ZIMBABWE'S AGRICULTURAL REVOLUTION REVISITED

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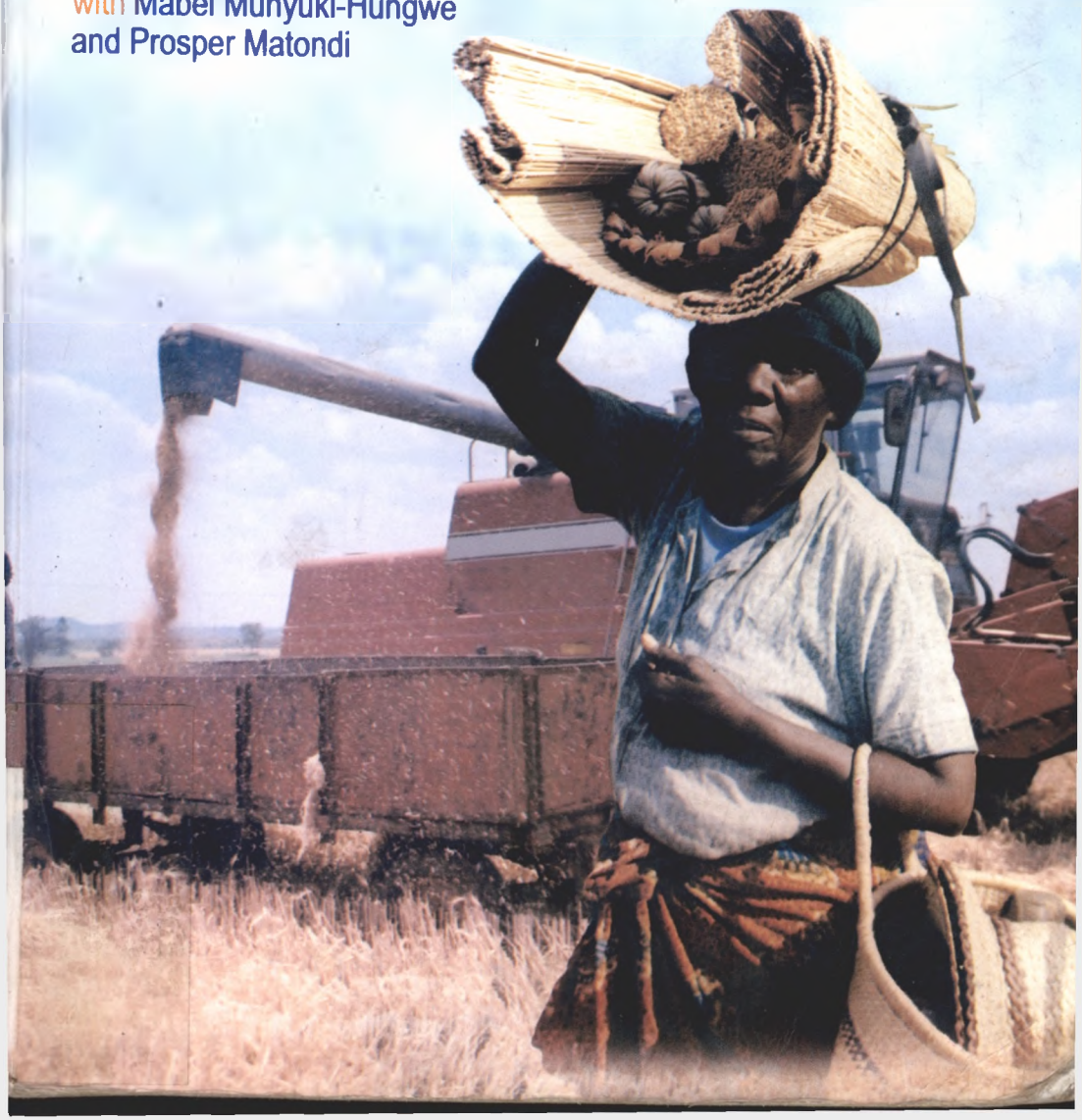

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The food security basket needs to include other crops such as cassava, beans and potatoes

24

Zimbabwe's food insecurity paradox: hunger amid potential

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Food security is one of the primary goals for human and sustainable development the world over. At the global level, one of the millennium development goals is halving the number of undernourished people in the world by 2015. In Zimbabwe, food security has been at the centre of development goals and strategies since independence in 1980. Zimbabwe has also ratified all the conventions regarding sustainable development, including the United Nations Millennium Development Goals. In the 1980s, Zimbabwe received international acclaim for its agricultural policies and grain surpluses[212] but many households in the rural areas faced chronic food insecurity. Although Zimbabwe has the potential to achieve food security, it has experienced food shortages since the 1990s at both the national and household levels.

Food self sufficiency in Zimbabwe could be achieved primarily through production and then distribution to the population through appropriate marketing policies and channels. In 1985, grain self-sufficiency was 212 per cent and Zimbabwe was regarded as the grain basket of the Southern African Development Community.[213] However, production of the main staple food crops has been declining over the years. Whilst low production can be attributed to poor and erratic rainfall, low soil fertility and other institutional and policy factors have been responsible for lagging production from the 1999/2000 season onwards.

The land reform programme designated 12.4 million hectares for acquisition that has been distributed to new farmers under models A1 and A2 since 2000. The expectation was that the increased number of small producers would increase the production base and grow the economy. But the economy has con-

[211] This chapter was updated by Rukuni and Masanganise from an earlier chapter in the first edition of this book.

[212] At one stage in recognition of Zimbabwe's ability to master food for its population, the president was awarded the United Nations 'Certificate for the Eradication of Hunger'. This occurred in a context in which many countries in Africa were facing food problems.

[213] Zimbabwe handles the food security portfolio in the Southern African Development Community protocol. It has also coordinated a number of initiatives aimed at reducing food insecurity in the region.

tinued to decline and the gross domestic product fell by 28 per cent during 2003. Annual inflation rose from 228 per cent in April 2003 to 622 per cent in January 2004. Between March and December 2003 the Zimbabwe dollar lost 360 per cent of its value against the United States dollar. The runaway inflation eroded the buying power of Zimbabweans. The shortage of foreign exchange and fuel resulted in high levels of unemployment. Furthermore, from 2000, the government lost support from the World Bank, the International Monetary Fund and other bilateral donors. The net effect was a rapid rise of poverty and food insecurity in rural and urban areas.

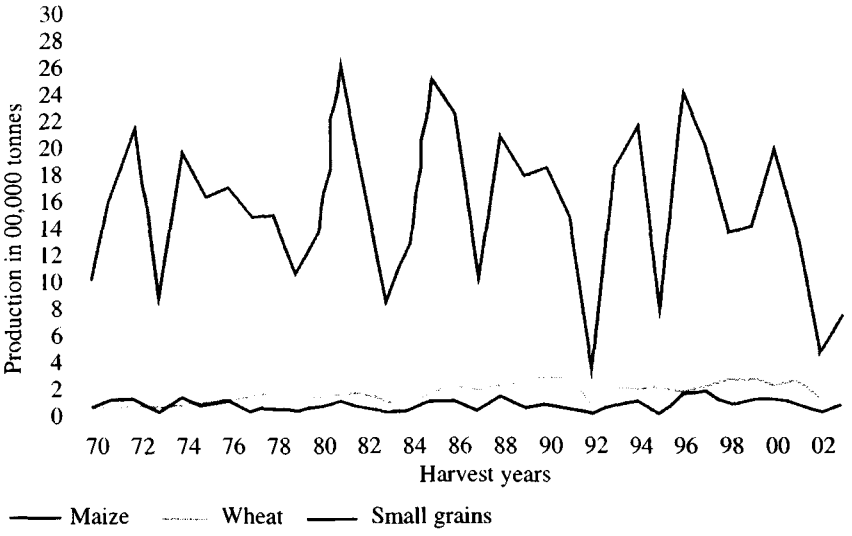
This chapter discusses the factors that have contributed to the food insecurity crisis from 2000 onwards. It has been difficult to comprehend why a food surplus country turned into a deficit country and required the intervention of the World Food Programme and other donors to feed its people. Zimbabweans also want to know what strategies are needed to return to the food security status of the 1980s. How can the production of food crops be increased on the A1 and A2 model farms, communal and old resettlement areas, and on the remaining large-scale commercial farms? What social safety nets should the government put in place for the most vulnerable? In the new resettled areas, sustainable livelihoods are already being challenged by the depletion of the natural resource base. Many farmers are relying on natural resource products to make a living. The newly resettled areas are also facing an onslaught from people from the urban areas seeking to harvest the natural resources for their own survival. Conflicts over natural resources are increasing as the opportunities and capacities to produce food have been weakened.

Food security trends

Evaluation of food security at the national level is based on the total amount of grain in the country during a specified period in relation to the demand. In Zimbabwe, the consumption period considered is equivalent to the marketing period from 1 April to 31 March of the following year. Grains such as maize, wheat and small grain (millets and sorghum) are most considered because they are the main staple food and contribute over 70 per cent of calorie requirements. Other food sources such as oilseeds, vegetables, fruits and livestock also contribute to the Zimbabwean diet but at a limited level. For any particular consumption period, the supply of grain is from production, carryover stocks from the previous season and from imports. The main source of grain is derived from production with food relief sourced from international partners being a last resort. Figure 24.1 shows grain production trends.

There have been major fluctuations in grain production in Zimbabwe because of weather fluctuations. Bumper harvests coincide with years of optimal weather conditions and bad harvests with years of unfavourable weather con-

Figure 24.1 Grain production trends 1970–2003



ditions. Many more bumper harvests occurred in the 1980s as compared with the 1990s. The largest bumper maize harvest was 2.8 million tonnes in 1981 and 2.7 million tonnes in 1985. Maize production declined from 2.1 million tonnes in 2000 to 1.5 million in 2001 and 500,000 tonnes in 2002. The highest production in the 1990s was 2.6 million tonnes in 1996.

The highest wheat production was 325,000 metric tonnes in 1990 and it declined from 2000 mainly because of the displacement of commercial farmers. Large-scale commercial farmers with most of the irrigation infrastructure were the main producers of wheat. Although the international community attributes reduced grain production largely to structural change within the agricultural sector, the 2001/02 season was also the third consecutive season of unfavourable weather conditions. The declining irrigation hectarage due to loss of irrigation equipment in the prime provinces where wheat was produced accounted for the low production. Farmers also had problems in accessing seed, fuel, fertilizer and chemicals because of the international politics of the land reform programme.

Zimbabwe was able to meet its grain requirements in the 1980s (table 24.1). The increased production in the 1980s was due to improved technology and agricultural services to the smallholder sector. The smallholder sector increased production and accounted for 60 per cent of marketed maize output to the Grain Marketing Board. At the peak of maize production during the 1980s, the Grain Marketing Board was holding over three years of food security reserves and over eight years supply of small grains. The success story in food production in

the 1980s established Zimbabwe as a regional food basket and cornerstone for regional food security at a time when chronic food insecurity was widespread in the region due to political instability, especially in Angola and Mozambique.

Problems of food insecurity started in the 1990s but the shortages were met from stocks from the grain reserve and food imports. Unfortunately food shortages in the period between 2000 and 2004 were difficult to cover. Table 24.1 shows the negative food balance since the 1998/99 consumption period, except during 2000/01. Zimbabwe has been receiving emergency food support since the 1999/2000 period. Reports (in 2002, 2003 and 2004) by the Zimbabwe

Table 24.1 Historical food grain balance sheets, 1985/86 to 2003/04

Year	Population (000s)	Status quo consumption	Domestic supply (000 tonnes)	Total requirements (000 tonnes)	Domestic balance (000 tonnes)
1985/86	8,343	198	4,512	2,871	1,853
1986/87	8,609	192	477	2,709	2,504
1987/88	8,885	230	4,098	300	1,413
1988/89	9,169	206	4,114	2,867	1,516
1989/90	9,463	187	3,838	2,427	1,550
1990/91	9,766	220	4,120	3,183	1,310
1991/92	10,078	205	2,997	2,817	349
1992/93	10,400	216	3,013	2,668	-1,905
1993/94	10,722	220	3,653	3,271	532
1994/95	11,504	205	3,830	3,349	967
1995/96	11,397	205	3,216	2,838	-125
1996/97	11,750	205	3,401	3,228	361
1997/98	12,119	205	3,465	3,267	391
1998/99	12,495	174	3,100	2,937	-305
1999/00	12,684	166	3,277	2,674	-415
2000/01	12,696	162	3,197	2,551	605
2001/02	12,798	161	3,427	2,407	-25
2002/03	13,697	163	1,707	2,584	-1,695
2003/04	11,771	163	1,173	2,204	-1,031

Source: Famine Early Warning System (1985–2004), National Early Warning Unit and Grain Marketing Board (1985–1995) reports

Table 24.2: Summary of vulnerability assessments

Consumption period	Provinces (districts)	Extent of food insecurity
1994/1995	• Matabeleland South (Beitbridge, Mwenezi) • Masvingo (Mashava South in Chivi district)	– Food insecure mostly communal areas
1996/97	• Matabeleland North (Binga, Lupane and Tsholotsho) • Matabeleland South (Gwanda, Bulililamangwe and Beitbridge) • Manicaland (Chimanimani)	– The most food insecure people were found in communal areas
1998/99	• Matabeleland South (Beitbridge, Bulililamangwe, Gwanda and Matobo) • Matabeleland North (Binga, Tsholotsho, and Hwange) • Masvingo (Chiredzi, Mwenezi, Zaka and Bikita) • Manicaland (Buhera, Chipinge and Mutare) • Midlands (Zvishavane and Mberengwa) • Mashonaland central (Rushinga)	– 80 out of 174 communal areas (33 districts) were vulnerable to food insecurity with a population of 2.3 million people. – 45% of these areas were regarded as highly food insecure. – The severity of food insecurity in Matabeleland South was declared a national disaster in 1998.
1999/2000	• Matabeleland North (10 districts) • Matabeleland South (5 districts) • Midlands (1) • Mashonaland East (1) • Manicaland (2) • Masvingo (1)	– 40 out of 174 communal areas with a population of 1.2 million were identified as food insecure – 20 communal areas were regarded as highly food insecure – 20 communal areas identified as moderately food insecure
2002/03	All 57 districts	– 57 districts identified as food insecure in June 2002 – Food relief programme fed about 49% of the country's population. – State of disaster declared in April 2003

vulnerability assessment committee (ZIMVAC), reveal that a total of 6.7 million (76 per cent of rural population and 49 per cent of entire population) people were supported under the food relief activities during the 2002/03 period.

But food self-sufficiency at the national level does not translate into local self-sufficiency. Zimbabwe is divided into five natural regions according to total annual rainfall and other biophysical characteristics such as vegetation, soils, and so on. The intensity of drought increases from natural region I to natural region V. Most of the communal areas are situated in natural regions III to V and this is where many are vulnerable to food insecurity. Table 24.2 shows the severity of food insecurity at the provincial and district level, even in years when Zimbabwe has been self-sufficient, such as in 1996/97.

Causes of food insecurity

The factors that are contributing and complicating food security in Zimbabwe are diverse and change over time. Households vulnerability to food insecurity is a manifestation of chronic poverty, inappropriate and failed policies, and physical and natural constraints. This is compounded by the problem of HIV and AIDS and repeated livelihood shocks which have been mostly weather related.

Poverty and malnutrition

Patterns of poverty in Zimbabwe were consistent with the dualism in the agricultural sector. In general, resettlement and communal farming areas have had the highest prevalence of household poverty. Three quarters of communal households live in areas with less than 650mm of rainfall per year. Traditionally, the sources of income for rural households are limited and only vary in between seasons. Investment in land and agricultural inputs accounts for the largest income consumption. However, crop productivity per household is low. Households are focused on obtaining food and other vital household requirements such as health and education expenditures. These are often out of the reach of the majority. Moreover, the economic conditions in the country from 1999 worsened for both urban and rural dwellers. Runaway inflation resulted in prices of basic commodities increasing beyond the reach of many households. In many instances, the basic goods were not available through formal channels. Annual inflation was 114 per cent in June 2002 rising to 364 per cent in June 2003 and 622 per cent in January 2004 which meant a drastic increase in the price of basic commodities. The national food poverty line for a household of five persons increased by 639 per cent between April 2003 and March 2004. The minimum wages lagged behind the increasing cost of living in the country (Labour and Economic Development Research Institute of Zimbabwe, 2004).

Structural unemployment was estimated to be more than 60 per cent of the

Table 24.3: Trends in nutritional status in children and women

Survey	% children malnourished			Women/ care-givers
	Wt/Ht <-2sd (Wasting)	Wt/Age <-2sd (Underweight)	Ht/Age <-2sd (Stunting)	BMI <18.5
DHS 1999 (u/5 n= 3566)	6.0	13.0	27.0	5.0
National micronutrient survey 1999 (u/5 n=1005)	6.3	14.9	29.2	6.8
MOH/UNICEF May 2002 (u/5 n=20422)	6.4	20.4	33.0	9.7
VAC August 2002 (u/5 n=695)	7.3	24.7	41.3	8.6

Key: Wt = weight
Ht = height
Wt/Ht = weight for height, a ratio to measure malnutrition, in this case wasting
BMI = body mass index
DHS = Demographic Health Survey
MOH = Ministry of Health
VAC = Vulnerability assessment committee

The figures for example, -2sd, are the statistical measures for malnutrition, where weight for height (Wt/Ht) figures that are <-2sd and >-3sd indicate moderate malnutrition and those <-3sd indicate severe malnutrition (sd = standard deviation)
u/5 stands for under 5, thus u/5 n = 3566 means the sample size in the survey for the children *under the age of five* was 3,566

Source: Zimbabwe vulnerability assessment report – August 2002

employable population in the formal job market (UNDP, 2003). A family of six needed Z$907,055 for their basic requirements in February 2004, and this increased to Z$1,143,510 in June 2004. Although the new monetary policies announced by the Reserve bank of Zimbabwe after 2003 reduced inflation, the prices of basic commodities continued to increase. For example, a 40kg bag of roller meal increased from Z$49,280 in February 2004 to Z$76,050 in June 2004.

Nutrition surveys reveal high rates of stunting and wasting for children under the age of five (Tagwireyi, chapter 25). Stunting and wasting are highest in the communal lands of lowest agricultural productivity (table 24.3). In 1990 stunting affected about 30 per cent of children between two and five years old. The nutrition indicators from an August 2002 assessment showed high levels of malnutrition in the rural areas. Approximately 7.3 per cent of children were wasted, 41.3 per cent were stunted and 24.7 per cent were underweight. In

2003, underweight was estimated at 17 per cent and stunting at 27 per cent for children less than five years, both of which emphasize the long-term nature of malnutrition in rural areas.

Policy choices and failures

Food insecurity is influenced by a combination of short-term and long-term agriculture and food security policy choices and failures. The food security policy arena has been where government, donors and civil society have had major differences. For instance, government accuses donors (and civil society) of understating food production figures and exaggerating the number of people in need of food for political purposes. On the other hand, donors accuse government of promoting food insecurity because it uses food as a political weapon by denying some people food. The key problem with this contest is that it has not been helpful to the general public who continue to suffer from lack of and inadequate food. The lack of data on food security makes planning a difficult task.

The first policy regimes failures are found in the *lack of a comprehensive framework for collecting statistics on food security*. There is a need to develop this methodological framework through considering the following key food security variables: a) range of food crops produced in Zimbabwe; b) area where the crops are grown (natural region, province, and so on); c) number of farmers growing food; d) hectarage; e) average yields; f) output volumes. Belatedly information on types of processed food, capacity for processing (quantity), distribution and costs (inflation adjusted) will also need to be factored into the formulas. This framework will help in making better policy choices on a constant basis. For instance, any change in any of the variables will lead government to plan for food imports, targeted production or finding alternatives over a given period of time.

The second policy choice failures are found in the discussion of *food security policy within the context of a humanitarian crisis*. There is limited attention to issues of trade and production incentives and support beyond the immediate spheres of influence of the state. Political considerations that have always influenced domestic pricing practices remain similar to those of the past with the government seeking to keep urban prices low. Discredited practices of pan-territorial and pan-seasonal pricing persist or have re-emerged, so have procurement and marketing controls.

The third policy regimes are to do with *boosting own food production for self-sufficiency*. The key issues to be looked at include production incentives (credit, technology development, input distribution and support schemes, commodity pricing, irrigation) and accessibility of these incentives to different classes of farmers. The use and effectiveness of early warning systems that have been developed by government through its own National Early Warning

Systems unit need to be effectively empowered to the extent that their findings are not overruled by politicians.

The fourth policy regimes are to do with *legal instruments and government administrative regulations underpinning food security management.* This includes such trade policy issues with respect to food imports certification, assessment of food quality (sanitary and phytosanitary regulations) and restrictions on genetically modified crops and food preferences of Zimbabweans (white maize), transportation, border procedures and trade agreements, among others, which will need to be clearly spelt out. Closely linked to reserves is the issue of trade as a source of food. The transaction costs related to the choices will need thorough assessment in relation to the food demands and needs of people in Zimbabwe.

Physical and natural constraints

Zimbabwe has experienced nine years of drought since 1980. It is prone to erratic rainfall, droughts and floods. Even in years when the rains have been good, the agricultural season was often undercut by mid-season dry spells. At the same time, the limited amount of arable land that can be irrigated poses a constraint on food security. Most of the area under irrigation was on white commercial farms. Also, much of the irrigation infrastructure which is expensive to replace was vandalized during the fast track resettlement programme. Attaining food security will remain a challenge for Zimbabwe because it will take time to develop more and resuscitate existing irrigation infrastructure. Rural areas are constrained by generally poor infrastructure (roads and communication) which hinders access to markets and services. Physical, natural and infrastructural constraints have contributed to low land-use and productivity which in turn contribute to low output and low incomes and the vicious cycle of poverty for many households, particularly in communal areas and among displaced farmworkers. In rural areas, it is feared that the environmental problems in the communal areas will encroach into the newly resettled areas due to unsustainable natural resources practices. The management and governance channels of natural resources are unclear in the newly resettled areas and the uncertainty of land tenure further complicates this issue.

Lack of a coordinated policy on access to production resources

The basic resources of production are land, labour, capital and management. In Zimbabwe, the process for accessing the basic production resources is currently in disarray. Although land has been distributed to many indigenous populations through the land reform programme, the process disrupted food production by the large-scale commercial farmers and has contributed to the food crisis since 2001. Although it might be argued that problems from land reform are only short term, achieving food security in the long term is also question-

able given the current ownership structure with poor tenure arrangements. Labour problems have been experienced since 2000. The ongoing land and agrarian reform displaced farmworkers and where workers remained, co-habitating with new landowners has proved difficult. The HIV and AIDS pandemic is also taking its toll on farmworkers and landowners (Matondi and Munyuki-Hungwe, chapter 3). The displaced farmworkers lack access to land for food production. On the other hand, production by newly resettled farmers is low due to lack of farming experience, inadequate extension, and shortage of inputs and labour in an environment where mechanization is limited. Government has attempted to devise various funding arrangements for farmers to procure agricultural inputs and implements. However, this policy and practical interventions have not yet changed the food production situation.

According to the Reserve Bank of Zimbabwe, some of the beneficiaries of funds earmarked for the agricultural sector (under the support to the productive sector programme) invested these funds in the stock market where interest rates were higher than the rate of borrowing. This has created low investment in agriculture contributing to food insecurity. Managing farms has become a challenge as many of the newly resettled farmers lack practical experience in farming. Thus, both short and long term food security are threatened by this situation.

Unclear food security policy and strategies in vulnerable areas

The physical conditions in some areas make them vulnerable to food insecurity. Natural regions III to V are prone to low rainfall and vulnerable to food insecurity. However, the government has implemented policies and adopted strategies that treat farmers as an homogenous group. During drought years, the government distributed unsuitable maize varieties in low rainfall areas. Support to research has favoured agriculture in the high rainfall areas. For instance, little research has been done on goat production and yet goats are a source of livelihood for many households in the drier regions. Lack of support in production, processing and use of crops that are tolerant to drought has led people in the drier areas to change their tastes from millet and sorghum to maize.

Lack of food security policy for the urban poor

The levels of poverty and food insecurity in urban areas are not addressed directly by any policy. In the past decade (1980–1990), low consumer food prices from subsidies cushioned the urban poor. From the late 1990s, the assumption that the urban poor would be cushioned by government interventions through price controls on basic food commodities did not work because of the emergence of parallel food markets. At the peak of the food crisis in 2002/03, parallel food markets thrived at the expense of the urban poor.

Lack of diversification of diet

Zimbabwe is guided by the 1996 World Food Summit's definition of food security as a state in which '...all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.' In this definition, the food preferences have tended to limit food diversification. In Zimbabwe, food security is mainly based on maize and wheat (for bread). Small grains, such as sorghum, *rapoko* (finger millet) and *mhunga* (pearl millet), play a small role in household food security. Even in the drier areas where small grains can be produced economically and sustainably, maize is the mainstay of household food security. Foods that are underused in local diets are sweet potatoes, yams and cassava for carbohydrates and cowpeas, soyabeans, groundnuts and roundnuts (*nyimo*) for protein.

Restrictions on commercial marketing and trade for maize and wheat

Maize and wheat marketing have evolved through a number of different marketing systems since independence. Marketing of these commodities was partially liberalized for maize and fully liberalized for wheat during the economic structural adjustment programme era in the 1990s. However, in July 2001, the government promulgated a new grain marketing policy, Statutory Instrument No 235A of July 16, 2001. The policy stipulated that maize, wheat and their milled products were controlled commodities, and that the Grain Marketing Board was the sole buyer and seller of both of these commodities. The government imposed restrictions on the amount of grain that could be moved by individuals to urban areas. Initially one was allowed to move only 50kgs of maize but this was later increased to 150kgs. This meant urban people had to access maize on the parallel market where it was expensive and rural farmers could not secure high prices for their maize as they were forced to sell directly to the Grain Marketing Board.

An analysis of maize price controls exposes the distortion of producer incentives. Maize producer prices in 2001/02 were pegged at Z$28,000 per tonne for first grade maize. During that season, the farmers' unions asked for a minimum of Z$70,000 per tonne. Both import parity and parallel market maize prices were more than four times higher than the government pegged maize price. The parallel market price was around Z$100,000 and Z$130,000 per tonne while the import parity price was in excess of Z$70,000 per tonne. With Grain Marketing Board being the sole buyer of maize and wheat, it also meant that it controlled all maize sales to the milling companies who then supplied the consumer market.

In March 2003, millers secured maize from the Grain Marketing Board at Z$9,000 per tonne. Yet the taxpayers were paying a consumer subsidy of Z$21,000 per tonne. Similarly, wheat prices were pegged at Z$70,000 per tonne

and yet prices on the parallel market were around Z$8,000 per 50kg (Z$160,000 per tonne). The restrictions on volumes to be moved by individuals to urban areas in the 2004/05 season were kept in place but only increased to 250kgs of maize.

Dissolution of the strategic grain reserve

During the 1980s, the Grain Marketing Board had sufficient grain reserves to cover several years of low maize production. However, the centralized grain marketing system suffered administrative and operational inefficiencies and the Grain Marketing Board had a huge deficit at the end of the 1980s. Thus, maintaining a three-year stock of maize for national and regional food security became unaffordable. The adoption of the economic structural adjustment programme by government in 1991 removed the agricultural production and food security subsidies. The government pricing policy during the economic structural adjustment programme era rendered Grain Marketing Board unable to compete effectively with private grain traders who offered better prices and payment conditions through the Zimbabwe Commodity Exchange (ZIMACE). Thus, the national food security and strategic grain reserve programme were severely paralyzed. Despite the requirement for 900,000 tonnes (500,000 tonnes in physical stocks and 400,000 tonnes monetary equivalent) for the strategic grain reserve, it became clear by 1998 that the Grain Marketing Board was no longer in a position to supply maize to the milling companies at the government-controlled floor price.

The Grain Marketing Board failed to maintain the required grain reserves from 1998 onwards. Milling companies had to source their own grains in order to run their mills at minimum capacity. It became uneconomical to sell maize meal at government-controlled prices. The government pricing strategy to ensure food security collapsed, culminating in an increase in maize meal prices and a worsening of the food security status for both urban and rural families. Finally, the capacity to import food in years of low production was also reduced due to the poor performance of the economy and this had serious food security implications from 2000 to 2004.

HIV and AIDS – impact on food security

Zimbabwe has a high HIV and AIDS prevalence rate. The Ministry of Health and Child Welfare (2003) reported that 1.8 million people (1.5 million adults aged 15–49 years) in Zimbabwe were living with HIV and AIDS, with an adult prevalence rate of 24 per cent. The HIV and AIDS pandemic has an impact on agricultural production, food security and nutrition. All dimensions of food security – availability, knowledge, stability, access and use of food – are affected where the prevalence of HIV and AIDS is high. HIV and AIDS increases vulnerability to livelihood shocks as capacities and skills to produce food, earn

Table 24.4 Impact of HIV and AIDS on agriculture, food security and nutrition

Activity/Sphere	Impact	Implications
Infections	People infected with HIV and AIDS are frequently unable to work for long periods of time	Undermine either or both earnings and food production activities and eventually create a gap in household labour and earnings
Caring for the sick	Small households particularly affected by caring for the infirmity	Family members are drawn away from production and income-generating activities
Assets	Households divest tangible assets	Savings and income for medical care rather than investing in productive activities
Children	Withdrawn from school because of lack of resources to pay school fees or to care for sick relatives and to generate income Inability of the extended families to provide food and care to orphaned children	Lack of educated future generation
Labour	Time for caring for the sick instead of engaging in valuable productive hours	Loss of labour results in a reduction in the area cultivated or less labour intensive crops that might not be enough to feed the family
Knowledge gap	Generational transfer of agricultural knowledge lost due to age differences between those who live and those who die	Loss of inter-generational knowledge about crop and livestock production methods including life or survival skills
Malnutrition	Increased malnutrition among children in households affected by HIV and AIDS	Household stress and divergence of resources to needy areas
Other illness	Increased susceptibility to other illnesses for both the infected and non-infected as food intake declines	Inability to work the land and increased asset stripping
Livestock	Sequestration of livestock to meet medical costs	Loss of knowledge and skills may force some families to sell their animals

income and cope with food shortages are eroded. On the other hand, poor nutritional status increases the risk of opportunistic infections and tends to speed up the progression of the disease.

Research has also shown that malnutrition increases the risk of HIV transmission from mother to child. Food insecurity can also lead people to engage in high-risk activities such as commercial sex or it can make them more vulnerable to sexual exploitation. As the HIV and AIDS pandemic continues to cause havoc in the country, one of its worst effects has been the increase in the number of orphans. It was estimated that 2,600 adults and 690 children die every week (2003). The number of AIDS orphans (estimated at 761,000 in 2003) was expected to rise to 910,000 by 2005. Thus there are many households that are child-headed with no agricultural knowledge and capacity to earn an income. HIV and AIDS has also destroyed the social fabric of African communities. In a society which never allowed orphaned children to live on their own, the social dynamics have now changed. Increasingly, people are seen to abandon their immediate relatives as they are unable to carry the increased monetary and social burden associated with orphan care. Results from the April 2003 Zimbabwe vulnerability assessment committee assessments indicate that families living with HIV and AIDS (as given by proxy indicators) were twice as likely to remove a child from school compared to non-affected families. The removal of children from school diminishes the human capital stock for future generations.

The International Fund for Agricultural Development (2001) has suggested that the AIDS pandemic is disproportionately affecting agriculture relative to other sectors. In agrarian societies, the HIV and AIDS pandemic intensifies malnutrition and undermines the traditional household mechanisms of support during calamities. A combination of vulnerable rural women and female-headed farm households worsens food insecurity. The poor macro-economic crises and a reduction in agricultural exports mean low purchasing power for farming reliant households. De Waal and Tumushabe (2003) argue that this is not because rates of HIV are higher among both commercial and small-scale subsistence workers in the agricultural sector than elsewhere but due to the structure of the agricultural sector, especially the smallholder subsector, that makes it less able to absorb the impacts of the human resource losses associated with the pandemic.

Zimbabwe is now trapped in a vicious cycle of HIV and AIDS, food insecurity and poverty and the cycle is difficult to disentangle (table 24.4). Although many donors and organizations are investing resources for prevention, mitigation and psycho-social support, Zimbabwe might be experiencing what some researchers are calling a 'new variant famine'. De Waal and Tumushabe (2003) have argued that HIV and AIDS is creating the new variant famine that has recently struck southern Africa in combination with drought and the food

crisis. The new variant famine hypothesis posits that southern Africa is facing a new kind of acute food crisis in which there is no expectation of a return to either sustainable livelihoods or a demographic equilibrium. It is important to recognize this position although questions remain about various elements of the debate.

Towards sustainable food security

Zimbabwe has the potential to rebuild its food security at both the national and household levels. The current social, economic and political conditions call for a policy of food self-sufficiency and marketing policies to allow free movement of all goods for the benefit of all people. Implementing the policies and strategies requires effective institutions. The country has seen the flight of experienced personnel in most key agricultural departments including extension. Government has to devise a new human resource strategy to deal with the human resource gaps that exist in order to add value to current programmes and initiatives.

With Zimbabwe prone to erratic rainfall, the government should continue with its efforts to increase the area under irrigation and revive irrigation on former large-scale commercial farms for food production. To maintain production on irrigated lands, farmers need training on the efficient use of available water and the maintenance of soil quality through conservation techniques (Makadho, Matondi and Munyuki-Hungwe, chapter 11). Agricultural production and productivity and, in turn, food security can be improved through harnessing indigenous knowledge in the food production and consumption systems (Blackie, chapter 31). The revival of the *zunde ramambo* (collective fields supervised by a chief or headman) has contributed to food security for the increased numbers of orphans and elderly-headed households (Tagwireyi, chapter 25). The number of people vulnerable to food insecurity has increased because of the HIV and AIDS pandemic. Government, civil society and the private sector need to form strategic and practical partnerships to support and implement social protection schemes that are accessible to deserving groups. In addition, prevention of HIV infection, treatment of AIDS-related illnesses and mitigation should be well planned and coordinated so that maximum returns from resources are achieved. The mitigation strategies for food security should consider sustainable interventions, such as support for the production of vitamin A fortified crops.

Relying on maize as the main source of food (cereal) is not sustainable. People should be encouraged to diversify their diets with traditional and locally available foods. Given that disasters come unannounced, Zimbabwe needs a disaster, contingency and response plan that outlines institutional responsibilities and the sources of funds. The government was ill-prepared for the food

emergency during the 2002/03 period, resulting in ad hoc policy making to deal with the food shortage crisis. Free food handouts have tended to create a dependency syndrome. In this case, food aid should be linked with development work with specified timeframes provided to beneficiaries. Food for work in permanently drought-stricken districts is known to be a potential strategy for establishing infrastructure that is used for overall rural development programmes, such as roads, bridges and dams, and social programmes like schools and clinics.

The wealth of experience from non-governmental organizations such as the Lutheran Development Services dam and irrigation development programmes, should be expanded. The number of non-governmental organizations allowed to operate in food emergencies should be reviewed and where possible the saving of lives should take precedence over political preferences of the would-be beneficiaries. The barriers to importing grain at times of emergencies should be reviewed in order to expedite the delivery of food relief to the needy. The main problem that impeded grain imports during the 2002/03 food crisis was the issue of whether Zimbabwe would accept genetically modified grain. Whilst debates on the dangers of genetically modified crops went on in Zimbabwe and throughout the Southern African Development Community region, starving communities were saved from the politics of food relief when Zimbabwe agreed to mill the grain before disbursement.

Conclusion

Given that food security is one of the basic needs for human development, it is a major determinant of socio-economic and sustainable development for any country. The current social, economic and political environments in Zimbabwe are a threat to food security. Although some might see this as a short-term situation, the problems affecting food production are vast and it is difficult to speculate when the food outlook will be normalized. The people have land but most inputs are unavailable and too expensive for rural smallholder farmers. It may be necessary for Zimbabweans to look beyond maize as a food security crop and include in the food security basket other crops such as millets, sorghum, oilseeds, cassava, sweet potatoes, yams, pumpkins and cowpeas. Whilst government resources are overstretched and private sector participation in the production sector is limited, the question remains: *How will Zimbabwe feed its people and secure household and national food security?*

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