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The Food Security Situation in the Southern African Development Community

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Introduction

This brief gives an overview of the important issue of food security in the Southern African Development Community (SADC). Since nine of the fourteen SADC countries have been classified as 'Low Income Food Deficit Countries' (LIFDCs)[1] by the Food and Agriculture Organisation (FAO) of the United Nations (UN) (see appendix table for details), the problem of food insecurity needs urgent attention. In this brief, I attempt to examine the links between agriculture, trade and food security.

In summary, the literature suggests that regional integration can contribute to increased food security in the SADC region, and that there is scope for greater intra-regional trade in cereals and other foodstuffs. The ultimate aim of a food security strategy would be for the region as a whole to be self-sufficient in cereal production as well as in the production of other food crops. Barring this, the ability to purchase food on the world market in times of severe regional drought would constitute a secure food situation.

Food security

Food security defined

Food security means that every individual has access to sufficient food to live a healthy and productive life. According to McCalla (1999: 96-97) the necessary and sufficient conditions for food security are availability of food, access to that food and the correct utilisation of the food. It is ironic that even nations with sufficient food available are home to starving or malnourished people. Thus access and utilisation are equally as important as availability when assessing the food security situation.

Food insecurity at the household level is a direct result of poverty, whereas food insecurity at a national level results from 'faltering development and weak external trade performance' (Duncan, 1998: 459). Food security needs to be addressed at the household level (for it is at the household level that people either eat or starve) with the government (given government failure) and with the international community (who have a responsibility to ensure adequate nutrition for all).

Since poverty is the root cause of food insecurity, the ultimate way to improve the situation is to increase per capita incomes and ensure that a social security net is in place. Households need to have physical or economic access to food - physical access implies the means to produce their own food (subsistence farming) whereas

[1] In the world, there are 86 nations classified as such. 43 are in Africa, 24 in Asia, 9 in Latin America and the Caribbean, 7 in Oceana and 3 in Europe. LIFDCs are classified as food deficit countries with per capita incomes below the level used by the World Bank to determine eligibility for International Donor Assistance with respect to food aid.

economic access refers to the ability to purchase food on the market. At the global level, food aid is an important relief measure, but the regional and international community has an equally important role in ensuring longer-term food security by engaging in fair agricultural trading systems.

Food self-sufficiency is a related concept and the desire by some governments to achieve this actually resulted in inefficient farming practice and reduced food security in the region. Political pressures to achieve food self-sufficiency must be sidestepped by an appeal to economic logic.

The situation in SADC

The SADC region is home to many hungry, malnourished people. However, the situation is not uniform - countries and sub-regions co-exist side by side with vastly different food security situations as a result of the skewed distribution of resources within the SADC.

Column four of the appendix table shows the percentage of each country's population that was malnourished over the period 1995 to 1997. Unfortunately, data was not available for South Africa and Seychelles, although the close relationship between this measure and the Human Development Index (HDI)[2] indicates that both South Africa and Seychelles would perform better than the rest of the region on this count. Food insecurity is closely related to low levels of human development and thus gross national product (GNP) per capita and the HDI are useful in assessing what the food security situation is likely to be.

The average number of calories consumed per capita per day is also used to assess food security. The recommended daily calorie intake is approximately 2500. Chronic hunger is associated with an intake of approximately 1500 calories per day and undernourishment with about 2000 calories per day. Note that, on average, developed countries consume about 3400 calories per capita per day, developing countries 2430 and the least developed countries 2080 (Delpeuch, 1994: 9). Thus, the countries consuming below 2000 calories (Angola, the DRC, Mozambique, Tanzania and Zambia) are cause for particular concern.

The future in SADC

A study by the African Development Bank (ADB) in 1993 predicted that the total demand for cereals in SADC is expected to reach about 70 million tons in 2025. Because of rapid urbanisation in the region, half of this expected demand will be

[2] The Human Development Index (HDI) is an indication of human progress and is constructed using the following indicators (with proxy measures in parenthesis): longevity (life expectancy at birth), knowledge (adult literacy and the combined school enrolment ratio), standard of living (adjusted per capita income in PPP US$). The index ranges from zero to one, with values from 0.0 - 0.499 indicating low human development, 0.5 - 0.799 medium human development and 0.8 - 1.0 high human development.

required in towns and cities. Thus, the issue of improving transport routes from the farms to the urban areas will be crucial in order to meet demand.

Trends in food supply and demand

Supply

Maize is the most produced cereal in the region, yet all SADC countries except for South Africa and Zimbabwe and, in good years, Malawi, Tanzania and Zambia have to import to meet domestic requirements. The reasons for insufficient production in the other SADC countries include 'unfavourable climatic conditions, a complex natural resource base, inappropriate sectoral and macro-economic policies and support systems and internal strife/war' (Van Rooyen and Sigwele, 1998: 496).

With respect to wheat supply, most countries, except South African and Zimbabwe, import this commodity because it is a temperate climate crop. Small grains, such as sorghum and millet, are mainly produced domestically for the local market. Rice is not widely grown in the region because of its high water requirement.

Demand

Maize provides the largest source of calories, proteins and fats consumed in all the SADC countries. Wheat is the second most widely consumed cereal. It is more expensive than maize and has a higher income elasticity. Thus as per capita incomes increase, the consumption of bread is likely to rise. This could lead to balance of payments difficulties for some countries, as most of the region is not suited for wheat production.

The appendix table indicates the staple food in each SADC country. It is interesting to note that cassava is the staple for three of the poorest SADC countries (Angola, the DRC and Mozambique) while the island states of Mauritius and Seychelles prefer wheat and rice.

Agriculture

The agricultural sector in SADC

The importance of agriculture in the economy can be measured by the share of agricultural value added to GDP and agriculture's share in employment (see columns nine and ten in the appendix table). For most SADC countries the agricultural sector is very important (in terms of income generation, employment creation and foreign exchange earnings) and agriculture's contribution to GDP is larger than for other

countries with similar income levels. In addition, many people live in rural areas and thus subsistence agriculture (or smallholder farming) is an important form of food security. In South Africa and Zimbabwe, subsidies have encouraged production.

Agricultural potential in the region

The agricultural potential of the individual countries in the region can be assessed by looking at the possibility of both horizontal and vertical expansion (Kleynhans and Rwelamira: 1998). Horizontal expansion refers to using a greater land area for production given the same technology and labour and capital resources whereas vertical expansion refers to using the same area more intensively.

Areas in the high rainfall northern parts of the region have been identified as good potential food growing land. These areas include parts of the Northern Province in South Africa, central Mozambique, north-east Zambia, south-west Tanzania and the plateau of central Angola. These countries are the lowest cost producers and thus according to the traditional trade theory of comparative advantage, the majority of production in the region should shift to the north[3]. However, the situation is not clear cut as it is in these areas of SADC that physical infrastructure is the poorest. Roads, water supplies and communications need to be upgraded before these areas can produce at their full potential.

With respect to vertical expansion, 'improved crop varieties, fertiliser use, better agronomic practices, introduction of high-value crops into the existing farming systems and utilisation of each unit of arable land for what it is best suited to produce is the key to more productive farming (Kleynhans and Rwelamira, 1998: 219). The limits to horizontal expansion in the region are stressed and thus improved 'technology' and an emphasis on the organisational structure of farming are suggested in terms of policy. Both smallholder and commercial agriculture have important roles to play in the region, however, their relative importance is different in individual countries.

The ability of the fragile natural resource base to support agricultural expansion is the cause of much concern for environmentalists. Soil erosion, desertification, deforestation and environmentally damaging farming techniques all threaten food security, as does the wasteful use of scarce water resources and overgrazing (Abalu and Hassan, 1998: 480).

The role of the agricultural sector in each country

The agricultural sector in each SADC country[4] can be classified according to the quality of the natural resource base for farming, the importance of agriculture in the economy and the main source of food security. In terms of the roles for agriculture, it is assessed on the following criteria: engine of growth, food provision, foreign

[3] This implies that South Africa will lose role as the main cereal exporter in the region.
[4] The DRC and Seychelles only joined SADC in 1998 and thus are omitted from this study.

exchange earnings, employment creation and income generation (see Van Rooyen and Sigwele, 1998: 277). For the poorer, most undeveloped countries of the region, agriculture is an important driver of growth - this is consistent with traditional development economics, which states that as a country passes through the various phases of development, agriculture plays a less important role.

Agriculture is an important source of food provision in all countries except for Botswana and Mauritius (due to these countries' poor climatic and land suitability conditions). This corresponds with the fact that these countries are dependent on wages and remittances (as opposed to mostly smallholder farming for most other SADC countries) for food security.

Grains are an important source of foreign exchange earnings for South Africa (maize in particular), Tanzania, Zambia and Zimbabwe and beef dominates foreign exchange earnings in Botswana, Namibia and Swaziland. The export of high value crops provides additional foreign exchange for most of the SADC countries.

Regional integration

Why regional integration?

The two main arguments in favour of regionalism as the solution to improved food security is consumer preferences and transport costs. Throughout the SADC region, white maize is the preferred cereal choice. However, yellow maize is traded on world markets and thus if the region as a whole experiences a maize deficit, only yellow maize can be imported from the rest of the world. Regional integration in the form of a Free Trade Area (FTA) may encourage increased production in areas with a comparative advantage in growing white maize, and thus surplus regions can trade with deficit regions. There is also the option of building up a regional store under a co-ordinated food security program. With respect to transport costs, these contribute substantially to the large differential between export and import parity prices.

The SADC Trade Protocol was signed in 1996 and it is hoped that a FTA will be in operation by 2008. The process of eliminating tariffs and non-tariff barriers (NTBs) has already started. Important NTBs in the region include poor transport and communications infrastructure, the shortage of grain storage facilities and the lack of access to credit.

As with other trade liberalisation experiences world wide, many agricultural products can be defined as 'sensitive'.[5] The following agricultural products were

[5] A product can be sensitive for a number of reasons. Some of the most important reasons pertaining to the agricultural sector are: i) the reduction of its tariffs will greatly reduce government revenue (ii) its production is labour intensive (iii) it is one of a few major exports for the country.

identified as sensitive in a 1997 study by Imani (Maasdorp, 1998: 512): grain milling products in Malawi and Namibia; tobacco in Malawi, Mauritius and South Africa; edible fruit and nuts in Mauritius; coffee, tea and spices in Malawi and Mauritius; meat in Namibia; dairy produce in South Africa, Zambia and Zimbabwe; sugar in Malawi, South Africa, Swaziland in Tanzania; and, cereals in Malawi, Zambia and Zimbabwe. Thus, in the negotiations that precede the formation of a FTA, special treatment of these products will be discussed.

It is important to remember that regional integration has a stronger impact on agricultural trade than on manufacturing trade because (in general) trade barriers on agricultural products are higher and the degree of product differentiation is lower.

Necessary conditions for regionalism to work

Sigwele and Van Rooyen (1998: 495) state that in order for a FTA to be successful, certain conditions must exist: 'diversity in production, the natural resource base and consumption; positive conditions related to issues such as trade proportionality; differences in comparative advantages; a high degree of price distortion within the region; tradable commodities with high elasticities of supply and demand; the potential to create, not divert trade; and the ability to design compensation programmes to support those in the region who lose out over the short and medium term as a result of regional co-operation'.

Problems with a FTA

Free trade could hurt small-scale peasant maize growers and grain millers in the smaller countries of the region. This is because they do not enjoy economies of scale and have no anti-dumping measures. In addition, they lack marketing and management skills to compete with commercial farmers and millers.

Trade

Intra-SADC trade in general is low, and this trend is reflected in agricultural trade.[6] However, trade in basic foodstuffs is often underestimated because of unrecorded cross-border trade and smuggling. Thus, reported statistics must be analysed with this fact in mind.

[6] For all SADC countries, trade with the rest of the world is far more important that intra-SADC trade. If South Africa is excluded from the calculations, intra-SADC trade accounts for only 5% of total trade in the region. A few countries dominate what little trade does occur within the region. Trade between South Africa and the BLNS countries (Botswana, Lesotho, Namibia and Swaziland) - in the form of SACU - accounts for 65% of total trade in the region. Zimbabwe is the only other major contributor to intra-regional trade (Maasdorp, 1998: 514-515).

Table 1 shows average SADC trade in cereals and cereal preparations for the years 1990 to 1997 (expressed in thousands of current US dollars). Average exports and imports refers to total trade (SADC plus the rest of the world) while the percentage of trade to SADC represents the proportion of that trade going to or coming from other SADC members.

Table 1: SADC trade in cereal and cereal preparations (current US dollars)

	Average Exports	% to SADC	Average Imports	% from SADC
Angola	120	0%	101774.5	9.44%
DRC	313.125	0.48%	66349	19.37%
Malawi	1927.75	99.21%	37374	72.19%
Mauritius	4094.875	41.10%	60888.75	12.64%
Mozambique	5441	34.66%	850684	27.59%
SACU	1955153	27.31%	3246651	3.66%
Zambia	14560	99.39%	303682	54.08%
Zimbabwe	628744	82.0032	513955	14.87%

Own calculations using WTA data.

Unfortunately data is not available for the individual SACU members (South Africa plus the BLNS[7] countries) and thus the trade profiles as depicted in Table 1 do not tell the whole story. However, it is clear that most imported cereal comes from outside the region (except for Malawi and Zambia), and this indicates considerable scope for increasing trade within the region.

[7] Botswana, Lesotho, Namibia, Swaziland.

Conclusion

The three components of food security are availability (through domestic production, trade or aid), accessibility (purchasing on the market or subsistence production) and utilisation (in terms of adequate nutrient intake). Food security for a nation or region is said to exist when all three conditions are satisfied.

In conclusion, the aim of this brief has been to:

- create awareness of the food security situation in SADC
- discuss why regional integration may help improve the situation
- draw attention to the level of cereal trade and the scope for increasing that trade

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Appendix table: Country profiles

	LIFDC (Y/N)	GNP per capita (US$)	HDI	% of the population malnourished	Calories per capita per day	Staple food	Prop of daily calories provided by staple	Agri-culture's contrib-ution to GDP	Agriculture output growth rate	% of labour in agriculture
	1998	1999	1998	1995/97	1995/97	1995/97	1995/97	1999	1989-99	1998
Ang	Y	220	0.419	43%	1900	cassava	35%	6.9%	-4.3%	75%
Bot	N	3280	0.613	25%	2230	maize, sorghum, wheat	49%	3.6%	0.4%	46%
DRC	Y	110	0.44	55%	1820	cassava	57%	50.2%	2.9%	
Les	Y	560	0.583	28%	2240	maize	75%	18.2%	1.4%	59%
Mal	Y	180	0.393	37%	2070	maize	68%	38%	6.6%	87%
Mau	N	3590	0.782	6%	2920	wheat, rice	44%	6.2%	-0.2%	
Moz	Y	230	0.35	63%	1780	cassava	41%	31.6%	4.2%	83%
Nam	N	1890	0.651	30%	2140	maize, millet	49%	12.8%	4.2%	49%
Sey	N	6540	0.808		2389	wheat	21%	5.1%	-1.4%	
SA	N	3170	0.718		2857	maize	31%	3.8%	0.2%	14%
Swa	Y	1360	0.672	14%	2480	maize	51%	15.8%	-0.6%	39%
Tan	Y	260	0.422	40%	2000	maize	49%	44.8%	3.4%	84%
Zam	Y	330	0.429	45%	1960	maize	66%	24.6%	3.4%	75%
Zim	Y	520	0.57	39%	2100	maize	62%	14.9%	4.1%	68%

Sources: Columns 1, 4, 5, 6 and 7 - 'The State of Food Insecurity in the World' (1999). Columns 2 and 3 - 'SADC Regional Human Development Report' (2000). Columns 8 and 9 - The World Bank's 'World Development Indicators' (2000). Column 10 - 'New African Yearbook' (2000).

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