldwide, with the production from capture fisheries and aquaculture supplying about 101 million tonnes of food fish in 2002, providing a calculated per capita supply of 16,2 kg, with aquaculture accounting for a growth from 15,9 kg in 2000 (FAO, 2005). The world population has been increasing faster than the total food fish supply has; as a result, the average per capita fish supply outside China declined from 14,6 kg in 1987 to 13,2 kg in 1992, and has since remained stable. Overall, fish provided more than 2,6 billion people with at least 20% of their average per capita animal protein intake in 2002. The share of fish protein in total world animal protein supplies was about 16% in 2001 (FAO, 2005).

Marine and fresh waters, as well as the amount of land appropriate for the development of aquaculture, make fisheries one of the most important socio-economic sectors for SADC in terms of national and regional food supply, employment and source of foreign currency income. Within the SADC region, considerable potential exists for aquaculture. This section aims to determine the status of marine fisheries in the SADC region and to explore marine fisheries as a viable socio-economic sector for SADC in terms of national and regional food supply, employment and as a source of foreign currency income.

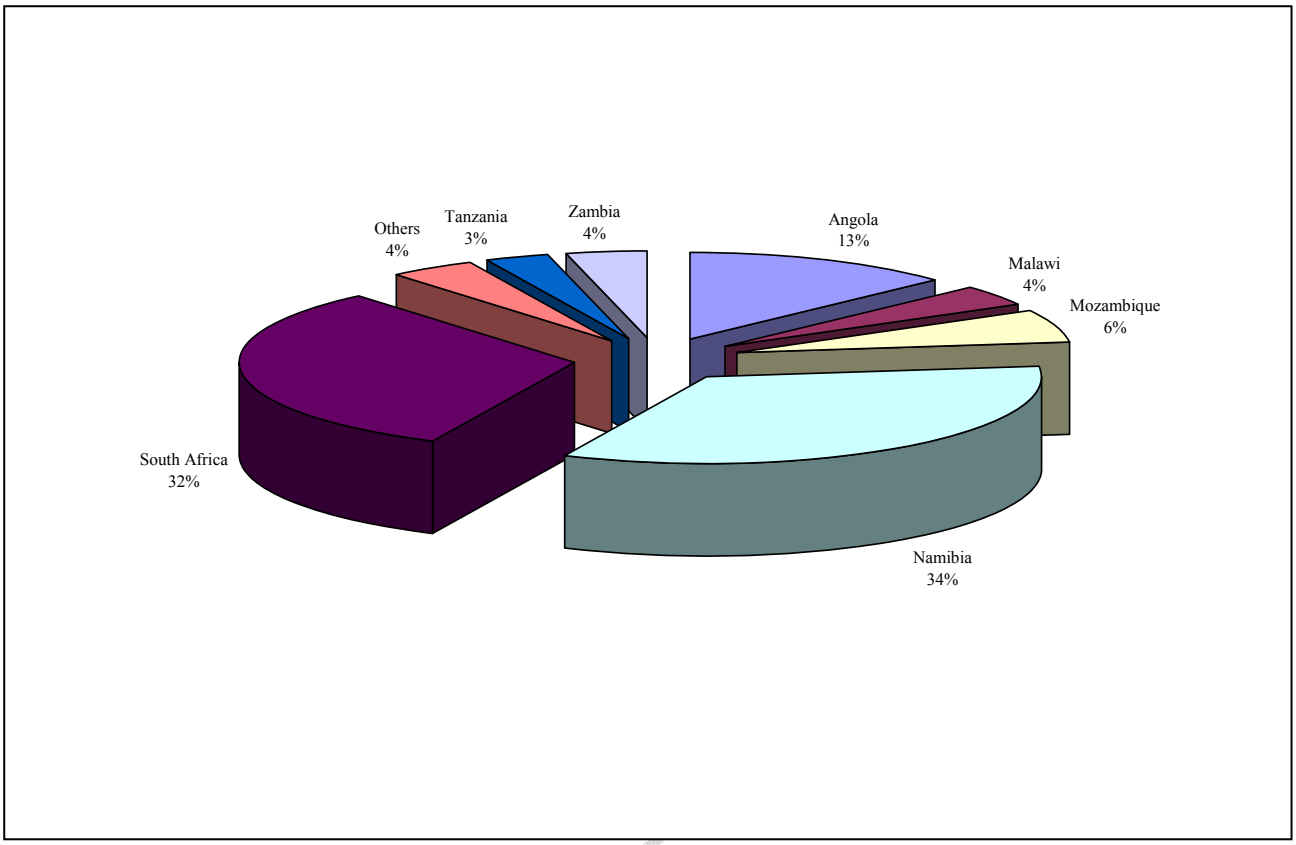
In the SADC region, in particular, fisheries have great importance as a source of food, income, export earnings and as a means of poverty alleviation. As such, they have played a key role in the maintenance of food security. SADC regional fish consumption in 2001 was about 1 541 tonnes, with a wide variation in per capita fish consumption among member states. The average per capita fish consumption is estimated at 8 kg/year, against the 15 kg/year worldwide average. According to the data presented in Table 3.7, the lowest per capita fish consumption took place in Zimbabwe, estimated at only 2 kg/year, while the highest occurred in the Seychelles, estimated at 60 kg/year. Fish consumption was estimated at only 6,5 kg/year in Mozambique, while being notably lower in the DRC (SADC, 2002).

Table 3.7. Fish consumption in Southern Africa, 2002

Country	Fish consumption	
	Per capita (kg/yr)	Total (tonnes)
Angola	16,4	211,56
Botswana	8,1	12,96
DRC	5,7	281,01
Lesotho	2,4	5,04
Malawi	6,8	68
Mauritius	23,34	27,54
Mozambique	6,5	109,2
Namibia	12	21,24
Seychelles	60	4,8
South Africa	9	387,9
Swaziland	0,1	0,01
Tanzania	9	288
Zambia	9,1	94,64
Zimbabwe	2,2	28,82
Total	**7,92**	**1 540,72**

Source: SADC (2002).

The average annual fish catch for the previous five years (1997–2001) was around 2 028 million tonnes. About 75% of the landings associated with such catches were from marine waters, while 25% was from inland waters. Namibia, South Africa and Angola were responsible for 79% of the total regional fish landings (see Figure 10). Mozambique, Zambia, Malawi and Tanzania were landing 17% (SADC, 2002). The remaining 4% of the total landings occurred in Zimbabwe (28 tonnes), the Seychelles (22,8 tonnes), Mauritius (11,9 tonnes), Botswana (2 tonnes), the DRC (1,2 tonnes) and Lesotho (0,02 tonnes) (SADC, 2002). No figure was indicated for fish landings occurring in Swaziland.



Source: Adapted from SADC (2002).

Figure 10. Fish landings in Southern Africa, 2002

According to the SADC Annual Report, the region realised an aggregate GDP growth rate of 3,4% in 2000, which was significantly below the growth target of 6% required for sustainable economic development in Africa. Nevertheless, fisheries are expected to contribute significantly to the future economic growth of the region. The fisheries sector employed approximately 0,8% of the 194,4 million inhabitants of the SADC region, meaning that 1,5 million people were working in the fisheries sector, while 5,5 million were dependent on fisheries during this period. Of the 1,5 million employed in this sector, 70% were working in inland fisheries and 30% in marine fisheries (SADC, 2002) (see Table 3.8).

Table 3.8. Population dependent on fisheries and employed in the sector in SADC, 2002

Country	Total population	Population dependent	Population employed in fisheries			
			Total	MIF	MAF	IF
	(million)	(million)	(thousand)			
Angola	12,900	1,147	251,950	180,350	41,600	30,000
Botswana	1,600	0,050	20,000	n.a.	n.a.	20,000
DRC	49,300	n.a.	n.a.	n.a.	n.a.	n.a.
Lesotho	2,100	0,001	0,200	n.a.	n.a.	0,200
Malawi	10,000	0,010	245,000	n.a.	n.a.	245,000
Mauritius	1,180	0,018	5,653	0,982	4,341	0,330
Mozambique	16,800	0,660	120,000	10,000	110,000	n.a.
Namibia	1,770	1,800	114,500	14,500	n.a.	100,000
Seychelles	0,080	0,005	1,625	0,175	1,450	n.a.
South Africa	43,100	0,117	28,000	28,000	n.a.	n.a.
Swaziland	0,097	n.a.	n.a.	n.a.	n.a.	n.a.
Tanzania	32,000	0,500	371,042	0,417	20,625	350,000
Zambia	10,400	1,200	300,000	n.a.	n.a.	300,000
Zimbabwe	13,100	0,037	12,200	n.a.	n.a.	12,200
Total	**194,427**	**5,534**	**1 470,170**	**234,424**	**178,016**	**1 057,730**

Note: N.a. = not available.
Source: SADC (2002).

The Republic of Tanzania was the SADC country that employed the most people in fisheries, accounting for 25% of the total, followed by Zambia with 20%, Angola and Malawi with 17% each and Namibia and Mozambique with 8% each. The other eight member states employed the balance. Namibia, Zambia and Angola were the SADC countries with most people dependent on the fisheries sector, with 32%, 22% and 21% respectively (SADC, 2002). According to the SADC/ECs' Regional Strategy Paper, marine fisheries provided a large, though decreasing, proportion of foreign exchange earnings for two of the eight SADC coastal countries, namely Mozambique and Namibia. The European Community (EC) was the main market for the region's exports and it has concluded a number of fisheries agreements with countries in the region. Unfortunately, weak monitoring, control and surveillance have led to commercial overfishing and unlicensed fishing has had a negative impact on artisanal fishing (SADC/EC, Regional Strategy Paper and Regional Indicative Programme, 2002–07 Draft; n.d.).

3.2.4 Regional horticultural production

Sub-Saharan African countries have a comparative advantage in regards to the production of export horticultural commodities, due to their favourable climatic conditions, their geographic proximity to European markets, their preferential trade agreements, absence of government controls and an abundance of cheap labour (Barrett *et al*., 1997, cited in Dolan *et al*., 1999). These supply-side factors have made Africa an attractive supplier of off-season vegetables to European markets. This

section identifies problems experienced with regional horticulture production and recognises that Southern African countries have a large market for their horticultural produce in the EU, though the EU has tried to exclude African horticultural produce from its markets by means of the subsidies that it grants its own farmers.

The fact that fruits and vegetables are becoming increasingly valuable products, due to their availability, even during the off-season, calls for intervention strategies that will ensure the reduction of qualitative and quantitative losses experienced in this sector. Fruits and vegetables are the major sources of calories, minerals, proteins, vitamins and fibres (Kasimila *et al*., 2001), all of which elements are essential to the maintaining and improving of health in all humans, but especially in those living below subsistence levels, who often suffer from vitamin A deficiencies.

Fruits and vegetables are horticultural products that deteriorate fast after being harvested, as they characteristically are high in moisture content and sensitive to bruising. The availability of technical storage facilities and careful handling, especially when they are being harvested and transported, is core to their ongoing supply (Kasimila *et al*., 2001).

A quantitative and qualitative study was undertaken in Tanzania to identify the major causes of fruits and vegetables losses, with farmers, wholesalers, retailers and consumers being the respondents in the study. The results of the study (see Table 3.9) made clear that the major causes of such losses are the unavailability of technical storage facilities both in the production areas and at urban markets. Subsidiary causes are bad packing methods and poor transportation systems (Kasimila *et al*., 2001). In line with such findings, the FAO found that the post-harvest losses of cereals (an estimated 5%–10%) were far less than those experienced by fruits and vegetables (30%–40%), and that loss of nutritional quality was a result of the physiological and biochemical processes undergone by such produce (FAO, 1975, cited in Kasimila *et al*., 2001).

Table 3.9. Respondents' opinions (N=50) on the major causes of fruits and vegetable losses in Tanzania

Respondents	Lack of storage		Transportation		Inadequate packing	
	N	%	N	%	N	%
Farmers	50	86,5	4	6,7	4	6,7
Wholesalers	10	62,5	2	12,5	4	25
Retailers	4	50	1	12,5	3	37,5
Consumers	10	71,4	2	14,3	2	14,3

Source: Kasimila et al. *(2001).*

Overall vegetable production for the SADC region increased from 1.7 million MT in 1961 to 2.5 million MT in 2004 (see Table 3.10). A similar study, which was undertaken by Vink *et al.* (2006) for the same period, found that the total vegetable production for the SADC region from 1961 to 2004 increased from around 1.8m to about 3.8m Mt, representing an increase of more than 100% over the 43-year period. The first two decades (1961–1981) experienced a high increase (from 1.8m to 3.2m Mt), while for the last two decades the rate of growth was somewhat subdued, only increasing from 3.2m in 1982 to around 3.8m in 2004. South Africa currently accounts for the largest proportion of vegetable production in the SADC region.

Table 3.10. Vegetable production in SADC countries (Mt), 1961–2004

Country/Year	1961	1962	1963	2002	2003	2004
Angola	164,000	166,000	169,000	245,000	245,000	245,000
Botswana	8,300	8,600	8,800	1,6000	16,000	16,000
DRC	235,000	240,000	245,000	320,000	340,000	280,000
Lesotho	12,000	12,400	12,800	18,000	18,000	18,000
Malawi	91,000	92,000	93,000	174,000	17,4000	174,000
Mauritius	5,700	5,700	5,800	18,364	18,500	18,500
Mozambique	142,000	144,000	145,000	105,000	105,000	105,000
Namibia	4,000	4,000	4,000	12,000	12,000	12,000
Seychelles	0,860	0,880	0,900	1,750	1,750	1,750
South Africa	216,000	199,000	209,000	270,000	310,000	310,000
Swaziland	3,800	4,000	4,200	7,300	7,300	7,300
Tanzania	612,860	628,500	639,240	950,000	950,000	955,000
Zambia	90,000	92,000	94,000	215,000	215,000	215,000
Zimbabwe	73,000	75,000	76,000	135,000	135,000	135,000
Total	**1,658,520**	**1,672,080**	**1,706,740**	**2,487,414**	**2,547,550**	**2,492,550**

Source: Author's calculations based on FAOSTAT, 1961–2004.

According to Vink *et al*. (2006), potato production in the SADC region increased rapidly over the 43 years in question, growing from about 478 000t in 1961 to over 5 million tonnes in 2001. The highest growth in production was experienced between 1992 (1.86 mmt) and 2001 (5.1 mmt), after which there was a decline to just over 3m tonnes in 2002.

Fruit production in the SADC region cannot be analysed in the similar way as is the production of cereals or livestock, due to its wide diversity. Therefore, this study will focus on the production of citrus fruit. As defined by Vink *et al.* (2006), citrus production includes the production of oranges, lemons, limes, tangerines, mandarins, clementines, satsumas and a residual category.

Table 3.11 shows that the total citrus fruit production for the SADC region from 1961 to 2004 increased from about 583,900/mt to 2,257,006/mt (see Table 3.11), with South Africa being the largest producer in the region.

Table 3.11. Citrus fruit production in SADC countries (Mt), 1961–2004

Country/Year	1961	1962	1963	2002	2003	2004	Total
Angola	70,000	70,000	70,000	78,000	78,000	78000	444,000
Botswana	0,600	0,600	0,600	0,600	0,600	600	3,600
DRC	2,000	2,000	2,000	196,302	196,640	196970	595,912
Malawi	0,700	0,700	0,800	2,400	2,400	2400	9,400
Mauritius	n.a.	n.a.	n.a.	0,410	0,410	410	1,230
Mozambique	20,000	20,000	25,000	30,500	30,500	30500	156,500
Seychelles	0,028	0,028	0,029	0,060	0,060	60	0,265
South Africa	436,572	497,796	513,856	1,841,894	1903159	1707936	6,901,213
Swaziland	25,500	25,500	27,000	75,150	73,850	73850	300,850
Tanzania	7,000	8,000	9,000	39,900	40,100	40100	144,100
Zambia	1,000	3,000	2,000	3,500	3,500	3500	16,500
Zimbabwe	20,500	23,500	24,600	122,680	122,680	122680	436,640
SADC	**583,900**	**651,124**	**674,885**	**2,391,396**	**2,451,899**	**2,257,006**	**9,010,210**

Source: Author's calculations based on FAOSTAT, 1961–2004.

Note:

1) n.a. = data not available

2) At the time of this study, no data was available for Lesotho and Namibia. so the two countries were excluded from this analysis.

According to Vink *et al.* (2006), South Africa produced some two-thirds of the total citrus crop in the SADC region in 1961, which had increased in percentage to 80% by 2004. Hence, trends in output and in yields tend to follow the South African experience. Over the longer term, other than South Africa, only the DRC experienced any real increase in total output. Citrus products form an important South African export crop.

In the past 20 years, the trade in high value foods (HVFs), such as dairy items, shrimp and fresh horticultural products, has become increasingly globalised. HVFs account for over 5% of global commodity trade, one-third of which comes from developing countries (Goodman & Watts, 1997, cited in Barrett *et al.*, 2004). Three-quarters of the fresh vegetable imports into the EU market came from SSA countries, including South Africa, Zambia and Zimbabwe (see Table 3.12), of which Zimbabwe accounted for 10% (Stevens & Kennan, 2000, cited in Barrett *et al*., 2004).

Table 3.12. Southern African countries supplying fresh vegetable exports to the EU (1997)

Exports worth more than €1 million	**Country**
Peas	Zambia Zimbabwe
Beans	Zambia Zimbabwe
Other vegetables	South Africa Zambia Zimbabwe

Source: Adapted from Stevens and Kennan (2000, cited in Barrett et al.*, 2004).*

There are several reasons for the rapid growth in the production of fresh horticultural products for export in the region. First, technological improvements in storage and transportation have meant that produce can be on the shelves of UK supermarkets within 48 hours of harvesting (Barrett *et al.*, 2004). Second, changes in the international trading environment, such as the EU trade preferences in terms of the Lomé Convention, have given SSA countries a competitive advantage over non-preferred exporters (Stevens & Kennan, 2000, cited in Barrett *et al.*, 2004). Third, export-led growth and agricultural diversification into HVFs was facilitated in SSA in the 1990s by the implementation of liberal economic restructuring policies, which were supported by the Bretton

Woods Institutions in response to the problems of escalating debt and rising poverty in the region (Barrett & Browne, 1996, cited in Barrett *et al.*, 2004).

Exporters who wish to source part of their output from smallholders face a number of well-known problems that exist, irrespective of the market being supplied. Such problems include the need to provide credit at interest rates affordable to small farmers, loan defaults and side-selling (e.g. selling produce to buyers other than the provider of credit and inputs). Moreover, smallholders suffer from logistical constraints, such as transport and haulage problems due to poor roads and unreliable transport in rural areas (Dolan *et al*., 1999).

In contrast, the support given to farmers in many Organisation for Economic Co-operation and Development (OECD) countries, including those in the EU, has taken many forms, with the intention of achieving a number of different goals. The choice of policy instruments has ranged widely, from income support by means of price support to border measures, aimed either at limiting the amount of legitimate imports or at removing surplus production via subsidised exports. Many countries have used a combination of these instruments as part of their agricultural policy, resulting in the development of a great deal of interdependence between them (Milner & Morgan, 2004). The OECD spent $318 billion on agricultural support measures during 2002, which comprised nearly 1,3% of the GDP (OECD, 2004, cited in Milner & Morgan, 2004). The implementation of such policies led to OECD farm prices being 31% higher than world prices, as the EU alone accounts for 90% of the OECD export subsidies (WTO, 2003, cited in Milner & Morgan, 2004). Table 3.13 shows that, for the selected products, the majority of developing countries currently have a trade deficit. Although the proportion with a deficit could be expected to decline with the reform of EU export policies, a significant proportion is likely to remain (Milner & Morgan, 2004).

Table 3.13. Net trade balance of developing countries in EU subsidised exports, 2002 (US$ '000)

Products	Balance	Surplus (%)	Deficit (%)
Fresh and processed fruit and vegetables	+11,156,684	38	62
Bananas	+1,968,270	40	60
Citrus fruits	−174,406	37	63
Processed tomatoes	−123,812	16	84

Source: Milner & Morgan (2004).

3.3 FOOD PRODUCTION PER CAPITA IN THE REGION

The low food production in Southern Africa has led to a rapidly increasing gap between production and requirements/consumption. Merely maintaining the current low per capita consumption levels requires either a significant change in production trends or a continued increase in the amount of imports (Pinstrup-Andersen *et al.*, 1997, cited in Lado, 2001). This section analyses issues of food insecurity, based on the food production per capita indicator as a measure of the ability of a country or region to feed itself.

The 1980s and early 1990s were a difficult period for Southern Africa's food economy, as recurring and increasingly severe droughts threatened the state of food security in the region, which, in the absence of imports and food aid, would have been severely compromised (Pinstrup-Andersen *et al.*, 1997, cited in Lado, 2001). Cereal production caused an overall decrease in the food/self-sufficiency ratio in the early 1990s, and the rising value of food imports and scarcity of foreign exchange to pay for such imports made it more difficult for many African countries to meet their consumption requirements (Tekolla, 1990; Uneca, 1990; Pottier, 1993, cited in Lado, 2001). The consequence of such difficulties was the gradual and inexorable increase in the number of people suffering from absolute poverty, social stress and malnutrition. Effective food security and nutrition-monitoring systems are, consequently, seen as essential for mitigating the adverse effects of drought on food security in Southern Africa.

Throughout the 1990s, population growth remained high in Southern Africa, while the countries of the region struggled with cereal production. On a per capita basis, cereal production in South Africa, Zimbabwe and Zambia actually declined by between 20% and 32% between the calendar

years 1991 and 2001, both of which were pre-drought years of normal rains (WCFIA, 2003). Therefore, even the relatively minor drought experienced in 2001–02 (see Table 3.14) was enough to push regional supplies below a safe threshold.

Table 3.14. Per capita food production index as a % of 1999–2001

food production average per capita

Marketing years	1999	2000	2001	2002	2003
Southern Africa	**101,0**	**99,4**	**99,7**	**98,0**	**97,9**
Angola	90,9	100,5	108,5	105,5	104,1
Botswana	94,8	98,7	106,6	105,1	100,4
DRC	101,4	100,2	98,3	99,5	97,6
Lesotho	96,2	99,6	104,2	96,6	104,2
Malawi	91,1	102,6	106,2	74,9	79,5
Mauritius	82,4	101,5	116,1	100,1	102,8
Mozambique	107,7	94,5	97,8	97,5	98,1
Namibia	104,7	108,1	87,2	90,4	90,7
Seychelles	102,3	100,4	97,2	97,7	96,5
South Africa	96,6	106,3	97,0	103,4	100,1
Swaziland	107,1	98,2	94,8	98,7	97,8
Tanzania	99,7	100,5	99,8	101,1	97,3
Zambia	105,1	100,3	94,6	93,7	102,7
Zimbabwe	95,4	105,3	99,4	81,2	85,1

Source: Adapted from FAOSTAT (2004).

Farm productivity, in fact, lagged so badly in the 1990s that cereal output actually declined per hectare, as well as per capita. Zimbabwean farmers produced 9% less on the same area of land in 2001 as compared to that which they had produced in 1991, while Zambian farmers produced 11% less (WCFIA, 2003). The conventional causes of the sharp decline in farm productivity included the inadequate government investments made in rural infrastructure and agricultural research, plus, in some cases, the reduction in fertiliser subsidies, resulting from budget deficits and structural adjustment. However, some unconventional factors were also at work, including disruptive land redistribution programmes and the rapid spread of HIV/AIDS (WCFIA, 2003).

In the long term (1979–2004) as well, food production per capita was negative in every country in the SADC region, except for Angolan and Malawian output, which showed a slightly positive trend (see Table 3.15). As a result of the overall trend, the average per capita food production decreased from 131/kg for the period 1979 to 1981 to 100, 7/kg in 2004 (FAOSTAT, 2006).

Table 3.15. Long-term per capita food production indicator in SADC, 1979–2004

(1999–2001=100)

Country	1979–1981	1989–1991	1999–2001	2002	2003	2004
Angola	99	83	100	116	118	112
Botswana	169	142	100	105	98	100
DRC	151	154	100	92	90	87
Lesotho	123	104	100	97	96	105
Malawi	89	64	100	76	84	93
Mauritius	109	110	100	100	103	101
Mozambique	113	99	100	97	98	101
Namibia	214	145	100	109	123	122
Seychelles	120	82	100	97	86	97
South Africa	121	106	100	105	103	105
Swaziland	152	132	100	102	102	102
Tanzania	129	120	100	101	98	99
Zambia	117	117	100	94	104	103
Zimbabwe	128	107	100	81	88	83
SADC	**131**	**111,8**	**100**	**98**	**99,4**	**100,7**

Source: FAOSTAT (2006).

3.4 CONCLUSION

Domestic food production will continue to remain one of the most significant parts of the food security equation in the region, in spite of other pressing problems. Since the production of the main staple crop (maize) in the region, the production of fruit, vegetables and livestock have grown over the long term, at the cost of land exploitation, rather than due to the adoption of up-to-date agricultural technology practices. This chapter revealed the main challenges facing domestic food production in the SADC region, consisting of the following:

- Domestic food production is very uncertain and is severely limited by the restrictions imposed by nature, such as the occurrence of natural disasters (droughts and floods), insufficient political support of, and a lack of investment in, the sector, volatility of the world market and an increasingly inequitable trade environment. Civil strife and wars have also for a long time prevented SADC member states from attaining their full potential in regards to agricultural output.
- Dominant grain production performance in the region during the late 1990s has turned into a regional shortage in recent years. Zimbabwean production has declined by more than half, though it used to be the second most prolific producer in the region, compounding the shock of a harvest which failed across the region for a combination of climatic and political reasons, and was worsened by reductions in state subsidies for seeds and fertiliser in certain SADC countries, such as Zambia and Malawi.

- Due to an increase in land planted to maize, the tendency in maize production in the SADC region over the past 10 years has shown that most countries have had improved maize crops over the past five years in contrast to those produced during the earlier part of the past decade, when several droughts were experienced. The average maize production in Zimbabwe declined towards the end of the previous decade, as the poor crop-growing conditions experienced at the time were exacerbated by the deleterious effects of the land resettlement programme. For the past four rainy seasons (2000–2003), Botswana, Lesotho and Swaziland have suffered successive years of drought circumstances that have badly affected agricultural production and, consequently, the livelihoods of the affected communities. The impact of HIV/AIDS has destabilised the resiliency of households, as well as impacting negatively on any efforts made towards agricultural improvement.
- The SADC region was not self-sufficient in wheat production, with roughly half of the region's wheat consumption being imported. Even South Africa and Zimbabwe, the two major wheat producers, must import the crop in order to meet the needs of flour millers.
- For the supply of other cereals, such as sorghum and millet, most SADC countries depend largely on their domestic production, with a relatively insignificant amount of small grain trade being conducted between the SADC member states. In countries such as Malawi and Tanzania, cassava provided the largest source of calories after maize. Rice production has dramatically decreased in the region in 2000, as the most important producer, Mozambique, has been harshly affected by drought, tropical storms and cyclones.
- Despite the increase in livestock production in the SADC region over the past four decades, transboundary animal diseases have affected the livelihoods of millions of farmers in the region and hindered their ability to benefit from what otherwise might have been a rapid increase in animal production and trade. Other inconveniences were overstocking, poor breeding stock, and too few support services to enable the effective control of diseases which have spread across national borders. In a country such as Malawi, the importance of livestock, especially cattle, to rural livelihoods has declined over time, due to the inexorable rising population demands, which have led to the depletion of grazing land, as well as to increased insecurity.
- Over 2 million tonnes of fish per year have been harvested during the preceding five years (1997–2001), of which about two-thirds of the landings have been from marine waters. Namibia, South Africa and Angola have accounted for more than three-quarters of the total regional fish landings. The total GDP growth rate in 2000 was significantly lower than that necessary for sustainable economic development in Africa. Tanzania was the SADC country

that employed the most people in its fisheries. However, Namibia, Zambia and Angola were the SADC countries with the most people reliant for their livelihood on the fisheries sector. Thus, marine fisheries offer a significant, though declining, share of foreign exchange earnings of some SADC coastal countries, such decline being due to weak monitoring, control and inspection, which have led to commercial overfishing, as well as to the practice of unlicensed fishing, which has had a harmful impact on artisanal fishing. In spite of such difficulties, the fisheries are still likely to contribute much to the future economic expansion of the region.

- Southern African vegetable and fruit production has grown over the preceding four decades. The countries in this region have enjoyed the benefits of having a large market for their horticultural produce, as well as fruits and vegetables, in the EU, and in the UK in particular. Nevertheless, the region faces major causes of fruit and vegetable loss. Despite inadequate processing and transport systems, the production of fresh horticultural products for export has developed in a number of Southern African countries over the past decade. This is despite EU efforts to exclude African horticultural produce from its markets by subsidising the production of its own farmers.
- Per capita food production trends in Southern Africa have been directed at bridging the ever-widening gap between production and demand/consumption throughout the past 25 years, as the region has become increasingly incapable of feeding itself. The average annual growth rate of food production per capita has been seen to be in decline in all SADC countries. Farm productivity has been badly affected since the second half of the past decade, with a steadily declining cereal harvest in terms of hectare as well as capita. The conventional causes of such a decline in agricultural productivity include inadequate government investments in rural infrastructure and agricultural research, in addition, in some cases, to a drop in fertiliser funding, due to budget deficits and structural adjustments. Disruptive land relocation programmes and the rapid spreading of the HIV/AIDS pandemic also played a role in the decline of food production in the region, though, generally, such decline was primarily due to agrarian factors. The different reasons for production shortfalls, including difficult climatic conditions, such as widespread floods and intense droughts, caused extensive harm to the inhabitants of the region, as well as much damage to their assets, domestic animals and crops.

CHAPTER FOUR
Trade in Southern Africa

4.1 INTRODUCTION

Developing countries were traditionally considered to be exporters of primary goods and importers of manufactured products. Southern Africa, in particular, apart from South Africa and Mauritius, lagged behind in regards to economic diversification. The manufacturing and processing capacity of South Africa and Mauritius remained modest, however. The slow progress made in economic diversification and technological upgrading has been associated with weak private sector development and lagging incomes, which have resulted in the marginalisation of Africa in regard to international trade.

Over the past quarter of a century, an increasing number of SADC countries have come to rely on imports for a growing share of their food supply. Yet most have substantial agricultural resources, with many being key exporters of agricultural goods, such as coffee and cocoa (Stevens & Kennan, 2001). This chapter provides a brief overview of Southern African trade by way of addressing the comparative advantages of the different SADC countries, their export earnings, their commercial food imports, their terms of trade and their international trade with non-SADC countries.

4.2 COMPARATIVE ADVANTAGE OF SADC COUNTRIES

Comparative advantage refers to the specialisation of countries in those goods which they can produce *relatively* cheaply, as well as to the exporting of these goods by these same countries in order to enable them to import other goods that would be *relatively* more costly to produce locally (Stevens & Kennan, 2001). Stevens and Kennan (2001) argue that the term 'relative' has a double meaning in this context, referring both to one good, as compared to other goods, and to one country, as compared to other countries. This section explores the theory of comparative advantage that states that countries gain from trade due to the difference in the relative costs of producing different commodities, and that supply varies between countries due to technological differences and resource availabilities.

Much confusion exists between the use of the terms 'comparative advantage' and 'competitiveness' in economics. Though these concepts are related, they are often mistakenly used as synonyms.

However, comparative advantage and competitiveness could only be synonymous in a world of perfect competition, in which there are homogeneous products, information equally available to, and accessible by, all and an absence of any possibility of market failure (Cordon, 1974, cited in Bahta & Jooste, 2005). From a trade point of view, Worley provides more clarity on the difference between the two concepts. He states that comparative advantage elucidates how trade benefits nations through more efficient use of their resource base in the presence of totally unrestricted trade, while competitive advantage explains trading patterns as they exist in the real world, including all the barriers to free trade being ignored in terms of comparative advantages (Worley, 1996, cited in Bahta & Jooste, 2005).

According to Ricardo's theory of comparative advantage, 'a nation, like a person, gains from trade by exporting the goods or services in which it has its greatest comparative advantage in productivity and importing those in which it has the least comparative advantage' (Lindert & Pugel, 1996). The key word here is *comparative*, meaning relative and not necessarily absolute. Even if one nation is the most productive at producing everything and another is the least, they both gain by trading with each other and with third countries, as long as their (dis)advantages in making different goods are distinct from each other (Lindert & Pugel, 1996). According to the Heckscher–Ohlin theory, countries export the products that use their abundant factors intensively, and import products that use their scarce factors intensively. In other words, a country is relatively labour-abundant if it has a higher ratio of labour to other factors than do other countries. However, a product is relatively labour-intensive "if labour costs are a greater share of its value than they are of the value of other products" (Lindert & Pugel, 1996: 52). These theories claim that the production-side differences that exist between countries are due to the differences between product prices in relation to trade.

In terms of measuring comparative advantage, net social profitability, domestic resource cost, resource cost ratio and revealed comparative advantage (RCA) are all measurements of economic efficiency (Mucavele, 2000, cited in Bahta & Jooste, 2005). An alternative measure of changes in comparative advantage is the RCA, which provides a measurement of comparative advantage based on national trade patterns. The clear definition of the use and interpretation of the RCA is necessary, however, to prevent incorrect interpretations of the meaning of such a term in an analytical context (Bahta & Jooste, 2005). Therefore, an appropriate way of evaluating present intra-SADC trade flows and the potential complementarity of its member countries is to look at indices of RCAs. In the context of regional arrangements, the presumption is that country groupings that have a narrower range of RCA indices in similar products are less likely to find grounds for sustained

exporting as a result of a regional trade arrangement (Chauvin & Gaulier, 2002). In line with such thinking, Trade and Industry Policy Strategies (TIPS) (2007) revealed that comparative advantage, as measured by the Balassa index, is a helpful indicator of the direction of a country's trade focus. The index measures relative export performance by country and industry, defined as a country's share of world exports of a good, divided by its share of total world exports.

The method used to assess RCA here is based on the indicator of contributions to trade balance (CTB), as developed by Lafay (1990, cited in Chauvin & Gaulier, 2002). Compared to the Balassa index the CTB takes into account both exports and imports, comparing the contributions of various products to the trade balance of a country. Expressed in thousandths of GDP, this indicator is assessed by referring to a theoretical equilibrated trade balance and by eliminating the impact of the variations of the products' relative weights. CTB compares the observed trade balance for a product with a theoretical trade balance corresponding to the absence of specialisation (Chauvin & Gaulier, 2002).

In order to remove business cycle effects, global trade imbalances are spread over the different products, according to their respective weights in the country's total trade.

$$CTB_i^k = \left(\frac{1000}{Y_i}\right)\left[\left(X_i^k - M_i^k\right) - \sum_k \left(X_i^k - M_i^k\right)\left(\frac{X_i^k + M_i^k}{\sum_k \left(X_i^k + M_i^k\right)}\right)\right] \qquad \text{(Chauvin \& Gaulier, 2002)}$$

with *i* the country, *k* the product, *Y* the GDP, *X* the exports and *M* the imports.

The range of CTB facilitates understanding of the differences between countries in terms of their degree of specialisation. The results of CTB for SADC countries are shown in Tables 4.1, 4.2, 4.3 and 4.4.

Table 4.1. RCAs of South Africa and Zimbabwe in 1999

	South Africa		Zimbabwe
Petroleum and petroleum products	−10.9	Road vehicles (incl. air-cushioned vehicles)	−37,7
Telecommunications and sound-recording apparatus	−10.5	Machinery specialised for particular industries	−27,0
Office and automatic data processing machines	−8.1	General industrial machinery and equipment	−20,1
Electrical machinery, apparatus and appliances	−6.9	Electrical machinery, apparatus and appliances	−16,9
General industrial machinery and equipment	−6.8	Special transactions and commodities, unclassified	−12,5
Miscellaneous manufactured articles	−4.5	Chemical materials and products	−12,1
Power-generating machinery and equipment	−4.3	Telecommunications and sound recording apparels	−11,8
Medicinal and pharmaceutical products	−4.3	Artificial resins and plastics	−11,4
Pulp and waste paper	2.5	Crude animal and vegetable materials	7,8
Chemicals	3.2	Coffee, tea, cocoa, spices, and products thereof	8,5
Vegetables and fruits	6.7	Non-ferrous metals	12,3
Metalliferous ores and metal scrap	7.8	Iron and steel	13,3
Non-metallic mineral products	8.9	Crude fertilisers and crude materials	13,4
Coal, coke and briquettes	9,8	Sugar, sugar preparations and honey	18,5
Iron and steel	15,2	Textile fibres (excluding wool tops)	20,2
Non-ferrous metals	23,5	Tobacco and tobacco products	117,6

Source: Chauvin & Gaulier (2002).

According to Chauvin and Gaulier (2002), results in the range of comparative advantages were less concentrated for South Africa compared to other SADC countries (see Tables 4.2, 4.3 and 4.4). The main comparative advantages of South Africa spread from minerals (coal, coke) and crude minerals, chemicals (inorganic chemicals) and basic manufactures (non-ferrous metals, iron and steel) to fresh food (vegetables and fruits). According to TIPS (2007), the comparative advantage of South Africa is, however, still vested in primary goods and commodities. In the long run, one would expect the terms of trade to move against commodities and primary goods, hence the general desire to trade in more advanced manufactured goods. Unfortunately, Chauvin and Gaulier (2002) have found that in the majority of SADC countries, the main disadvantages lie in general industrial

machinery and equipment, telecommunication and electrical equipment, and, to a lesser extent, in road vehicles. The main comparative advantages of Zimbabwe lie in basic manufactures (iron and steel, cork and wood manufactures), tobacco, textile fibres and clothing. The main disadvantages of Zimbabwe were close to those of South Africa.

Table 4.2. RCAs of Mauritius and Seychelles in 1999

	Mauritius		**Seychelles**
Textile yarn, fabrics and related products	−70,2	Fish, crustaceans and preparations thereof	304,841
Road vehicles (incl. air-cushioned vehicles)	−31,7	Professional scientific and control instruments	7,906
Other transport equipment	−26,5	Feeding stuff for animals	1,081
Petroleum and petroleum products	−24,2	Metalliferous ores and metal scrap	0,869
Machinery specialised for particular industries	−21,5	Cork and wood manufactures (excl. furniture)	0,483
Electrical machinery, apparatus and appliances	−14,2	Coffee, tea, cocoa, spices and products thereof	0,083
Telecommunications and sound-recording apparatus	−13,4	Animals, including zoo animals	0,066
General industrial machinery and equipment	−12,5	Textiles fibres (excluding wool tops)	0,03
Metalliferous ores and metal scrap	0,6	Specialised machinery for particular industries	−9,773
Fertiliser products	0,6	Road vehicles (incl. air-cushioned vehicles)	−12,255
Crude animal and vegetable materials	1,0	Telecommunications and sound-recording apparatus	−12,413
Animals, including zoo animals	2,4	General industrial machinery and equipment	−16,316
Photographic apparatus, optical goods and watches	2,6	Miscellaneous manufactured articles	−16,429
Fish, crustaceans, molluscs and preparations thereof	5,2	Textile yarn, fabric and related products	−27,417
Sugar, sugar preparations and honey	90,4	Manufactures of metal	−32,58
Articles of apparel and clothing accessories	264,5	Power-generating machinery and equipment	−59,254

Source: Chauvin & Gaulier (2002).

According to Chauvin and Gaulier (2002), a country like Mauritius, due to the small size of its economy, was among those countries with less diversified comparative advantages (like Angola). Globally, Mauritius had two main comparative advantages in sugar and sugar preparation, and articles of apparel and clothing accessories. Mauritius and Malawi were the two SADC countries

that had a comparative advantage in clothing. The main disadvantages were in textile yarn and road vehicles. Notably, while these countries had comparative advantages in clothing, they had disadvantages in textile yarn or fibres. At the same time, countries like Zimbabwe or Mozambique had comparative advantages in textile fibres. Such a finding suggests that some complementarity might be developed in this field.

Table 4.3. RCAs of Angola and Malawi in 1999

	Angola		**Malawi**
Petroleum and petroleum products	268,36	Tobacco and tobacco products	180,658
Non-metallic mineral products	34,214	Coffee, tea, cocoa, spices and products thereof	27,058
Non-identified products	22,788	Articles of apparel and clothing accessories	21,242
Gas, natural and manufactured	1,043	Sugar, sugar preparations and honey	12,278
Metalliferous ores and metal scrap	0,069	Vegetables and fruits	3,823
Pulp and waste paper	0,006	Crude animal and vegetable materials	0,515
Hides, skins and untanned fur and skins	0,003	Coal, coke and briquettes	0,478
Gold, non-monetary	0,001	Crude rubber (including synthetic and reclaimed)	0,472
Beverages	−10,664	General industrial machinery and equipment	−9,844
General industrial machinery and equipment	−15,377	Electrical machinery, apparatus and appliances	−11,371
Cereals and cereal preparations	−17,366	Miscellaneous manufactured articles	−11,708
Road vehicles (incl. air-cushioned vehicles)	−19,112	Fertiliser products	−12,813
Special transactions and commodities, unclassified	−23,412	Telecommunications & sound recording apparels	−13,315
Other transport equipment	−27,352	Machinery specialised for particular industries	−13,636
Specialised machinery for particular industries	−31,248	Cereals and cereals preparation	−21,758
Metal products	−48,838	Road vehicles (incl. air cushion vehicles)	−42,534

Source: Chauvin & Gaulier (2002).

On a more global level, SADC countries had comparative advantages in quite similar products with which they are well endowed. Moreover, they suffered from the same disadvantages in regards to machines and road vehicles. Such a finding suggests that complementarity as a way of stimulating trade might be difficult among SADC countries (Chauvin & Gaulier, 2002).

Table 4.4. RCAs of Tanzania and Zambia in 1999

	Tanzania		Zambia
Coffee, tea, cocoa, spices, manufactures thereof	24,608	Non ferrous metals	95,139
Vegetables and fruits	21,61	Non identified products	90,185
Fish, crustaceans, molluscs, preparations thereof	12,176	Metalliferous ores and metal scrap	15,985
Tobacco and tobacco manufactures	9,331	Special transactions and unclassified commodities	5,166
Textiles fibres (except wool tops)	7,381	Crude animal and vegetable materials	4,889
Crude animal and vegetable materials	3,272	Textile yarn, fabrics	2,577
Non metallic mineral manufactures	2,855	Textiles fibres (except wool tops)	2,367
Hides, skins and untanned fur skins	1,048	Tobacco and tobacco manufactures	2,225
Fixed vegetable oils and fats	−3,366	Cereals and cereals preparation	−8,196
General industrial machinery & equipment	−3,525	Telecommunications & sound recording apparels	−8,327
Iron and Steel	−3,562	Miscellaneous manufactured articles	−10,816
Manufactures of metal	−4,153	Fertiliser products	−11,398
Electrical machinery, apparatus & appliance	−4,663	Petroleum and petroleum products	−14,354
Machinery specialised for particular industries	−5,789	General industrial machinery and equipment	−14,473
Petroleum, petroleum products and related	−8,599	Specialised machinery for particular industries	−19,32
Road vehicles (incl. air cushion vehicles)	−15,217	Road vehicles (incl. air-cushioned vehicles)	−37,407

Source: Chauvin & Gaulier (2002).

Table 4.5 indicates that Botswana has a high RCA index (37.9) in precious stones, which is not surprising, given that Botswana is the world's leading diamond producer. It is expected that Botswana's world share of diamonds exports would far exceed its share of world exports, due to the country's relatively small economy and dependence on diamonds (TIPS, 2007). According to IDS (2005, as cited in TIPS, 2007), Botswana also has a high index for copper, though Botswana's copper and nickel mine at Selibe–Phikwe is expected to reach the end of its life in the next few years. As one of the largest beef exporters to the UK, Botswana has a comparative advantage in meat. However, the country's beef industry is facing challenges relating to stiff price competition and supply bottlenecks.

Table 4.5. RCAs of Botswana and Mozambique in 2002

	Botswana		Mozambique
Natural pearls, precious stones, precious metals and coins	37,9	Aluminium and articles thereof	50,1
Copper and articles thereof	18,8	Fish and crustaceans, molluscs and others	17,6
Meat and edible meat offal	2,8	Residues and waste from the food industry	6,0
Sugars and sugar confectionery	1,3	Sugars and sugar confectionery	5,1
Explosives; pyrotechnics; matches; pyro alloys, etc.	0,9	Cotton	4,8
Apparel articles and accessories, knitted or crocheted	0,7	Tobacco and tobacco products	4,1
Prepared cereal, flour, starch or milk; bakers' wares	0,7	Edible fruit and nuts; citrus peel	3,2
Carpets and other textile floor coverings	0,5	Animal/vegetable fats and oils and their cleavage products	2,8
Textile articles NESO; needlecraft	0,5	Knitted or crocheted fabrics	2,7
Milling products; malt; starch; inulin; wheat gluten	0,4	Other vegetable textile fibres	2,3
Vehicles, except railway or tramway and related parts, etc.	0,4	Wood and articles of wood; wood chips	1,5
Articles of iron or steel	0,3	Processed mill. industrial; malt; starches	1,0
Printed books, newspapers, etc.; manuscripts, etc.	0,3	Mineral fuel, oils and product of these	1,0
Raw hides and skins (excluding fur skins) and leather	0,3	Ships, boats and other floating structures	0,9
Apparel articles and accessories, excluding knitted, etc.	0,2	Salt; sulphur; earth and stone; plaster	0,8
Knitted or crocheted fabrics	0,2	Oil seed, oleagic fruits; miscellaneous grains	0,7
Miscellaneous manufactured articles	0,1	Rubber and articles thereof	0,7
Paper and paper board and articles	0,1	Articles of apparel and clothing accessories	0,7
Cereals	0,1	Cereals	0,6
Specific woven fabrics; tufted fabrics; lace; tapestries, etc.	0,1	Articles of apparel and clothing accessories	0,5

Source: Adapted from TIPS (2007).

The formula for the index for country i, good j is ***RCAij*** = 100(Xij /Xwj)/(Xit /Xwt), where Xab is exports by country a (w=world) of good b (t=total for all goods) (TIPS, 2007).

According to TIPS (2007), Mozambique's comparative advantage lies in aluminium production (see Table 4.5), which is somewhat of an anomaly for such a poor country under normal circumstances. As shown in the table, this comparative advantage is far greater than the RCA index of the second product on the list – fish and crustaceans – although such a finding might be considered more in line with traditional Mozambican exports. Beyond these two categories, the low index of all other products indicates the very narrow range of sectors in which Mozambique has a RCA. Mozambique has the least comparative advantage in manufactured goods, but also some primary commodities, of which Mozambique is not a major producer, such as tin and nickel, as might be expected.

4.3 REGIONAL TRADE

Southern Africa is still heavily trade dependent, with exports accounting for over 60% of its GDP, compared to a range of 8% to 28% in the rest of the world, and a high dependency on commodity exports (McCord, 2002). Southern Africa (excluding South Africa) is a very small player in the global economy, accounting for only 0,3% of world exports. Its highest export shares are in primary products (1,7% of total world exports) and energy and mining (1,5%), while South Africa accounts for 0,8% of total exports, with its highest export shares in energy and mining (2,7%) and primary products (1,3%) (McCord, 2002). In general, South Africa has a larger share of total exports than does the rest of Southern Africa. Manufacturing in the region is still largely dependent on the performance of the mining and agricultural sectors, as well as the size of investment inflows into the region, which have remained low. According to Vink & Kirsten (2002), manufactures make up more than 70% of total imports, but only 10% of exports. Total imports from the rest of the world into SADC amounted to US$32 052,4 in the late 1990s, of which South Africa accounted for two-thirds. Non-SACU intra-SADC trade amounts to only 0,9% of total imports. Levels of manufacturing differed from one country to another.

SADC member countries had relatively open economies, with exports and imports of goods and services as a percentage of GDP ranging from 42,2% in Mozambique to 174,4% in Swaziland. Lesotho, Swaziland, Angola and the Seychelles being heavily dependent on imports. Imports, expressed as a percentage of GDP in the latter countries, exceed 80% (Rousseau *et al*., 2002). Only three countries, Botswana, the DRC and South Africa, experienced positive net exports.

According to SARPN (2003), many differences among SADC member states determine and indicate potentiality for trade in agriculture and food products in the region. As of late, trade

between SADC member countries is rising. However, the levels of imports and exports differ from country to country. For example, Tanzania imports more than what it exports to SADC countries. While imports from SADC countries accounted for 13% of the total market share in 2000 and 2001, exports accounted for only 4%. SARPN (2003) for a country such as Malawi, SADC represents a very important market for both imports and exports. However, regional trade with other SADC members remains relatively minor. For Namibia, its main trading partner, South Africa, (under the auspices of SACU) dominates trade, accounting for 99,84% of the imports and 99,38% of Namibian exports. Zambia's agricultural exports have varied from year to year. In 1997 and 1998, agricultural exports to SADC countries grew by 21% and 33% respectively. These gains were reversed by declines in agricultural exports of 23% and 26% in 1999 and 2000 respectively. Zambia imports various agricultural products from SADC member countries.

According to Vink *et al.* (2006), SADC global agricultural exports grew by 3.6% over the period 1961 to 2004, more than did overall exports, by 3.0%. Within the agriculture sector, processed food exports grew at a rate of 4.8% over the period and the largest single product (sugar) only growing at 0.7 per cent. The overall SADC global agricultural imports grew only a little, by 0.6%. Processed foods actually declined by 1.3%, while vegetable-related products with little or no further processing increased by 5.1%. As a source, intra-SADC agricultural imports grew by 18.3%, with the imports of South Africa dominating.

4.3.1 Export earnings in the region

SSA countries' exports tend to be highly concentrated in a few products, many of which are not important in other African countries' imports. Such limitation restricts the potential importance of any regional trade agreement among them (Yeats, 1998, cited in Chauvin & Gaulier, 2002). This section identifies regional specialisation in producing cash crops and other goods and services for export, as well as the potential for using its export earnings to import food stuffs.

According to Chauvin and Gaulier (2002), the more industrialised countries of the region (South Africa and, to a lesser extent, Zimbabwe and Mauritius) have met a large portion of SADC's import needs. South Africa dominated trade by supplying around 77% of intra-SADC exports in 1999. Zimbabwe was the next most important exporter to the region, contributing 15% of total intra-SADC exports in 1999. Malawi and Tanzania, which were also relatively important exporters to SADC in the 1980s, have seen their contribution to intra-SADC exports decrease, dropping,

respectively, from 11,1% and 9,6% in 1980 to 2,3% and 1,3% in 1999. At the same time, Zimbabwe and South Africa increased their exports to the region.

According to Vink *et al.* (2006), sugar is the main SADC export, followed by edible fruit and nuts and beverages. During 2002 these sugar exports constituted some 14% of the region's agricultural exports, with 34% from South Africa (see Table 4.6). Both of these percentages are less than their 1997 levels. While South Africa has a very high percentage share in many of these products, such share is by no means universal, as other SADC sources dominate in regard to tobacco, cotton, processed fruit and vegetables, and coffee/tea. Note must also be taken that the South African share has, in almost all cases, declined, thus signifying that the other SADC countries are doing relatively better.

Table 4.6. SADC agricultural exports, US$ million, 1997 & 2002

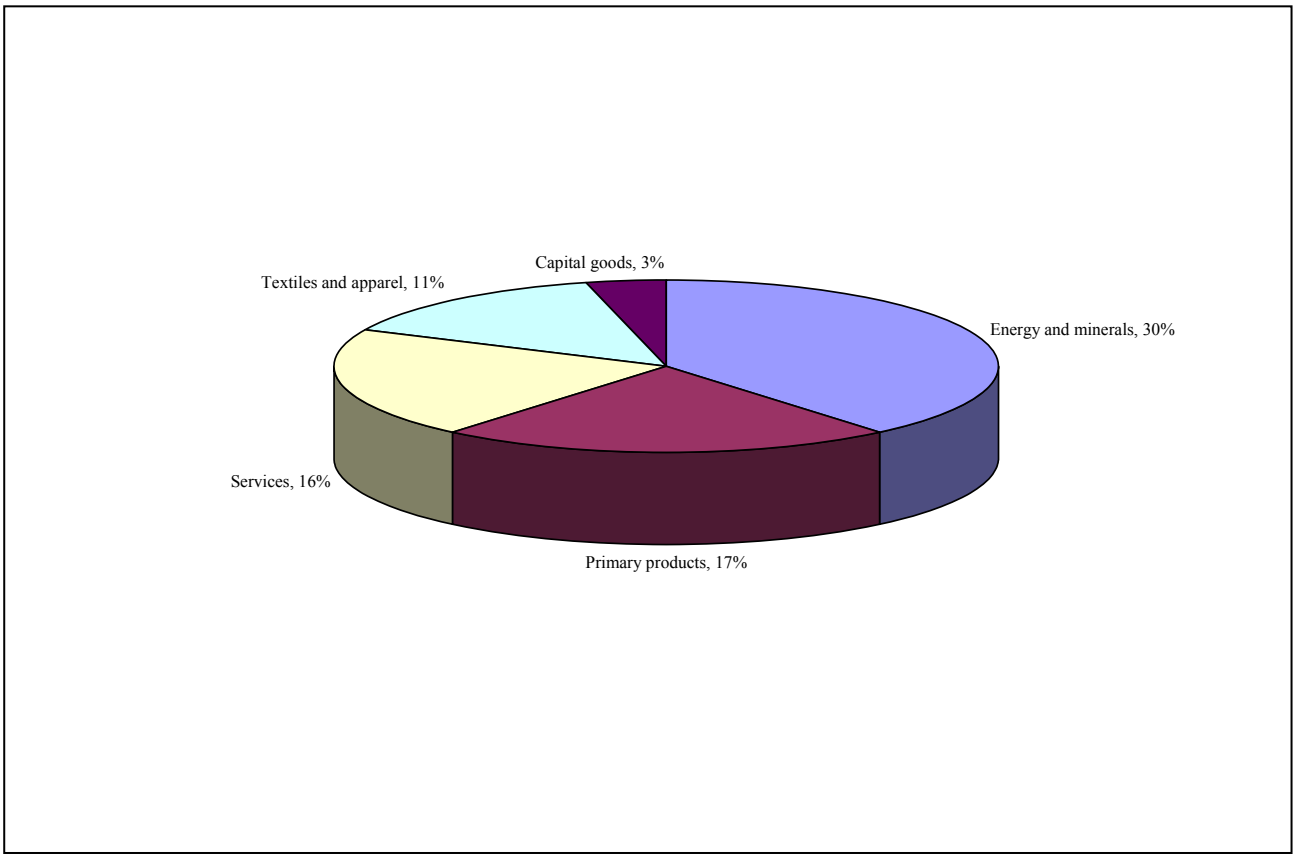
	US$M	US$M	% SADC Agri. Exports	% SADC Agri. Exports	% from SA	% from SA
	1997	**2002**	**1997**	**2002**	**1997**	**2002**
Sugar	$680m	$704m	17%	14%	43%	34%
Fruit	649	667	16	14	89	88
Beverages	357	518	9	11	99.5	88
Fish	268	484	7	10	77	60
Tobacco	177	399	4	8	46	22
Cotton	259	312	6	6	17	13
Processed veg.	300	268	7	6	82	32
Hides	247	214	6	4	96	81
Cereals	292	206	7	4	97	79
Coffee	173	175	4	4	18	19
Wool	224	174	6	4	96	99
Others	625	965	16	20	86	60

Source: Adapted from Vink et al*. (2006).*

The vulnerability of the economies of a number of SADC member countries was measured in terms of the top commodity export of each country as a percentage of its total exports. In the case of Angola (oil, 78%), Malawi (tobacco, 71%), Lesotho (manufacturing, 55%) and Botswana (diamonds, 49%), a single commodity represents more than 40% of their total exports (Rousseau *et al*., 2002). Such a finding clearly means the almost complete dependence of these countries on the production of a single commodity. According to the World Bank (2004, as cited in TIPS, 2007), copper exports account for more than 50% of the total value of Zambian exports.

Figure 11 illustrates the significant ongoing dependence of the Southern African region on

commodity exports. When combined, energy, minerals and primary products account for 47% of total regional exports (excluding those of South Africa), highlighting the continued non-diversification and low value-add of most regional economic activity, as well as the ongoing vulnerability of the region to global commodity price fluctuations (McCord, 2002).



Source: Derived and adapted from Lewis (2001, cited in McCord, 2002).

Figure 11. Percentage of total exports from Southern Africa, excluding those from South Africa, 2001

In terms of growth in the value of commercial service exports in the SADC region, almost every country showed positive growth in 2004 from its 1990 base (see Table 4.7), except for Zambia and Zimbabwe, whose trends were unknown, due to the unavailability of the necessary data in 2004. In addition, South Africa has led the region in the value of commercial service exports by increasing from 3,291US$ million in 1990 to US$8,066 million in 2004, followed by Mauritian exports in the same sector (World Bank, 2006).

Table 4.7. Growth in the value of commercial service exports in SADC, US$ millions, 1990–2004

Country	Commercial service exports 1990, US$ millions	Commercial service exports 2004, US$ millions
Angola	65	323
Botswana	183	647
Lesotho	34	56
Malawi	37	49
Mauritius	478	1,449
Mozambique	103	246
Namibia	106	463
South Africa	3,291	8,066
Swaziland	102	485
Tanzania	131	845
Zambia	94	n.a.
Zimbabwe	253	n.a.

Source: World Bank, World Development Indicators database (2006).
Note: n.a. = data not available, and no data for the DRC and the Seychelles.

Even with the combined exports of goods and service, the SADC countries, however, showed considerable increase as regards exports of goods and service measured as a percentage of the GDP, which amounted to an average increase to 52,5% in 2005 from only 41,5% in 2000 in the SADC region (see Table 4.8) (World Bank, 2005).

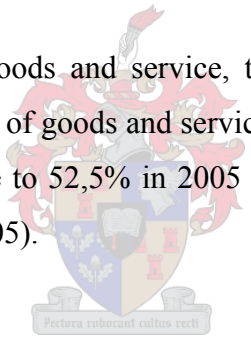


Table 4.8. Exports of goods and services (% of GDP) in SADC, 2000–2005

Country/Year	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
Angola	90	77	78	70	70	77
Botswana	61	55	46	42	40	40
DRC	22	19	21	26	30	34
Lesotho	30	42	56	49	56	56
Malawi	26	28	24	27	27	27
Mauritius	63	66	61	59	56	53
Mozambique	20	27	29	28	31	31
Namibia	46	45	50	51	46	46
South Africa	28	30	33	28	27	27
Swaziland	82	92	95	86	94	88
Tanzania	14	16	17	18	18	17
Zambia	21	27	24	21	20	16
Zimbabwe	36	18	7	23	36	170
SADC	**41,5**	**41,7**	**41,6**	**40,6**	**42,4**	**52,5**

Source: Author's calculations based on World Development Indicators database (2005).

4.3.2 Commercial food imports in the region

This section determines the ability of SADC countries to maintain national food security by way of commercial food purchases.

In 1980, 1,6% of total SADC imports were supplied by SADC members; by 1999, this share amounted to around 10,2%. South Africa, Mauritius, Tanzania and the Seychelles were the least dependent on SADC imports (Chauvin & Gaulier, 2002). For Mauritius and Tanzania, such a finding might be explained by the closer and older historical relationship established with members of the East African Community. On the other hand, Malawi, Mozambique (since 1995), Zambia and Zimbabwe rely heavily on SADC imports, with more than 50% of their imports originating from SADC (Chauvin & Gaulier, 2002). Agricultural diversification was central to the agricultural strategies of Mozambique and Zambia, which have made a small shift in the composition of agricultural exports from the region, although the size of this shift was such that it may not have had a major impact on regional economic performance or export composition (McCord, 2002). According to Vink *et al.* (2006), cereals are the main imports, with about half coming from South Africa and featuring an increased share of agricultural imports. The next largest food imports are animal/vegetable fats and beverages. The relative dominance of South Africa in this field seems to have declined over the period in question (see Table 4.9).

Table 4.9. SADC agricultural food imports, US$ million, 1997 & 2002

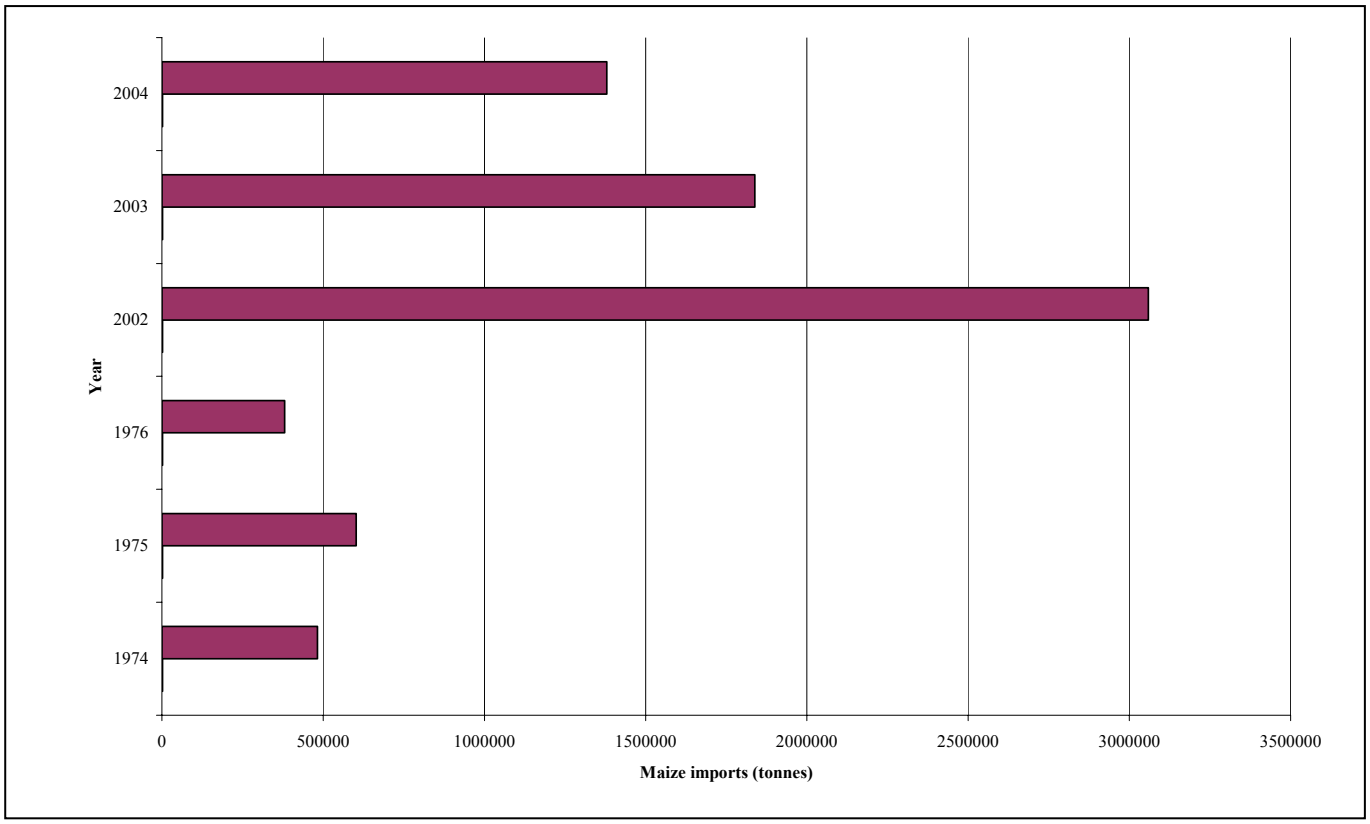
	US$M **1997**	US$M **2002**	% SADC Agri Exp **1997**	% SADC Agri Exp **2002**	% from SA **1997**	% from SA **2002**
Cereals	$447	$659	15%	21%	72%	53%
Animal/veg. fats	353	385	12	12	73	52
Beverages	187	164	6	5	86	59
Residues	224	160	7	5	92	84
Fish	77	155	3	5	53	17
Miscellaneous	83	121	3	4	64	49
Dairy	119	108	4	3	52	30
Milling	85	97	3	3	49	33
Meat	183	96	6	3	85	66
Other	654	450	29	26	72	55

Source: Adapted from Vink et al. *(2006).*

According to De Klerk *et al.* (2004), there was a net shortfall in 2002/3, calling for imports of nearly 4 million tonnes, a large proportion of which was channelled through the transport infrastructure of South Africa. Of the countries worst affected during the preceding year, Zambia and Malawi have made the best recoveries, with maize production up by as much as 22% in 2002/3

in Malawi and with neither country having to import a significant part of its domestic needs in that year. Even so, in both countries there were several areas that experienced crop failure, and it was estimated that, by January 2004, about 400 000 people in Malawi would need food aid.

Figure 12 shows maize imports trends in the SADC countries from 1974 to 2004. In 2002, SADC reached its highest level of maize imports, due to the adverse climatic conditions that had largely affected agricultural production in the region. In the 2003/4 marketing year alone, South Africa produced enough maize to meet its own needs, as its surplus was more than sufficient to cover the combined deficit of all other SADC countries in the same year. Generally, maize imports had declined by more than half by 2004 (1, 379, 412/tonnes) from the 2002 (3, 058, 758/tonnes) level, meaning improved domestic production trends in the region, though the maize import level was still nearly threefold higher than it was in 1974 (482, 480/tonnes) (FAOSTAT, 2006).

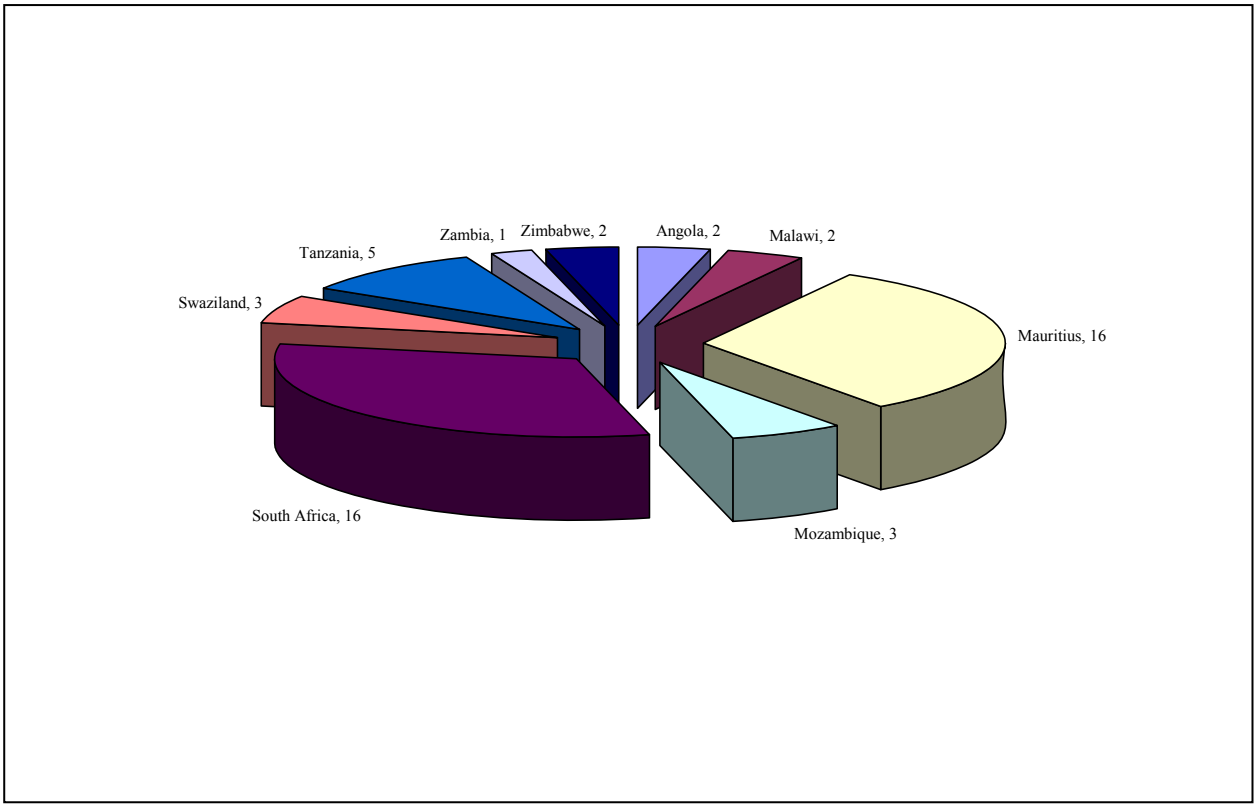


Source: Adapted from FAOSTAT (2006).

Figure 12. Maize import trends in the SADC region (tonnes), 1974–2004

With increased demand across the region and static production levels, imports of wheat in the SADC region exhibited a growing trend during the 1990s. There were, however, limited prospects

for growth of internationally competitive wheat production in the region, particularly given plans to lower/eliminate protection levels over the coming years amongst SADC member states. At present, except for Malawi and Mauritius (both currently standing at 0%), all SADC member states provide very high levels of effective protection to their local milling industries, with Tanzania at 25%, Zambia at 75% and the other SADC countries all above 98% (Flatters, 2002, cited in TSG, 2004). According to the service group of Anastasia Gerkis (TSG, 2004), a total of 50 wheat flour mills exists throughout the SADC region. The highest numbers of such mills were found in Mauritius and South Africa (see Figure 13), with Tanzania the next highest, with five mills. South Africa has six wheat flour mills, of which the latter are all privately owned. The mills in the other SADC countries are largely public–private partnerships, with some form of government ownership. Government control was evident only in Swaziland and Tanzania, with Tanzanian mills scheduled for privatisation (TSG, 2004).



Source: DIT (1999, cited in TSG, 2004).

Figure 13. Number of mills in SADC, 1999

Most flour-milling industries in the region have developed behind protective barriers: tariffs (SACU, Mozambique, Tanzania, Zambia and Zimbabwe), import licensing (Botswana, Namibia, Swaziland and Zimbabwe) and other controls (e.g. the Mauritius State Trading Corporation). Given

the high rates of tariffs and other import barriers, the bulk of flour in most member states was sold in their domestic markets, with scant intra-SADC trade occurring. Malawi generally accounts for the bulk of intra-SADC imports of flour and Mauritius for its exports. Zimbabwe was found to be both an importer and exporter of flour within SADC. Trade in flour also occurred between Zimbabwe and Zambia, while South Africa exported small amounts of the product to a number of SADC member states (TSG, 2004).

National policies affecting trade in food grains vary among SADC countries. Table 4.10 shows that, with the exception of Zimbabwe, current policies tend to allow private trading in grains internationally, subject to some fairly modest tariffs and duties. Official policies permitting grain exports are less well maintained at times when domestic markets experience shortage of supply or/and price rises (Wiggins, 2003).

Table 4.10. Policies affecting trade in grains in SADC

Country	Policy affecting trade in food grains
Lesotho	Permits import and export of grain without restriction by private traders.
Malawi	No restriction on grain imports can be made by private or state traders. The former tend to deal with small cross-border movements from Mozambique and Tanzania, the latter with larger shipments from outside the region. Grain exports need a licence.
Mozambique	Imports of grain allowed: imposes duties of 17% on imported grain, but may waive such duties when there are food emergencies. Grain exports allowed, though local authorities may try to restrict these when local shortages arise.
South Africa	Liberal regime for international trade in grains, though current South African tariffs exist in the form of a formula tariff on maize and a 2% ad valorem value charged on wheat imports.
Zambia	Grain imports allowed by private and state agencies. (However, a temporary ban existed on some imports from Zimbabwe in 2002 on the grounds that such imports were being dumped.) *Export regime*: Duties of 5% apply to traded grains. Such duties may be waived on imports when supplies run short.
Zimbabwe	The government monopolises international trade in grains through the GMB. A 15% import tax applies. In addition, 30% duties on wheat imports and 15% on rice imports are charged. However, such duties may be waived when supplies run short.

Source: Based on Mano et al. *(2003).*

Besides the ongoing reform of trade policies in most SADC countries over the past decade and more, as well as the achievement of substantial progress in the area, restrictive tariff, non-tariff and technical barriers still remain. In Tanzania, non-tariff barriers (NTBs) have been identified as including the issuance of export permits; import restrictions; cumbersome administrative procedures; local government taxation, and inefficient bureaucracies (the latter of which delay the obtaining of licences and utilities, among other hindrances). The degree of red tape and corruption experienced at border posts also prevents the smooth handling of intra-SADC trade. Border delays, as shown in the studies of some countries, were a major NTB to cross-border trade (ESRF, 2003). The complex and confusing tariff structure of SACU countries as opposed to that of other non-SACU SADC countries also impeded intra-SADC trade. In South Africa, the demand for quality standards was regarded as constraining trade, with South African importers requiring quality and a

consistent flow of products. Phytosanitary and veterinary protocols need to be put in place to allow for an increase in intra-regional trade in meat and other animal products (ESRF, 2003).

4.3.3 Terms of trade

Economists use the words 'terms of trade' to describe the ratio between the prices of a country's exports and imports. There are several types of terms of trade, which measure different ratios, of which the most commonly used is the *net barter terms of trade*. This is the ratio existing between one unit of a country's exports and one unit of its imports (Stevens & Kennan, 2001). For example, the net barter terms of trade show how many tonnes of cotton a country must export in order to import one tonne of wheat. Stevens and Kennan (2001) argue that the terms of trade are normally used to describe changes in the ratio of export and import prices over time. In other words, as time passes, the country has to export more or less cotton to obtain that tonne of wheat. If the price of cotton rises relative to that of wheat, so that one tonne of cotton will now buy more wheat, there is said to be a *favourable movement* in the terms of trade. If the opposite occurs, there is an *unfavourable* movement in the terms of trade. This section analyses food security, based on the terms of trade involved that show a country's ability to finance food imports.

During the 1970s, Southern Africa lost the relative food self-sufficiency that it had enjoyed during the 1960s, when it shifted to become a net food importer, with imports totalling 1,3 million tonnes per year. The 1970s, therefore, signified a major shift in food availability and supply in the sub-continent, with a move towards greater food dependency on the industrialised nations of the first world (Zondi, 2004). More recently, between 1995 and 2000, ten African countries suffered extreme losses in terms of trade, amounting to more than 20%; a further six saw their trade terms deteriorate by between 10% and 20% (compare these percentages with Table 4.11). Only oil-exporting countries experienced an improvement in their terms of trade (FAO, 2001). McCord (2002) agrees that the terms of trade for all commodities, except oil, are expected to continue the decline that they displayed between 1995 and 2000, and that the region is likely to continue to lose its world share in most commodities.

Table 4.11. Terms of trade (% of GDP) in selected Southern African countries

Country	1980	1990	2000
Lesotho	0.5	−0.2	−0.8
Malawi	15.7	14.3	4.1
Mozambique	11.2	2.3	−6.0
Zambia	11.2	3.5	−12.3
Zimbabwe	−1.3	0.0	−1.0
Low-income average	9.6	−1.2	−10.0

Source: World Bank, World Development Indicators (2002).

Notes: A decline in this variable indicates a decline in the terms of trade: i.e. a fall in the price of exports relative to imports (vice versa for an increase in the variable). More specifically, it is the price value of exports of goods and services, deflated by the import price index, less exports of goods and services in constant prices, divided by GDP.

Table 4.12 shows the net barter terms of trade experienced in the SADC region from 1990 to 2004, as only four countries, Angola, South Africa, Zimbabwe and the DRC, were shown a favourable movement in the terms of trade. During the same period, the rest of the region encountered an unfavourable movement in this respect, of which those worse affected were Zambia, Mozambique, Malawi and Tanzania. Accordingly, SADC as a group experienced an unfavourable movement in the terms of trade, shifting from 115,6 in 1990 to only 99,8 in 2004 (World Bank, 2005).

Table 4.12. Net barter terms of trade in SADC, 1990–2004 (2000=100)

Country/Year	1990	2000	2001	2002	2003	2004
Angola	94	100	89	89	98	121
Botswana	98	100	102	97	94	92
DRC	86	100	99	94	92	94
Lesotho	100	100	103	102	97	91
Malawi	148	100	100	91	86	82
Mauritius	93	100	95	98	97	89
Mozambique	175	100	94	88	89	94
Namibia	93	100	98	98	97	97
South Africa	104	100	100	103	111	120
Swaziland	100	100	100	96	93	94
Tanzania	107	100	95	95	99	100
Zambia	207	100	96	92	95	119
Zimbabwe	98	100	99	96	100	104
SADC	**115,6**	**100**	**97,7**	**95,3**	**96**	**99,8**

Source: Author's calculations based on World Development Indicators database (2005).

4.4 INTERNATIONAL TRADE

International concern for food security should be translated into a concern for how the policies of developed countries limit international trading opportunities. Multilateral and bilateral actions to reduce trade restrictions on the exports of developing countries would help most, since the poor often work in the labour-intensive production of export goods (World Bank, 1986). Moreover, trade restrictions cause international markets to be more unstable than they might otherwise be, and thus contribute to transitory food insecurity. Actions that stabilise food prices and major exchange rates would help as well. The international community could also provide technical assistance to help developing countries use the same tools that developed countries use to manage trade risks (World Bank, 1986). Two key changes sought are improvements in access to markets through the reduction of import taxes and other domestic supports, and the removal of subsidies for exports, which are seen to depress world prices (Milner & Morgan, 2004). This section aims to determine whether current international trade systems are ensuring fair and efficient trade, based on considerations of equity and, in particular, fair access to markets for developing countries, such as those in Southern Africa.

The Agreement on Agriculture of 1994 was premised on the assumption that domestic food security is best achieved through promoting liberalised trade, although food imports are contingent upon both foreign currency reserves and the reliability of the existing transportation network (Diaz-Bonilla, Pineiro & Thomas, 1999, cited in Drimie & Mini, 2003). Similarly, some argue that if there is a crop failure, free trade will provide deficit nations with access to the global market for the financially well endowed. The Agreement on Agriculture has been subject to severe criticism for its imbalances, as it has enabled industrialised countries to secure exemptions from some of their policies, with their being allowed to continue to use large amounts of capital for domestic support and export subsidies (Diaz-Bonilla & Robinson, 2000, cited in Drimie & Mini, 2003). The main complaint of the developing countries has been that, when it comes to agricultural trade, the developed countries tend to preach liberalisation, while practising protectionism. Drimie and Mini (2003) also argue that rich countries have the capacity and the resources to implement the variety of policies allowed under in terms of the Agreement, while developing countries, although operating under the same Agreement, often lack the necessary financial resources to enable them to gain the most benefit from the situation.

If there was global agricultural trade liberalisation, the welfare benefits that would accrue to humanity, assuming duty-free market access and the removal of agricultural subsidies, were estimated at about US$ 160 billion per year at 1995 prices (World Bank, 2001, cited in Sigwele, 2001). The welfare gains would increase substantially if other sectors of the economy, such as services (including insurance, transport, telecommunications, investments, etc.) were to be equally fully liberalised.

The November 2001 declaration of the Fourth Ministerial Conference in Doha, Qatar, provides the mandate for wide-ranging negotiations. Such negotiations include those on agriculture and services, which began early in 2000. According to Jensen and Sandrey (2006), an outcome from the Doha Development Round proxied by a 30 percent cut in *applied* tariff rates across all countries for all products, as well as a complete elimination of all export subsidies.

Table 4.13 shows the global gains to be attained from an overall across-the-board 30 percent cut in global applied tariffs, as representing a possible Doha Development Round outcome, to be in the order of US$27,5 billion. The overall welfare gain for South Africa was nearly US$400 million from a modest Doha outcome. Interestingly, the rest of Africa is also shown as being a substantial beneficiary of this outcome, with gains of almost US$2 billion – a figure that is reduced by around US$1 billion from the efficiency gains of better domestic resource allocation when the terms of trade go against the continent. A similar pattern is also shown by the rest of SADC, as the gains in efficiency are almost negated by the terms of trade losses (Jensen & Sandrey, 2006). As expected, in this way, high-income countries would enjoy most of the welfare gains, though; overall, the entire world would still stand to gain therefrom (Sigwele, 2001).

Table 4.13. Welfare gains from the 30% Doha outcome, US$million

	Efficiency	Terms of trade	Investment	Total
South Africa	230	116	48	394
Botswana	11	−1	8	18
Rest of SACU	22	24	−1	45
China	2,015	850	−91	2,774
Rest of SADC	264	−182	22	105
Rest of Africa	2,997	−1,175	42	1,864
India	3,107	−677	135	2,565
EU	3,950	1,107	255	5,313
USA	69	−933	−894	−1,758
Brazil	666	295	5	966
Rest of world	14,215	563	471	15,252
Total	**27,551**	**−12**	**0**	**27,538**

Source: Jensen & Sandrey (2006).

Various regions, as well as the world as a whole, could gain from multilateral trade reforms over the next decade. Agriculture is the sector that, by far, requires the greatest cuts in bound tariffs and subsidies, due to the very high rates of assistance evident in that sector, relative to other sectors. Food and agricultural policies are responsible for the foregoing of more than three-fifths of the global gain so far, due to merchandise trade distortions, despite the fact that agriculture and food processing account for less than 10% of world trade and less than 4% of the global GDP (Anderson & Martin, 2005). From the point of view of the welfare of developing countries, agriculture is at least as important for such countries as it is for the world as a whole: their gains from global agricultural liberalisation represent almost two-thirds of their total potential gains, which compares with just one-quarter from textiles and clothing and one-ninth from other merchandise liberalisation (see Table 4.14).

Table 4.14. Effects on economic welfare of full trade liberalisation of different groups of countries and products, 2015

	Agriculture and food	Textiles and clothing	Other manufactures	All goods
Percentage due to:	**%**	**%**	**%**	**%**
Developed countries' policies	29	17	4	50
Developing countries' policies	33	10	7	50
All countries' policies	**62**	**27**	**11**	**100**

Source: Adapted from Anderson & Martin (2005).

Anderson *et al.* (2001) have estimated that if all the trade barriers were to be eliminated, about half of the total welfare gains would come from agricultural liberalisation in OECD countries. The bulk of the static welfare gains to be made from agricultural liberalisation in high-income countries accrue to the high-income countries themselves, in the form of consumer gains from lower domestic prices. Indeed, in terms of welfare effects, there are larger gains in store for low-income countries from the liberalisation of their own agricultural trade barriers (over US$31,4 billion) than from OECD agricultural liberalisation (over US$11,6 billion).

Sigwele (2001) shows that, in 2000, the OECD countries spent about US$327 billion in total subsidies of agriculture. Such income transfer to agriculture by industrialised countries is about twice SADC's GDP. Approximately US$1 billion is spent every day on agricultural subsidies in developed countries (Diaz-Bonilla & Reca, 2001 cited in Drimie & Mini, 2003), with eighty percent of these subsidies being paid to farmers in the EU, the USA and Japan (Drimie & Mini, 2003). Drimie and Mini (2003) also state that large shares of these subsidies are designed in such a way to cause expanding food production and, thus, distortions of trade. These countries exacerbate the trade-distorting subsidies by imposing tariffs and NTBs to imports, as well as subsidising exports. These subsidies create substantial negative effects on the poor in developing countries, making it virtually impossible to develop a properly functioning and fair global food system.

Levels of national trade liberalisation vary significantly across the region, with Zambia Mozambique, Malawi and SACU representing significantly reformed trade regimes, while Zimbabwe and South Africa (despite the simplification of its tariff structures) still having barriers significantly higher than those of the 'reformer' group (McCord, 2002). McCord (2002) also argues that, despite these varying levels of liberalisation; South Africa maintains profound trade

dominance in the region. The dominance of South Africa within the regional economy is illustrated in Table 4.15, which indicates that the South African share in total world exports is 0,8%, and that that of the rest of the region totals only 0,3%. The combined Southern Africa share of world exports totals only 1,1%, with the strongest showing in the energy and mining sector, which represents a 4,2% share of global markets (McCord, 2002). The following table confirms the relative insignificance of the region in the global economy, and underscores the limited negotiating power of the region as a bloc, even when acting in concert as SADC.

Table 4.15. Disaggregated Southern African world trade shares

	South Africa	Rest of Southern Africa	Total Southern African Share
Shares in World Exports	%	%	%
Primary Products	1.3	1.7	3
Energy and Mining	2.7	1.5	4.2
Food Processing	1	0.6	1.6
Textiles and Apparel	0.3	0.5	0.8
Other Manufacturing	0.7	0.1	0.8
Services	0.8	0.3	1.1
Total	0.8	0.3	1.1
Shares in World Imports	%	%	%
Primary Products	0.6	0.3	0.9
Energy and Mining	1.1	0.1	1.2
Food Processing	0.9	0.6	1.5
Textiles and Apparel	0.5	0.3	0.8
Other Manufacturing	1	0.3	1.3
Services	0.8	0.3	1.1
Total	0.9	0.3	1.2

Source: Lewis (2001, cited in McCord, 2002).

Given the inability of Southern African markets as regards their extending of agricultural exports to Europe or the US, or their developing of diversified economies, due to the dual constraints imposed by OECD protectionism and World Trade Organisation (WTO) trade barrier restrictions, the need to secure at least the concessions proposed at the Doha round of the WTO trade negotiations is critical for the region (McCord, 2002). The recent WTO Ministerial Conference in Doha, Qatar, has once again emphasised increased market access to agricultural products from low-income countries, such as those in SSA. Both Africa as a whole and the SADC have great potential for exporting tropical and subtropical products (vegetables; fruits; sugar; spices; cocoa; tea; coffee; chillies; oilseeds; cut flowers; meat; cereals; etc.) in order to increase household incomes (Sigwele, 2001).

4.5 CONCLUSION

SADC (excluding South Africa) was found to be a minor competitor in the international market, accounting for less than one percent of world exports. Its highest export shares were found to be in the realm of primary products, and energy and mining. Manufacturing in the region is still mostly dependent on the performance of the mining and agricultural sectors, as well as on the volume of capital investment coming into the region, which has dwindled in recent years. Therefore, trade in SADC experiences many inconveniences, inter alia:

- ✓ Globally, SADC member countries have comparative advantages in primary products which are cosiderable. However, they have equal disadvantages in regard to machines and road vehicles (manufacturing), so that it appears that the adoption of complementarity as an approach to the motivating of trade may be problematic between SADC countries.
- ✓ The dependence of the SADC countries (excluding South Africa) on the production of a solitary commodity, such as oil, sugar, tobacco, manufacturing, diamonds and copper, as a sole product means that the product represents about half of all their exports. Such a situation has led to exports tending to be intense in a few products, many of which are not essential to other African states' imports. Such over-specialisation has lessened the likelihood of any regional trade harmony existing among them.
- ✓ South Africa, Mauritius, Tanzania and the Seychelles were found to be the least in need of SADC food imports. South Africa was found to be the only SADC member that produced sufficient maize to meet its own needs, with its surplus maize being more than enough to fill the collective shortfall of all other SADC countries. For Mauritius and Tanzania, such a situation allowed for sound connections to develop with other members of the East African Community, while Malawi, Mozambique, Zambia and Zimbabwe relied deeply on SADC imports, with more than half of their imports being derived from SADC. Generally, maize imports in the region were found to have been roughly threefold higher than during the previous three decades.
- ✓ Wheat imports in the SADC region have demonstrated an escalating trend throughout the past decade. However, imperfect prospects exist for the enlargement of worldwide economical wheat production in the region. Currently, except for Malawi and Mauritius, all SADC member countries offer very high protection to their home-milling industries. Import tax, uneconomical bureaucracies and the imposition of quality standards, which impede intra-regional trade, still remain, and may impede the capacity of SADC countries to sustain nationwide food security through commercial food imports.

- ✓ The terms of trade have been negative for the past 15 years in Southern Africa, except for Angola, South Africa, Zimbabwe and DRC, which showed a favourable movement in this area. The terms of trade for all goods and services, excluding oil, are likely to continue to decline, and it is possible that the region will continue to lose world share in most commodities.
- ✓ The major criticism regarding the positioning of the third world in global trade has been that, in terms of agricultural trade, rich nations advocate the free market system, but tend to function in terms of protectionism, as wealthy countries have both the power and the capital to apply the range of policies authorised under the International Trade Agreement on Agriculture. Accordingly, agriculture is the area in which bound tariff cuts are most needed. In addition, welfare gains from global agricultural liberalisation tend to exceed gains in other liberalised sectors.
- ✓ Financial support of farmers in the OECD states, and in the EU in particular, has been so planned that they cause expansion in foodstuff production and, consequently, deform trade by enforcing trade barriers to imports, as well as funding exports. Such grants have had a significant negative effect on the vulnerable sector in developing countries, making it almost not viable to build up a relevant and reasonable universal food system. The existing global trade structure thus fails to guarantee fair, efficient and just conditions of trade, only allowing relatively insignificant access to markets for developing nations, such as those in Southern Africa.

CHAPTER FIVE
An assessment of food security programmes in Southern Africa

5.1 INTRODUCTION

Programme evaluation entails the use of scientific methods to measure the implementation and outcomes of programmes on which to base sound decision-making (Rutman, 1984, cited in Babbie & Mouton, 2001). Rutman also states that a 'programme' is taken to refer to any intervention or set of activities mounted to achieve external objectives, aimed at meeting some recognised social need or at solving an identified problem (Rutman, 1984, cited in Babbie & Mouton, 2001). In this regard, food security programme evaluation consists of an assessment, by means of objective measurement and systematic analysis, of the manner and extent to which national food security programmes achieve intended objectives. This chapter provides an assessment of existing food security programmes in Southern Africa, supplemented by general views on whether or not they are successful.

Food security interventions can be designed to address one or more of three broad objectives: risk reduction, risk mitigation, and risk coping (World Bank, 2000). In the aftermath of a food crisis, it is all too easy to focus on 'coping' interventions, primarily designed to assist affected households and communities to survive, and only secondly to rebuild their livelihoods. Such interventions, though important ameliorative measures, fail to reduce the vulnerability of such households and communities to future shocks, thus resulting in the need for more interventions when the immediate crisis is over. According to Devereux (2003), a strong case can be made for current consideration of strategies aimed at 'weather-proofing' rural communities in Southern Africa against the production shocks that triggered the recent crisis, as well as to reduce the structural vulnerability of individuals and households affected by other risks, such as those of the HIV/AIDS pandemic and market failure. Such strategising requires a more holistic view of social protection than is usually adopted, and implies making strong linkages with 'developmental' policies, such as those aimed at market deepening, without neglecting the immediate needs of the vulnerable poor living in the region.

5.2 RISK-REDUCING FOOD SECURITY PROGRAMMES

A risk-reducing food security programme is an application of appropriate techniques and management principles aimed at reducing food insecurity and/or the likelihood of its results. This section addresses Early Warning Systems and disaster preparedness programmes.

5.2.1 EWSs and disaster preparedness

According to Wiggins (2003), regional co-operation in running EWS makes sense. There are economies of scale in collecting data through, for example, satellite images, as well as in analysing such data. Also, when assessing the responses to an early warning of a harvest failure in one area, it is helpful to know whether similar warnings apply to neighbouring parts of the region. This section identifies the role played by EWSs at a national level. A food-monitoring system can, in this way, be implemented that builds on information related to both food self-reliance and household food access. EWS then takes on a food information focus, rather than only acting as a warning device of threats associated with climate variability, such as droughts and floods.

Among the various projects that have been implemented under the auspices of the SADC Food Security Programme, the Regional Early Warning Unit (REWU) leads by virtue of it having had the greatest impact to date in efforts to reduce hunger and malnutrition within SADC. REWU is a SADC mechanism for the cost-effective assembling and analysing of food security information during periods of food deficits, which has allowed for an earlier co-ordinated response by SADC countries than would otherwise have been possible in the absence of such a mechanism (SADC/FAO, 2002). SADC has the experience of running such a regional EWS in tandem with the support that has so far been granted, apparently successfully, to national EWS for several years preceding the current study.

The 2002 food and humanitarian crisis came as no surprise, as clear warnings had been given well in advance of its appearance (Mano *et al.*, 2003). The EWS succeeded in registering the production and availability of cereals in the region, though, to date, the EWS has largely failed in tracking non-climatic shocks, such as conflict and the HIV/AIDS pandemic. The information gleaned on the developing situation has not yet been fully contextualised within the context of the livelihoods of the local populace. The ability of the EWS to analyse markets, trade and prices is, so far, limited, with its primarily tracking the production and availability of cereals, and not that of the other, non-cereal staple foods, such as cassava. To date, the EWS has tended to report information to governments and donors, with much less attention being paid to potential clients in the form of private enterprises and civil society (McNabb, 2003).

In addition, REWU has provided technical backstopping to SADC countries in the areas of agro-

economics, statistics and agrometeorology. Considerable progress has been made in unifying and improving the methods used to assess the food security situation in member states, particularly by means of computer-based food balance sheets and the development of agrometeorological models that forecast crop yields and production. REWU has also taken part in the joint FAO/WFP Crop and Food Supply Assessment Missions that assessed food supplies and needs in Angola, Lesotho, Malawi, Mozambique, Swaziland, Zambia and Zimbabwe from mid-April to early June 2002 (SADC, 2002). The project was fully dependent on contributions made by member states for supporting its operations (see Table 5.1).

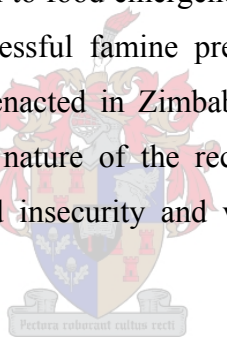
Table 5.1. Actual payments to REWU budget in SADC, 1994–2002 (US$'000)

Country	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02
Angola	0.00	0.00	0.00	103.88	99.43	39.33	37.45	45.41
Botswana	20.72	31.38	31.38	46.39	53.09	39.28	37.47	45.43
DRC	n.a.	n.a.	n.a.	n.a.	n.a.	0.00	0.00	39.28
Lesotho	20.72	20.72	42.04	31.38	53.09	54.29	37.47	45.43
Malawi	0.00	0.00	52.10	46.39	6.70	60.59	56.46	82.90
Mauritius	n.a.	n.a.	0.00	77.77	53.09	39.28	37.47	45.41
Mozambique	20.72	0.00	62.76	0.00	99.38	39.28	37.46	45.41
Namibia	20.72	31.38	24.94	52.80	53.09	39.28	37.44	45.43
Swaziland	0.00	72.50	31.38	46.39	53.09	39.28	37.47	45.43
Seychelles	n.a.	n.a.	n.a.	n.a.	n.a.	0.00	0.00	0.00
South Africa	n.a.	0.00	62.76	46.39	53.09	39.28	37.47	45.43
Tanzania	0.00	0.00	30.57	34.42	85.28	27.13	102.71	45.43
Zambia	20.72	19.06	43.70	46.39	0.00	39.96	39.28	66.99
Zimbabwe	20.72	30.65	32.11	0.00	46.39	92.37	37.47	45.43
Total	**124.30**	**205.69**	**413.74**	**532.20**	**655.73**	**459.33**	**535.62**	**643.42**

Source: SADC (2002).

However, the EWS focused on the food availability situation with the sole intention of triggering emergency responses in order to mitigate the effects of starvation or famine that would otherwise have been experienced during years of drought. Such a focus was in line with the SADC food security definition prominent during the 1980/90s. The definition of food security upheld by the SADC has since broadened, with the emphasis now being placed on sustained access to food and the promotion of policies and programmes that generate long-term employment opportunities, and general economic and agricultural growth, especially targeted at the rural and peri-urban vulnerable sections of the population. Such a refocusing of intent demonstrates the region's realisation that long-term policy disaster management and preventative measures are what is required, as opposed

to emergency responses that tend to jeopardise long-term development efforts (SADC/FAO, 2002). Unfortunately, most national governments were not well prepared for the events of 2002, at which time the SADC also lacked appropriate contingency plans, with the Regional Disaster Management Technical Committee (RDMTC) that had been established under SADC auspices not yet being operational. However, the Regional Vulnerability Assessment Committee, formed as part of the food security programme of SADC Food and Natural Resources (FANR) in the early 2000s, performed better. The Committee was able to take the lead in supporting country emergency food assessments throughout the six emergency operation countries, in synthesising information, and in communicating with major donors, such as the WFP (Wiggins, 2003). However, the evidence suggests that many countries and regions that were vulnerable to natural hazards at the time lacked the capacity, or were poorly prepared, to respond to the crisis. The capacity to organise at country level a dedicated team who can identify the immediate problem, analyse the information at grassroots level and design solutions aimed at preventing famine, was either absent or insufficiently utilised. The appropriate policies, institutions and capacities have to be in place in order to enable effective and timely responses to be taken to food emergency situations in the SADC region. There were, nevertheless, many cases of successful famine prevention, including that carried out in Botswana in the mid-1980s, and those enacted in Zimbabwe and South Africa during the early 1990s. However, the extremely limited nature of the recovery and rehabilitation efforts set to address the root causes of chronic food insecurity and vulnerability to drought were apparent (Clover, 2003).



The cyclic and, in some areas, endemic nature of disasters (droughts, floods and conflicts) in SADC leads to additional difficulties in supply. However, although the regular occurrence of such disasters is fully recognised, little forward planning or consultation has been done in the past, resulting in SADC lacking the necessary capacity to respond to such disasters in an effective and sustainable manner. The overall food situation was only minimally impacted on by the various disaster-relief efforts made in the form of food aid, food imports by government, the development of strategic maize reserves, and the supply of seeds (SADC/FAO, 2002).

5.3 RISK-MITIGATING FOOD SECURITY PROGRAMMES

A risk-mitigating food security programme is a planning process in which attempts are made to eliminate the occurrence of food insecurity, while simultaneously devising a means of recovery, such as regional grain stocking and food commodity exchange, should food insecurity become a reality after all.

5.3.1 Regional grain-stocking programme

According to NEPAD (2004), national buffer stocks in Southern Africa had provided adequate food security until the prolonged 1983–85 drought caused a food emergency with which the area could not cope. Thereafter, the marketing boards of some SADC countries were made responsible for maintaining food security reserves and for managing the distribution of food relief and food aid in emergencies. However, the reduced levels of donor involvement, and changes in policy came at a time when the overall economic conditions were leading to increased pressure for more fundamental reform. According to Trueblood *et al.* (2001), consumption variability proved, at that stage, to be a major concern for several countries in the region. For countries in which domestic production is the primary source of food supply, buffer stocks were previously often used to smooth over year-to-year food supply variability. If the SADC countries were to work together on a regional stocking programme, they may be able to reduce their own national supply variability.

Due to recurring regional food emergencies and the prospect of hunger and starvation following on droughts and floods in 1992, 1995 and 2001/2, especially in the face of severe foreign currency shortages at country level, the project concept has been continuously revisited and refined. Accordingly, in 1996 a World Bank-funded consultant study was undertaken in some SADC countries. In September 2001, the SADC Ministers of Agriculture and Natural Resources reiterated the need to implement aspects of the Food Reserve Facility (SADC/FAO, 2002), thinking that a regional grain-stocking programme may prove to be an appropriate policy option for addressing the issue of food insecurity in Southern Africa. External assistance, particularly in the form of food aid, has been used historically, but has had limited success in preventing food supply shortages in lower income countries. This section identifies whether a regional grain-stocking programme would be able to reduce its own national supply variability more than food aid. If so, a grain-stocking programme may prove a suitable alternative for future investment in the region.

Since food is consumed daily, while crops are harvested once or twice a year, any food system has to have sufficient stocks to enable the evening out of consumption and production within any given year. Similarly, given that human consumption of staples varies little between years, while wide variance may occur in harvests, which are negatively affected by adverse weather, pests and diseases, inter-annual storage is needed to reduce the risk of severe depletion of stock following a poor harvest (Wiggins, 2003).

WFP (2006), under the auspices of NEPAD, contributed to the study of food reserve systems, focusing on defining appropriate regional and national food reserve systems within the broader context of food security in eight African countries: Burkina Faso; Ethiopia; Malawi; Mali; Niger; Sudan; Tanzania, and Zambia. The study, which was completed in June 2004, was submitted through the NEPAD Heads of State and Government Implementation Committee (HSGIC) to the July 2004 AU Summit. Several subsequent workshops have discussed the study findings and implementation modalities.

According to Wiggins (2003), there is still much debate about the food stores in the region, including about the extent of grain stocks, which have to balance the exigencies of a fluctuating supply against a fairly steady demand. Responsibility for the stock should be shared among private actors, including traders and households or public agencies, and the levels that stocks hold, no matter whether they be village, district, nation, region, or world. The debate on the extent of grain stocks held is partly a technical matter, requiring the gleaning of data on the fluctuations typically seen in consumption and production, and partly a matter of the willingness to bear the risk and cost of stocks running out. However, such matters depend on the scale of market covered by the stocks, and the ability, as well as the amount of time taken, to buy in supplies from a wider market. Kirsten (2003, cited in De Klerk *et al*., 2004) argues that if there is indeed a case for carrying grain stocks, such an argument is likely to be strongest in the instance of white maize, which is most vulnerable to supply shocks. Clearly, having a physical stock on hand in times of shortage has substantial advantages in regards to security, time and shipping cost savings, and price-cushioning. However, against these, a number of negative factors must be weighed: storage costs; opportunity costs (which are difficult to estimate, due to the unpredictability of price movements subsequent to the purchase of the stock, but, at the minimum, including the interest payable annually – perhaps around R50 million at present for a stock of 500 000 tonnes) (Kirsten, 2003 cited in De Klerk *et al*., 2004); the pressures of managing the stock efficiently and impartially in the face of powerful lobby groups, whose demands are likely to vary from month to month and year to year, depending on market conditions; the disincentivising of any private sector efforts to perform a task that almost every international study indicates it does more cost-effectively than does the public sector (Kirsten, 2003, cited in De Klerk *et al*., 2004), and the inability, ultimately, to prevent severe price fluctuations in times of severe shortage.

Debates on the responsibility for, and levels of, stock are divided into two broad camps (Wiggins,

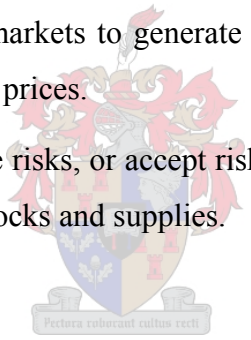
2003):

1) *Market-based approaches*, favouring free markets in grains and liberal international trade. The arguments in favour of liberalisation include the following:

- The greater the territorial aggregation for which stocks are held, the smaller they have to be, relative to total grain transacted in the system to keep the risk of depleting stocks to an acceptably low level. Hence, drawing on regional or international stocks, exporting and importing grains between territories as and when needed or convenient, lowers the costs of inventories.
- Private sector traders are more flexible and responsive to market conditions than are public sector agencies.

2) *Public regulation and intervention*. The arguments for an active public role include two fears:

- Private traders may try to rig markets to generate excess profits by, for example, holding stocks off the market to drive up prices.
- Private traders may misjudge the risks, or accept risks that are unacceptably high for society as a whole[11] of running out of stocks and supplies.



Wiggins (2003) has also argued that there has to be some public holding of stocks to allow government to intervene in the market to reduce price spikes (by selling off public stocks when prices rise), and to insure against running out of stock. It is also usually argued that the stocks have to be held nationally (see Table 5.2), since doing so allows sovereign governments to respond speedily to local problems. Amongst those who argue for a public role, there were differences of opinion over whether to hold physical reserves or to secure access to a foreign exchange fund to finance public imports when needed. Holding physical reserves eliminates the risks of high international prices for grains or hold-ups in delivering food imports, but they tie up resources in inventories and are subject to waste and losses (Wiggins, 2003).

[11] Traders who miscalculate suffer from missing a chance to trade profitably. However, for the rest of society the risks are those of seeing grain prices soar so high that they are unable to afford to buy food.

Table 5.2. Public stocks of food grains in Southern Africa

Country	Policy for public stocks of food grains
Lesotho	No public stocks held.
Malawi	Aims for 60 kt, 9 days supply. In effect, amount held has fluctuated from almost nothing to 225 kt during the last two years.
Mozambique	No public stocks held.
South Africa	No public stocks held.
Zambia	Aims for 200 kt maize in stock, 375 kt cereals in all, 3 months' supply; in recent years, often held less.
Zimbabwe	Aims for 500 kt of maize, 200 kt of wheat, 3 months supply; in recent years, often held less.

Source: Mano et al. *(2003, cited in Wiggins, 2003).*

According to Wiggins (2003), in the three countries that have public stocks, repeated discussions have arisen between donors who favour smaller public stocks, and governments that have been anxious to keep substantial public physical reserves. The management of public stocks has not always been transparent or apparently conducted in the public interest. The Malawian SGR is a particular case. In 2000, the government of Malawi commissioned a study, financed by the European Commission, to inform future food security policy and to include recommendations on the size and management of the SGR. The study recommended that the size of the SGR be reduced from its existing level of 167 000 MT to between 30 000 MT and 60 000 MT. The study argued that such reduction in size would be sufficient to deal with a localised crisis, and would also reduce operating costs. Over the course of 2001, most of the SGR was sold off, largely, it seems, within Malawi itself (IDC, 2003, cited in Wiggins, 2003). During 2002, the SGR was replenished to more than 200 kt, apparently at a cost much higher than the price of earlier sales. The government has been reluctant to disclose to whom and where the grain was sold and how the stock was replenished.

5.3.2 Food commodity exchange programme

The commodity exchange functions are very similar to those of a stock exchange. The exchange provides the facility (the trading floor and the trading pits) for futures trading, a governing board which establishes and enforces trading regulations, and the clearing house, which operates the mechanism of 'clearing' all transactions on a daily basis and which accounts for the flow of funds on each trade (Schaffner *et al*., 1998). Such transactions require reliable market information systems, particularly in developing countries, such as in the SADC region. This need in Southern Africa comes from the realisation that limited scope and restricted access to market intelligence is a

major handicap to the efficient operation of liberalised food markets. Without such a system, the development of external trade with regional and international markets will also be handicapped.

Lack of knowledge on price levels, trends, freight rates, locations, trade arrangements and food requirements in neighbouring countries and regions stifles agricultural development. Producers and traders benefit from access to better information on the regional and world market trends in terms of prices and quantities (SADC/FAO, 2002). The objective is to explore and develop a system to improve market-based grain purchasing and procurement options, including commodity exchange and futures markets, such as the SA Futures Exchange (SAFEX). The information system will develop the following: (1) the collection and dissemination of regional marketing information on grains, especially that relating to maize, wheat, beef, etc., including the quantities, quality, prices and locations of regional supplies, and (2) the promotion of a regional commodity exchange/futures market, and facilitation of the purchasing of options utilising the revolving regional Food Reserve Trust Fund by linking national commodity exchanges (SADC/FAO, 2002). This section aims to determine whether *hedging through futures and options* strategies by way of private commodity exchanges either to contract for forward supplies of grains at a fixed price at a future date, or else the buying of the (tradable) option in order to acquire grain at a given price at some future time, is an alternative to public stocks.

According to Devereux (2003), a final alternative to physical grain stocks is the use of futures markets by national governments or SADC as food security insurance. In 2001, SADC Ministers of Agriculture commissioned an investigation into this mechanism, which concluded that it should be seriously considered as one component of a diversified portfolio of risk management strategies against food security threats. According to Devereux (2003), SAFEX was identified as potentially having the capacity to manage this scheme, which would, in short, function as follows: Following first-round production forecasts (which would usually take place in February in SADC countries), the relevant governments (and/or private traders) would decide whether to purchase an option from SAFEX to buy maize at a fixed price at a future date – say September or December, depending on the size of the projected maize deficit. The cost of this option, at 5% to 10% of the total purchase cost, is the 'insurance premium' that will either be taken up, sold on or allowed to lapse, depending on the actual harvest outcome. If managed at the regional, rather than at the national, level, such an approach has the potential to promote intra-regional trade, to strengthen the role of private actors, and to reduce the need for national governments to hold either large physical grain stocks or large financial reserves (Devereux, 2003). In line with FEWS NET (2001) offers to governments and the

private sector, SAFEX offers a cost-effective alternative to holding large physical stocks of staple commodities, such as maize (yellow or white) and wheat. These commodities can be purchased in South Africa, well in advance of the upcoming marketing season. For example, as soon as a country realises that its domestic maize supplies are likely to be in short supply, it could obtain the necessary tonnage of maize through SAFEX by purchasing call-options on futures contracts for delivery, say in September and December. Doing so would allow countries to secure and guarantee the physical availability of the commodity at a specified price (FEWS NET, 2001).

Grain producers, traders and processors will be able to trade better in a 'free' market, responding to the forces of supply and demand in setting prices, if the proposal (see Appendix 2) that calls for the introduction of a second (new) futures contract, which will allow physical settlement through the use of maize of an international origin, is implemented. In practice, they all look to the prices generated through the formal commodities market that was established following deregulation, namely the Agricultural Markets Division of SAFEX, as the benchmark for the prices they ask or offer in the 'spot' market of daily trading in maize (Vink & Kirsten, 2002).

The Marketing of Agricultural Products Act of 1996 smoothed the way for a new marketing order in the South African grain industry. SAFEX was formed in 1996/7, and introduced the trading of derivatives (futures and options) for white maize, yellow maize, wheat, sunflower and beef (though the contract for beef was later cancelled). The price for future contracts and options are generated on the exchange in the form of 'bids' and 'offers' and reflect the views of market participants on the prices of the specific products at different dates in the future. These instruments are also used to hedge price risk. By using the SAFEX market effectively, market participants can minimise their price risk, which, in turn, lowers their cost of doing business. These savings can then be passed on to the consumer in the form of lower prices for food and other commodities.

Therefore, part of the reason for holding stocks is to guard against the price risk of food grains only being available at high prices when needed. An alternative to public stocks is to use private commodity exchanges either to contract for forward supplies of grains at a fixed price at a future date, or else to buy the (tradable) option to acquire grain at a given price at some future time. If there are enough buyers and sellers, such exchanges promise participants a range of possibilities that fit their needs for flexibility and for the degree of risk they are willing to bear. Within SADC, SAFEX, which is based in Johannesburg, is the largest such exchange (Gravelet-Blondin, 2003,

cited in Wiggins, 2003).

FEWS NET (2006) indicated that South Africa has managed to ship out a total of 1.33 million MT (of the available surplus of 5.50 million MT) of white maize to destinations all over Africa, with 1.26 million MT going to SADC member states. The largest single recipient country has been Zimbabwe, which received a total of 781,735 MT (between May and January), while drought-affected Lesotho, Mozambique, Malawi, Swaziland and Zambia together purchased 273,000 MT. According to FEWS NET (2001), the actual need to keep physical reserve stocks varies from country to country. The costs involved in physically storing large quantities of cereal stocks are often high, typically ranging between US$20 and US$40 per tonne per year, depending on storage and other costs. The availability of SAFEX options may well reduce the real need for physical reserves, and could result in substantial cost savings. If such a strategy were to be adopted, a regional financial reserve could be established in the event that stocks secured through SAFEX are actually purchased.

5.4 RISK-COPING FOOD SECURITY PROGRAMMES

A government has an important role to play in coping with food insecurity once it has struck as far as ensuring financial (cash payments) and in-kind (food transfer) rights for the poor, who entirely lack assets. Such government intervention can take the form of food subsidies, food price stabilisation, social protection and international food assistance programmes (FAPs).

5.4.1 Food subsidies and food price stabilisation

Food subsidies and food price stabilisation schemes have been implemented in most nations of the world at some time or another. Such schemes affect food price distributions faced by consumers (and often producers), thereby influencing food security. However, they have come under increasingly intense criticism over the past 20 years, due to the regressive nature of most food subsidy programmes. As higher-income individuals purchase more food and thereby benefit more from generalised subsidies, such programmes would also be extraordinarily expensive if they were to have a substantial impact on the most vulnerable segments of the population (Pinstrup-Andersen, 1988, cited in Barett, 2002). This section examines the existing regional governments' interventions aimed at subsidising and stabilising food prices and also explores the impacts of these interventions on food security in the Southern African region.

The research on food price management conducted by IFPRI initially concentrated on the analyses of food subsidies and similar government interventions aimed at achieving certain social ends by manipulating the prices of staple foods. However, there was some ambivalence about the research, due to the realisation that subsidies had adverse economic consequences in the long run, while, in the real world, they were important because country governments made them so. The challenge, therefore, was to design subsidy systems that would be effective in achieving their social goals, while being less damaging to long-term economic growth (Vink & Kirsten, 2002).

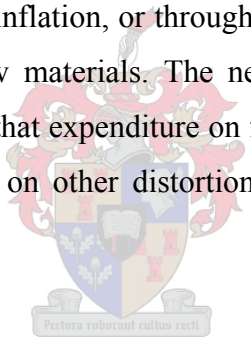
In recent decades in Southern Africa there have been serious harvest failures (>25% below average) about once every five years, necessitating extensive importing from outside the region at import parity prices, which are high, due to the transport costs involved. Furthermore, in these circumstances, local food prices have temporarily risen substantially above import parity, thereby seriously affecting the welfare of rural food deficit households, as well as of urban consumers. On the other hand, in a country such as Malawi, irregular bumper harvests can seriously depress grain prices, thereby undermining incentives for continued investment in staples intensification by surplus producers. Such periodic depression of prices can lead to cycles of glut, followed by scarcity (Poulton *et al*., 2005).

According to Kalibwani (2005), food-pricing policies in most Southern African countries are consumer-oriented. Food prices are 'fixed' at a low level that favours consumers who are mostly urbanites, which deters producers from increasing their efforts in this respect. In other words, policy motivations have been more political than economic, reflecting the expediency of responding urban residents who are more visible even though less numerous than rural farmers. According to Bates (1981, cited in Kalibwani, 2005), pricing policy finds its origin in the struggle between urban interest and their governments, and, in the political reconciliation of the struggle, it is the rural producers who bear the costs; they are the ones who bear the burden of the policies designed to lower the price of food. Thus, agricultural pricing policies have tended to have adverse impacts on incentives to produce food. As observed by Eicher *et al.* (1982, cited in Kalibwani, 2005), the pricing policies also affect the ability of governments to establish and maintain food reserves, as well as disrupting employment opportunities in farming, processing and rural industries.

IFPRI presented an overview of its work on consumer food subsidies in the book, *Food Subsidies in Developing Countries: Costs, Benefits, and Policy Option*s, edited by Per Pinstrup-Andersen and

published in 1988, as cited in Vink and Kirsten (2002), which contains the following arguments on the social and economic effects of consumer food subsidies:

- "It is often argued that subsidies help control inflation by keeping food prices low. Deficit financing of explicit subsidies will contribute to continuing inflationary pressures on the general price level which may well overtake the one-time reduction in prices of subsidised commodities.
- The impact of food subsidies on trade and foreign exchange depends on the nature of the subsidy programme and other existing economic policies. Inflation may contribute to increased demand for foreign goods and subsidy programmes themselves can lead to large imports.
- Implicit subsidies, by reducing incentives to produce, may depress exports through lower availability of goods to export.
- Food subsidies can influence employment and economic growth … through price distortions and reduced investment in agricultural and other sectors, through improved human capital, through the effect on wages and inflation, or through the availability of foreign exchange for import of capital goods and raw materials. The net effect on output may be positive or negative …, there is no evidence that expenditure on food subsidies impedes or fosters output and growth. The answer hinges on other distortions and accompanying policies (Vink & Kirsten, 2002: 73)."



According to Vink and Kirsten (2002: 73), Pinstrup-Andersen (1988) emphasises that subsidies are rarely, if ever, the solution to long-term problems; on the contrary, they usually make such problems worse. "Their proper role," he argues, "is to compensate for the effects of inappropriate development strategies, institutional changes, and policy measures."

Some governments in Southern Africa chose to let state marketing boards continue to maintain the reserves on their behalf, while competing for business in open markets; others created specialised units for managing such reserves, while a few attempted to keep a combination of physical stocks and cash (NEPAD, 2004). NEPAD (2004) has also argued that, in Southern Africa, continued attempts to use SGRs to stabilise cereal prices have undermined market incentives for private traders to perform normal arbitrage functions that could have satisfied governments' food security objectives. As a result, small farmers who produced surpluses have often been penalised as a result of falling prices and lack of markets, which has led them to limit their planting in subsequent years, with adverse impacts on overall production and grain availability. Consumers have also faced

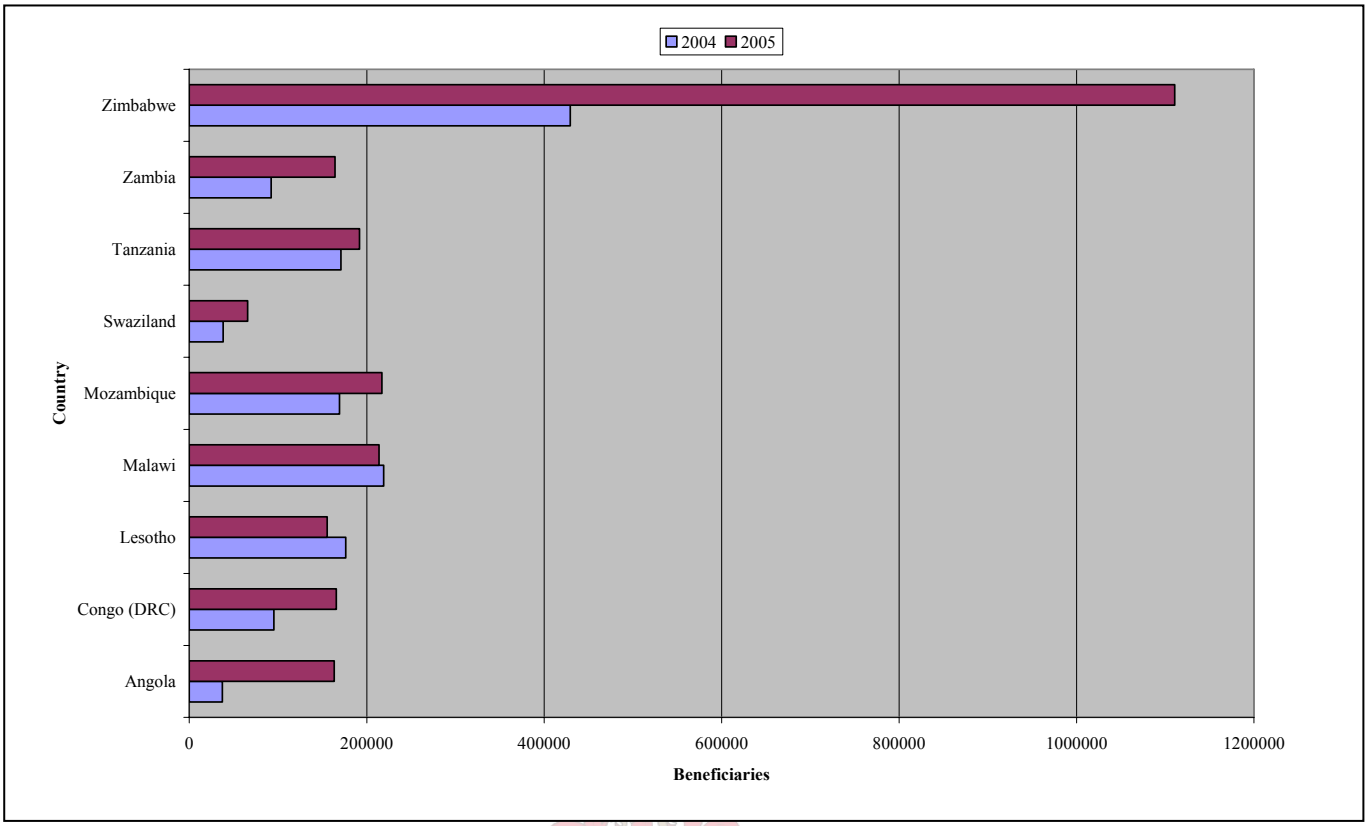
greater instability in grain markets in terms of available quantities and prices. Experience with SGRs in Southern Africa has, thus, been less than satisfactory.

5.4.2 Social protection programmes[12]

According to Devereux (2003), social protection means providing social assistance to those who are chronically unable to make ends meet, as well as social insurance against transitory fluctuations in household access to food. Such a concept describes all initiatives that provide income (cash) and/or consumption (food) transfers to the poor, being distinguished from other development interventions in that social protection is not intended to promote economic growth, though it is intended to alleviate poverty and situations of food insecurity. In general, economic growth aims to alleviate poverty and food insecurity, while social protection aims to reduce vulnerability. This section aims to determine whether Southern African governments have made a special effort to address the food security needs of the poor in the region, as well as to identify the problems facing governments in delivering safety net services.

School feeding programmes are one social protection instrument that can contribute to food security in the Southern African region. Supplementary and school feeding programmes aim to improve nutritional standards for a selected target group (Stevens, 1979). The provision of a meal at school relieves a family of the burden of feeding the child at home, especially when food prices are high. In 1996, enrolment at one primary school in Malawi rose by 26% after WFP introduced a school feeding project (Dil, 1996). Learner performance has also been seen to improve in schools serviced by school feeding schemes, with pass rates being proven to increase and drop-out rates to decrease, as the cognitive processes of malnourished children were enhanced by their consuming a nutritious meal at school. Figure 14 shows that Zimbabwe was the leading WFP beneficiary in the region in 2004 and 2005, as regards children enrolled in its School Feeding Programme, in terms of which 429,442 and 1,110,674 children received school meals, respectively. The total number of children receiving school meals in SADC was 1,428,304 in 2004 and 2,447,967 in 2005 (WFP, 2006).

[12] Social protection programmes referred to in terms of this argument include only long-term food security programmes, such as school feeding, social grants and poverty alleviation programmes undertaken in Southern Africa.



Source: Adapted from WFP (2006).

Figure 14. WFP beneficiaries – Children enrolled in school feeding programme in SADC, 2004 & 2005

According to Devereux (2003), despite efforts to raise enrolment ratios, a common response to chronic and transitory food insecurity has been to withdraw children from school. Such a move has been documented as a coping strategy adopted during the food crisis in Southern Africa in 2001 in all six affected countries,[13] even in countries where education is free: during a crisis in livelihood, access to education was related to household wealth. Whether education is seen as a basic human right or as an investment in a country's economic future, it is important to find ways of keeping children in school by reducing absenteeism and drop-outs levels encountered especially during financially straitened times.

According to the government of Malawi (2002, cited in Deveruex, 2003), that particular country has sought to improve the quality of life of the poor in the past in spite of the following problems and limitations:

[13] For evidence of the impact of the 2001/02 food crisis on learner (and teacher) absenteeism in Malawi see Gallagher *et al. (*2003).

- Apart from the enforcement of a minimum wage, market-based policies, consisting of price controls, price subsidies and minimum wages, when found to be inefficient, fiscally unsustainable and mostly of benefit to the relatively well off, were abolished.
- Administered social protection programmes, consisting of nutrition supplements, free food distribution, free input distribution, and food-, cash- and inputs-for-work, were found to be generally "fragmented, uncoordinated and poorly targeted, suffering from both inclusion and exclusion errors": *pp22*.
- Direct assistance and social welfare transfers administered by the Department of Social Welfare, the Malawi Council for the Handicapped and the Department of Disaster Preparedness, Relief and Rehabilitation have been "small in size and limited in coverage, largely due to fiscal constraints": *pp22*.
- Informal safety nets, consisting of extended family and community support systems, "have become over-stretched and vulnerable to shocks due to increased poverty and the HIV/AIDS scourge": *pp23*.

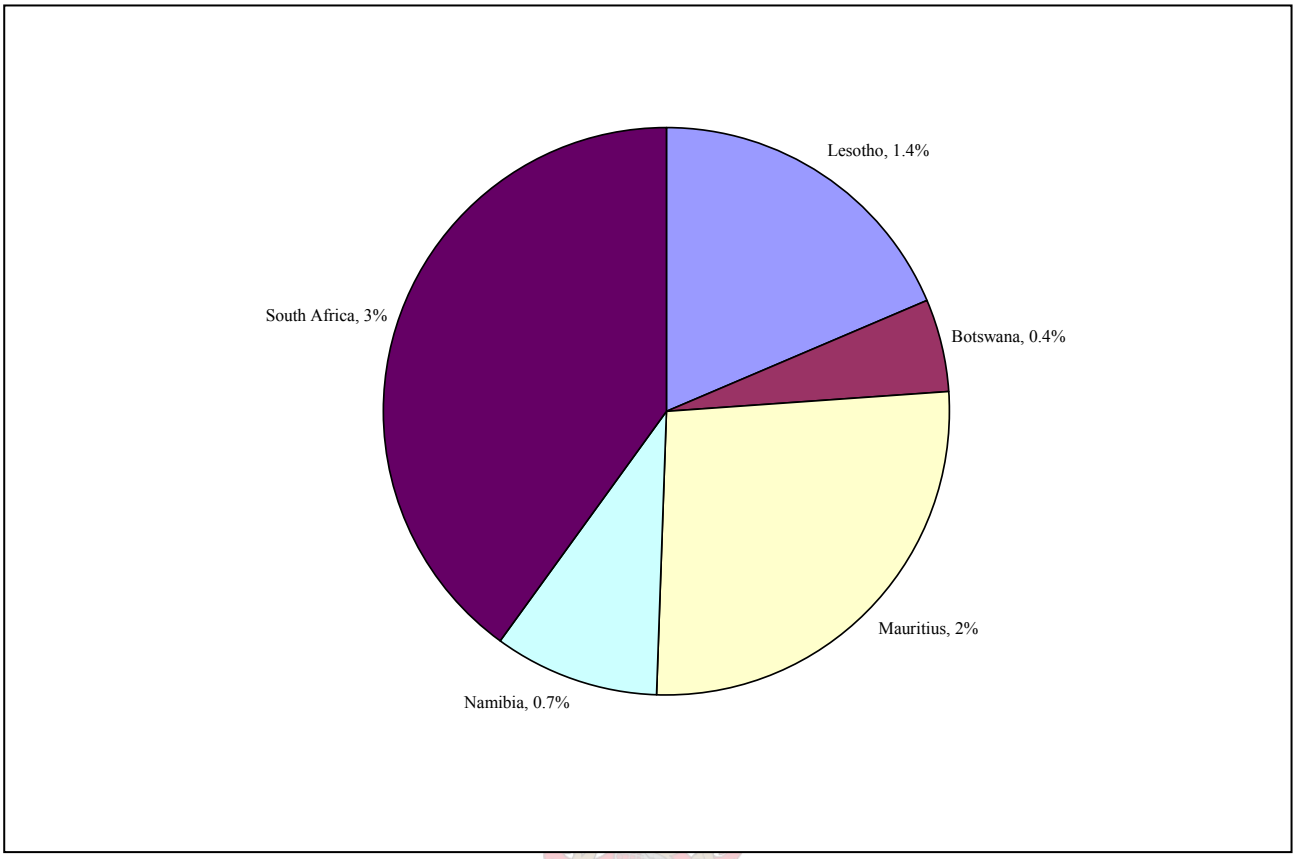
The food insecurity experienced in Southern Africa during 2001/02 demonstrated the inadequacies of social protection programmes in the region. Lesotho, for example, lacked specific focus on social safety net programmes, with poverty reduction and food security strategies being aimed at "sustained economic growth and poverty reduction in the context of macro-economic stability" (Kingdom of Lesotho, 2000, cited in Devereux, 2003: *pp21*). However, in Mozambique, following the rapid growth experienced since the end of the civil war in the early 1990s, poverty and food insecurity reduction programmes stressed continued economic growth and improved productivity, with almost no mention being made of activities related to social protection or the needs of vulnerable groups. Such programmes, thus, failed to achieve the expected results, and activities to improve the nutrition situation were mainly confined to increasing agricultural output (Government of Mozambique, 2003, cited in Devereux, 2003). Zambia's range of consumer subsidies on maize and agricultural inputs shrunk during the 1980s and early 1990s. As in other countries in the region, such market liberalisation undermined smallholders' access to inputs and reintroduced food price volatility – two significant sources of vulnerability during the food crisis of 2001/02. Poverty and food insecurity reduction programmes adopted in the region included no measures either to restore access to agricultural inputs or to stabilise food prices (Devereux, 2003).

According to Chikwanha-Dzenga (1999, cited in Devereux, 2003), Zimbabwe may have had the

fiscal and administrative capacity to implement effective and comprehensive social protection, but the failure of its economic growth strategy caused the government to implement an ad hoc series of welfare projects, consisting of seed packs and food handouts, that bought electoral popularity, but also generated widespread dependence on food aid. "The task to cater for the well-being of Zimbabwe's poor in the rural areas has thus been left largely to the NGOs, with the government frequently alleviating immediate suffering through seed packs and drought relief food (Chikwanha-Dzenga, 1999 cited in Devereux, 2003)." It is unrealistic to extend certain social protection concepts, such as social pensions (as adopted in South Africa, Namibia and Botswana), to much poorer countries in the region.

In terms of Devereux's findings (2001), non-contributory state pensions were introduced first in South Africa in 1928, with eligibility being extended to white Namibians during the 1940s, but to African Namibians only in 1973. Initially motivated by a complex combination of welfare and political objectives, including the control of Africa urbanisation and the intent to 'win hearts and minds' during South Africa's occupation of Namibia, the social pension has sustained millions of poor families for decades. Despite such social pensions reducing the levels of poverty and promoting social development, according to Devereux (2001), the social pension in Namibia is currently being subjected to close public scrutiny, with concerns that it is poorly targeted and 'fiscally unsustainable', motivating recent proposals to introduce means testing – as in South Africa – to reduce the number of claimants, and to restrict payment increases below current inflation rates.

According to Samson (2004), five countries in Africa have non-contributory social pensions: South Africa, Namibia, Botswana, Lesotho and Mauritius. The costs associated with the administration of these social pensions vary among these countries when measured as a percentage of the country's GDP, with their forming 3% of that of South Africa was 3% of GDP, 2% of that of Mauritius, 1,4% of that of Lesotho, 0,7% of that of Namibia, and 0,4% of that of Botswana (see Figure 15). According to Samson (2004), social transfers (pensions) in South Africa support economic growth along multiple dimensions, substantially reducing poverty and destitution among all households by 21% and 32%, respectively.



Source: Adapted from Samson (2004).

Figure 15. Non-contributory social pension costs as % of GDP in SADC

Social grants in South Africa play a critical role in reducing poverty and promoting social development, as shown by a study undertaken by EPRI (2004) to evaluate the social and economic impact of state old age pensions (SOAP), disability grants (DGs), child support grants (CSGs), care dependency grants (CDG), foster care grants (FCGs) and grants-in-aid (GIAs). In terms of health, education, housing and vital services, such social grants were found to reduce poverty, regardless of which methodology was used to quantify the impact measure or to identify the poverty line concerned. The current social security system is most successful when measured in terms of destitution, with its impact being smallest when poverty lines ignore economies of scale and adult equivalence issues. For instance, social grants in South Africa reduce the poverty headcount measure by 4.3%, as measured against the Committee of Inquiry's expenditure poverty line (which possesses no scales). The social security system, however, reduces 45% of the total rand destitution gap – an impact which is more than ten times greater (EPRI, 2004).

EPRI (2004), when using the Committee of Inquiry's aforementioned expenditure poverty line,

detected that a 10% increase in the take-up of SOAP reduces the poverty gap by only 1.2%, with full take-up being reduced by only 2.5%. The take-up rate for the SOAP is already very high, and many of the elderly who are eligible for the pension, but who do not receive it, are not among the poorest of South Africans. As a result, extending the SOAP still further has limited potential as a poverty reducing measure. Extensions of the DG offer greater promise, although at substantially greater expense. A 50% increase in DG take-up would reduce the total rand poverty gap by 1.7%, while full take-up would generate a 5.1% reduction. The greatest poverty-reducing potential lies with the progressive extension of the child support grant. Extending the eligibility age to 14 would reduce the poverty gap by 16.6%, while a further extension to age 18 would reduce the existing gap by 21.4%. Increasing the real grant payment (as the government did in 2003) would generate an even greater impact. Extending the child support grant to age 14 would yield a 22% poverty gap reduction, while an extension to age 18 would reduce the poverty gap by 28.3%. Combining the higher CSG extended to age 14 with the full take-up of the SOAP and the DG would reduce the total rand poverty gap by 29%.

According to Smith and Subbarao (2003, cited in FFSSA, 2004), in the absence of commitments on the part of donors to fund recurrent social protection interventions, the government provision of social protection is prioritised in relation to other pressures on limited government expenditure. Common characteristics of very poor countries are very low average incomes; the absence of a growth path to reduce poverty in the near future; limited resources to fund transfers to the poor, and early stages of transition out of subsistence agriculture. Such characteristics serve as barriers constraining the implementation of effective public safety nets. According to the Forum for Food Security in Southern Africa (FFSSA) (2004), financial dilemmas were not the only factors constraining policy choices aimed at social protection. Effective safety net interventions require sufficient administrative capacity within government to design programmes, to identify the right beneficiaries correctly and to deliver social services to them. In many countries in Southern Africa, institutional capacity is still lacking in this respect.

5.4.3 International food assistance programmes

Two forms of FAPs exist at the international level: food aid and food-related international finance. Such programmes are merely cross-border extensions of domestic FAPs, involving the transfer of resources into a country for subsequent distribution by the recipient government or NGOs to individual beneficiaries thereof (Barett, 2002). Food aid is analogous to food distribution programmes, in which donors provide in-kind assistance, most commonly out of their own

surpluses. While food-related international finance is analogous to food stamp schemes, the recipients are given additional purchasing power with which to enter international food markets. Barett (2002) define food aid and food-related international finance, with *food aid* consisting of the international provision of food commodities, usually surplus from the donors, for free or on highly concessional terms. Traditionally, half to three quarters of the value of food aid has been free. *Food-related international finance* is a mechanism aimed at helping to improve food-deficit countries' food security without the available resources being directed to local stockbuilding or further borrowing. The common objective is to provide medium-term credit on favourable terms to support extraordinary food import requirements caused by price shocks or crop failures. Generally, FAPs are transfers in cash or in kind, intended to increase food intake and improve participants' nutritional status. This section identifies the existing two forms of international food assistance in the region, and describes the delivery or distributional problems facing the recipient governments or NGOs in respect of individual beneficiaries, who may contribute to food insecurity in the region.

According to Zondi (2004), food aid has come to represent the best international intervention against poverty and food insecurity thus far, thereby entrenching Africa's dependence, which it tried so hard to avoid in the 1970s. Timely food relief was vital during the 1984/85 Sahelian famines and the 1992 Southern African food crisis. However, food aid has tended to enter the food market in competition with local producers. Creating a taste for foreign foods, which has inevitably unlocked the door to commercial imports, such food aid has tended to direct attention away from long-term food security policies. According to Kalibwani (2005: 12), despite the humanitarian role of food aid in "filling the empty stomachs" and "saving dying children", food aid has been observed to have adverse effects on domestic food production. According to Hopper (1976, cited in Kalibwani, 2005), it has not only dulled the political will to develop agriculture, but has also been cited as contributing to keeping local food prices at such low levels that indigenous farmers have been discouraged from production. Several scholars, echoing the argument about the impact of price policies on domestic food production, argue that such policies have discouraged farmers from expanding their production and have thus aggravated the food deficits. The rationale for such arguments derives from basic economic theory, which suggests that food prices affect both demand and supply. If prices are low, the farmer generally gets little for his/her produce, and if too low, there is no incentive to produce enough for sale. In Zambia, it is reported that farmers who previously produced sufficient maize to sell some to the national market, now produce sorghum, millet and tubers for home consumption or else sell to local markets (FFSSA, 2004).

In contrast, however, lower prices increase the purchasing power of consumers and decrease the purchasing power of producers. And, since government pricing policies tend to lower what would otherwise have been the market price, such price policies have adverse effects on domestic food production. It is on the basis of such an argument that food aid can be regarded as an obstacle to food security (Kalibwani, 2005). Maxwell (2001) agrees that the easy availability of food aid has led to the depression of domestic agricultural production, either by way of market forces (by driving prices too low) or because it has allowed governments to neglect their farmers. Furthermore, artificially low world prices resulting from the subsidies paid by northern governments to their farmers have made commercially imported food cheap, especially in countries with overvalued exchange rates.

The targeting of food aid to those most in need is difficult, while blanket coverage reduces the impact of such aid and increases the related costs. After the 1991/92 drought in Southern Africa, it was established that staple food received by way of drought relief and food for work provided only about 15% to 25% of the average monthly per capita cereal requirements (Eldridge, 2003, cited in FFSSA, 2004). Official reports tended to over-inflate the amounts distributed, and there were problems related to delayed distribution due to logistical and organisation constraints, and inadequate targeting (Tobaiwa, 1993, cited in FFSSA, 2004). In effect, food aid was expensive when compared to commercial imports and locally produced food. Maize food aid to Malawi in 2003, for example, was estimated to cost US$450 per tonne, compared to the US$220 per tonne for commercial imports, and to the less than US$50 per tonne for maize produced domestically using free inputs (Levy, 2003, cited in FFSSA, 2004). Such was especially the case for the landlocked SADC countries, in which the transport costs were exceptionally high.

Food-related international finance is critical for future growth in the region, particularly given the inability of Southern African markets to extend agricultural exports to the EU or the US, or to develop diversified economies, due to the dual constraints of OECD protectionism and WTO tariff restrictions. According to McCord (2002), NEPAD calculated that aid investment flows of US$35 billion per year would be required to rejuvenate the SSA regional economy to such a sustainable extent that the international development goal growth target of 6% would be met.

According to WFP (2006), WFP devotes more of its resources to Africa than to any other UN agency. In 2005, WFP allocated more than 70% of all its operational expenditure to SSA, more than

to any other region or continent. For the period 2003 to 2005, the total food procurement from Africa amounted to over US$ 579 million. In its mission to move massive quantities of food to people in need, WFP is one of the largest transport contractors for logistics services. For example, during 2003 it paid approximately US$ 250 million in freight costs to transport providers in several African countries. In addition, WFP also buys non-food items (NFI) from the continent to support its operations. In 2004, US$ 71.5 million worth of goods and services (35% of the total) was procured from Africa.

Table 5.3 shows WFP food purchases in SADC countries from 2003 to 2005, with WFP purchasing a total of 512, 106/mtn, equal in value to US$91 million in 2003. In 2004, its food purchases amounted to 317, with 944/mtn equal to US$75 million, while, in 2005, WFP food purchases increased to 573, 219/mtn, equal to US$114 million in the region (WFP, 2006).

Table 5.3. WFP – Food purchases in SADC, 2003–2005

Country	Quantity (mtn) 2003	Value (US$) 2003	Quantity (mtn) 2004	Value (US$) 2004	Quantity (mtn) 2005	Value (US$) 2005
Angola	3,863	766,115	532	88,506	350	105,700
DRC	2,220	815,733	844	257,227	8,141	2,916,133
Lesotho	6,069	1,140,250	35,738	8,153,677	19,613	3,497,974
Malawi	26,002	4,467,594	17,482	5,579,385	35,669	9,826,467
Mozambique	16,750	3,151,707	17,495	3,847,791	9,031	2,248,839
Namibia	2,747	179,047	5,447	1,034,396	2,534	410,206
South Africa	324,625	54,147,084	107,562	25,586,541	345,263	57,525,703
Swaziland	n.a.	n.a.	2,467	554,766	2,941	582,789
Tanzania	60,441	12,659,140	38,587	9,460,488	86,504	22,128,963
Zambia	61,973	11,499,442	85,002	17,736,130	5,7173	13,584,449
Zimbabwe	7,416	2,511,000	6,788	2,835,705	6,000	1,482,300
Total	**512,106**	**91,337,112**	**317,944**	**75,134,612**	**573,219**	**114,309,523**

Source: WFP (2006).

Note: n.a. = not available

Despite such extensive WFP aids, according to McCord (2002), aid to Africa generally has decreased by 43% over the past decade, and residual aid flows focus increasingly on humanitarian, conflict resolution and structural adjustment initiatives, in effect reducing funding available for more conventional development. Accordingly, the amount of aid provided as a percentage of gross domestic investment has decreased significantly across the region, particularly in the post-conflict countries of Mozambique and Angola. Despite such a decrease, Lesotho, Malawi and Zambia remain highly dependent on concessional aid flows. Though Zambia reduced its aid dependence

significantly during the late 1990s, it still remains highly dependent on aid, which comprises more than 40% of the total government revenue, while, in Malawi, aid accounts for more than 30% of the total revenue, and, in Lesotho, for 10% of such.

Given the secular downward trend of aid over the past decade, and the negative response of the G8 to the NEPAD proposal in June 2002, it is unlikely that the downward trend of aid to Africa will be reversed in the coming years. While vertical interventions against specific problems, such as HIV or malaria, may attract additional funding, it is unlikely that there will be significant additional aid flows for social or infrastructural development. Lastly, the addition of only US$1billion to the highly indebted poor countries (HIPC) fund by the G8 in response to the NEPAD proposal for an extended debt relief programme also indicates that increased resource flows to the region are not a G8 priority (McCord, 2002).

5.5 CONCLUSION

Available data and the literature addressed in this chapter have shown how wide-ranging government interventions aimed at sustaining food security throughout the Southern African region is proving too costly for the anticipated future. Therefore, financial resources have to be combined with political resolve to counter existing problems, although competencies within governments have to be developed to ensure long-term food security in the region.

This chapter described the following findings in relation to the interventions adopted so far to counter the problem of food insecurity in the SADC region:

Firstly, food security intervention focused on the *reduction of risk*: Of the different schemes that have been undertaken under the auspices of the SADC Food Security Programme, REWU has had the greatest role to play in reducing hunger and malnutrition in the region. At the time of the 2002 food crisis in the region, for example, the EWS succeeded in listing the extent of production and the availability of cereals in the region. However, to date EWS has fared less well in relation to the following of non-climatic incidents. Until now, the EWS has tended to collect data on behalf of governments and donors, with significantly less concern for the best interests of private activity and civil society. The focus of its concerns can be seen in the light of such a project being completely reliant on donations from associates for its functions, however.

Due to the lack of capacity of the RDMTC, which was established earlier with SADC help, minimal planning occurred. SADC therefore lacked the ability to react successfully and sustainably at a time of crisis, so that most national governments were not well prepared for the events that took place in 2001/02, and were unable to cope with the crisis effectively.

Secondly, food security programmes focused on *mitigating risk*: Persistent regional food insecurity experienced as a result of the hunger and starvation caused by the droughts and floods suffered during 1992, 1995 and 2001/02, especially when faced with severe foreign currency shortages at national level, emphasised the value of stocking grain reserves within the SADC countries themselves. In addition, the negative impact of storage and opportunity costs, as well as the pressure of having to administer such reserves in a cost-effective and fair way in the face of the demands made by influential lobby groups whose demands fluctuate over time, depending on market conditions, have to be considered.

In relation both to the public and the private sectors, SAFEX holds potential as a facilitator of the accumulation of extensive stocks of staple cereals, such as maize and wheat. With the implementation of such a system allowing for administration to take place at the regional rather than at the national level, the adoption of such an approach would serve to encourage intra-regional trade, reinforce the function of private actors, and diminish the need for state governments to maintain either large grain stocks or extensive monetary reserves. Accordingly, this new development may well benefit from a process of regional harmonisation directed at supporting national actions.

Finally, food security involvements focused on *coping with risk*: Food subsidies and food price stabilisation systems have come under increasingly severe criticism due to most financial assistance programmes aimed at fostering a situation of food security being essentially regressive, as it is the wealthy who tend to prosper from the additional food supplies and to benefit most from widespread subsidisation. Such interventions would also be extremely costly to implement in such a way that they bring about wide-spread relief to the poorest of the poor. Due to food-pricing strategies in most Southern African countries being notably consumer-oriented, agricultural pricing policies have tended to suppress any incentives to produce food, as well as forestalling governments from instituting and maintaining food reserves. The adoption of such strategies has also reduced

opportunities for employment in the farming, processing and rural industries.

Some governments in the region, such as that of Malawi, that have consistently aimed at attaining a better quality of life for their poor, have had to face numerous bureaucratic bottlenecks and restrictions. Controlled safety net programmes – nutrition supplements; free food distribution; free input distribution; food-, cash- and inputs-for-work – have tended to be disjointed, unco-ordinated and inappropriately targeted. Direct support and social constructivist transfers have been few in volume and narrow in scope, mainly due to the prevailing financial constraints. Furthermore, although the WFP has worked hard to improve the learner–teacher ratio, a standard reaction to situations of chronic and transitory food insecurity in the region has been to withdraw learners from the educational system.

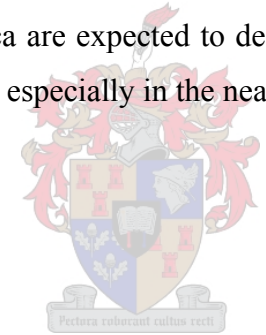
Lesotho still has no discernible poverty reduction and food security strategies designed to expand its economy in the long term or to promote its macro-economic stability. The poverty and food insecurity reduction programmes that have been implemented in Mozambique since the end of the civil war, have largely aimed at diversifying the economy and enhancing productivity, with little discussion of how to cope with at risk groups. Similarly, in Zambia poverty and food insecurity reducing interventions have failed to include any means by which to improve agricultural inputs or to stabilise food prices that were affected by structural adjustment programmes. Zimbabwe may have the economic and managerial competence to implement successful social protection programmes of a wide enough scope to deal with the needs of the local populace. However, the collapse of its economic development policy caused the Zimbabwean government to establish welfare projects aimed both at pleasing voters, which tended to deepen reliance on aid. More positively, social grants (such as those implemented in South Africa) played an important role in decreasing poverty and encouraging social development, despite their being less successfully targeted and economically sustainable in some SADC countries (such as Namibia).

Impoverished countries experienced minimal average revenue, inadequate growth aimed at poverty reduction in the near future, insufficient capital to support transfer of assets to the poor and a basic shift away from subsistence agriculture, which all constrained the establishment of efficient public safety nets. However, financial problems were not the only issues restricting social protectionist policy options. Successful interventions require that governments are competent enough at managerial level to design programmes, to identify the beneficiaries who will most benefit from

interventions and to deliver social services to them. However, in several Southern African countries, such competency is still lacking.

Despite the humanitarian intent of food aid programmes, such intervention has been observed to affect home food production adversely. Food aid strategies have, in effect, often discouraged farmers from intensifying their production, thus leading to food deficits, in line with basic economic theory, which claims that food prices influence both demand and supply. In addition, food aid to landlocked countries, such as Malawi, is prohibitive, when seen in the context of economy-based imports versus locally produced food. Moreover, numerous difficulties abound in regards to delays in distributions due to transportation and administration problems and inappropriate targeting.

Although WFP aid has proved of great significance to Africa, monetary support generally has declined by forty-three percent, with residual aid flows focusing more on humanitarian conflict resolution and structural adjustment programmes, resulting in the decreased funding of overall development. Fiscal aid flows to Africa are expected to decline even more over the coming years, with funding becoming less accessible, especially in the near future.



CHAPTER SIX

The contribution of regional trade integration to food security

6.1 INTRODUCTION

In the face of globalisation, regionalism, especially in Africa, has received much more attention than in the past, as a result of growing fears of African marginalisation (Chauvin & Gaulier, 2002). Although the circumstances and objectives vary among the different SADC countries, success could be achieved in the regional, if they were all to satisfy certain criteria. According to the World Bank (1986), in order to succeed in terms of regional trade, integration should meet at least three criteria. First, a region should contain some countries with a food surplus and some with a food deficit. Second, an adequate storage, transport, and communication system should link the countries, so that food supplies can flow between them. Third, the countries should have a high degree of political unity – which is, perhaps, the most important and the most difficult precondition to satisfy. This chapter aims to clarify the problems facing regional trade integration in Southern Africa, in the light of the fact that African countries are too small on their own to negotiate with the powerful trading blocs.

One of the primary arguments in favour of regional integration is that small economies cannot successfully compete on their own. The UN and other international organisations have studied this issue since at least the 1940s as part of their research into the decolonisation process. The subsequent literature emphasises the following problems faced by small economies (USAID, 2003):

- Their small domestic resource base limits the capacity for transformation, resulting in less diversified economic activity.
- There are limited opportunities for economic development, with a greater dependence on external factors, leading to increased economic instability and vulnerability.
- A high level of dependence on a few primary products for export leaves small economies vulnerable to external shocks and natural hazards.
- Small countries present few(er) opportunities to realise economies of scale.

Future food demands will require a dramatic improvement in domestic agricultural production, and in the marketing and trade of cereals in the region. Domestic production is still low, with trade

policies not yet being harmonised and trade transaction costs still being high (Van Rooyen, 1997, cited in Van Rooyen, 2000). A regional approach, enabling agriculture to contribute positively to the problems of food security, poverty and employment, is urgently required. According to Vink (1992), there are basically two models for economic regionalism: sectoral co-operation and trade integration, in both of which the agricultural sector features prominently. Trade integration has the potential to yield substantial benefits, primarily because it reduces both tariff and NTBs to trade, providing member countries with broader markets for their commodities, while enhancing the transferability of resources to optimal production functions in various economic sectors. Sectoral co-operation facilitates the sharing of regional resources and information, knowledge and experience in activities such as research and training. Trade integration and sectoral co-operation between countries, operating within different transformation phases; therefore contribute both directly and indirectly to sustainable economic growth, food security and development in a region.

Regional trade integration is generally seen as a means of fostering economic growth and development through increased intra-regional trade and cross-border investment (Chauvin & Gaulier, 2002). According to Mayer and Thomas (1997), a critical assumption made is that trade integration among developing countries is a mechanism for fostering industrial development and diversification, rather than for merely enhancing trade flows between constituent countries. While the removal of barriers to international trade is necessary for regional industrial development, it is not a sufficient condition. Access to a larger market clearly enables individual countries to exploit economies of scale and thus to develop industrial capacity. According to McCord (2002), even within unequal regional economic development some benefits may accrue to less developed countries from regional integration through the exchange of goods, as well as by extending the region's capacity for growth by expanding the resource base and facilitating structural transformation. Such benefits may spread to the less developed countries in the region by way of cross-border flows of resources, goods and labour. However, within the region such spread is restricted, due to an inadequate transport and communications infrastructure, as well as to social and political factors. In order to promote flow within the region, the removal of barriers to such a transfer of labour and capital would be required. Nevertheless, the debate on trade liberalisation and growth is still open, with the increasing integration of the world economies having revived interest in regional integration schemes.

As a result of Africa having experimented with economic integration for some time now, it has developed around 11 economic blocs, including the Economic Community of Western African

States (ECOWAS), Common Market for Eastern and Southern Africa (COMESA) and SADC (Chauvin & Gaulier, 2002). According to Vink and Kirsten (2002), the three most important trade relations in the Southern African region include SACU, which exhibits the deepest level of integration, SADC, and the South Africa–Zimbabwe bilateral agreement. Of the extra-regional influences, the Lomé (and now Cotonou) preferences, the Africa Growth and Opportunity Act (AGOA) of the USA, and the separate bilateral agreement of South Africa with the EU are most influential.

6.2 ECONOMIC STRUCTURES AND GROWTH PERFORMANCE IN SADC

Over the past 15 years, growth performance has been relatively poor in Southern Africa, as the region experienced slow growth, with declining levels of GDP per capita. It is unlikely that most countries in the region will meet the 6% growth levels required to halve poverty by 2015. However, the structure of the regional economies was such that they were competitive, rather than complementary. The objective of this section is to determine the economic structures, and the growth performances among countries, in the SADC region.

The SADC countries fall into two broad groups over the long-term: those that rely on agriculture and those that are mineral-based (see Table 6.1). The primary economic activity of the DRC, Tanzania, Malawi and Mozambique centres on the agricultural sector (World Bank, 2006). According to Chauvin and Gaulier (2002), the Mauritian economy has, for quite some time, been driven by the agricultural sector, though sometimes the manufacturing sector outweighs the sugar industry as the main pillar of the economy. The mainstay of the Seychelles economy is services, as a result of the relative importance of its tourism sector. The mining sector also continues to be one of the most important sectors for most of the SADC countries, including Namibia, Zimbabwe, South Africa, Botswana and Angola. According to Mayer and Thomas (1997), the structural characteristics of the regional economies were such that they were competitive rather than complementary, with countries producing a similar range of primary products and competing for export markets. Indeed, the lack of a diversified production structure in the SADC region is frequently cited as the main obstacle to the successful integration of, and economic development in, the region.

Table 6.1. Economic structures of the SADC countries (% share of GDP), 1980–2005

Country	Agriculture, value added (% of GDP)			Industry, value added (% of GDP)			Manufacturing, value added (% GDP)			Services, value added (% of GDP)		
	**1980	**1990	*2005	**1980	**1990	*2005	**1980	**1990	*2005	**1980	**1990	*2005
Angola	n.a.	17.9	8.0	n.a.	40.8	66.0	n.a.	5.0	4.0	n.a.	41.2	26.0
Botswana	11.0	4.6	3.0	45.1	56.4	51.0	5.3	4.9	5.0	43.9	39.0	46.0
DRC	25.3	30.1	46.0	33.1	28.2	25.0	14.3	11.0	4.0	41.6	41.6	29.0
Lesotho	24.6	23.4	17.0	26.5	33.7	41.0	n.a.	n.a.	19.0	48.9	42.9	41.0
Malawi	43.7	45.0	35.0	22.5	28.9	19.0	13.7	19.5	11.0	33.7	26.1	46.0
Mauritius	12.7	12.1	6.0	25.9	32.2	28.0	15.3	23.6	23.0	61.8	55.7	66.0
Mozambique	37.1	37.1	23.0	34.4	18.4	30.0	n.a	10.2	15.0	28.5	44.5	47.0
Namibia	11.6	11.8	10.0	57.6	38.3	32.0	9.4	13.9	12.0	30.8	49.9	58.0
Seychelles	6.8	4.8	3.0	15.6	16.3	28.0	7.4	10.1	20.0	77.5	78.9	69.0
South Africa	6.2	4.6	3.0	48.2	40.1	31.0	21.6	23.6	19.0	45.6	55.3	66.0
Swaziland	23.7	13.7	12.0	32.0	43.4	48.0	22.3	35.9	39.0	44.3	42.8	40.0
Tanzania	n.a.	46.0	45.0	n.a.	17.7	18.0	n.a.	9.3	7.0	n.a.	36.4	38.0
Zambia	15.3	20.6	19.0	42.6	49.1	25.0	7.8	14.0	12.0	42.1	30.3	56.0
Zimbabwe	15.7	16.5	22.0	29.0	33.1	28.0	21.6	22.8	14.0	55.3	50.4	50.0

Note: n.a. = not available.

Source:

** World Development Indicators (2006). The World B.ank*

***World Development Indicators (2001). The World Bank.*

According to McCord (2002), during the late 1990s, only Angola, Malawi, Mauritius and Mozambique attained the 5% growth floor estimated to be a prerequisite for preventing an increase in the number of their citizens living in poverty, while the other countries in the region fell below such a floor (see Table 6.2). Angola, Malawi and Mozambique also reached the 6% growth target estimated as the condition for reducing poverty by half by 2015. Growth rates for 2000 indicate that, within the region, only Botswana and Mauritius may be able to sustain their GDP growth above the 6% target in the near future. All other countries in the region were found to be facing low-growth scenarios, indicating a continuing fall in GDP per capita, with the SADC average for 2000 falling to 2,8% GDP growth, while in the same year the DRC and Zimbabwe experienced severe growth reductions, of 15,0 and 6,1% respectively. According to the World Bank (2006), while, in 2005, Angola (15%), Mozambique (8%) and the DRC (7%) experienced considerable growth, above that set as the growth target for the Millennium Development Goal, Zimbabwe was the only country in the region that remained with negative growth, due to political unrest and its disadvantageous macro-economic policy. The SADC average for 2005 increased to 4,3% GDP growth, which meant that the SADC was doing better, though it was still operating at below the target level of 6%.

Table 6.2. Basic economic growth data for Southern Africa, 1990–2005

SADC Members	Population (millions)	GDP US$ (billions)	GDP per capita (constant US$)	Average Annual Real Growth Rate % p/a			
	2005*	2005*	Av.2000–2004*	1990–94**	1995–99**	2000**	2005*
Angola	15,9	28,0	801,5	−5,9	6,8	4,9	**15,0**
Botswana	1,8	9,4	3396,5	4,6	4,8	**6,0**	4,0
DRC	57,5	7,0	86,8	−8,6	0,9	−15,0	**7,0**
Lesotho	1,8	1,5	516,4	4,4	3,9	2,5	1,0
Malawi	12,9	2,1	162,3	1,0	7,3	3,0	3,0
Mauritius	1,2	6,4	4035,9	5,4	5,2	**7,5**	5,0
Mozambique	19,8	6,6	241,2	2,6	8,7	3,8	**8,0**
Namibia	2,0	6,1	1831,0	4,3	2,8	4,0	4,0
South Africa	45,2	240,2	3132,4	0,2	2,3	3,0	5,0
Swaziland	1,1	2,7	1337,3	3,8	2,9	2,4	2,0
Zambia	11,7	7,3	345,5	0,2	1,3	4,0	5,0
Zimbabwe	13,0	3,4	520,7	2,1	3,1	−6,1	−7,0
SADC Average				1,5	4,0	2,8	4,3

Sources:

**World Development Indicators (2006).*

***Lewis (2001, cited in McCord, 2002).*

According to the United States Agency for International Development (USAID) (2003), the barriers

to growth within the SADC region have been found to be substantial, including:

1) *macro-economic policy*, characterised by a lack of internal macro-economic balance, overvalued currencies, and high rates of inflation (Jenkins & Thomas, 2000, cited in USAID, 2003);

2) *taxation and fiscal adjustment*, characterised by a lack of indirect and direct tax policy co-ordination and the persistence of capital controls (Leape, 2000, cited in USAID, 2003);

3) *trade policy*, characterised by overlapping membership and incoherent rules of origin and trade tariff treatment of SADC member countries in different preferential trade arrangements (Chauvin & Gaulier, 2002);

4) *foreign direct investment*, characterised by political and economic instability; pervasive inept bureaucracy and inefficiency; a lack of regulatory transparency; an underdeveloped private sector; restrictions on movements of persons; the underdevelopment of capital markets and the persistence of capital controls; the lack of regional product standards; shortages of skilled labour; low productivity, and undue restrictions on land ownership (Hess, 2000, cited in USAID, 2003);

5) *micro-economic considerations*, characterised by supply-side constraints relating to the provision of physical infrastructure, education and training, and finance; the transfer of technology and information; market development activities; political concerns regarding potential job losses from integration, especially in 'sensitive industries', as identified in the SADC Protocol on Trade; the lack of definition of priorities for launching private sector growth, especially in micro-, small, and medium-sized enterprises; concerns about predatory behaviour by local, regional and international firms; substantial labour market differentials between organised labour in South Africa and workers elsewhere in the region; and underdeveloped human resource capacities (Maasdorp, 2000, cited in USAID, 2003).

In conclusion, positive outcomes of the regional neo-liberal economic stance have been a general reduction of fiscal deficits throughout the region and a significant decrease in general inflation during the 1990s and 2000 (see Table 2.2). Nevertheless, economic growth in the SADC region was found to be lagging behind other economic blocs in the developing regions, and the region's GDP growth, at the time of this study, was still far below the target of 6% defined in NEPAD as being a minimum requirement for sustained economic development; accordingly, its contribution to food security is still in doubt. In addition, the features of the regional economies were competitive rather than complementary. Thus, non-diversified production composition in the SADC region is commonly quoted as being the key obstacle to the development of integration and economic advancement in the region.

6.3 SACU

SACU is the longest standing regional integration arrangement in Southern Africa, albeit a relic of the colonial era. Economic integration between South Africa and Botswana, Lesotho and Swaziland (the BLS countries) goes as far back as 1891. In 1915 the agreement was extended to South-West Africa (now Namibia), after the South African forces defeated the German army and took over administration of the territory during the First World War. The current SACU agreement came into force in 1969, after the BLS countries had all gained their independence (Mayer & Thomas, 1997). This section provides an overview of the economic characteristics of SACU, reveals whether Southern African economies have interventionist or protectionist trade regimes, on both their export and import sides, and identifies the problems facing existing economic blocs and regional trade agreements in Southern Africa, as well as the contribution made by these groupings to regional food security.

Five members of SACU have close economic relations going back over a century, with four of its members also forming part of a monetary union.[14] The defining characteristic of SACU is the economic dominance of South Africa in relation to the size of the other four members. The BLNS countries depend heavily on South Africa for a significant proportion of their trade, investment and, in some cases, (migrant) employment (Kirk & Stern, 2003). Kirk and Stern (2003) also found that South African companies dominate the business landscape in the BLNS countries. The BLNS countries source most of their imports from South Africa, although their exports are more geographically diverse. Moreover, the commodity pattern of South African exports to the BLNS countries differs significantly from that of its exports to the rest of the world. Whereas South Africa continues to export predominantly resource-based goods, the BLNS represent a significant market for South African consumer goods and services (Kirk & Stern, 2003). The data in Table 6.3 show the BLNS being dwarfed by South Africa in terms of economic and population size, with the former having experienced higher growth rates, and with Botswana having a higher level of GDP per capita. Over the past two decades, Botswana has experienced much higher growth rates than have all other member states (and most of the world), based on the successful exploitation of its diamond reserves. The mining industry dominates the economy, accounting for over 30% of the GDP, although its share is declining as trade, financial and government services expand. In contrast, manufacturing accounts for less than 5% of the GDP (Kirk & Stern, 2003).

[14] The Common Monetary Area includes South Africa, Lesotho, Namibia and Swaziland. Botswana withdrew from its predecessor, the Rand Monetary Area, in 1974.

Table 6.3. SACU countries' basic data, 2000

Country	Population (million)	GDP ($ billion)	GDP per capita $	Average Growth Rate 1990–2000
Botswana	1.7	5.65	3,424	4.8
Lesotho	2.16	0.88	407	4.2
Namibia	1.76	3.47	2,006	4.2
South Africa	43.8	125.6	2,864	1.7
Swaziland	1.0	1.28	1,308	3.4
SACU	**50.42**	**136.88**	**2,715**	**1.9***

Source: IMF Annual Financial Statistics (2001/2002) and World Bank African Development Indicators (2002, cited in Kirk & Stern, 2003).

** Weighted by 2000 GDP.*

According to Kalenga (1999), the Southern African economies have led interventionist and protectionist trade regimes for quite a long time. On the *import side*, the extensive use of restrictive licensing systems, high tariffs with escalated and cascading structures, a varying degree of import prohibitions and tight foreign exchange controls were implemented. On the *export side*, there were substantial implicit and explicit export taxes and the prohibition of certain items as exports. According to Chauvin and Gaulier (2002), the reason behind the taking of such measures was the promotion of industrialisation through import substitution, and the raising of government revenue. Chauvin and Gaulier (2002) have also argued that most SADC countries have considerably reduced their trade policy related to NTBs, such as quantitative restrictions on imports. However, significant NTBs still exist, remaining the most critical obstacles to trade. Such NTBs include quantitative restrictions on certain imports, such as maize, wheat and dairy products. Other NTBs relate to surcharges on imports; customs documentation and related procedures; border-related controls; the transportation of goods and persons; foreign exchange bottlenecks, which tend to discourage trade transactions; delays in payments, and clearance and settlement systems. In almost all countries in the region, the highest rates are applied to consumer goods, middle rates to intermediate goods and lower rates to capital goods and raw materials.

Reforms, in terms of the IMF/WB structural adjustment programme, have brought about changes since the mid-1980s. Subsequently, countries in the region committed to reducing their tariffs under

the Uruguay Round outcome. Participation in regional arrangements further led to the liberalisation of intra-regional trade among some SADC countries, which has resulted in lower tariff rates and less dispersion in tariff regimes in individual countries (Chauvin & Gaulier, 2002). According to the Economic and Social Research Foundation (ESRF) (2003), the Namibian government, for example, has privatised support services, such as tractor and seed provision, and agricultural boards no longer either set prices or procure agricultural products. Tanzania, Zambia and Malawi have liberalised their exchange rates, decontrolled their pricing systems and abolished the setting of pan-territorial and uniform prices by their agricultural boards.

According to the ESRF (2003), regional trade initiatives have proliferated around the world, including in Southern Africa. During the past two decades, the Southern African region has witnessed a growing number of regional co-operation and regional integration initiatives, including COMESA, SADC, SACU, the East Africa Co-operation (EAC), the Indian Ocean Commission (IOC), the Indian Ocean Rim (IOR) and the Common Monetary Area (CMA), which are all involved in economic and regional co-operation. The current membership of regional institutions in Southern Africa is shown in Table 6.4 below.

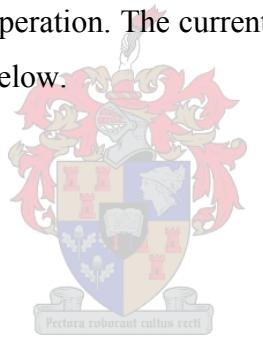


Table 6.4. Membership of regional organisations in Southern Africa

Country	SACU	CMA	SADC	COMESA	CBI
Angola			X	X	
Botswana	X		X		
DRC			X	X	
Lesotho	X	X	X		
Malawi			X	X	X
Mauritius[1]			X	X	X
Mozambique			X		X
Namibia	X	X	X	X	
Seychelles			X	X	X
South Africa	X	X	X		
Swaziland	X	X	X	X	X
Tanzania			X		X
Zambia			X	X	X
Zimbabwe			X	X	X

Source: ESRF (2003).

According to the ESRF (2003), a new economic environment has emerged within SADC with the adoption of the Protocol on Trade in 1996 and its implementation, which started in 2000. Theoretically, the aim of the protocol is to remove restrictions on trade by eliminating import and export duties and eliminating NTBs. Unfortunately, the intended fostering of trade in the SADC region faces many challenges, including:

- the freer movement of goods and services across borders;
- improved competitiveness and quality in terms of the imposition of standards;
- greater striving towards the harmonising of trade policies;
- the imposed conformity of trade policies in the SADC with global economic requirements, in accordance with WTO regulations;
- diversification in tradable commodities, according to each country's comparative advantage;

and

- the membership of SADC countries in other trading blocs, such as COMESA, IOC, ACP, SACU and the EU Free Trade Agreement (FTA), overlapping in the field of trade policies.

Since most SADC economies are predominantly agriculture-based, with food dominating such trade among SADC countries, enhanced trade in agricultural products potentially provides a tool for fighting poverty, promoting integration, and increasing economic growth, food security and welfare in the region (ESRF, 2003).

6.4 SADC

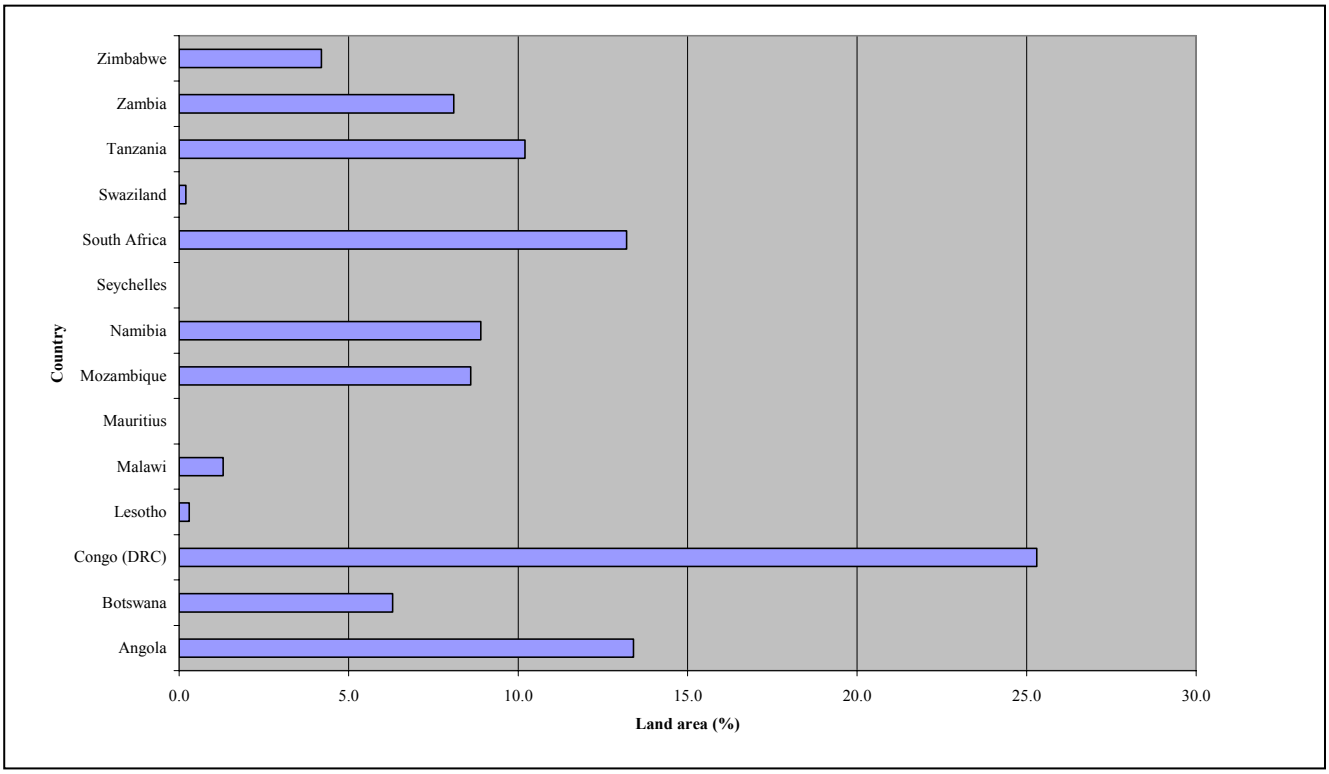
The desire to address food security problems within a regional context was first expressed as early as 1980 in the Southern Africa region, now officially known as SADC. According to SADC/FAO (2002), the objectives of SADC are to achieve development and economic growth; to alleviate poverty; to enhance the standard and quality of life of all the peoples of Southern Africa, and to support the socially disadvantaged by means of regional integration. However, in order to achieve complementarity between national and regional strategies through institutional framework. This section provides a historical background to the formation of SADC, and aims to determine whether SADC, as an economic community, will foster economic growth and development through increased intra-regional trade and cross-border investment.

According to Chauvin and Gaulier (2002), SADC evolved out of the SADCC. The latter was created in 1980 and was more intended to provide a bulwark against the apartheid system prevailing in South Africa than to foster a regional trade arrangement. SADCC became SADC in 1992, broadening its concerns to the facilitation of regional economic integration. The entrance of South Africa into the Community in 1994 enhanced the viability of SADC as an economic community. Currently, SADC encompasses 14 members. According to the World Bank (2001), the 14 member states of SADC represent a total population of approximately 200 million people.[15] Three countries (the DRC, South Africa and Tanzania) account for almost two-thirds of the total population in the region (see Figure 8 in Chapter 2).

According to Rousseau *et al*. (2002), the total area of SADC is 9 277 million km^2. The large

[15] In 2004, the total population in the SADC region consisted of 219 million people (see column 3 in Table 2.9).

variance in the relative size of the member countries is clearly illustrated by the fact that fewer than half of the countries comprise 88% of its total surface area (see Figure 16 and the SADC member states map, Appendix 3). The DRC, Angola and South Africa cover close on 52% of the area covered by the Community. The relatively small geographical surface areas of Mauritius and the Seychelles resulted in them having the highest population density figures – 578 and 177 persons per km^2 respectively. Botswana and Namibia had by far the lowest population density figure – 2,8 and 2 persons per km^2, respectively. Compared with other countries in, for instance, Europe and Asia, the population density in SADC is relatively low. Average population density figures, however, tend to be misleading, since high concentrations of people occur in a few metropolitan and urban areas.



Source: Adapted from Rousseau et al. *(2002:3).*

Figure 16. Total land area of SADC

According to SADC (2001), agriculture forms a key sector in the economy of the SADC member states, contributing about 13% of the region's GDP. The sector is dominated by small-scale farming, with average land holdings of less than 1 hectare. It is estimated that the livelihood of 70% to 80% of the region's population depends on agriculture. Economic development will, therefore, only happen if agricultural productivity is enhanced. Most economies of the SADC member states are agriculture-based, with their economies depending on exports of traditional or primary

agricultural products, while they import most of their manufactured goods, including agricultural inputs, such as machinery and fertiliser.

According to SARPN (2003), SADC countries differ geographically, economically and in their levels of development. Some members of the Community, such as Tanzania, Mozambique, the DRC, Angola, Namibia and South Africa, have sea outlets, while others, like Malawi, Zambia, Zimbabwe and Botswana, are landlocked. Climatic conditions are not uniform, resulting in the production of different crops and differences in cropping patterns, which indicate different vulnerabilities to food crises. Some countries, such as Namibia, Botswana, Zimbabwe and Zambia, are persistently prone to drought and famine.

According to SARPN (2003), countries like Botswana and Namibia have relatively limited arable land and have correctly placed their emphasis on the livestock sector, meaning that they could exhibit extensive demand for crop products. These countries are rich in minerals, livestock and petroleum. Countries that are supply-rich in terms of agroproducts include Tanzania and South Africa. These two countries are endowed with different weather conditions and abundant arable land, allowing for the farming of different crops, and are also well positioned to facilitate trade, as they have sea ports and borders on many other countries. Other countries, such as Malawi, Zimbabwe and Zambia, though, have climatic conditions that are conducive to the production of adequate food. However, they have recently been hit by a drought that precipitated a food crisis. This is an opportune moment for supply-rich countries, such as Tanzania, to ameliorate the situation through the export of food crops to the food crisis countries in the region.

According to SADC/FAO (2002), in 1999, the combined GDP for SADC was estimated at US$178,3 billion. The economies of SADC member states were structurally varied and at different stages of development. South Africa's GDP of US$131 billion, which showed that this was the region's most developed economy, was larger than the combined GDP of all other SADC members. Inflation rates within SADC also varied during the period, from hyperinflation in Angola (248%), the DRC (45,3%) and Zimbabwe (60%), to relatively low levels of inflation in Mozambique (5,5%) and South Africa (5,5%). While SADC region economies grew at a combined rate of 3% in 2000, the substantial external debt of individual member states is still one of the region's greatest

challenges. Vink and Kirsten (2002) found that the total SADC GDP was around US$182[16] billion in 2000, while the average GDP per capita was US$1 761. However, there were wide variances, with seven SADC countries being classified as least-developed economies (Angola; the DRC; Lesotho; Malawi; Mozambique; Tanzania, and Zambia).

According to USAID (2003), the new trade negotiations in the WTO offer a multilateral forum for the SADC region to take advantage of a rules-based system for trade and development. Most countries[17] have agreed to the WTO, and the Doha Development Agenda offers many opportunities and challenges. New structures in the global trading system and governance can increase the region's market access and clarify its rights in the international trading framework. However, they also bring obligations, including the duty to surrender a degree of sovereignty over trade and investment. Also, as a consequence of continued global trade liberalisation, there will be a continuing erosion of the preferences enjoyed by SADC countries. According to the ESRF (2003), the SADC region has made substantial progress in matters of trade liberalisation under the structural adjustment programmes that have been in effect since the mid-1980s. Countries in the region have liberalised their exchange rates, privatised their marketing boards, decontrolled their pricing systems and removed their quantitative restrictions, among other measures. Jenkins, Leape and Thomas (2000, as cited in USAID, 2003), state that, nevertheless, trade liberalisation still has far to go in the region. Jenkins *et al.* suggest that the SADC FTA should not be viewed as an end in itself, or as an alternative to the more general removal of trade restrictions, but rather as a means of improving competitiveness in Southern Africa, so that the region can take full advantage of wider trade and investment opportunities. USAID (2003) also proposes that the SADC FTA be viewed as one of a series of trade arrangements in which Southern African countries participate, and suggests that an SADC–EU FTA would be a logical follow-on to the South African and SACU FTAs with the EU. According to McCord (2002), while the EU–SA trade agreement will primarily benefit South Africa, the WB has calculated that it is also likely to have secondary economic benefits for the wider region, in terms of increased regional production and exports. Europe remains the region's top trading partner, although it has lost market share in recent years to Asia, Japan, Italy, Germany and the US, while, in terms of AGOA, exports to the USA are likely to increase substantially in the future.

[16] According to the World Bank (2006), the total SADC GDP was US$320,7 billion in 2005, excluding that of Tanzania and the Seychelles (the sum of column 3 in Table 6.2).
[17] The fourteen SADC member countries. All are WTO members, except for the Seychelles, which is a WTO observer.

Recently, trade between SADC member countries has been on the rise, though the levels of imports and exports differ from country to country (see Table 6.5). For example, Tanzania imports more than what it exports to SADC countries. While imports from SADC countries accounted for 13% of total market share in 2000 and 2001, exports accounted for 4% only (ESRF, 2003). According to the ESRF (2003), to Malawi, SADC represents a very important market for both imports and exports. However, the country's regional trade with other SADC members remains relatively minor. For Namibia, its main trading partner, South Africa (under the sponsorship of SACU) dominates trade, accounting for 99,84% of its imports and 99,38% of its exports. Zambia's agricultural exports have varied from year to year. In 1997 and 1998, agricultural exports to SADC countries grew by 21% and 33% respectively. However, these gains were reversed by declines in agricultural exports of 23% and 26% in 1999 and 2000 respectively. Zambia imports various agricultural products from SADC member countries.

Table 6.5. Selected recent trends in intra-SADC trade

Country	**Key Points**
South Africa	▪ Rapid growth of agricultural exports to SADC member states, primarily of high value products. ▪ Imports of agricultural products from SADC countries are typically confined to a small number of products with substantial variability in flow from year to year. Much slower growth in imports than exports.
Namibia	▪ Trade remains dominated by SACU. ▪ Angola represents an important potential market.
Zambia	▪ Erratic, though upward, trend in non-traditional agricultural exports. ▪ Increased imports, especially of primary and high value products, primarily from South Africa.
Malawi	▪ Declining trade with SADC in regards to both exports and imports.
Tanzania	▪ Share of exports to SADC in total increased from 3.3% in 1990 to 3.9% in 2000. ▪ Share of imports from SADC (with the flow dominated by South Africa) increased from 1.2% in 1990 to 12.4% in 2000.

Source: ESRF (2003).

Transport is a key sector in as far as creating a dynamic imports–exports nexus for intra-SADC trade, but the capacity and efficiency of the transport system in the region were weakened by a lack of investment and poor performance by the transport sector, which adversely affected export performance and market development. Transport costs depend on physical distance and the capacity and efficiency of the transport system concerned (ESRF, 2003). The cost of transporting a tonne of maize from/to numerous SADC countries to/from South Africa is shown in Table 6.6.

Table 6.6. Transport costs, 1999/2000

Port of Origin	**Gauteng Road US$/tonne**
Luanda	165.5
Gaborone	15.2
Maseru	23.0
Lilongwe	97.7
Maputo	24.2
Windhoek	50.6
Lusaka	73.2
Harare	55.6
Swaziland	35.1
Dar-Es-Salaam	155.3
Cape Town	53.4
Durban	23.6
	Durban sea freight (US$/tonne)
US Gulf Port*	25.49
Argentina*	33.01

Source: Vink et al. *(2002).*

* Includes freight costs, insurance and discharging costs. Insurance is 0,3%, while discharge costs were estimated at 7,5% of the product value.

According to the ESRF (2003), costs were computed on the basis of a load size of 32 tonnes. Road transport costs include toll road costs and cross-boarder charges, as well as security costs, where applicable. For a Gauteng-based manufacturer, it was cheaper to transport maize from the US Gulf ports via Durban than from some selected countries within the SADC region, including Angola

(Luanda), Malawi (Lilongwe), Zambia (Lusaka), Namibia (Windhoek), Zimbabwe (Harare) and Tanzania (Dar-es-Salaam). The relatively low costs of sea freight for bulk products, even over long distances, highlight the importance of international trade linkages.

In terms of intra-regional investments, McCord (2002) states that South African investment flows were increasingly directed towards the Southern African region. Between 1995 and 1998, South Africa invested R2 500 million in SADC counties, becoming one of the dominant sources of foreign direct investments (FDIs) in the region. South African FDIs were concentrated in the mining, retail and wholesale, hotel and leisure sectors, and the manufacturing, as well as the finance, sectors. These FDIs are predominantly market and resource seeking in nature, while Vink *et al.* (2006) have argued that South African firms have shown themselves to be quite adept in investing in other African countries, particularly in SADC economies (see Table 6.7). South African FDIs are generally recognised as being capable of significantly improving the growth and development prospects of SADC countries. In this respect, the rapid inroads that South African investors have made in selected sectors are a welcome development.

Table 6.7. South African FDI assets by selected African countries, 31 December 2003 & 2004, R million

	2003	2004	
			% of Total Direct Investment, 2003/2004 average
Total Foreign Assets – DFI	180 507	216 660	
Botswana	551	619	0.30
Lesotho	204	256	0.12
Swaziland	937	841	0.46
Namibia	1 151	840	0.52
Zimbabwe	2 033	645	0.72
Mauritius	4 106	8 116	3.01
Mozambique	5 071	4 396	2.42
Zambia	415	412	0.21
Rest of Africa	1 369	7 476	2.10
Africa's share in FDI assets	15 837	23 601	9.84

Source: SA Reserve Bank (2005, cited in Vink et al.*, 2006).*

According to Vink *et al.* (2006), the leading sectors for FDI inflows in SADC countries, other than South Africa, are extractive industries, mining and oil exploration and production. Such investments tend to create enclave activities with severely limited spillovers into the host economies. Investment

in agriculture and in the industrial activities that operate as forward and backward linkages to farming could, from a developmental point of view, have a more positive and wider impact than investment in mining and oil production. A dollar spent on FDI in these activities could produce a higher social return than a dollar spent on mining, which might, in fact, produce negative social returns.

According to UNCTAD (2001, cited in Kamidza *et al*., 2002), in regards to extra-regional investment, SADC's share of FDIs dropped from US$5,3 billion in 1998 to US$3,9 billion by the year 2000, due to the bad relations between some countries and donors. The inflows into Angola, South Africa and Mozambique dropped sharply by 72,8%, 58,4% and 36,4%, respectively. Table 6.8 shows that FDIs to Zimbabwe fell from US$444 million in 1998 to US$50 million and US$30 million in 1999 and 2000 respectively. Similarly, Botswana and Malawi's FDIs fell from US$96 million and US$70 million in 1998 to US$37 million and US$60 million in 1999, before falling further the following year to US$30 million and US$51 million, respectively.

Table 6.8. FDI inflows by country, 1989–2000 (US$ million)

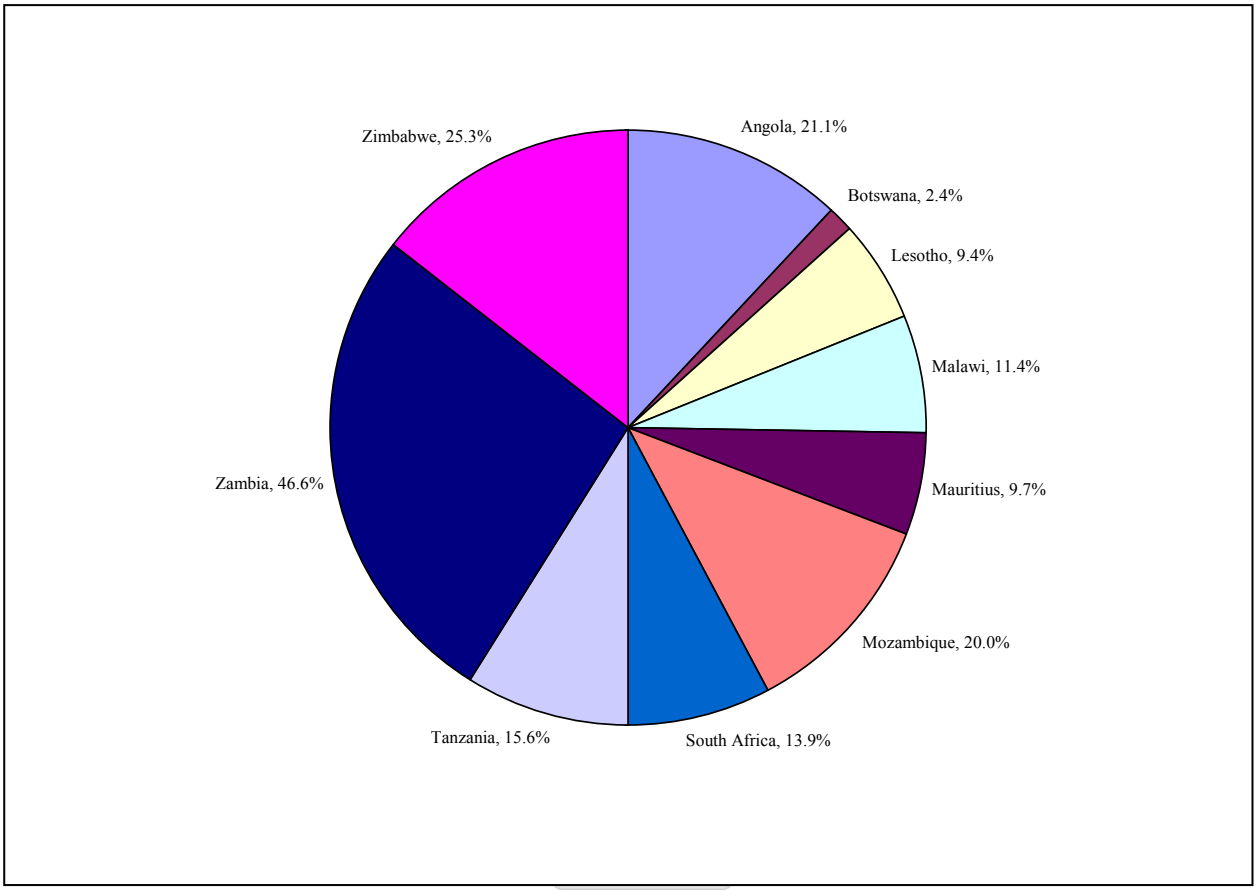
Country	1989–1994	1995	1996	1997	1998	1999	2000
Angola	215	472	181	412	1114	2471	1800 (a)
Botswana	−29	70	70	100	96	37	30
DRC	−2	1	2	1	1	1	1 (a)
Lesotho	169	275	286	269	262	136	223 (a)
Malawi	12	25	44	22	70	60	51
Mauritius	24	19	37	55	12	49	277
Mozambique	21	45	73	64	213	382	139
Namibia	70	153	129	84	77	111	124
Seychelles	20	40	30	54	55	60	56
South Africa	60	1241	818	3817	561	1502	877
Swaziland	67	44	22	−15	165	90	−37
Tanzania	15	150	149	158	172	183	193
Zambia	90	97	117	207	198	163	200 (a)
Zimbabwe	13	118	81	135	444	59	30 (a)

Source: UNCTAD, FDI/TNC database (2001, cited in Kamidza et al*., 2002).*

Note: (a) = estimate.

Countries were not only failing to penetrate foreign markets and to harness significant flows of FDIs, but were also carrying a huge debt burden that hindered economic growth and development. As shown in Figure 17, countries such as Zambia, Zimbabwe, Angola, Mozambique, Tanzania, South Africa and Malawi had huge debt problems that were consuming 46,6%, 25,3%, 21,1%, 20,0%, 15,6%, 13,9% and 11,4%, respectively, of total receipts from their limited export of goods

and services. Indeed, some of these countries were so poor that their debt burden was not only retarding economic growth and development, but was also becoming economically exhausting and unsustainable, politically destabilising and ethically unacceptable (Kamidza *et al*., 2002).



Source: World Bank, World Development Indicators (2001).

Figure 17: Total debt service as % of exports of goods and services for selected countries in Southern Africa, 1999

Although debt reduction was much improved in more recent years in SADC, according to the World Bank (2006), in 2004, debt in Angola decreased to 15%, in Lesotho to 5%, in Mauritius to 7%, in Mozambique to 5%, in South Africa to 6% and in Tanzania to 5%. Botswana was 1% in debt in 2003, Malawi was 8% in debt in 2002 and Zambia was 20% in debt in 2000. Debt still currently remains high in Southern Africa, causing a huge problem in as far as achieving development and food security in the region is concerned.

6.5 TRADE POSITION OF SOUTH AFRICA IN THE REGION

South Africa is the hub of economic growth in Southern Africa, with traditional cross-border trade in food staples, livestock and rural raw materials occurring across the continent (Vink *et al*., 2002). According to the service group of Anastasia Gerkis (TSG, 2004), South Africa is the powerhouse of the region, as it is the largest economy in SADC, despite the fact that considerable economic growth is taking place in many regional economies, although off a low base. The evident concentration of industrial activity in only a small number of SADC countries, notably South Africa and Zimbabwe (at least prior to certain recent uprooting political and economic changes in the latter), is due to a number of factors. According to the service group of Anastasia Gerkis (TSG, 2004), such factors include market size, effective demand, infrastructure and telecommunications, the geographical location of important services, as well as the prevalent macroeconomic and political environment. Evidence from across the region suggests that investment in the manufacturing sector has flourished in countries with relative macroeconomic and political stability and with environments that are conducive to investment initiatives. This section explores South Africa's trade position among the rest of the member states of the SADC region, and identifies its existing regional trading partners.

According to TSG (2004), the structure of the South African economy has historically been shaped by high levels of protection at a sectoral level, together with a broad spectrum of subsidies, tax breaks and other incentives. However, during the 1990s, the South African economy reflected growing export orientation. Given its past focus on protectionism, the extent to which the composition of manufacturing output has been influenced by the changing trade regime, especially during the 1990s, has been of importance in terms of helping to determine future government policy and manufacturing potential. The share of total exports occupied by manufacturing has grown in importance, while traditional exports have declined relatively. As is evident from the data in Table 6.9, during the first half of the 1990s, manufacturing accounted for 39% of all exports. By 2000, this amount had risen to 51%.

Table 6.9. South Africa's sectoral share in total exports (1991–2000)

Sector	1991–1995 % share	1996–2000 % share
Manufacturing	38.5	50.7
Mining	45.0	29.1
Transport	5.1	6.1
Trade	4.3	5.5
Agriculture	4.2	4.8
Business services	2.4	3.3
Community services	0.3	0.3
Electricity	0.1	0.1
Construction	0.0	0.0
All industries	100	100

Source: TIPS; Onyango & Cassim (2002, cited in TSG, 2004).

In terms of agriculture, according to SARPN (2003), South Africa dominates trade in the region, exporting far more to the SADC region than it imports from SADC. Geographic proximity allows South Africa to compete with third world suppliers. While it imports a narrow range of products from SADC countries, such imports have fluctuated considerably over time. South Africa's imports constitute an opportunity for SADC suppliers to South Africa's agribusiness sector. According to SARPN (2003), South Africa's agricultural exports (particularly in terms of its high value products) to SADC have grown rapidly over the past decade, though slower than have total exports in general. While total agricultural imports have increased, the growth rate has been lower than that of exports, hence the agricultural trade balance favours South Africa. South Africa's imports of agricultural goods also include an increasingly large component of goods that were not imported to any significant degree in the past from SADC countries. Such findings are in line with those of Vink and Kirsten (2002), as shown in Table 6.10, who observed that agricultural exports had grown rapidly, especially since 1990, though agricultural imports had grown even faster. Despite such rapid growth in agricultural trade, the overall growth in the total number of exports and imports has occurred even faster.

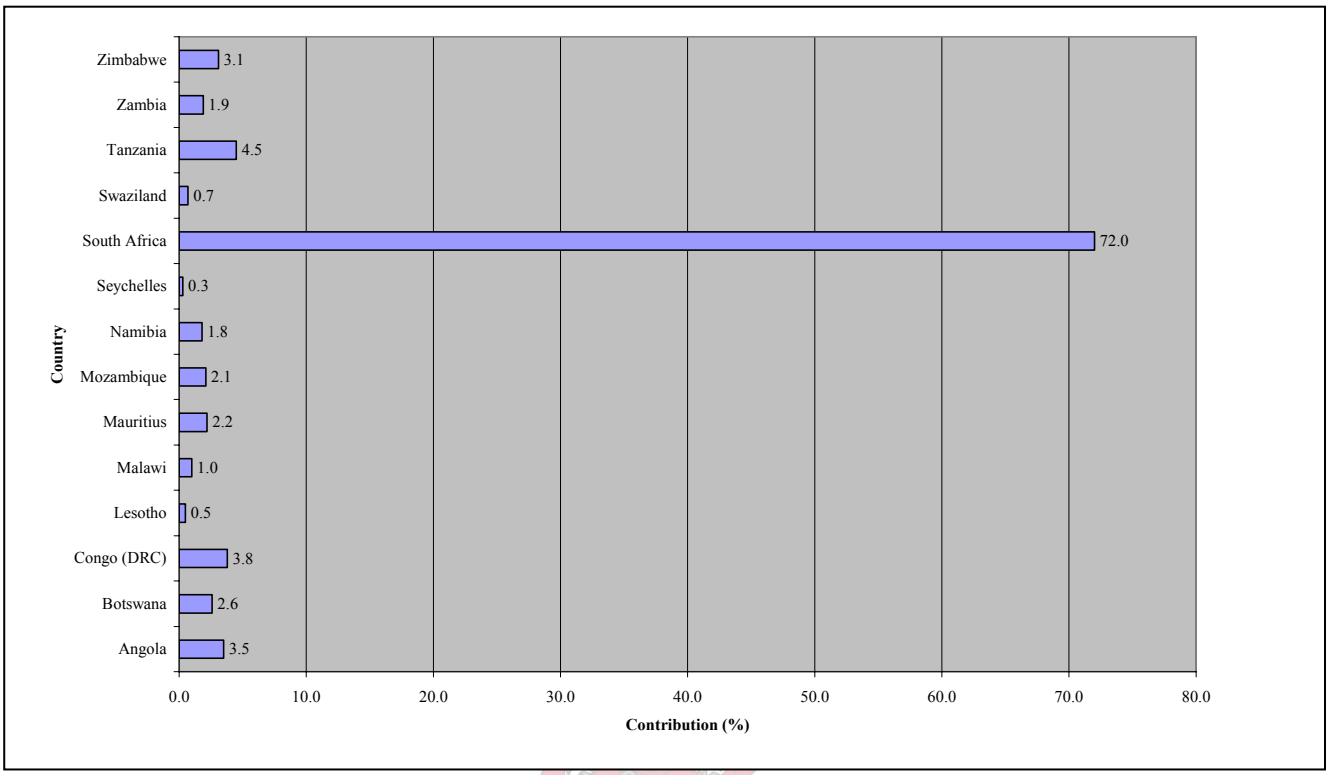
Table 6.10. Trends in South Africa's agricultural exports, 1980–2000

	1980	1990	2000
Exports			
Total SA exports (Rm)	19915.4	60770.0	253809.0
Total agricultural exports (Rm)	2052.5	5289.8	15819.0
Agricultural exports as % of total exports	10.3	8.7	6.2
Imports			
Total SA imports (Rm)	14381.3	44141.5	227918.0
Agricultural imports (Rm)	369.2	2203.3	96437.0
Agricultural imports/total imports (%)	2.6	5.0	4.2
Exports + imports/total production (%)	34.5	34.5	57.5
Agricultural terms of trade (Agric. exports/Agric. imports)	5.56 : 1	2.4 : 1	1.6 : 1

Source: Vink & Kirsten (2002).

South Africa's contribution[18] to the growth regional product (GRP) of SADC dominates at 72% (see Figure 18), with the remaining 13 countries contributing an aggregate 28%. The second largest economy was found to be that of Tanzania, with its relatively meagre contribution of 4,5% (Rousseau *et al*., 2002). According to Rousseau *et al*. (2002), with the exception of the DRC, all member countries registered positive growth during the period 1994 to 1999. It should, however, be kept in mind that a country like Mozambique, with an average annual growth of 9,1%, grew from a relatively small economic base. All the member countries, with the exception of the Seychelles, Zambia and the DRC, were growing at a rate higher than that of South Africa.

[18] South Africa's GDP was US$240,2 billion in 2005 (see column 3 in Table 6.2).



Source: Adapted from Rousseau et al. *(2002:19).*

Figure 18. Growth regional product, 1998

According to McCord (2002), South Africa will continue to dominate the regional economy, and, without major new investment flows to the region or OECD subsidy reductions, the economic prospects for the more marginal economies are unlikely to show positive change. South Africa will continue its dual economic growth path with a growing services sector based in the metropolitan areas, while its manufacturing and agricultural sectors will continue to shed jobs and contract in response to international competition, leading to increasing unemployment and economic polarisation. Faltering growth in South Africa will be of particular concern to the BLNS countries, which are all heavily reliant on the South African market.

Table 6.11 provides a broad overview the main imports and trading partners of some SADC countries'. South Africa, and, to a lesser extent, Zimbabwe were a prominent source of imports for the region during the 1996. Given the dominance of primary commodities in the SADC region's productive base, it is not surprising that most countries in the region (excluding South Africa), due to their incapacity to produce a sufficient quantity of manufactured goods for their own use, needed

to import them. Manufactured goods account for approximately 70% of regional imports (Mayer & Thomas, 1997). Despite this fact a decade ago, the case is still being remainig in the region.

Table 6.11. Main imports and trading partners of SADC countries

Country	**Main imports and trading partners**
Angola	Capital equipment, foodstuffs, vehicles/parts, textiles/clothing, medicines (USA, Cuba, Portugal, Brazil)
Botswana	Foodstuffs, vehicles/transport equipment, textiles, petroleum (South Africa, Switzerland, UK, USA)
Lesotho	Manufactured products, live animals, machinery, transport equipment, textiles, petroleum (South Africa)
Malawi	Machinery, manufactured products, construction/transport equipment, petroleum (South Africa, Zimbabwe, UK, Japan)
Mauritius	Not available
Mozambique	Tea, tobacco, manufactured products, petroleum, machinery (South Africa, Zimbabwe, Saudi Arabia, UK, Portugal)
Namibia	Foodstuffs, vehicles, machinery, chemicals/plastics, petroleum (South Africa)
South Africa	Machinery, motor vehicles, textiles, chemicals, oil, scientific instruments and metals (Germany, USA, Japan)
Swaziland	Manufactured products, machinery, petroleum, food products (South Africa)
Tanzania	Manufactured products, machinery, petroleum, food products (Saudi Arabia, UK, Zimbabwe, Japan)
Zambia	Consumer goods, machinery, transport equipment, food, fuel (South Africa, UK, Zimbabwe, Japan)
Zimbabwe	Petroleum, finished manufactured goods and equipment, machinery/transport, chemicals (South Africa, UK, Japan, USA, Germany)

Source: Bronstein et al. *(1996, cited in Mayer & Thomas, 1997).*

In recent years, the EU has become the region's top trading partner, accounting for more than one third of all imports and 47% of total SADC exports. The EU has increased in importance as an export market for South Africa since the implementation of the EU–SA Trade, Development and Co-operation Agreement (TDCA) (SADC/EC, Regional Strategy Paper and Regional Indicative Programme, 2002–2007 Draft, n.d.).

According to TIPS (2007), a large proportion of SA's imports come from countries that have a comparative advantage in the production of manufactured goods. Commodity-based economies in the rest of Africa and the Americas produce a relatively small proportion of South Africa's imports, while OECD countries, China and certain Asian countries with a comparative advantage in manufacturing, make up a significant proportion of South Africa's imports (see Table 6.12). Regional export patterns revealed that South Africa's main export partners reflected the country's comparative advantage in the production of primary commodities for countries with a comparative advantage in the production of manufactured goods. Thus, South Africa's exports largely go to the EU, the North American Free Trade Area (NAFTA) and Japan, all developed regions with a comparative advantage in the production of manufactured goods. SADC countries import a relatively significant proportion of South Africa's exports. However, a less significant proportion of the country's imports originate in SADC countries.

Table 6.12. South African exports and imports by region, 2003

Region	Exports 2003 (R-million)	Share of total (%)	Imports 2003 (R-million)	Share of total (%)
SADC	24,911	8.6	7,554	2.5
NAFTA	32,379	11.1	28,684	9.4
EU	93,445	32.1	124,781	40.7
MERCOSUR	1,994	0.7	10,027	3.3
Japan	26,518	9.1	20,942	6.8
China	6,459	2.2	23,011	7.5
(Other) Africa	12,209	4.2	6,504	2.1
Oceania	7,783	2.7	8,174	2.7
(Other) Americas	1,279	0.4	1,436	0.5
(Other) Asia	39,201	13.5	70,795	23.1
(Other) Europe	8,534	2.9	4,191	1.4
Other	36,417	12.5	270	0.1

Source: TIPS (2007).

6.6 CONCLUSION

Regional trade integration could protect and develop trade among neighbouring countries through agreements that range from reducing trade barriers to harmonising internal policies, at the same time as world trade will also benefit if regional trading relations assist members to grow without the hindrance of protectionist policies that restrain trade with outside countries. Nevertheless, many difficulties, such as the following, impede assimilation and economic progress in the SADC region:

- Economically, SADC countries largely rely on agriculture and minerals, with the countries concerned generating associated primary goods for export. Over the past one and a half

decades, economic growth has been comparatively slow in Southern Africa, which has only experienced a slow improvement, with declining levels of GDP per capita. So, it is doubtful that the majority of the countries in the region will meet the growth levels necessary to accomplish the reduction of poverty by mid-2015.

- South Africa dominates SACU in terms of economic and population size, when compared to its other four members, resulting in South African companies dominating the business landscape of the BLNS. The BLNS countries rely on South Africa for a large percentage of their trade, investment and migrant labour.
- Southern African markets have directed the interventionist and protectionist trade system for quite some time now. On the import side, the negative impact of restrictive licencing systems, high import taxes, fluctuating degrees of import exclusions and tense foreign exchange controls was widely felt. On the export side, taxation and restriction on exports hampered trade.
- The SADC states are parts of other trading alliances, such as COMESA, IOC, ACP, SACU and EU–FTA, unifying them in their struggle for the harmonising of mutual trade policies.
- Agriculture is a basic sector in the economy of the SADC member countries, accounting for more than ten percent of the region's GDP. Economic expansion will thus only take place if agricultural efficiency is improved. However, several major problems face the agricultural sector. Low output and repeated crises (droughts, floods and conflicts) are of an ongoing nature in the SADC, obstructing lines of supply.
- NEPAD has acknowledged FDIs as an approach by means of which growth in the continent may be funded. Studies have revealed that the region is not a preferred target of FDIs, as, in various cases, their impact has been adversely influenced by the relationship between member states and both domestic and foreign sponsors . In terms of intra-regional investments, South African firms have led investment on the African continent, especially where SADC countries are concerned.
- SADC member states, especially the landlocked countries, suffer from high transport costs, causing imports to be high-priced. In cases of regular harvests, market prices are roughly equivalent for imports. However, the high production costs also influence exports, causing prices to be exceptionally high. Such unreasonable prices have been due to the logistical infrastructure having been undermined by a lack of investment and the inefficiencies of the transport sector in the region.
- Though the South African economy is marked by high levels of protectionism at a sectoral

level, combined with wide-ranging financial support, tax breaks and other incentives, South Africa is still the powerhouse of the region, due to its comparative macro-economic and political stability and an environment that is conducive to investment activities.

- South Africa's exports (in the form of primary commodities) largely go to the developed regions of the world, such as the EU, NAFTA and Japan, who experience a comparative advantage in the production of manufactured goods. Currently, the EU is the region's top trading partner, accounting for more than one-third of all imports and nearly half of the total number of SADC exports. The EU has expanded as an export market for SA since the implementation of the EU–SA TDCA, even though it has lost market share in current years to Asia, Japan, Italy, Germany and the USA. However, in terms of AGOA, exports to the USA are expected to increase significantly in the coming years.

CHAPTER SEVEN

Findings and recommendations

7.1 INTRODUCTION

This chapter summarises the key findings on the different issues addressed in the study, makes recommendations based on the findings, and identifies issues related to the main problem of the study, which could not be addressed or adequately explored within the limited scope of the research undertaken and which still require further investigation.

7.2 SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS

This section summarises the main findings of this thesis, based on the available data and the literature on the different issues addressed as part of the study, as well as making brief recommendations, based on the findings, as to how the work can be improved.

7.2.1 Findings and recommendations regarding Chapter 2: Food security: a literature review

This chapter aimed to familiarise readers with the theoretical a literature review of food (in)security by articulating and clarifying the definitions of food (in)security and discussing the historical perspective on food security. Of particular importance was the discussion of the causes of food insecurity in Southern Africa. The available data and the literature on the different issues addressed in Chapter 2 lead to the following findings:

(1) The definitions of food (in)security (Appendix 1) indicated that food security can be clarified at individual and household, as well as at national and regional, levels. The three levels are inter-related, as regional food insecurity status cannot be well assessed without due consideration being given individual, household, and country levels. The definitions made clear that there is a basic difference between food self-sufficiency, agricultural development and food security. For these reasons, it is ***recommended*** that food security should not be confused with agricultural development, and should not be narrowly defined as food self-sufficiency in terms only of national food availability.

(2) The historical perspective on food security concept explored three fundamental shifts that have taken place since the 1970s:

- at the *level of analysis*, a shift from global and national to households and individuals;
- in terms of *scope of analysis*, from a narrow 'food first' perspective to a broader 'livelihoods' perspective; and
- in terms of the *assessment* of food (in)security, from objective (measured) indicators to subjective (self-reported) perceptions.

For these reasons, it is ***recommended*** that developing a conceptual framework of thinking on food security in Southern Africa, and relating this to particular historical food events is important for opening up the environment to international initiatives, as well as to the process of food security planning in the SADC region.

(3) The lack of rainfall (intense drought) and massive floods were the main causes of extensive harm to people, as well as damage to their assets, domestic animals and food crops. Such natural disasters posed exceptional threats to the social and economic advancement of the SADC region, culminating in a situation of food insecurity. For such reasons, it is ***recommended*** that developing and implementing weather-risk insurance be regarded as of critical importance to Southern African countries. As defined by NEPAD (2004), such a form of insurance consists of a form of crop insurance, adopted to counter exposure to unfavourable weather fluctuations in terms of volumes produced rather than harvested. For example, an insurance product for sale to farmers could be based on a maize production index devised to analyse data recorded at a weather station near the location of the client. In addition, SADC should develop and implement irrigation projects through intergovernmental organisations aimed at land and water resource development, particularly where lakes and river basins transcend national boundaries, in order to reduce dependence on rainfall. Increasing irrigation efficiency through better control and allocation of water can often double crop yields, even with existing technologies. Moreover, SADC should invest in livestock, as the food security role of livestock in a remote rural area may be critical: the income of the inhabitants of such an area depends on livestock, due to its relatively drought-resistant nature and because acquiring livestock is often the main means by which poorer people can escape food insecurity. Furthermore, SADC should also invest in fisheries, because fisheries are expected to contribute significantly to the future economic growth and food security of the region.

(4) Poor macro-economic performance has come about as a result of increased external debt and ongoing food price inflation, inconsistent food policies, and successive years of civil war. Such problems have been exacerbated by high unemployment rates, unsuccessful policies aimed at associating land reform with tenure issues, and the lack of purchasing power due to the limited scope of income opportunities, especially in the rural areas of the SADC region. All such economic problems have been identified as worsening the levels of food insecurity experienced in Southern Africa. In order to overcome macro-economic problems in Southern Africa, it is ***recommended*** that macro-economic decisions need to be taken in regard to institutional structure and the design of the national economy, the rate of growth, the direction of growth, the distribution of income, trade policy, exchange rate, the management and supply of credit, interest rates, and many other related issues.. In addition, an adequate expansion and diversification of non-farm activities aimed at providing job and income-generating opportunities for those at present who are dependent on agriculture for their livelihoods is required in order to solve the ongoing food problems experienced in the SADC region. Such expansion and diversification will be especially critical in countries where landless agricultural labourers constitute a significant segment of the rural population. In addition, land reform policies in the region should be applied simultaneously with the integration of non-agricultural land, as the amount of arable land that is currently available is still relatively limited in several countries in the region.

(5) Inappropriate food security strategies in some SADC countries, the failure of governance, both in terms of lack of accountability and in opposition to democratisation, and financial mismanagement are common features of poor governance and mismanagement that have played a crucial role in contributing to the situation of food insecurity in Southern Africa. For these reasons, it is ***recommended*** that economists should pay more attention to political analysis than to economic analysis, as political considerations are critical to any alternative policy package that might be proposed. In fact, some argue that political instability is often a direct cause of food insecurity, as approximately half of the famines in Africa have been directly caused by wars.

(6) The HIV/AIDS prevalence rate in Southern Africa has been found to be the highest in the world, which complicates the task of fighting hunger and strengthening the livelihoods of the poor in Southern Africa. The pandemic was recognised to be creating large new vulnerable groups and rapidly eroding food and livelihood security in the region. Of particular importance, the losses of adult agricultural labour potential (see Table 2.4) may be negatively affecting the possibility of

establishing food security in the region through decreasing the extent of area both planted and the amount of yield. In addition, household income changes, combined with high morbidity and mortality costs, resulted in fewer financial resources being available to spend on food, which also threatened household food security in the region. Furthermore, the prevalence of HIV/AIDS in Southern Africa is disrupting the flow of knowledge and competencies from effectively being transferred from one generation to the next, as well as the possibility of the division of labour among generations. For these reasons, it is ***recommended*** that governments and international organisations need solid intervention and guidance as to the cost-effectiveness of alternative kinds of investments made to finance the HIV/AIDS pandemic and the chronic poverty alleviation programmes in the SADC region. HIV/AIDS must be considered the most serious development problem in the region, due to its sapping of agricultural and food security resources, which, though widespread is neither clearly visible nor quantifiable, as well as to the fact that no publicly funded emergency-type programme exists in Southern Africa.

(7) As increases in production or incomes in one part of a country can offset decline in another, data accumulated collectively usually hides more than it reveals. The reasons underlying continuous poverty and food insecurity in Southern Africa were found to vary among different countries in the region, but tended to comprise transitory shocks to production systems, weak economic growth performance resulting from unsuccessful macro-economic policies, the unstable payments situations and the highly distorted patterns of income and capital allocation resulting from past colonial policies, the high unemployment rate and issues relating to the insecurity of land tenure. For these reasons, it is ***recommended*** that macro-economic policies for alleviating poverty and food insecurity need to be well understood by all stakeholders involved, including governments, as food crises will continue to occur in SADC countries unless greater macro-economic stabilisation is attained. Alleviating the unemployment problem in SADC would require improvement of agricultural and manufacturing production, enhanced skills levels and greater access to finance. Transparent and accountable representative rural land institutions and laws that protect the land rights of minority groups are also urgently needed. (See 7.2.1(4) for more recommendations on land reform.)

(8) The combination of high human fertility with low human mortality has generated an average annual population growth rate of 2% in Southern Africa. Rapid population growth has seen an increase in the demand for agricultural products, especially foodstuffs. In view of the fact that the population is growing faster than is agriculture (1.5%) in the SADC region, increasing pressure on

agricultural land has been seen. Because existing increases in food production have come about as a result of the expansion of the amount of land that has been brought under agricultural production rather than from an increase in yield, such expansion is ill-equipped to meet the needs of an expanding population in the long run. Such expansion diminishes the degree of accessibility to arable land in the region. For these reasons, it is ***recommended*** that farming be *intensified*, rather than *extended*. SADC member states should focus their efforts on expanding their area of land under irrigation, with water being sourced from the Zambezi River and its tributaries.

7.2.2 Findings and recommendations regarding Chapter 3: Domestic food production in Southern Africa

This chapter aimed to familiarise readers with the main reasons behind food self-insufficiency that have made SADC countries vulnerable to reliance on food imports, and to highlight that domestic food production is highly risky and severely limited by the constraints of nature.

Food self-sufficiency can be considered as the ability of a country to meet the aggregate food needs of its citizens primarily from its domestic resource base, which means that the domestic food production of a country must be sufficient to meet its food demands. Although maize (which is the main staple in the region), fruit, vegetable and livestock production has doubled over the long term in the region, the analysis revealed that an increase derived from an expansion in the area planted rather than an increase in yield would generate crises in land utilisation when combined with continuous population growth. Chapter 3 summarised the following key problems encountered in relation to domestic food production in the SADC region:

1. Domestic food production will continue to act as the major source of food supply throughout Southern Africa for the foreseeable future, despite such a supply being highly risky and severely limited by the constraints of nature, especially when viewed in the light of the increasing frequency of natural disasters (droughts and floods). However, inadequate political support of, and lack of investment in the sector, the instability of the world market and an increasingly unfair trade situation have all served to compound the problem. Furthermore, civil strife and wars have prevented SADC member states from reaching their full potential in regards to their agricultural output. For these reasons, it is ***recommended*** that weather-risk insurance be taken out and that irrigation projects should be developed (see section 7.2.1(3)). Policies are needed that will strengthen and diversify food production capacity, such as land reforms that will ensure better

access and entitlement to land for productive use. Moreover, as recommended by Vink *et al*. (2002), the intensification of agriculture should be encouraged, especially among small farmers, production technology should be improved and market linkages should be made more accessible. At the same time, care must be taken to avoid damage to the environment, which is often vulnerable to the impact of acute population pressure.

2. Prevailing grain production performance in the region in the late 1990s has turned into a regional deficit in recent years, as production in Zimbabwe (the region's second largest producer in the past) has more than halved, compounding the impact of a harvest which failed across the region for a combination of climatic and political reasons, and which was exacerbated by reductions in state subsidies for seeds and fertiliser in Zambia and Malawi. For these reasons, it is ***recommended*** that policy intervention occur in the area of public investment allocations to agriculture, as, in many countries in the region, government inputs to agriculture and rural development are extremely low, resulting in the need to allocate adequate resources to support agricultural production at all levels. Some direct measures aimed at the short-term assistance of small farmers, such as low-cost, simple technology packages and improved cultivation practices, could increase smallholders' food production levels and lead to increased domestic food production. Similarly, improved credit arrangements could result in high returns to smallholders in the short term. Seeds and inorganic fertilisers should be made easily available to small farmers, in order to ensure that staple crop yields are adequate. The use of improved seeds and fertilisers is important for both short- and long-term production. The long-term boosting of food production, especially in those countries affected by food deficits, would involve a combination of human and capital investments, institutional arrangements, agricultural and macro-economic reform and political commitment. Additional investment is required in technology, research and human resource development.

3. Due to the increase in area planted to maize, the trend in maize production in the SADC region over the past 10 years has shown that most countries experienced better maize crops from 1999/2000 to 2002/03 than following on the severe regional drought of 1991/92, when multiple droughts were experienced. In some SADC countries, such as Zimbabwe, for example, average maize production fell during the same period, as, apart from the poor crop growing conditions experienced during 2001/02 and 2002/03, the downward trend has been aggravated by the imposition of the land resettlement programme, which resulted in the undermining of the commercial farming sector. For the past four rainy seasons (2000−2003), the BLS countries have endured consecutive years of drought, which adversely affected agricultural production (food and

cash crops) and, hence, the livelihoods of the affected communities. Extended periods of food insecurity and the impact of HIV/AIDS have weakened the resilience of households and set back agricultural recovery. For these reasons, it is ***recommended*** that, since maize is most widely consumed in Southern Africa, a radical change in per capita income is required in the region. Because, as argued by Van Rooyen *et al.*, (1996, cited in Van Rooyen, 2000), high maize consumption is likely to continue for many years, unless fundamental per capita income changes take place, accompanied by a preference for other commodities, such as some wheat products and vegetables (e.g. potatoes), which tend to have a higher income elasticity.

4. The SADC was found not to be self-sufficient in wheat production. Approximately half of SADC wheat consumption is currently imported, while South Africa and Zimbabwe, the two largest producers of wheat, must, nevertheless, import still more wheat to meet the requirements of flour millers. South Africa, Zambia and Zimbabwe produce more than half of their domestic wheat requirements, while Tanzania produces more than one-third. The remaining SADC countries all produce less than ten percent of their requirements, with minimal production in Mauritius, Mozambique and Swaziland. The decline in recent years has mainly been due to the effects of drought on yields in parts of South Africa, the region's main producer. For these reasons, it is ***recommended*** that an increase in wheat per capita consumption can only be achieved by means of trade, as the region is, by and large, unsuited to wheat production. The elimination of protective trade barriers, as currently maintained in Malawi and Mauritius, is critical for the rest of the SADC member states over the coming years in order to encourage intra-SADC trade and to maintain food security in the region.

5. As regards the supply of other cereals, such as sorghum and millet, the majority of the SADC countries depend largely on domestic production. Levels of trade in small grains were low among the SADC member states. In Malawi and Tanzania, cassava was the largest source of calories after maize. Rice production in Zambia, Tanzania and Mozambique has declined in the region, with Mozambique, the leading producer of the past in this respect, being severely stricken by drought, tropical storms and cyclones. Generally, a deficit in key food staples has made the supply situation critical in Southern Africa, as most countries import more than is available from domestic production. For these reasons, it is ***recommended*** that attention be paid to boosting the production of those food crops, namely rice, sorghum, millet, cassava, sugar and vegetables, for which demand is increasing in some SADC countries.

6. Even with the increase in livestock production in the SADC region over the past four decades, transboundary animal diseases, such as FMD, CBPP, ASF, RVF, and ND, have negatively affected the livelihoods of millions of farmers in the region, hampering their possibilities of benefiting from the rapid increase in animal production and trade expected in the coming years, which might otherwise offer them the opportunity to escape from hunger and poverty. Other problems encountered were overstocking, poor breeding stock, and inadequate support services for the control of diseases that spread across national boundaries. For example, in a country such as Malawi, the importance of livestock (especially cattle) to rural livelihoods has declined over time, as a result of increasing population pressure and diminishing grazing land, as well as increased insecurity in the region. For these reasons, it is ***recommended*** that traditional livestock productivity, especially that of small ruminants, pigs and poultry, be boosted in the region in order to alleviate poverty, as well as to create job opportunities for many more women. Facilitating disease control through the strengthening of existing, and the development of new, regional control disease strategies is advisable. The implementation of such strategies should be funded by means of regional investment aimed at countering the spreading of transboundary diseases; the regulating of stock movements by improving cross-border control measures; the establishing of disease-free zones (DFZs); the facilitation of the access of farmers in the area to international markets; the constructing and/or rehabilitating of quarantine facilities at border points; the ensuring of effective veterinary public health control measures, and the strengthening of zoo-sanitary capabilities. Strengthening of national border controls and commodity inspections alone will not sufficiently prevent transboundary animal diseases, especially FMD, from spreading. A regional plan aimed at the containment and progressive control of the disease at its source in areas where such disease is still endemic is needed.

7. The average fish catch for the past five years has been over two million tonnes per annum, of which about two-thirds of such landings were from marine waters. Namibia, South Africa and Angola were responsible for nearly 80% of the total regional fish landings (see Figure 10). An aggregate GDP growth rate of 3.4% was experienced in 2000, which was significantly below the growth target of 6% required for sustainable economic development in Africa. In terms of employment, Tanzania was the SADC country that employed most people in fisheries (see Table 3.8), followed by Zambia, Angola, Malawi, Namibia and Mozambique. However, Namibia, Zambia and Angola were the SADC countries provided the most job opportunities in this field. Accordingly, marine fisheries provide a large, though decreasing, proportion of foreign exchange earnings for Mozambique and Namibia, as weak monitoring, control and surveillance has led to

commercial overfishing and unlicensed fishing has had a negative impact on artisanal fishing. For these reasons, it is ***recommended*** that enhancing the existing fisheries agreements currently existing between the coastal SADC countries and the EC is crucial to increasing the proportion of foreign exchange earnings acquired by means of accessing the EU. In addition, strengthening monitoring and control mechanisms is important to reduce commercial overfishing and unlicensed fishing, enabling fisheries to contribute significantly to future economic growth and food security in the region.

8. The SADC region is facing major fruit and vegetable losses due to the unavailability of technical storage facilities in the production areas and at the markets in the urban parts. Despite inadequate packing methods and transportation, the production of fresh horticultural products for export has grown rapidly in a number of Southern African countries, including South Africa, Zambia and Zimbabwe, over the past decade. Southern Africa has also benefited from a large market for their horticultural produce, vegetables and fruits in the EU, particularly the UK. However, in recent years the EU has tried to exclude African horticultural produce from its markets by subsidising its own farmers. The EU farming subsidy has taken a variety of forms planned to attain a number of different goals. Policy mechanisms have ranged widely from income support, through price support and border measures aimed either at limiting imports or at removing surplus production through the encouragement of exports. As many countries used a combination of such mechanisms as part of their agricultural policy, they tended to be largely interdependent. Accordingly, such policies led to EU farm prices being higher than average world prices, resulting in the majority of developing countries, including Southern Africa, having a current trade deficit. For these reasons, it is ***recommended*** that bilateral and multilateral agreements be signed between the SADC and the EU in order to identify and guarantee markets for non-traditional agricultural exports, allowing for the diversification of production, as well as for the development and expansion of markets. However, more emphasis on technological improvements of storage and transportation facilities, changes in the international trading environment (WTO current round of global agricultural negotiations must result in a fair set of rules for poor countries), and export-led growth and agricultural diversification into HVFs for SADC are crucial.

9. The low per capita food production trends experienced in Southern Africa over the past two and a half decades have led to a rapid widening of the gap between production and consumption, causing the region to be unable to feed itself. Historically, the average annual growth rate of food production per capita was negative in every country in Southern Africa, so that even a relatively

minor drought in the past few years has been enough to push regional supplies below a safe threshold. Due to inefficiencies experienced in the farming sector since the second half of the past decade cereal output has actually declined per ha as well as per capita. The major causes of such a decline have included inadequate government investments in rural infrastructure and agricultural research, as well as, in some cases, a reduction in fertiliser subsidies due to budget deficits and structural adjustments. So far, certain unprecedented factors have also been at work, including the imposition of disruptive land redistribution programmes and the rapid spread of HIV/AIDS. Generally, the decline in food production in the region has formed a fundamental part of the agrarian crisis, with various reasons for production shortfalls, among them being transboundary animal diseases, adverse climatic conditions, massive floods and intense droughts, which caused extensive harm to the inhabitants of the region, as well as damage to their property, livestock and crops. For these reasons, it is ***recommended*** that insurance aimed at countering weather-associated risks (see section 7.2.1(3)), the development of irrigation projects (see 7.2.2(6)) and transboundary animal disease control mechanisms be implemented.

7.2.3 Findings and recommendations regarding Chapter 4: Trade in Southern Africa

This chapter was aimed at providing readers with a brief overview of trade in Southern Africa, in terms of the comparative advantages of the different SADC countries, as well as in terms of their export earnings, commercial food imports, terms of trade and international trade.

Developing nations are conventionally raw material exporters and manufactured goods importers, which is still largely the case in Southern Africa. The region was, furthermore, found to be reliant on trade, with exports accounting for more than half of its GDP, compared to a range of 8% to 28% for the rest of the world, with many of the SADC countries depending on only one export product. The result was that trade in the region faced many different problems. Chapter 4 summarises the findings in this respect, including the following:

A. On the global level, SADC countries have comparative advantages in fairly similar products in which they are well endowed (primary goods) (see Tables 4.1, 4.2, 4.3, 4.4 and 4.5). However, they have the same type of disadvantages in respect to machinery and road transport (manufactured goods). Such a finding suggests that complementarity as a technique of encouraging trade might be difficult to adopt among SADC countries. For these reasons, it is ***recommended*** that a suitable measure of diversification take into account all economic goods and services in the region. Exports,

especially diversified exports of manufactured products, are critical for enhancing productivity. Productivity would also be boosted by way of educational endeavours; the opening up of investment opportunities, such as those aimed at increasing increases; increased competition; technology transfer, and the improvement of human capital.

B. Even with the combined exports of goods and service having increased in the region over the long term (see Table 4.8), most SADC countries (excluding South Africa) have proved to be dependent on the production of a single commodity, such as oil (in the case of Angola); tobacco (in the case of Malawi); manufacturing (in the case of Lesotho); diamonds (in the case of Botswana), and copper (in the case of Zambia), with a single commodity representing almost half of their total exports. Sugar has been the main SADC export, followed by edible fruit and nuts and beverages. Such exports have tended to be highly concentrated in a few products, many of which are not important imports in other African countries. Such a situation limits the potential import of any regional trade agreement. For these reasons, it is ***recommended*** that suitable measures to increase industrialisation and trade diversification (see section (7.2.3(a)) are needed in the region in order to increase the number of manufactured exports and to decrease its heavy dependency on single primary commodity exports.

C. Although maize imports declined after the 2002 situation of food insecurity in the SADC, maize imports level were still approximately threefold higher than was the case in the preceding three decades (see Figure 12). South Africa, Mauritius, Tanzania and Seychelles were the least dependent on SADC imports. As regards maize imports in the region, only South Africa produced enough maize to meet its own needs, with its surplus being more than sufficient to cover the combined deficit of all other SADC countries. For Mauritius and Tanzania, such a situation may be seen in terms of the long-lasting relationship that they have enjoyed with other members of the Eastern Africa Community. In contrast, Malawi, Mozambique, Zambia and Zimbabwe rely heavily on SADC imports, with more than half of their imports originating in SADC. For these reasons, it is ***recommended*** that the goal of food security in Southern Africa be considered as a regional objective, rather than as a national objective alone. Thus, certain countries with particularly good conditions for producing large surpluses of food at a price that is competitive with world prices should specialise in food production for export to food-deficient countries. However, such a programme of specialisation in food export to neighbouring countries will require a certain amount of protection from unfair competition in food exports from other continents. The need, therefore, exists for bilateral and multilateral agreements among the SADC states. Furthermore, efforts should

be made to generate realistic estimates of cross-border trade flows in order to enhance the accuracy of food balance and food security analyses being undertaken in the region.

Due to increased regional demand and stagnant production levels, imports of wheat in the SADC region have increased over the past decade. However, projections are limited in regard to the development of globally competitive wheat production in the region, especially in regard to certain policies aimed at reducing or removing levels of protection over the coming years amongst SADC member states. Recently, only Malawi and Mauritius (both at 0%), of all SADC member states, apply exceptionally high levels of protectionism to their domestic milling industries. In spite of reform of trade policies in most SADC countries for at least the past decade, as well as the achievement of considerable improvement in this area, numerous tariff, non-tariff and technical barriers, which impede intra-regional trade, still remain, and may undermine the ability of SADC countries to maintain national food security through commercial food imports. For these reasons, appropriate ***recommendations*** have been made in the previous paragraph (see section 7.2.3(c))**.** However, wheat is only second in popularity after maize in the SADC countries, as most wheat products tend to show high income elasticity. Unless the tastes of consumers in the SADC region change, an increase in wheat per capita consumption can only be achieved by means of trade, as the region is unsuitable for the production of this crop.

D. An unfavourable movement has occurred in terms of trade over the past 15 years in the SADC region, as only four countries, Angola, South Africa, Zimbabwe and the DRC, experienced a favourable movement in this direction (see Table 4.12). As the terms of trade for all commodities, except oil, are expected to remain on the decline, the region is likely to continue to lose world share in most commodities. Such terms have experienced deterioration as a result of pressures exerted by oversupply, aggravated by domestic support for developed agricultural produce (such as cotton, sugar and dairy) and technological developments in the processing industry that reduce produce margins. For these reasons, it is ***recommended*** that co-operation in global fora strengthen negotiating positions and facilitate agreement on issues of mutual concern. In order to achieve such co-operation, SADC may require technical assistance with building capacity in trade policy and identifying strategic interests and potential allies, whether foreign or domestic. Improved market and production infrastructure, more efficient production techniques and better management will all boost the competitiveness of Southern African agriculture. In any case, more needs to be done to improve the region's terms of trade.

E. The key objection of the developing countries to developing international trade has been that, when it comes to agricultural trade, industrialised countries espouse their belief in liberalisation, while practising protectionism, as wealthy nations have both the ability and the assets to put into action a range of policies in terms of International Trade Agreements on Agriculture, requiring extensive investment aimed at domestic support and export subsidies. In contrast, developing countries, even when similarly regulated, often lack sufficient fiscal resources to counterbalance the developing countries in respect to trade deficit. For that reason, agriculture is the economic sector that most needs fixed tariff cuts. Moreover, in terms of welfare, developing countries stand to gain more from the liberalisation of their own agricultural trade barriers (see Table 4.14) than from the freeing of other goods from such restraints.

The support granted food production in the EU and other OECD countries has been aimed at increasing food production in such a way as to distort trade by applying tariffs and NTBs to imports, as well as by promoting exports. Such subsidisation has resulted in exploitation of the poor in developing countries, preventing the viable development of a properly functioning and fair global food system. As a consequence, the current international trade system fails to ensure reasonable and competent trade based on considerations of fairness, and prevents fair entrance to markets for developing countries, such as Southern Africa. For these reasons, it is ***recommended*** that changes in the international agricultural trading environment be undertaken, as, WTO current round of global agricultural negotiations must result in a set of rules that is fair towards poor nations (see 7.2.2 (8)).

7.2.4 Findings and recommendations regarding Chapter 5: An assessment of food security programmes in Southern Africa

The aim of this chapter was to provide an assessment of existing food security programmes in Southern Africa and to give the readers a general idea of whether policies that are intended to address the issue of food security in the region are, indeed, successful.

Based on the available data and the literature regarding the different types of food security programmes (namely risk reduction, mitigation and coping) outlined in this chapter, the conclusion can be drawn that the intent of broad government involvement to maintain adequate levels of food security for the majority of Southern Africans is unforeseeable in the near future. A greater range of monetary and fiscal resources and political motivation will therefore have to be utilised. In addition, adequate managerial capability in governments is necessary in order to guarantee long-term food

security in the region.

The findings discussed in this chapter revealed the following:

First, in terms of food security intervention aimed at *reducing risk*, among the diverse plans that have been put into practice under the auspices of the SADC Food Security Programme, REWU has had the most impact to date in its efforts to decrease hunger and malnutrition within SADC. SADC has, over the past several years, learned how to manage such an EWS according to regional cycles, with the additional support of national EWSs. Due to such monitoring, when the 2002 food crisis broke, it came as no surprise. Early warnings had been given well in advance, due to the monitoring of levels of production and the accessibility of cereals in the region. Unfortunately, to date early warning systems have been less good at monitoring non-climatic shocks, such as conflict, and the spreading of the HIV/AIDS pandemic. Such collecting of information has not yet fully maximised in terms of livelihoods, with the freedom to investigate markets, trade and prices being restricted. In addition, the EWS mainly monitors the production of cereals, and not that of the other, non-cereal staple foods, such as cassava. Furthermore, to date, the EWS has tended to gather information on governments and donors, rather than on private enterprise and civil society, with the scheme being totally dependent on assistance from member states for its input (see Table 5.1). For these reasons, it is ***recommended*** that the SADC's REWU take the lead in developing new analytical methods and mechanisms for capturing the food security implications of alternative food crops (such as cassava), in collaboration with member states and key stakeholders, including significant role players in the private sector and civil society. However, the SADC member states need to commit to continuing their contributions and to looking for appropriate means of investing in such a project.

The RDMTC that had been built up under SADC sponsorship had not been working, so that there was little forward planning or discussion, with SADC lacking the basic capability to react efficiently and sustainably in response to a disaster, as few national governments were ready to cope with crises such as that of 2001/02, as they lacked appropriate strategies. For these reasons, it is ***recommended*** that the SADC disaster management mechanism be fully operationalised and that it should play a more significant role in supporting and co-ordinating the behaviour of SADC countries in emergency situations.

Second, in terms of food security interventions aimed at *mitigating risk*, due to the frequent

occurrence of regional food insecurity and in response to hunger and starvation following the droughts and floods experienced during 1992, 1995 and 2001/2, particularly in the face of the severe foreign currency shortages encountered at national level, the significance of maintaining national grain reserves was emphasised. In addition, many negative factors have to be considered: storage costs; opportunity costs (difficult to estimate, due to the unpredictability of price movements subsequent to the purchase of the stock, but, at the least, including the interest payable annually); and the demands of controlling the stock efficiently and impartially in the face of dominant lobby groups, whose demands are expected to diverge over time, depending on market conditions. For these reasons, it is ***recommended*** that staple grain reserves be located strategically in remote areas so that there will be sufficient food supplies for all areas of the country in the event of a food shortage. In addition, accessibility to food should not have to depend on the transportation infrastructure. To ensure food production on a sustained basis, as well as an income to farmers and increased access to food by the majority of the population, a guaranteed minimum price for food crops managed through national and regional strategic food reserves in SADC is necessary.

For the public and private sectors of SADC, SAFEX offers the best option as regards keeping large amounts of staple commodities, such as maize (yellow or white) and wheat, in reserve. With its focus on regional management, such an approach offers to stimulate intra-regional trade, to support the role of private actors, and to decrease the need for national governments to hold either large physical grain stocks or large financial reserves. For these reasons, it is ***recommended*** that more effort be invested in exploring the feasibility of alternatives, such as grain futures markets. This is another area that could benefit from regional (SADC) co-ordination aimed at complementing national activities. Moreover, the introduction and implementation of a new futures contract, allowing for the utilisation of maize on a worldwide basis is urgently needed.

Finally, in terms of food security interventions aimed at *coping with risk*, food subsidies and food price stabilisation schemes have come under increasingly strong condemnation over the past twenty years due to the regressive nature of food subsidy programmes, with better off individuals being capable of buying more food and thereby of gaining more from generalised subsidies, while being exceptionally expensive as a means of assisting the most vulnerable segments of the population on a large scale. For these reasons, it is ***recommended*** that the need for subsidies could be reduced by adopting appropriate institution-based strategies and policy modifications.

On the other hand, food-pricing policies in most Southern African countries were consumer-oriented, as food prices were fixed at a low level that favoured the urban consumer. Thus, agricultural pricing policies have tended to adversely impact on incentives to produce food, limiting the ability of governments to establish and maintain food reserves, and restricting job opportunities in farming, processing and rural industries. For these reasons, it is ***recommended*** that food-pricing policy change occurs in Southern Africa geared more towards economic development than towards the bolstering of political concerns. Nevertheless, buffer stocks (in the form of national and strategic food reserves) can be used to stabilise staple food prices in order to offset fluctuations in domestic production or world prices, thus reducing vulnerability to famine.

Despite some governments in the region, such as that of Malawi, having tried to improve the quality of life of the poor in the past, they have had to face countless problems and limitations, as administered safety net programmes – nutrition supplements, free food distribution, free input distribution, food-, cash-, and inputs-for-work – tended to be disorganised, relatively unco-ordinated and poorly targeted. In addition, direct aid and social welfare transfers have been relatively insignificant, due to economic limitations. In addition, casual safety nets – the extended family and community support systems – have tended to become over-stretched and vulnerable to shocks, due to increased poverty and the HIV/AIDS pandemic. Furthermore, although WFP has made considerable efforts to raise school enrolment ratios, a common response to chronic and transitory food insecurity in the region has been to remove children from school. For these reasons, it is ***recommended*** that governments and donors co-operate, co-ordinate (in order to fill the policy gaps) and accurately target the vulnerable groups when designing and implementing food security programmes in the region. Also, whether education is seen as a basic human right or as an investment in a country's economic future, it is important to find ways of keeping children in school – by effectively reducing absenteeism and drop-out levels – during times of food insecurity. Education is an area that requires human capital investment in order to ensure long-term food security in Southern Africa, because educational attainment has been proven to have positive direct effects on the adoption of new technologies, as well as on agricultural productivity.

No explicit attention has been paid to social protection policies in Southern Africa. In Lesotho, for example, no specific focus has yet been lain on social safety net programmes, poverty reduction and food security strategies aimed at ongoing economic growth and poverty reduction in an effort to ensure macro-economic stability. Since the end of the conflict in the early 1990s, Mozambique's poverty and food insecurity reduction programmes have heavily emphasised continued economic

expansion and improved output, with no mention being made of actions correlated to the needs of vulnerable groups. Therefore, such programmes have failed to obtain the expected results; and activities to improve food security have largely been confined to trying to increase agricultural production. In addition, in Zambia, two significant sources of vulnerability to food insecurity were encountered: poverty and food insecurity reduction programmes included no measures to restore access to agricultural inputs or to stabilise food prices that were adversely affected by structural adjustment programmes. Moreover, Zimbabwe, which may, have had the fiscal and administrative capacity to implement effective and comprehensive social protection programmes, failed to do so, due to its economic growth strategy causing the government to implement self-seeking policies which bought electoral popularity, but which also generated widespread dependence. Social grants played a significant role in reducing poverty and supporting social development only in South Africa, as they tended to be inadequately targeted and fiscally unsustainable in other SADC countries, such as in Namibia.

Generally, impoverished countries in the area tended to be afflicted by many problems, such as very low average incomes, the absence of strategies aimed at reducing poverty in the near future, limited resources to fund transfers to the poor and early stages of transition out of subsistence agriculture. All such problems act as barriers constraining the installation of effective public social protection programmes. The failure to realise policy options aimed at the economic betterment of those in the region was worsened by the incapacity of several countries in the SADC to administer social protection programmes effectively. For these reasons, it is ***recommended*** that such programmes be developed still further to protect the poor and most vulnerable groups in the region from hunger and starvation. Effective interventions require sufficient organisational capacity within government to allow for the designing of suitable programmes, the correct identification of the right beneficiaries and the delivery of targeted social services to them. Building institutional capacity, therefore, involves enhancing the skills of public and non-governmental organisation (NGO) sector staff in policy analysis and programme planning and implementation.

Despite the compassionate intention of those offering food aids to the starving millions, such intervention has been observed to have unfavourable effects on domestic food production. Some scholars have argued that food aid policies discourage producers from increasing their production, thereby worsening food shortages. Such points of view are grounded in basic economic theory, which holds that food prices affect both demand and supply. Holding such a view seems justifiable, as, if prices are low, a producer tends to make only a small profit, while, if they are excessively low,

the tendency is to move from commercial to survival farming, which obviates the need to sell at such low prices. In Zambia, for example, many farmers refocused their efforts on growing crops such as sorghum, millet, sweet potato and cassava to secure their personal survival. Such refocusing of effort could negatively impact on food security, resulting in even less access to food in the marketplace. Furthermore, food aid was found to be extremely expensive in landlocked countries such as Malawi when compared to commercial imports and locally produced food. Moreover, late deliveries occurred due to logistical and organisation restraints, and insufficient targeting. For these reasons, it is ***recommended*** that SADC review its own responses and activities aimed at facilitating and supporting national efforts to prevent food insecurity, and, in collaboration with member states and key partners, refocus on strengthening regional co-ordination and the ability to respond timeously in the event of a humanitarian emergency occurring in future in Southern Africa.

Even with the generous WFP aids to Africa, financial aid has almost halved, with the rest of the aid supply being concentrated even more on humanitarian conflict resolution and structural adjustment activities, leading to the declining support of conventional development. Besides, financial aid flows to Africa are likely to be cut even more in future, and the likelihood of other forms of debt assistance is out of the question in the near future. While vertical interventions against specific problems, such as the transmission of HIV or malaria, may prove the focus of further subsidies, it is unlikely that substantially more aid will be accessed for social or infrastructural development. For these reasons, it is ***recommended*** that SADC member states carefully identify bottlenecks that could be avoided in a future emergency by introducing more appropriate policies and mechanisms to create an environment that encourages and co-ordinates the work of humanitarian agencies in emergency relief situations.

7.2.5 Findings and recommendations regarding Chapter 6: The contribution of regional trade integration to food security

This chapter briefly clarified the problems facing regional trade integration in Southern Africa and the inability of relatively weak African countries to negotiate effectively with powerful trading blocs.

Regional trade integration has the potential of yielding substantial benefits, primarily because it reduces tariff, non-tariff and technical barriers to trade, providing member countries with broader markets for their commodities, while, in addition, enhancing the transferability of resources to

optimal production functions in various economic sectors. Unfortunately, there are many obstacles to successful integration and economic development in the region, including the following:

1) The SADC countries fall into two broad groups: those that depend on agriculture and those that are mineral based (see Table 6.1). The nature of regional economies is that they tend to be competitive rather than complementary in respect of countries producing a similar range of primary products and competing for similar export markets. The need for diversified production in the SADC region was commonly cited as forming the central barrier to the successful integration and economic development of the region. However, over the past decade, growth performance has been moderately poor in Southern Africa, which has experienced slow growth (on average, 4.3%), with declining levels of GDP per capita (see Table 6.2). It is, therefore, unlikely that most countries in the region will meet the 6% growth levels required to reduce poverty by half by 2015, in line with the Millennium Development Goals, leaving their contribution to food security in the region still in doubt. For these reasons, it is ***recommended*** that sufficient diversification of production take place in the region (see section 7.2.3(a)). Furthermore, measures to increase industrialisation and trade diversification are needed to decrease the region's heavy dependency on primary commodity exports. There is need for complementary policies to promote the best interests of the SADC countries.

2) The defining feature of the SACU was found to be the dominance of South Africa in terms of the size of its economy and population, in contrast to that of the other four members (see Table 6.3). South African companies dominate the business landscape in the BLNS, with these countries largely depending on South Africa for most of their trade, investment and, in several cases, migrant labour possibilities. The mining industry leads the economy, accounting for over 30% of the GDP, even though its share is in decline, due to the expansion of trade, financial and government services. The BLNS countries have experienced higher growth rates, with Botswana having a higher level of GDP per capita and much higher growth rates than all other member countries (and the majority of the world), based on the full exploitation of its diamond reserves. However, manufacturing accounts for less than 5% of the GDP in SACU. For these reasons, it is ***recommended*** that measures be taken to increase industrialisation of the region by increasing the manufacturing potential of the region and by decreasing dependency on primary (mining) exports and reliance on only one country (South Africa).

3) Southern African economies have maintained interventionist and protectionist trade policies for quite a long time. On the *import side*, the broad use of restrictive licensing systems, high tariffs

with different measures of import bans and fixed foreign exchange controls have been employed. On the *export side*, extensive export taxes and the exclusion of certain items for export have prevailed, despite the majority of SADC countries having greatly reduced trade policies associated with NTBs, such as quantitative limits on imports. However, wide-ranging NTBs still are the most significant barriers to trade, quantitatively restricting such imports as maize, wheat and dairy products and impeding the automatic import licensing method. For these reasons, it is ***recommended*** that the complex and confusing tariff structure of SACU countries in relation to other non-SACU SADC countries be eliminated in order to promote intra-SADC regional trade.

4) SADC countries are members of other trading block, such as COMESA, the IOC, the ACP, SACU and EU–FTA, which overlap with each other in their attempts to harmonise trade policies (see Table 6.4). However, SADC trade regulations should adapt to those of the global economy, in terms of WTO conventions, such as enhanced competitiveness and the imposition of certain standards of quality. Furthermore, tradable commodities should expand according to each country's comparative advantage and the freer movement of goods and services across borders. For these reasons, it is ***recommended*** that differences between intra-SADC bilateral agreements and regional policies be eliminated in order to avoid problems of overlapping, while the harmonising of policies is also vital to Southern African development.

5) Agriculture is the main economic activity of the SADC member states, accounting for approximately 13% of the region's GDP. Economic growth will, hence, only occur if agricultural efficiency is enhanced. Unfortunately, at present there are a number of key challenges facing the agricultural sector, such as low productivity and oft-felt disasters (droughts, floods and conflicts), which, in some areas, are so regular that they disrupt supply. Although the regular occurrence of natural disasters tends to be factored into the overall equation, little forward planning or consultation takes place and SADC currently lacks the capacity to respond to disasters efficiently and sustainably. A number of efforts, such as food aid, food imports by governments, the development of strategic maize reserves, and the supply of seeds as part of relief programmes, have been directed at dealing with the impact of disasters, but have had little impact on the overall food situation. Moreover, some countries, such as Botswana and Namibia, have relatively little arable land, while they could have enormous demand for crop products. For these reasons, it is ***recommended*** that designing the appropriate policies and making the right investments in agriculture will effectively place the region on the right path to food security. However, a policy-based approach cannot suffice to prevent future food shortages if the public institutions that

implement the proper policies and programmes do not function effectively. Investments in agriculture could take the form of the development and diffusion of disease-resistant or higher yielding crop varieties, the dissemination of improved natural resources management, improved delivery of inputs and the more efficient marketing of agricultural production. Also see section 7.2.2(1) and (2) for further recommendations.

6) Despite NEPAD having identified FDIs as a suitable vehicle for the financing of development on the continent, studies have shown that the region is not appropriate for such, as, in many cases, the flow emanating from such investment is principally influenced by the nature of the relationship existing between states and investors, both domestic and foreign. For instance, Zambia, Malawi and, currently, Zimbabwe have experienced problems with donors, resulting in decreasing FDIs flows (see Table 6.8). As a result, SADC's share of FDIs dropped from US$5,3 billion to only US$3,9 billion, largely consisting of sharp declines of inflow into Angola, South Africa and Mozambique. In addition, countries such as Zambia, Zimbabwe, Angola, Mozambique, Tanzania, South Africa and Malawi (see Figure 17) have experienced overwhelming debt due to their relatively high numbers of total imports in relation to their limited number of exports of goods and services. In terms of intra-regional investments, South African investment flows were becoming one of the dominant sources of FDIs in Africa, and in the SADC region in particular (see Table 6.7). South African FDIs were found to be concentrated in the mining, retail and wholesale, hotel and leisure, manufacturing and finance sectors, although FDIs that essentially appear to be market and resource seeking in nature can considerably enhance the growth and development prospects of SADC countries. For these reasons, it is ***recommended*** that effective political reforms be urgently undertaken in the region by means of building up solid relations between governments, donors and private investors that seek to encourage investment in agriculture and in industrial activities rather than in extractive industries, mining and oil exploration and production. However, South Africa has successfully managed to penetrate the regional market. What is needed from the rest of the countries in the region is to be able to direct South African FDI flows to their national priority industries focused on development, rather than on those prioritised in terms of South African economic interests.

7) SADC countries, especially those which are landlocked, have high transport costs (see Table 6.6), making imports expensive. Given a normal harvest, market prices are usually below import parity. In contrast, the high costs entailed during production also affect exports and so the price tends to exceed what would be acceptable in terms of export parity. The ability and competency of

logistical arrangements in the region have been destabilised by lack of investment and losses experienced in the transport sector. For these reasons, it is ***recommended*** that the integration of transport infrastructure and services be treated as essential to the free movement of goods and services throughout the region and in relation to the rest of the world markets, as well as to the reduction of transport costs.

8) Although South African economic activities have historically been based in high levels of protection at sectoral level, collectively, within a broad framework of financial assistance, tariff breaks and other incentives, South Africa still is the motivational force in the region (see Figure 18 and column 3 in Table 6.2), due to its relative macroeconomic and political stability, as well as its economic environment that is conducive to investment initiatives. For these reasons, it is ***recommended*** that South Africa remove its technical barriers, such as its demand for the maintenance of quality standards, so that intra-regional trade can increase in the SADC member countries.

9) An investigation into South Africa's key export partners has revealed the country's comparative advantage in the production of primary commodities in respect of countries with a comparative advantage in the production of manufactured goods, such as the EU, NAFTA and Japan. Recently, the EU has become the region's major trading partner, absorbing more than one-third of all its imports and supplying 47% of total SADC exports. The EU has grown in importance as an export market for South Africa from the first functioning of the EU–SA TDCA, even though it has lost market share in later years to Asia, Japan, Italy, Germany and the USA, with exports to the USA in terms of AGOA raising hopes for further exports to this country in the near future. Although the EU–SA trade accord will largely affect South Africa favourably, the World Bank has stated that such an accord is also expected to have secondary economic benefits for the whole region in terms of better regional production and exports. For these reasons, it is ***recommended*** that SADC maintain positive relations with the EU, although intra-regional trade is the primary objective of economic growth in the region. The two types of trade policies should complement one another, and trade integration in SADC should aim to develop the capacity and nature of both extra- and intra-regional trade. Nevertheless, SADC should promote fair competition between businesses in the region in order to motivate extra-regional exports.

7.3 RECOMMENDATIONS FOR FURTHER RESEARCH

In formulating food security policies in Southern Africa, considering an integrated approach to food security, development and agriculture in the region is crucial. Food security policies should, therefore, be guided by a holistic approach, giving attention to the availability of food at macro level, the access to and distribution of income, the improved production capacity for acquiring food at household level, and the utilisation of nutritious food by individuals.

The problems of food insecurity in Southern Africa outlined in this study cannot all be solved, or even addressed, by such a study. Many issues related to the main problem covered in the study are either not discussed or are inadequately explored, given the limited scope of the research. Further investigations based on the collection and analysis of primary data are required in order to enable the problem to be addressed more clearly as regards the implementation of long-term food security programmes. Of the many challenges existing in this area, the following require further investigations more urgently:

- In most countries agriculture forms the basis of the economy, and will continue to be the major source of food supply throughout Southern Africa. However, agriculture is lagging behind demographic growth in the region, resulting in increased poverty and hunger for its inhabitants. The challenge, therefore, still remains of how to increase food production by way of agricultural expansion in such a way as to meet the future needs of the growing population in the region.
- Many of the problems regarding food security in the region are not the result of a lack of knowledge about what policies to adopt or the result of an absence of information that can be used in support of decision making, but rather a possible result of the inadequate implementation of effective policy. Given the current fiscal (economic and financial) and administrative (institutional) constraints, and a context of reduced government interventionism in the economy (free market), the question that needs to be answered is: How can governments and donors work together in partnership with private, civil society organisations and NGOs to deliver effective food security services to vulnerable poor citizens in the region?
- Since food subsidies and food price stabilisation systems have come under progressively more powerful criticism over the years, due mainly to the regressive nature of food financial support programmes, higher-income persons buy more food and gain more than do those

with a low income, who are more vulnerable. However, food-pricing strategies in the majority of Southern African countries are consumer-oriented, which clashes with any motivation to produce food in the region. The challenge, therefore, still remains as to how to design well-targeted food policies, such as food subsidy and food price stabilisation programmes aimed at addressing social concerns related to high, volatile food prices. Such unrealistic pricing currently limits access to food by poor households. The key consideration is what would be less damaging to long-term economic growth and food security in the region.

- Another major issue for further consideration and research relates to the role of the women in food security in Southern Africa. Women, especially those who are heads of households, in rural areas play a significant role in agricultural production, particularly in food production. As their role as food producers and agents of food security in the region still has to be recognised, the reason for such lack of recognition, as well as how to cope with such a lack of recognition needs to be considered.

None of these questions is new for agricultural economists or rural development specialists, but generating better and clearer answers lies at the core of policy improvement, so that proper designing and implementation, aimed at achieving long-term food security in the region, can take place.

7.4 CONCLUSION

The last chapter of this research thesis has summarised the main findings of the causes of food insecurity in Southern Africa, based on the literature reviewed. Similarly, the chapter has also recommended some of the challenges that still remain as main obstacles to the attaining of food security in Southern Africa.

The investigation was carried out using the explanatory structure and systematic framework of the qualitative methodology of narrative study, in order to reveal the roots of food insecurity grounded in individuals and households residing in the SADC region. The research concentrated mainly on the availability of food and the ability to acquire it, in an attempt to ascertain how balance between supply and demand in the food security equation can be secured. The study has used documentary records to examine the problem; as such publications clearly expose the nature of the problem.

Achieving food security in the SADC region is regarded as a major problem for the SADC countries. Southern Africa is the one of the most prominent areas worldwide presently facing temporary and constant food insecurity (in the form of malnutrition), as well as ongoing anxieties regarding food insecurity crises (in the form of famine). Due consideration has to be paid to the reason behind such insecurity and what can be done about it. This thesis concentrated on causes of food insecurity in Southern Africa, in an effort to find some responses to these questions, as have been outlined in this chapter.

The core problems relating to food availability in the region lie at the agricultural level. SADC has been plagued by low output and ongoing disasters, which have exacerbated supply-related problems, as have inadequate support of the sector, a lack of enterprise, the volatility of the world market and, increasingly, the inequitable trade situation. Other key issues compounding the problem have been: trade obstacles, such as tariff, non-tariff and technical barriers, especially the unduly complicated tariff structure of the SACU countries in relation to that of other non-SACU SADC countries; the high transportation expenses especially encountered in landlocked countries, due to the incapacity and ineffectiveness of the transport method in the region, resulting from a lack of investment in, and the poor performance of, the transport sector. The lack of diversification in the SADC region was cited as the central barrier to successful trade integration and economic growth in the region. All such problems impact on the supply of food in the region.

On the demand side of the food security equation, the major problems as regards access to food in the region were found to lie in the lack of food entitlement (poverty) due to inadequate economic expansion resulting from failed macro-economic policies; fluctuations in output; extremely distorted models of revenue and capital distribution resulting from colonial policies imposed in the past; irresponsible governance opposed to democratisation, and financial misconduct. Rapid population growth in the region has accelerated the demand for agricultural commodities, especially foodstuffs, and restricted access to arable land still further. The prevalence of the HIV/AIDS pandemic was making even more difficult the tasks of combating hunger and boosting the livelihood of the poor, by shrinking the amount of skilled agricultural labour potential in Southern Africa. A lack of financial and managerial competence (in the form of inadequate policies) was the major limitation to the implementation of successful poverty and food insecurity improvement programmes in the region, as wide-reaching government intervention aimed at sustained food security in the region was not a viable proposition for the near future.

Overall, based on the findings outlined in this chapter, it can be concluded that food insecurity in the SADC region is due to problems experienced both on the supply and demand sides of the food security equation. Food insecurity status in some countries of Southern Africa seems to be acute (famine), such as in the case of Zimbabwe and Malawi, though generally dire cases of food insecurity are transitory, taking the form of chronic food insecurity (i.e. malnutrition). SADC has, however, not been able effectively to counter food insecurity in the region, due to few lessons having been learned from the 1991/1992 food insecurity crisis that could be applied during the 2001/2002 food crisis.

Lastly, the eradication of food insecurity in Southern Africa requires, in the long term, increasing the actual earnings of households, so that they can be able to buy enough food, whatever the immediate situation. Such an increase can come about in the following ways: (1) by giving those who experience chronic food insecurity the chance to earn a satisfactory income and by guaranteeing an adequate food supply by way of domestic production, through increasing productivity and food security at the household level, and (2) by increasing food imports by removing tariff, non-tariff and technical barriers to trade, and investing in the transport infrastructure of the SADC region. Fair and unified implementation of the above could serve to reduce food insecurity in Southern Africa by a substantial amount.

APPENDICES

APPENDIX 1

Definitions of food (in)security, 1975–1996

1. "Availability at all times of adequate world supplies of basic food-stuffs … to sustain a steady expansion of food consumption … and to offset fluctuations in production and prices" (UN, 1975, cited in Maxwell, 1996).

2. An operational definition: "The probability of food grain consumption in developing countries falling below a desired level due to a fixed upper limit on the food import bill they can afford and an unfavourable combination of poor harvest and world food grain prices" (Reutlinger, 1977, cited in Maxwell & Frankenberger, 1995).

3. "A condition in which the probability of a country's citizens falling below a minimal level of food consumption is low" (Reutlinger & Knapp, 1980, cited in Maxwell, 1996).

4. "Everyone has enough to eat at any time – enough for life, health and growth of the young, and for productive effort" (Kracht, 1981, cited in Maxwell, 1996).

5. "Freedom from food deprivation for the entire world's people all of the time" (Reutlinger, 1982, cited in Maxwell, 1996).

6. "Ensuring that all people at all times have both physical and economic access to the basic food they need" (FAO, 1983 cited in Maxwell, 1996).

7. "The stabilization of access, or of proportionate shortfalls in access, to calories by a population" (Heald & Lipton, 1984, cited in Maxwell, 1996).

8. "A basket of food, nutritionally adequate, culturally acceptable, procured in keeping with human

dignity and enduring over time" (Oshaug, 1985, in Eide *et al*., 1985, cited in Maxwell, 1996).

9. "Access by all people at all times to enough food for an active, healthy life. Two essential elements are 'the availability of food and the ability to acquire it'. Food insecurity, in turn, is the lack of access to enough food" (World Bank, 1986).

10. "Food security means always having enough to eat. People reach food security by: 1. having land and resources to grow food, or 2. having employment which pays enough to buy food" (Zipperer, 1987, cited in Maxwell & Frankenberger, 1995).

11. "A country and people are food secure when their food system operates efficiently in such a way as to remove the fear that there will not be enough to eat" (Maxwell, 1988, cited in Maxwell, 1996).

12. "The ability … to satisfy adequately food consumption needs for a normal and healthy life at all times" (Sarris, 1989, cited in Maxwell, 1996).

13. a) In recent years, food security has come to be defined as "the ability of a country or region to assure, on a long term basis, that its food system provides the total population access to a timely, reliable and nutritionally adequate supply of food" (Van Zyl & Coetzee, 1990).

b) "Food insecurity exists when members of a household have an inadequate diet for part or all of the year or face the possibility of an inadequate diet in the future" (Phillips & Taylor, 1990, cited in Maxwell & Frankenberger, 1995).

14. "Enough food available to ensure a minimum necessary intake by all members" (Alamgir & Arora, 1991, cited in Maxwell, 1996).

15. "Food security is when all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life. It requires food

availability, food access and food utilization/consumption" (USAID, 1992, cited in Maxwell & Frankenberger, 1995).

16. "Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (FAO, 1996).

APPENDIX 2
Proposal for a new SAFEX futures contract aimed at achieving market efficiency

The SAFEX Agricultural Market Division (AMD) has become the pricing mechanism for regionally produced coarse grains and oilseeds. However, it fails to allow for the adequate pricing of premiums or discounts based on international imports, due to the lack of physical delivery built into the current listed futures contract, which only allow for delivery of 'maize of African origin'. This proposal calls for the introduction of a second futures contract, which will allow for physical delivery of maize of international origin (Vink & Kirsten, 2002).

In this proposal, Vink and Kirsten (2002) argue that international grain is priced on the basis that it could readily be imported/exported based on either a surplus or shortage arising in the local market, allowing for variations in certain factors, such as the exchange rate, transport differentials and freight. The determination of import and export parity is thus largely a function of supply and demand. However, parities *assume* that imported grains can be freely substituted for local grains in an environment in which local price levels are not synchronised with international prices. In practice, this is not the case. Although only a small percentage (less than 10%) of futures contracts result in physical delivery, the possibility that any contract can physically settle inhibits speculative activity. As indicated above, that possibility does not extend to the current futures contract.

Such a situation results in the following:

- Grains are being imported only if a South African buyer confirms the transaction. This causes the South African buyer to hedge his/her exposure before the confirmation of the trade by buying grain in the local market. Upon confirmation, s/he will sell his/her hedge to the importer and take delivery of the imported product. This price action will often be undetected by the market, as the exact tonnage imported is not in the public domain. The market will, however, detect the initial buying pressure, which will result in the skew favouring of demand.
- Should an opportunity for arbitrage occur between the international and the local price, an international trader would not be able to avail him/herself of it by selling maize of international origin, as s/he would not be able to deliver onto a hedge position on SAFEX if s/he were unable to find a local buyer. As such anomalies usually exist only for a short period of time, it is crucial that the trader be able to settle a hedge contract in terms of

physical delivery if prices deviate from the arbitrage position. Currently, s/he will only liquidate his/her physical position by finding a willing buyer (miller) in South Africa. Clearly, in a fast-moving market such an undertaking can be very risky, as prices might fluctuate in a disadvantageous direction before a buyer can be found which would inhibit arbitrage activity.

- South African maize trades at a premium in the international market, due mainly to quality considerations during any given trading year. The premium reached in the international market differs from time to time, based on a number of factors, resulting in it being higher or lower than the long-term premium. Such fluctuations result in the entire crop being priced at the prevailing premium, even if only a relatively small proportion is exported in terms of premium order. Such transactions are also not always conducted in the public domain.

How is parity pricing achieved?

In the process of price discovery, it is clear that provision must be made, from time to time, to determine what the actual premium on South African origin white maize is. The market also needs to be able to arbitrage white maize of international origin with maize of South African origin in order to create a truly market-based import parity price. Currently, the contention is that the international market delivers inferior quality white maize compared to that produced locally. This opinion is vested in perceptions of quality and the genetically modified (GM) nature of the international market. These quality issues are addressed through the phytosanitary requirements imposed by trade and industry and enforced by customs on maize of international origin.

The argument for the introduction of a 'non-African origin' maize futures contract

Although not the perfect solution, the introduction of a 'non-African origin' maize futures contract may solve some of the aforementioned issues in a market-friendly manner. This contract will be substantially the same as the current listed contract, with the only difference being that delivery of other (such as that of USA origin) maize will be allowed in order to achieve physical settlement of a futures contract. Such settlement could currently be achieved by way of grain storers issuing their certification on the basis of the agreed grade. Technically a grade two classification would allow the co-operatives to store maize of foreign origin with South African stocks of second grade quality, which, as a rule, the industry tends to separate from first grade maize.

The Exchange already lists a grade two maize contract, so that a technical adjustment is all that is required in order to allow for delivery.

Advantages

- The major advantage of the introduction of such a futures contract will be the access that it would grant to northern hemisphere maize whenever there is a regional shortage, which would result in the local market reverting to import parity. So doing would obviously ensure transparent regional food security.
- The market's transparent and market-related determination of the premium on local production would not result in a 'supernormal' premium for an extended period of time. Such a situation would result in the dynamic pricing of a factor (whether it is premium or discount) on which the majority of market participants cannot currently obtain information.
- The option of whether to use imported or domestic maize in the milling industry would then become a factor of price, as the market would then essentially have to choose between two different products. If imported maize were truly of an inferior quality, then milling losses would discount that of South African origin. The size of such a discount would then compensate the buyer for any losses incurred, which, in turn, would result in substitutability.
- No single entity would be able to squeeze the market in terms of exports or reduced crop forecasts in the event of adverse weather conditions.
- Although imported maize might be quality deficient, such inferior quality, in itself, should not disallow physical settlement. Maize is frequently imported to South Africa, as is the case at present. Delivery onto a futures contract would not require desertion of current quality standards, as it is intended that the imported product be of the same quality as that currently required by customs and market practice.
- The price premium on white maize will also, in all probability, distort the production of yellow maize, as the difference in price amounts to more than R400.00 per tonne at present. As these products are physically essentially the same, the country would, in all likelihood, import yellow maize for the feed industry. It will make little difference whether this maize reaches the market via over-the-counter contracts or by means of delivery onto a futures contract through SAFEX. The benefit to be gained from participating in such an exchange will be the transparency of the process and the quantity delivered, which would ensure long-term price conversion between the local and the international market.
- Finally, a price risk instrument would exist that would enable the international trade to hedge price risk in the sub-region. As maize is frequently imported to SADC, a local futures contract allowing for international delivery would go a long way to managing price risks exposures for international commodity traders.

Conclusion

Although the introduction of an international origin maize futures contract would not alleviate absolute price pressure due to prevailing external factors, it would allow for the implementation of a transparent price discovery mechanism for determining true premiums and discounts, based on the global grain market. Such a mechanism would ensure the immunity of the market from individual players and their perceptions, as well as allow them to exercise free choice. As such, the rules of global supply and demand would then be able to rule expeditiously. Ultimately, such a situation would contribute to greater transparency in relation to regional food security, without necessitating having to resort to interventionist policy making. Ultimately, all market participants would then stand to benefit in the long run.

APPENDIX 3

SADC Member States Map

Source: http://www.asosh.org/SADC/sadcmap.htm. Accessed on 03/07/2006.

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