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Swaziland: 2012 Annual Trends and Outlook Report

Monitoring Agriculture Sector Performance in Swaziland: Investment, Growth and Poverty Trends, 2000—2011

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Abbreviations and Acronyms

AgGDP	Agricultural Gross Domestic Product
AU	African Union
ATOR	Annual Trends and Outlook Report
CAADP	Comprehensive Africa Agriculture Development Program
CSB	Central Bank of Swaziland
CSO	Central Statistics Office
COMESA	Common Market for Eastern and Southern Africa
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GOS	Government of Swaziland
IMF	International Monetary Fund
IFPRI	International Food Policy Research Institute
IWMI	International Water Management Institute
KDDP	Komati Downstream Development Project
LUSIP	Lower Usuthu Smallholder Irrigation Project
MDGs	Millennium Development Goals
MEPD	Ministry of Economic Planning and Development
M&E	Monitoring & Evaluation
MLSS	Ministry of Labor and Social Security
MOA	Ministry of Agriculture
MOH	Ministry of Health
MOF	Ministry of Finance
NERCHA	National Emergence Response Council for HIV/AIDS
NEPAD	New Partnership for Africa's Development
NMC	National Maize Corporation
PRSAP	Poverty Reduction Strategy and Action Plan
R&D	Research and Development
ReSAKSS	Regional Strategic Analysis and Knowledge Support System
RSSC	Royal Swaziland Sugar Corporation
RISDP	Regional Indicative Strategic Development Plan
SACU	Southern African Customs Union
SADC	Southern African Development Community
SAKSS	Strategic Analysis and Knowledge Support System
SNL	Swazi Nation Land
SSA	Swaziland Sugar Association
SRA	Swaziland Revenue Authority
SWADE	Swaziland Water and Agricultural Development Enterprise
SZL	Swaziland Lilangeni
TDL	Title Deed Land
UNECA	United Nations Economic Commission for Africa
UNISWA	University of Swaziland
UNSD	United Nations Statistics Division
SVAC	Swaziland Vulnerability Assessment Committee

Executive Summary

This first annual trends and outlook (ATOR) report for Swaziland assesses the performance of the agriculture sector in terms of investment, growth, and poverty and hunger outcomes over the period 2000–2011. The need for monitoring arises from the fact, that Swaziland and other African countries need to regularly assess whether or not they are making good on their commitments in terms of national development targets and regionally agreed development targets; and provide such information to various state and non–state actors and stakeholders at national and regional levels.

The focus of this first ATOR is on assessment of the progress the agricultural sector of Swaziland has made towards achieving national and regionally agreed goals and targets, in particular, those under the Comprehensive Africa Agriculture Development Program (CAADP) and Regional Indicative Strategic Development Plan (RISDP) of Southern African Development Community (SADC).

The assessment of agricultural sector performance found that, although the government has made some effort to increase investment in the agricultural sector, public investment in the sector has been low (averaging 4.5% per year) and the country has consistently been unable to achieve the 10% budget allocation target as required under the Maputo Declaration. This has subsequently led to a slow annual average agricultural GDP growth of 4.4% and, at that rate, Swaziland has been unable to achieve the CAADP 6% annual growth target in most years.

Expenditure analysis revealed that personnel emoluments averaging 40% was largest share of the budget, compared to 33% for capital expenditure and 25% for goods and services. Furthermore, 54% of the agricultural budget went to the crop subsector and 45% to the livestock subsector. However, a look at the contribution to agricultural GDP found that the crop subsector contributed 82–90% compared to 6–11% contributed by the livestock subsector. This suggests that, relative to subsector contribution to the AgGDP, the agricultural expenditure would appear to be biased towards livestock at the expense of the crop subsector. However, of the both subsectors, as noted already, the largest portion of the budget was spent on salaries and wages. The expenditure by core functions revealed that R&D at 9.5% had the smallest share in the agriculture expenditure compared to extension (37.8%) and infrastructure and irrigation (14.2%). This implies that there has been underfunding of R&D in Swaziland and, that it has slowed the development of productivity enhancing technologies. This has subsequently contributed to low agricultural growth and productivity in the crop and livestock subsectors.

The average annual livestock growth rates were 0.5% for cattle, 0.7% for sheep, 4.2% for goat and 4.9% for chicken. In most years, the livestock annual growth rates were below the SADC-RISDP livestock annual growth target of 4%. Most livestock production, in particular, cattle is carried out by smallholder farmers, but these have low numbers of animals, low–off take and are mainly subsistence–oriented. Efforts are needed to encourage commercialization and to raise livestock productivity through better access to inputs, breeding animals and veterinary services.

Regarding crop productivity, the yields for maize (the major cereal crop in Swaziland) averaged 1,246 kg/ha annually, which is below the SADC-RISDP target of 2,000 kg/ha cereal yield. The average maize yield was highest in the Highveld Region, which has high and reliable rainfall, and lowest in the Lowveld Region, which has low and erratic rainfall. Under rainfed production, it will be difficult to raise productivity in the Lowveld, and, as such, encourage maize production in the high rainfall areas like the Middleveld and Highveld. Furthermore, encourage households to grow more drought-tolerant crops such as cassava, cotton, sunflower, groundnuts, sorghum and legumes (chick pea), in the dry areas, e.g., the Lowveld.

The differences in crop productivity across agro–ecological zones, implies that certain crops are more suitable for growing in some areas than others. In this regard, research should be encouraged to identify appropriate crops and agricultural activities in line with the agro–ecological potential of the different regions. The role of fertilizer usage in raising crop productivity may need to be addressed. Note that although Swaziland has surpassed the SADC-RISDP fertilizer target rate of 65 kg/ha, this has not been translated into yield improvements for maize, which is the major staple crop in the country. This implies that fertilizer use may be low among maize producers, the majority of whom are the smallholder farmers on SNL. Extension services may need to be intensified to address crop productivity issues, in particular fertilizer application and choice of suitable crops according to agro–ecological regions. In addition, to enhance farmers' access to farm inputs like fertilizer, credit and market access for agricultural produce. Smallholder farmers in the appropriate regions

should be encouraged to graduate from subsistence production to enter commercial production and, thereby ensure progress in poverty and hunger reduction.

In addition, the use of farm inputs such as fertilizer and pesticides have implications on cost of production and returns. To encourage farmers to use such inputs, appropriate produce-pricing would be necessary. In the case of maize in Swaziland, the intervention in maize marketing by the NMC as buyer of last resort and the sole importer of maize has implications on pricing, which discourages increasing maize production in the country.

The analysis of poverty and hunger trends shows that income and employment are key drivers of better access to food, dietary diversity and, subsequently to food security. Poverty rates during the study period (2000 – 2011) were higher in regions with high unemployment, (e.g., Shiselweni and Lubombo regions) than those with low unemployment, (e.g., Manzini region). Other factors or shocks affecting livelihood and causing food insecurity and poverty included: high food prices, drought or prolonged dry spells, chronic illnesses and deaths, especially those associated with HIV/AIDS.

In regions that are constrained by drought; agricultural investment could contribute to reducing hunger, poverty and inequality among affected households by improving access to drought-tolerant crops and smallholder irrigation technologies for vegetable and fruit production. In addition, to ameliorate the labor constraints in households affected by chronic illnesses (HIV/AIDS) and death, the agricultural strategy will have to enhance use of labor–saving technologies, including provision of government tractor hire services.

Chapter 1

1.1 Introduction

This first annual trends and outlook (ATOR) report for Swaziland assesses the performance of the agriculture sector in terms of investment, growth, poverty and hunger outcomes over the period 2000–2011. The need for monitoring arises from the fact that, Swaziland and other African countries need to regularly assess whether or not they are making good on their commitments in terms of national development targets and regionally agreed development targets, and provide such information to various state and non–state actors and stakeholders at national and regional levels. The ATOR is important in that it serves as a major tool for supporting policy dialogue and debate among key stakeholders in the agricultural sector on strategic issues, and as a basis for evidence-based investment options in the agricultural sector.

The focus of this first ATOR is on assessment of the progress the agricultural sector of Swaziland has made towards achieving national and regionally agreed goals and targets, in particular, those under the Comprehensive Africa Agriculture Development Program (CAADP) and Regional Indicative Strategic Development Plan (RISDP) of Southern African Development Community (SADC).

In the economy of Swaziland, agriculture is an important sector that contributes about 7% of the GDP (World Bank 2011) and 20–30% of the total export earnings. It is the largest employer with 70% of the inhabitants of Swaziland depending on it for food and income (MEPD 2009). It is also a key source of raw materials for the manufacturing sector. The performance of the agricultural sector has important ramifications for the attainment of national goals namely; economic growth, employment creation, enhancing food security and poverty reduction. Recent evidence indicates that the agricultural sector in Swaziland is characterized by low productivity, especially in the subsistence subsector, and a slow agricultural GDP growth rate of 2% per year. Consequently food insecurity is a major challenge, especially since 63% of the population lives in poverty (CSO 2010). In addition the Gini coefficient (0.51) depict that income distribution in the country is highly skewed.

To deal with the challenges of reducing poverty, inequality and food insecurity, Swaziland has national policies in place. In addition, Swaziland has also endorsed RISDP under the Southern African Development Community (SADC), and CAADP under the African Union's New Partnership for African Development (AU/NEPAD).

The main national development strategies in recent years have been outlined under the Poverty Reduction Strategy and Action Plan (PRSAP[1]), which has as its specific objective to reduce the incidence of poverty from 69% in 2001 to about 30% by 2015 and, ultimately to eradicate it by 2022 (MEPD 2007). Under the PRSAP, accelerating equitable agricultural production, land security, food security and management of the environment are important issues. The key national strategic objective for agriculture is to improve agricultural production and increase agricultural contribution to the GDP by 30% by 2010 from the contribution of 8.7% in 2005/06. A pertinent national economic development strategy supporting PRSAP is the Economic Recovery Strategy (ERS), which was introduced in 2011 as an effort to turn around the sluggish economic growth in the country and bring about macroeconomic stability, creating an enabling regulatory environment, greater competition, increased productivity and innovation. The ERS aims to raise annual economic growth to 5% and to create 30,000 jobs by 2014. The key sources of growth identified in the ERS include: foreign direct investment (FDI); trade, tourism; infrastructure; information and communication technology (ICT); agriculture; financial sector; and human capital development.

The targets of SADC-RISDP include: (i) 7% annual GDP growth; (ii) reduce poverty and hunger by 50% by 2015; (iii) Increase cereal yield to 2,000 kg/ha by 2015; (iv) double the area under irrigation to 7% of cropland; (v) increase fertilizer use to 65 kg/ha; and (vi) increase livestock production to 4% per annum (SADC 2006). The targets agreed to continentally under the CADDP are: i) to achieve a 6% annual agricultural growth and; ii) the first Millennium Development Goal of cutting poverty and hunger by half by 2015. In order to achieve the above targets, under the Maputo Declaration African countries, including Swaziland, agreed to increase budget allocation to agriculture to at least 10% of the national budgetary resources by 2008.

[1] The PRSAP is based on six pillars, namely: (1) macroeconomic stability and accelerated economic growth based on broad participation; (2) empowering the poor to generate income and reduce inequalities; (3) fair distribution of the benefits of growth through fiscal policy; (4) human capital development; (5) improving the quality of life of the poor; and (6) improving governance and strengthening institutions.

A comparison of the national and agricultural objectives and targets with the CAADP and RISDP targets indicate first, that the national economic development objective of 5% annual economic growth is similar to the 7% GDP growth under RISDP although they differ in magnitude of the target. Second, PRSAP, CAADP and RISDP all have the same goal of halving poverty and hunger by 2015. Third, all three objectives/targets aim to increase agricultural production, but it is only the national agricultural strategy that has a target of increasing the contribution of agriculture to GDP by 30% by 2010, (i.e., to about 11% of the GDP). The CAADP targets 6% annual growth in agricultural output (GDP). While RISDP hopes to increase agricultural production through: a) increased cereal productivity to 2,000 kg/ha; b) increase fertilizer use to 65 kg/ha; c) doubling area under irrigation from 3.5% to 7% of cropland; and d) have an annual growth of 4% for livestock. Fourth, all three objectives/targets require investment in agriculture to achieve their goals, but it is only the CAADP that calls for increasing the budget allocation to agriculture by 10% of the national budget. Finally, it is noted that the goal of achieving the MGD 1 by 2015 is commonly shared by the national strategy of PRSAP, and the regional and continental strategies of RISDP and CAADP. Overall, the national and agricultural development objectives of Swaziland are not in conflict but are complementary with the CAADP and RISDP goals and targets, suggesting that those tracking the performance of the agriculture sector in Swaziland should consider the national agricultural strategies and targets as well as the relevant regional (RISDP) and continental (CAADP) objectives and targets.

Monitoring and evaluation of such a system required the use of a consolidated set of agricultural sector–level performance indicators that capture the national, RISDP and CAADP goals and targets. Here, the CAADP's monitoring and evaluation (M&E) framework, which was developed by the Regional Strategic Analysis and Knowledge Support System (ReSAKSS) (Benin et al. 2010b) for assisting African countries to monitor and assess their performance with regard to the implementation of CAADP, is considered useful. This framework is flexible and can accommodate indicators for national objectives and RISDP targets as was done in the Mozambican study (Chilonda et al. 2011). Thus, it is not necessary for Swaziland to re–invent the wheel, but can benefit from the existing efforts made by adapting the CAADP M&E framework that is already in place.

It should be pointed out that Swaziland has in place an M&E system, which she has been using to track the country's performance with regard to the implementation of the PRSAP and for MDGs. In addition, Swaziland established in 2002 the annual Swaziland Vulnerability Assessment Committee (SVAC) report, which provides a unified and deeper analysis of livelihoods in emergency and development programming. For example, the SVAC report has been contributing towards monitoring of the PRSAP and the performance of some sections of the agricultural sector. However, it has no clear set of targets and indicators of what is being tracked. Despite such efforts made at the national level, the M&E system in Swaziland's agricultural sector is weak and requires strengthening, [2] (FAO 2011).

In this regard, using the CAADP M&E framework will complement the efforts under PRSAP in Swaziland on the establishment of management and information system for monitoring and evaluating poverty, and contribute towards strengthening the M&E for agricultural sector performance taking into account national, regional and continental development objectives and targets. This effort of producing the first annual trends and outlook report is timely and important for Swaziland. It will complement any effort on the ground aimed at strengthening the M&E system in the agricultural sector of Swaziland. It will also serve as a major tool for supporting policy dialogue and debate among key stakeholders in the agricultural sector on key agricultural issues and investments in Swaziland.

This first Annual Trends and Outlook Report (ATOR) for Swaziland assesses the performance of the agricultural sector in Swaziland with respect to the progress made in attaining its agricultural investment, growth and performance targets and related outcomes on poverty reduction. It considers the national agricultural goals, the RISDP and CAADP targets over the period 2000–2011.

[2] FAO (2011) noted that in Swaziland, the Ministry of Agriculture M&E system is characterized by low data quality, limited intra and inter–departmental sharing of information, underutilization of M&E information, and limited use of technology, (e.g., databases and websites) for systematic information management (documentation, storage and sharing). Overall M&E strategy/plan needs to be developed, including an electronic database, benchmarking of indicators, field level data collection tools, M&E training of staff in MoA; and the M&E functions need to be decentralized to all levels. Overall investment in training, logistical support and hardware is required.

1.2 Methodology and data sources

As mentioned already, the CAADP monitoring and evaluation (M&E) framework developed by ReSAKSS (Benin et al. 2010b) formed the basis for analyzing the performance of the agricultural sector in Swaziland. This M&E framework provides a conceptual basis for assessing the impacts of the CAADP. It has identified a set of indicators and required data, data collection methodology and a plan for analysis. The CAADP M&E indicators are grouped into seven performance areas: (1) enabling environment; (2) implementation process; (3) commitments and investments; (4) agricultural growth performance; (5) agricultural trade performance; (6) poverty, hunger, food and nutrition security, and (7) investment, growth and poverty outcome linkages.

Based on the CAADP M&E framework, Regional Strategic Analysis and Knowledge Support System–Southern Africa (ReSAKSS–SA) in 2011 formulated a questionnaire to guide national collaborators during the collection of data on the CAADP and RISDP indicators in the SADC countries. In Swaziland, secondary data covering the period 2000–2011, were collected from national sources and when unavailable it was obtained from international sources, mainly the FAO and the World Bank. Data on macroeconomic indicators such as GDP, inflation, exchange rates, and government budget and expenditure estimates were obtained from the Ministry of Finance (MOF), Ministry of Economic Planning and Development (MEPD), and the Central Statistics Office (CSO). Data on foreign direct investments were sourced from the Central Bank of Swaziland (CBS). Data on crop and livestock production, irrigated area and fertilizer use were obtained from the United Nation's Food and Agriculture Organization database (FAOSTAT). Agricultural trade data were collected from the Swaziland Revenue Authority (SRA) and FAOSTAT. Poverty rates were obtained from the World Bank's database on development indicators and the CSO. The data on hunger rates and child mortality rates came from the MEPD and the United Nations Statistics Division (UNSD). The process of data collection and the quality of data collected are expected to improve significantly as the CAADP National SAKSS node gets established in Swaziland in the near future and, thereby provide strategic knowledge products to facilitate better monitoring and evaluation of the agricultural sector.

Since the focus of this ATOR is on a progress review at the country level, the data and analysis are presented in aggregated form for the country. For some indicators data were available at the administrative region level, which allowed aggregation of the country into the four regions viz. Hhohho, Manzini, Shiselweni and Lubombo – (see Table1.1).

TABLE 1.1 REGIONAL DISTRIBUTION OF POPULATION IN SWAZILAND AND ARABLE LAND AREA.

Administrative Region	Population (2007)	Share (%) of Population	Land area (km^2)	Population density (persons/km^2)
Hhohho	299,413	27.6	3,569	83.9
Manzini	349,730	32.2	4,068	85.9
Shiselweni	217,479	20.0	3,779	57.5
Lubombo	219,137	20.2	5,947	36.9
Swaziland	1,085,759	100.0	17,363	62.5

Source: Central Statistics Office 2007.

The other type of aggregation that could have been used is that of agro–ecological zones, which depend on the climate, rainfall, soil types, altitude and emanating agricultural land use. The agro–ecological zone aggregation was not used as a unit of analysis because of lack of data at that level. The agro–ecological zones of Swaziland include: Eastern Lowveld; Highveld; Lebombo Range; Lower Middleveld; Upper Middleveld; and Western Lowveld – see Figure 1.1. In Table 1.2, a summary of the attributes of the Swaziland's agro–ecological zones is presented.

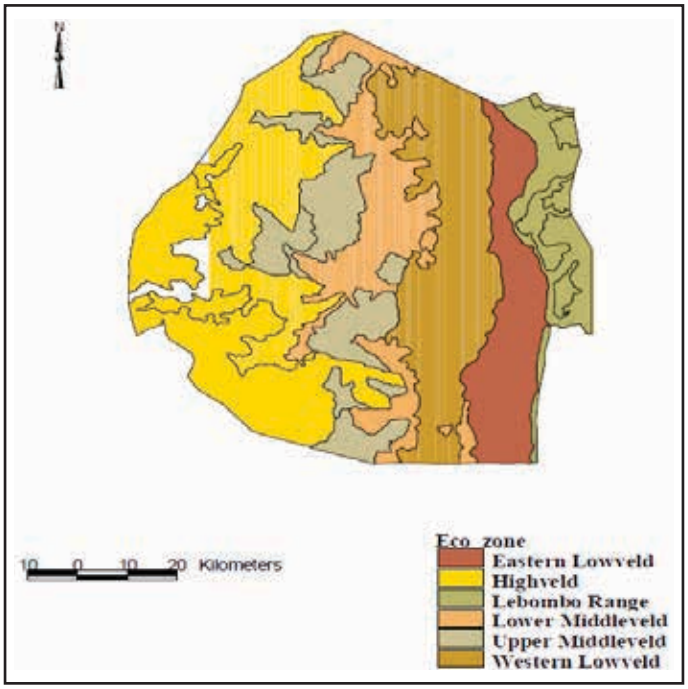

FIGURE 1.1 AGRO-ECOLOGICAL MAP OF SWAZILAND.
Sources: Extracted from Magagula and Faki 1999.

TABLE 1.2 BRIEF CHARACTERISTICS OF SWAZILAND'S AGRO-ECOLOGICAL ZONES.

Agro–ecological Zone	Altitude (m) (min – max)	Annual Rainfall 80% Reliability (mm)	Soils	Farm Activities	Share of Total Land Area
Highveld	900–1,400 (600–1,850)	1,000–1,200 mm Low drought risk	Acidic, low in nitrogen, phosphorus and manganese and prone to erosion.	Cattle grazing; small–scale farmers; maize is the main crop.	33%
Upper Middleveld	600–800 (400–1,000)	850–1,000 Low drought risk	Deep clay loam.	Main agricultural zone; crops: citrus, pineapple, cotton and maize.	14%
Lower Middleveld	400–600 (250–800)	700–850 Low drought risk	Sand and sandy loam.	Groundnut, beans and vegetables	14%
Western Lowveld	250–400 (200–500)	450–550 High drought risk	Good to fair soils.	Crops: sugarcane and cotton.	20%
Eastern Lowveld	200–300 (200–500)	400–450 High drought risk (60–80%)	Vertisols.	Groundnut and sorghum.	11%
Lubombo Range	250–600 (100–750)	550–700 High drought risk	Escarpment, limited arable land.	Ranching, maize, cotton and minor crops.	8%

Sources: Extracted from Magagula and Faki 1999.

Data analysis involved generating trends using values, percentages, ratios, means and annual average changes of the various indicators; and the assessment of performance in key indicators was evaluated in terms of whether or not the set targets were achieved. In order to assess performance over time as well as progress towards achieving CAADP and RISDP targets, annual average indicator levels and changes are calculated and compared for, before and after 2003. Note that the year 2003 is considered as the reference point, because it is the year that CAADP and RISDP were initiated. For key indicators the data were averaged across three periods: 2000–2003, 2004–2011 and 2000–2011. To show the degree of variability in the indicators, the coefficient of variation was also estimated.

The results were presented either in form of graphs or tables capturing the relevant national, CAADP and RISDP indicators. The annual average change for all indicators (except the GDP growth rates) is the annual average percentage change from the beginning to the end of the years shown by fitting an exponential growth function to the data points, (i.e., 'LOGEST' function in Microsoft excel). It should be mentioned that the analysis was done mostly at the national level, and in a few cases at subnational level in the administrative regions, e.g., where data on poverty were available. An effort was also made to discuss the results taking into account the regional perspective.

Given that this study focused at the national level and was not designed to collect data at the subnational (region or district) level, it has not been possible to assess changes across different parts of the country (whether regions or agro–ecological zones) for a better understanding of the performance in the agricultural sector and making recommendations. It is hoped that future ATORs for Swaziland would address this limitation.

1.3 Outline of the report

The report has been organized into eight chapters as follows: Chapter 1 is the introduction; it gives the background, objectives and methodology of the study. Chapter 2 presents the enabling environment supporting agricultural sector development in Swaziland. It examines the socioeconomic environment, an overview of the structure of the agricultural sector and the macroeconomic environment. Chapter 3 tracks the progress Swaziland has made towards the implementation of the CAADP framework. Chapter 4 focuses on public spending in the agricultural sector and assesses progress towards the CAADP target of allocating 10 % of the national budget to agriculture. Chapter 5 monitors the performance of agricultural production at sector and subsector levels covering productivity changes in crops, livestock, fisheries and forestry. It also considers changes in the use of selected productivity enhancing technologies such as irrigation, fertilizer and improved seeds. Chapter 6 examines the trends in agricultural trade performance in terms of agricultural trade balance, and proportion of agricultural exports and agricultural imports in total merchandise exports and imports over the study period. Chapter 7 examines the progress made towards meeting the First Millennium Development Goal (MDG1) targets of halving hunger and poverty by 2015. Chapter 8 presents a synthesis of the linkages between agricultural investment, growth and poverty and hunger outcomes and concluding remarks.

Chapter 2

Enabling Environment

2.1 Background

This chapter focuses on the enabling environment that encompasses the various factors, which condition investment decisions and affect the various outputs and outcomes the national and regional strategies such as CAADP and RISDP seek to achieve. These factors include the socioeconomic environment, national and agricultural policies and strategies, structure of the agriculture sector, and macroeconomic environment and performance.

2.2 Socioeconomic context

Swaziland is a lower middle–income country in Southern Africa. It is completely surrounded by South Africa, except on the eastern part where it shares its border with Mozambique. It has a population of 1.2 million, a population growth rate of 1.5% and, a half of her population is below the age of 20 years (Ministry of Economic Planning and Development 2009). A large majority (70%) of the population depends on agriculture for their livelihood and, as such, agriculture is important for stimulating national economic growth, employment creation, food security and poverty reduction.

Swaziland has a GDP per capita of US$5,339 (constant 2005) (World Bank 2011). Approximately 42 % of the population lives below the poverty line of US$1.25 per day. The country has high inequality with a Gini coefficient of 0.56. In addition, Swaziland's high unemployment rate of about 30% is one of the highest among Africa's middle-income countries. Notably, youth unemployment is very high at 52%, and regionally it is higher in rural areas (51.2%) than in urban areas (23.6%) MLSS 2010. Another challenging issue is the high HIV and AIDS prevalence, which is estimated at 26.1% — one of the highest of in the world. It has contributed to a rise in the number of orphans that was estimated to be 12% of the population by 2010, to a slow population growth rate, and a drop in life expectancy from 60 in 1997 to 33 in 2007 (Central Statistics Office 2007) .

2.3 National and agricultural policies and strategies

Swaziland has developed important policies and strategies aimed at improving the enabling environment and to guide agricultural sector development. The goals of the various agricultural policies and strategies are to contribute toward economic and agricultural growth, poverty reduction, food security and sustainable natural resource management. The development policies and strategies include: i) National Development Strategy (Vision 2022), [3] Poverty Reduction Strategy and Action Program 2005 (PRSAP), Comprehensive Agriculture Sector Development Program 2002 (CASP), National Food Security Policy (2005), National Agriculture Summit Report (2007), National Program for Food Security (Sectoral Development Plan for Agriculture (2008/09-2010/11). The overall objective of the agricultural sector, as outlined in the CASP, is to facilitate and support the development of a sustainable and competitive agricultural sector that assures food security at national and household levels, and maximizes the sector's contribution to the GDP (Government of Swaziland CAADP Compact 2010). The key national and agricultural policies and strategies and their associated objectives and targets are listed in Table 2.1 below.

[3] This is the National Development Strategy from the Ministry of Economic Planning and Development, Government of Swaziland. The purpose of the NDS is to formulate a Vision and Mission Statement with appropriate strategies for socioeconomic development for the next 25 years and provide a guide for the formulation of development plans and for the equitable allocation of resources. It is designed to strengthen the Government's development planning and management capacities and anchor it firmly to a national consensus on the direction of future developments in the country.

TABLE 2.1 NATIONAL AND AGRICULTURAL POLICIES AND STRATEGIES IN SWAZILAND.

Development strategy, policy and/or plan	Major development goal	Targets
National Development Strategy (MEPD 1999)	Establish economic development, social justice and political stability by 2022.	Be within 10% of medium human development group of countries by 2022.
Comprehensive Agriculture Sector Policy (CASP) 2002	Promote sustainable agricultural development, economic growth, poverty alleviation, food security and sustainable natural resource management.	Reduce poverty by 50% by 2015 and to zero by 2022.
Poverty Reduction Strategy and Action Program (PRSAP) (MEPD 2007)	Empower the poor to generate their own income by improving access to resources (land), increase income from agriculture and reduce unemployment by 2015.	Reduce poverty by more than 50% by 2015.
	Accelerating equitable agricultural production, land security, food security and management of the environment.	(i) A 30% increase in agricultural contribution to GDP by 2010 from the 8.7% in 2005/6. (ii) A 100% increase in commercialization of SNL. (iii) A 100% coverage of tractor hire services by 2010. (iv) A 100% deployment of extension workers by 2010. (v) Have four integrated irri-gation development schemes built in all four re-gions by 2015.
Economic Recovery Strategy (ERS) 2011-2014.	To create an enabling regulatory environment, greater competition, increased productivity and innovation. Key sources of growth identified include: FDI, domestic investment, agriculture, trade, tourism, infrastructure, ICT, financial sector and human capital development.	Raise annual GDP growth to 5% and create 30,000 jobs by 2014.

Source: Compiled by authors based on The International Fund for Agricultural Development (IFAD) 2012.

In Swaziland, the key national and agricultural development strategies have been articulated under the National Development Strategy (NDS) of 1999, the Poverty Reduction Strategy and Action Program (PRSAP) of 2005 and the Economic Reform Strategy of 2011. Most of these policies and strategies have been geared towards raising productivity and livelihood of smallholder farmers on SNL.

Besides national and agricultural objective and strategies, the Government of Swaziland has demonstrated its commitment to creating an enabling environment for agriculture by endorsing the Comprehensive Africa Agriculture Development (CAADP) framework in 2003 and signing the CAADP compact in 2010. Swaziland is also a signatory to RISDP under SADC. All these strategies and plans have recognized agriculture as a key sector to achieve national development objectives. The regional strategies, particularly CAADP and RISDP, as discussed earlier in the first chapter are complementary to the national–level objectives and strategies and share certain goals, especially the MDG1 and economic growth.

The above revealed that the government has in place most policies to address the economic growth of the country and the productivity of the agricultural sector, but the implementation has not been fully done, thus reducing the many positive impacts that could have been realized (IFAD 2012).

2.4 Macroeconomic environment and performance

2.4.1 Structure of the Swazi economy

Over the period 2000 to 2011, the total GDP for Swaziland increased from SZL8.60 billion to SZL23.4 billion. Over this period, the structure of the Swazi economy was relatively stable. The services sector was the largest one contributing on average 60.4% to the GDP, followed by manufacturing with 32.1%, then agriculture with 7%, and mining with 0.3% being the smallest (See Table 2.2). It is noted that although agriculture is a key sector on which a large proportion of the population depends for their livelihood, its contribution to the GDP is small, and over time has declined from 10% in 2000 to 5.7% in 2011.

TABLE 2.2 CONTRIBUTIONS OF SELECTED SECTORS TO TOTAL GDP, 2000–2011.

Year	Agriculture	Manufacturing	Mining	Services
2000	10.0	31.8	0.3	59.5
2001	8.6	32.5	0.3	57.9
2002	8.5	36.6	0.4	58.0
2003	7.7	32.6	0.4	58.6
2004	6.9	30.8	0.4	61.1
2005	6.9	30.7	0.3	61.2
2006	5.8	30.4	0.3	62.7
2007	5.9	31.1	0.3	61.9
2008	5.9	31.3	0.2	61.8
2009	5.9	31.8	0.2	60.8
2010	5.7	32.9	0.3	60.2
2011	5.7	33.1	0.3	60.4
Annual averages				
2000–03	8.7	33.4	0.3	58.5
2003–11	6.3	31.6	0.3	61.0
2000–11	7.0	32.1	0.3	60.4

Source: Authors' calculation based on Central Statistics Office 2011a.

2.4.2 GDP growth rates

Figure 2.1 shows that GDP growth rates over the period 2000–2011 exhibited a mixed performance. Between 2001 and 2007 there was an upward trend, which switched to a declining trend in the period 2007–2011. In general, Swaziland experienced very slow GDP growth rates ranging between 1.2 and 3.5 % with an average GDP growth rate of 2.25 %. The lowest growth rate of 1.2 % was in 2001 and 2009, and the highest growth rate of 3.5 % was in 2007. The decline in GDP growth has been attributed to low growth rate in foreign direct investment (FDI), weak performance of the manufacturing sector and low agricultural productivity, particularly on Swazi Nation Land (Central Bank of Swaziland 2006). Overall, the performance shows that Swaziland was unable to achieve the 5% national growth target as well as the 7% annual GDP growth target set under SADC-RISDP. These findings suggest that the growth in GDP was inadequate to bring about positive improvements in poverty reduction to achieve the MDG1.

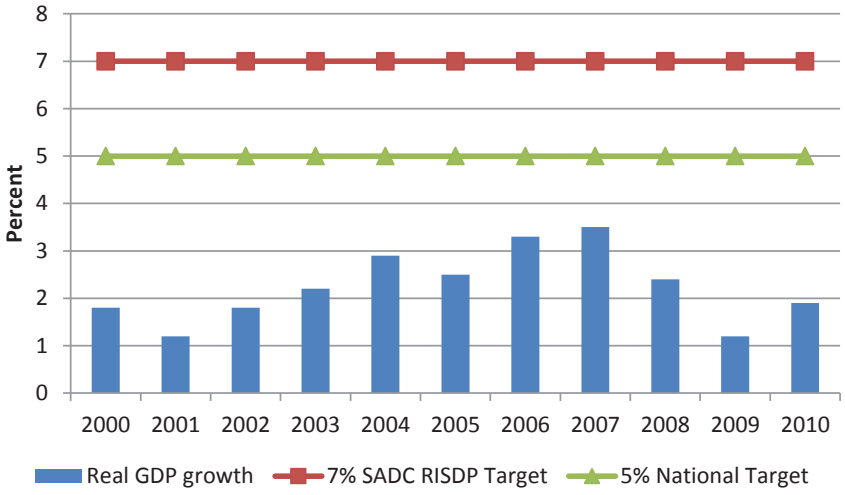

FIGURE 2.1 REAL GDP GROWTH RATES FOR SWAZILAND, 2000–2010.
Source: Authors' calculation based on Central Bank of Swaziland 2005, 2009, 2012.

According to the United Nations Economic Commission for Africa (UNECA 2012), the key factors behind the sluggish growth were: (i) a weak business environment that discouraged private investment (FDI); (ii) a fiscal policy that did not prioritize public investment; (iii) an overvalued exchange rate that hampered exports; and, (iv) having the highest HIV and AIDS rate in the world that weakened productivity.

2.4.3 Inflation

Swaziland as a member of the Common Monetary Area (CMA) with South Africa, Lesotho and Namibia, has given up its independent monetary and exchange rate policy. Its monetary policy follows closely that of the South African Reserve Bank. As a result the monetary policy of Swaziland has not had much impact on inflation. Nevertheless, Swaziland attempts to ensure that there is monetary stability and that the financial sector thrives by controlling interest rates. To this end the Central Bank of Swaziland has pursued an inflation target of 3 to 6% as a framework for price stability (UNECA 2011). The trends in consumer price inflation and food and beverage inflation rates shown in Figure 2.2 indicate that Swaziland, in some years, was unable keep inflation below the 6% upper limit.

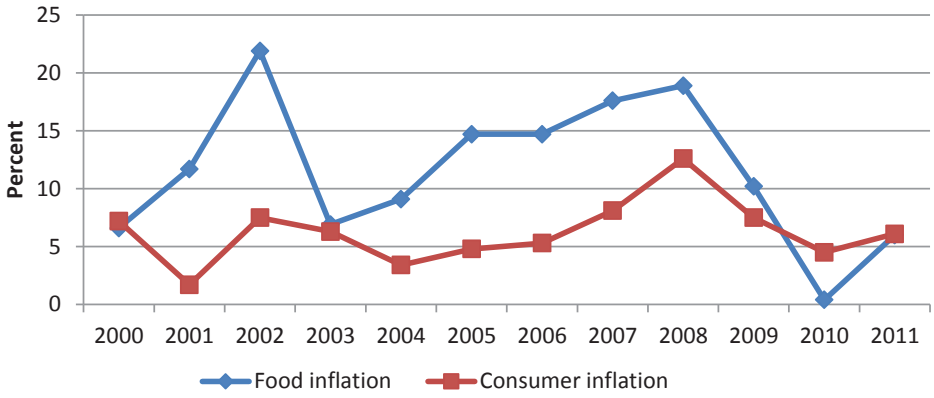

FIGURE 2.2 YEAR TO YEAR CONSUMER INFLATION AND FOOD AND BEVERAGE INFLATION.
Source: Authors' calculation based on Central Bank of Swaziland 2005, 2009, 2012.

Between 2000 and 2009, the food price inflation exceeded the consumer inflation rate. The consumer inflation fluctuated between a minimum inflation rate of 1.7% and a maximum inflation rate of 12.6%. Food price inflation ranged between a minimum rate of 0.4% and a maximum rate of 21.9%. The average inflation rate for food and beverages of 11.5% was higher than the average consumer inflation rate of 6.25%. Inflation in Swaziland, to some extent, is supply–driven and is emanating from shocks to food (such as rising food prices and food shortage), fuel prices and appreciation of the rand (UNECA 2012). To gauge the implications

of inflation on performance of the agricultural sector, a correlation analysis between inflation and agricultural GDP was done. The results revealed a positive but statistically insignificant correlation coefficient of 0.342 (p=0.276), implying that inflation has not been very high to have any effect on the performance of the agricultural sector in Swaziland.

2.4.4 Exchange rates

The fact that the Swaziland Lilangeni is pegged to the South African Rand implies that Swaziland's exchange rate is determined mainly by the Rand. Over the study period there were fluctuations in exchange rates ranging from a minimum of SZL6.4 per US$ to a maximum of SZL10.4 per US$ (see Figure 2.3). The fluctuating exchange rates reflected the Lilangeni's continued depreciation against the US$ and other currencies. In fact, for much of the decade, the local currency value vis–a–vis foreign currencies was not stable. With the weakening of the Lilangeni, export trade benefitted, particularly the agricultural–based commodities such as sugar and sugar–based products, citrus and other fruit exports as well as livestock and timber (forest- based products such as wood pulp). On the other hand, the weak Lilangeni/Rand caused the import bill for food commodities to rise.

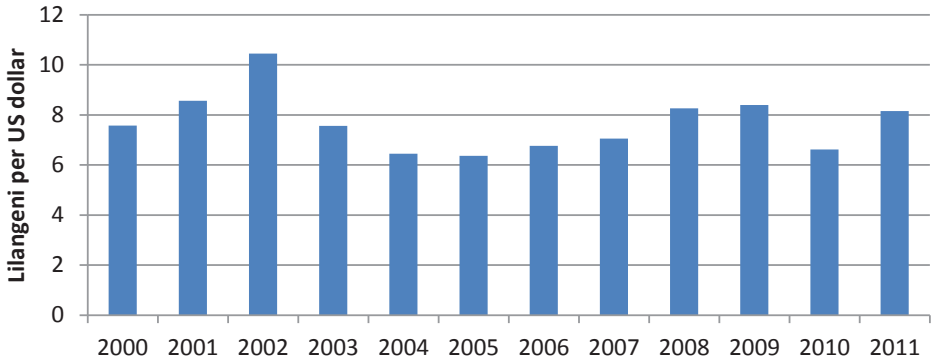

FIGURE 2.3 VALUES OF EXCHANGE RATES OF LILANGENI TO THE US DOLLAR, 2000–2011.
Source: Authors' calculation based on Central Bank of Swaziland 2005, 2009, 2012.

2.5 Structure of the agricultural sector

The agricultural sector is characterized by a dualistic land tenure system consisting of Swazi Nation Land (SNL) and Title Deed Land (TDL). About 56% of Swaziland's total land area of 1,736,456 hectares is SNL and 44% is TDL.

2.5.1 Swazi nation land (SNL)

The SNL is held in trust by the king, and is controlled and allocated by chiefs according to traditional arrangements, which stipulate that land can only be used not sold. The land rights on SNL are insecure, and land cannot be used as collateral to obtain agricultural credit. The lack of secure tenure to SNL land is a deterrent to productivity–enhancing investments such as irrigation and fencing (World Bank 2000).

Over 70 % of the country's population of 1.2 million people resides in rural areas and on SNL, and most of them are smallholder farmers who depend on subsistence agriculture for their livelihood (World Bank 2011). They own small plots of about 1.7 ha, and two–thirds of households have less than one hectare. The earnings from these small plots are low, because of low yields and the land having little yield–enhancing investment, such as soil fertility improvements or irrigation. Increased returns from SNL farming require productivity–enhancing investments on the land and, which in turn requires secure tenure of the land (World Bank 2000).

2.5.2 Title deed land (TDL)

The individual tenure farms (ITF) under TDL are owned through freehold and concessionary title, and includes commercial forests, farms and ranches as well as land owned by the Government of Swaziland. The large–scale commercial producers belong to the TDL. There are about 800 large–scale commercial producers devoted to commercial production of forests, sugarcane, citrus, pineapples, vegetables and cattle. They operate

capital-intensive enterprises, engage in export–oriented production and have very considerable dependence on foreign private capital and management. They enjoy access to well–developed market channels, while sugar- cane is the dominant crop and leading export earner produced on the ITFs (Magagula and Faki 1999). Approximately 72% of agricultural output comes from TDL commercial producers and only 28% from SNL smallholder farmers (MOAC 2008). The main commercial farming estates are located in the Lowveld, while large areas of forestation occur in the north–west, south–west and south–central regions. Subsistence agriculture is widely practised in the Middleveld and the Lubombo plateaus.

2.5.3 Emerging farmers

Another group of farmers is emerging on SNL under the support of Swaziland Water and Agricultural Development Enterprise (SWADE). The SWADE farmers are smallholder irrigation farmers organized or being established using integrated irrigation schemes on the SNL. This initiative has involved a collaborative effort between the Government of Swaziland with South Africa and Mozambique to harness the waters of their common rivers to provide for controlled downstream water flow, thus facilitating irrigation development. In Swaziland, SWADE is mandated to plan and implement the Komati Downstream Development Project (KDDP) and the Lower Usuthu Smallholder Irrigation Project (LUSIP), and also other large water projects that the government may assign. The KDDP has about 5,000 ha and the LUSIP is expected to open up some 11,000 ha of irrigable land for SNL farmers by 2015 (SWADE 2012). There are over 5,000 households engaged in irrigation farming under SWADE.

The SWADE arrangement is a public-private partnership initiative in irrigation infrastructure development, in which SWADE (public sector) trains and mentors farmers associations (private sector) in business management; and facilitates relationships between farmers associations and providers of credit, water permits and commodity and input markets. The main commercial crop produced is sugarcane, which is allocated 90% of the land and food crops such as vegetables and maize take up the remaining 10% of the land. This has improved crop diversity and reduced the reliance on rainfed farming. This arrangement is benefiting the involved farmers in various ways (see Box 1 below). In addition, productivity of sugarcane production among small–scale farmers has improved. For example, the sugarcane yields of KDDP farmers averaged 99 tonnes per ha compared to the industry average of 95 tonnes per ha (Nxumalo 2010; Dlamini and Masuku 2013). Other benefits to community members include access to potable water and assistance to build sanitation facilities (SWADE 2012).

Box 1. Developmental Impacts of the KDDP

The Komati Downstream Development Project (KDDP) has contributed to reducing poverty through increased household income, enhanced food security, and improved access to social and health infrastructure. The project has cultivated about 4,475 ha, 90% of which is sugarcane and the rest is for food crops (maize and vegetables). Beneficiaries in this project have access to electricity, a 35 km gravel road and five river crossings. About 2,262 homesteads have access to clean drinking water, and 2,816 homesteads have benefited from improved sanitation facilities by March 2011.

Source: Adapted from AfDB 2011

2.6 Agricultural sector institutions

Table 2.3 below outlines the various institutions supporting agriculture in Swaziland and their responsibilities. These include the departments of the Ministry of Agriculture, parastatal organizations in agriculture, agricultural research and training institutions, nongovernmental organizations and the private sector and farmer organizations. The Ministry of Agriculture is responsible for governance, policy and legislation and ensuring national food security.

TABLE 2.3 AGRICULTURAL SECTOR INSTITUTIONS IN SWAZILAND AND THEIR RESPONSIBILITIES.

Name and type of Institution	Responsibilities
1. Ministry of Agriculture	Governance, policy and legislation in the sector and ensuring national food security.
1.1 Department of Veterinary and Livestock Services	Prevent spread of animal diseases; promote animal health and welfare, and an efficient livestock industry.
1.2 Department of Agriculture and Extension Services	Advise farmers on improved farming systems (conservation tillage) and technologies for increased productivity and food security.
1.3 Department of Fisheries Development	Ensure sustainable fisheries management and aquaculture development for food and nutrition security.
1.4 Land Use Planning and Development Division	Promote rational land use and development of agricultural land and water resources.
1.5 Department of Economic Planning and Analysis	Coordinate planning, implementation and monitoring of national agricultural strategy, policies, programs and projects. Agricultural information management.
1.6 Department of Agricultural Research and Specialist Services	Identify and develop agricultural technologies for food security and sustainable growth of agro–business and the national economy.
2.1 National Agricultural Marketing Board (NAMBoard)	Marketing agricultural products, processing, storage, transportation, distribution and sale of vegetables. Issuing import/ export permits of scheduled products.
2.2 National Maize Corporation (NMC)	Marketing and storage of white maize and guarantees a market to local maize farmers, and provide good quality maize meal at reasonable prices to consumers.
2.3 Swaziland Water and Agricultural Development Enterprise (SWADE)	To empower smallholder farmers on SNL through water and agricultural development projects.
2.4 Swaziland Dairy Board	To develop and regulate the dairy industry, food security, poverty reduction, investment promotion, job creation and export promotion.
2.5 Swaziland Cotton Board	Promote production, processing and sale of cotton lint and seed. Control seed access; facilitate cotton research and extension.
2.6 University of Swaziland – Faculty of Agriculture	Training, research and advisory services.
2.7 Nongovernmental Organizations	Drought relief and humanitarian assistance, input supply, marketing and advisory services.
2.8 Private Service Providers	Input supply, marketing and advisory services.
2.9 Farmer Organizations	Input supply, marketing, and advisory services.

Source: Compiled by authors from MOAC 2013; UNISWA 2013.

2.7 Summary of the enabling environment

Although Swaziland is a middle–income country, it has been grappling with challenges of high poverty (42%), inequality (with Gini coefficient of 0.51), unemployment (30%) and HIV/AIDS prevalence of 26%. Majority of the population resides in rural areas and agriculture is significant to their livelihood. The agricultural sector is dualistic consisting of small–scale sector on Swazi National Land (SNL) with insecure tenure rights and a commercial sector on Title Deed Land. There are various institutions supporting the farming community by providing services ranging from finance, marketing, extension, training, research, information and humanitarian assistance.

The macroeconomic environment has been a stable open economy with low inflation, but experiencing sluggish economic growth. To turn the economy around over the years the Government of Swaziland has put in place certain national policies and strategies including, among others, the poverty reduction strategy and action plan (PRSAP), and economic recovery strategy (ERS). The country has also been party to regional and continental efforts namely; the SADC-RISDP and the CAADP.

Chapter 3

CAADP Implementation Process

3.1 Introduction

Swaziland, in general, regards the CAADP process as crucial for strengthening and consolidating her efforts of improving agriculture and rural development. She has thus adapted the CAADP agenda to her agricultural and rural development programs and strategies, and signed the CAADP compact on March 4, 2010. The next sections briefly outline the progress Swaziland has made in the implementation of the CAADP process.

3.2 Coordination, oversight and implementation of the CAADP agenda

The Ministry of Agriculture (MOA) is the lead institution for the CAADP implementation process in Swaziland. The overall coordination and oversight is handled by an Agriculture Sector Advisory Committee composed of key stakeholders. The Economic Planning and Analysis Section in the Ministry of Agriculture is the Secretariat.

Implementation modalities: Implementation will involve the private sector, the civil society, and farmer organizations taking the lead where possible and the MOA and others providing the necessary backstopping. The CAADP team (suggested) would be involved in the processes of Swaziland's CAADP Compact (SCC) implementation. These processes include: (i) planning, monitoring and evaluation; (ii) advocacy on behalf of their constituency; (iii) capacity building of stakeholders; (iv) promotion of sustainable agriculture and development; (v) farmer training and technology transfer; and (vi) promotion of partnerships between research, farmers and agricultural extension services.

In the CAADP implementation process, the public universities and Agricultural Research Division will play the roles of human resource capacity development, with the later involved in research. This will strengthen linkages between industry, academia and the general public.

The government's mandate is well articulated in the PRSAP, as a vehicle for implementation of Swaziland's NDS in Vision 2022. More specifically, the GOS will be responsible for facilitating activities covering infrastructure development, legislation, agricultural research, land use planning and development, fisheries, forestry, agriculture and extension, animal production, animal health, economic planning analysis, crop protection, overall monitoring and evaluation, and policy formulation and analysis.

3.3 Roundtable and compact

In Swaziland, the Ministry of Agriculture is the lead government institution overseeing the implementation of the CAADP agenda. Besides Malawi and Zambia, Swaziland has moved faster than most other SADC countries in the implementation of the CAADP process. So far she has gone through the various stages including: appointing the focal point; launching the process; instituting the steering and technical committee; conducting stocktaking, growth and investment analysis; preparing the compact; and holding the roundtable and signing the compact in March 2010.

3.4 Post–compact investment plan and technical reviews

The process leading to the post–compact agricultural investment plan has commenced and is being led by the FAO and COMESA. Once the technical reviews are completed Swaziland should have in place an agricultural investment plan ready for funding from the government, the private sector, and the development partners. The specific areas of proposed investments identified in the CAADP Compact to accelerate agricultural development and reduce poverty in Swaziland are listed in Table 3.1.

TABLE 3.1 SPECIFIC AREAS OF PROPOSED INVESTMENTS UNDER THE CAADP COMPACT OF SWAZILAND.

Pillar	Proposed options
Pillar 1: Sustainable Land and Reliable Water Management	1. Water and Irrigation Development Program
	2. Integrated Land Management Program for Combating Land Degradation
Pillar 2: Market Access	1. Development of Sustainable Markets Program
Pillar 3: Food Security and Nutrition	1. Establishment and rehabilitation of small livestock seed stock centers
	2. Enhancing dairy productivity through capacity building, revitalization of the dairy cattle breeding program and establishment of an artificial insemination unit.
	3. Revitalizing small–scale crop production
	4. Promotion of sustainable feed and fodder production and utilization.
	5. Improving beef cattle productivity and establishing smallholder cow–calf operations and feedlots
	6. Establishment of an Agriculture Development Bank.
	7. Development of extension policy, implementation framework and capacity building of farmers and extension staff
	8. Improving agriculture information and data management systems
	9. Strengthening the early warning system and food emergency response mechanism
	10. Rehabilitation of Rural Development Centers
Pillar 4: Agricultural Research	1. Development of a National Research Program and related infrastructure.

Source: Extracted from Government of Swaziland CAADP Compact 2010.

3.5 Implementation of monitoring and evaluation (M&E)

A major step in the CAADP process is the establishment and operation of systems of accountability, monitoring, and evaluation (Benin et al. 2010a). Improving the level, relevance and reliability of evidence in decision making processes, is essential for the effective design and implementation of programs, and ultimately for greater and more desirable development outcomes. This step at country level calls for the establishment of country SAKSS nodes. At the country level M&E will take place via the country SAKSS nodes and networks. The nodes and networks should provide a framework within which targeted knowledge products – emanating from policy–relevant research, objective analysis, monitoring and evaluation, and high-quality local data – can be made available for the decision making processes related to design and implementation of investment plans and programs.

It is noted that each country that signs the CAADP compact specifies the mechanisms for establishing a country SAKSS node, and defines the role it will play in monitoring and evaluating programs within their investment plans. So far, Swaziland has not established a country SAKSS node, but ReSAKSS–SA in conjunction with COMESA is encouraging Swaziland to establish a country SAKSS node.

Regarding the status of M&E in the agricultural sector, FAO (2011) found the M&E system in Swaziland's Ministry of Agriculture(MOA) is characterized by low data quality, limited intra and inter–departmental sharing of information, underutilization of M&E information, and limited use of technology, (e.g., databases, websites) for systematic information management (documentation, storage and sharing). Overall, the M&E strategy and plan and the electronic database should be developed. In addition, the M&E functions should be decentralized to all levels. It should also undertake bench marking of indicators, design of field level data collection tools, and mainstream M&E training of staff in the MOA. Thus, investment in training, logistical support and hardware is needed.

It is further noted that the Ministry of Agriculture in Swaziland was developing a results-oriented participatory M&E system in order to capture data that would help to understand implementation progress, account for resources, track both output and outcome level achievements and or lack of it and inform decision–making, policy formulation and review. It is recommended that these efforts be strengthened.

Chapter 4

Agricultural Investment Trends and Opportunities

4.1 Introduction

This chapter analyses the trends in public budget allocation to and expenditure in the agricultural sector in Swaziland. In particular, it assesses the progress Swaziland has made towards meeting the Maputo Declaration of allocating 10% of the national budget to agriculture. It also analyses the composition of public agriculture expenditure and budget execution rates. Furthermore, it presents trends in domestic private sector investment and foreign direct investment in agriculture.

4.2 Trends in budget allocation and expenditure

The trends in the allocation of budget and expenditure between 2000 and 2011 for the agricultural and nonagricultural sectors in Swaziland are presented in Table 4.1. The lowest approved total budget was in 2002 and the highest was in 2006, while the total expenditure was lowest at SZL1, 513 million in 2002 and highest at SZL8, 196 million in 2010. Although the average annual total approved budget increased five–fold from SZL1, 999 million during the pre–CAADP period (2000–2003) to SZL5, 294 million in the post–CAADP period (2003–2011), the average annual total expenditure almost doubled in the same period. Overall, the total approved budget grew at a higher rate of 13.6% per annum compared to 11.1% per annum for total actual expenditure. At the sectoral level, the approved budget for the agricultural sector grew at a slightly higher annual average rate of 14.3% per year between 2000 and 2011 compared to 13.6% per year for the nonagricultural sector. Similarly, the actual expenditures for the agricultural sector (12.6% per annum) also grew at a slightly faster rate of 12.6% per annum compared to 11.0 % for the nonagricultural sectors.

As evident from Table 4.1, there is no consistent upward trend in the approved total real budget allocations as well as allocations to agricultural and nonagricultural sectors between 2000 and 2011. The approved total real budget and allocations to the agricultural and nonagricultural sectors tend to fluctuate over time. This suggests that the Government of Swaziland has challenges in mobilizing and maintaining its total budgetary resources, and this consequently affects allocations to the agricultural and nonagricultural sectors and the budget execution rate as well.

The fluctuations in the budget and total expenditures are influenced by the variability in the total national revenues emanating from the SACU payments, which make up the largest proportion of the government revenue in Swaziland.

Figure 4.1 shows the trends in the approved budget and actual expenditure for the agricultural sector and the budget execution rate over the period 2000 to 2011. The execution rate is measured as the percentage of agricultural expenditure in total of the approved agricultural budget allocation. In general, the actual agricultural expenditures tend to be less than the budget allocation. This often occurs due to, among many factors, imperfect projections of government revenues, under reporting of actual spending and limited capacity to spend the released funds (Zavale et al. 2011).

The cases where spending exceeds the budget allocation could imply that supplementary funds were injected in to the agricultural sector by the government or the development partners. This overspending occurs, especially in times of humanitarian relief efforts following severe droughts or floods. In Swaziland, overspending was recorded in 2002, 2003, 2004 and 2010. In 2010, the over spending was facilitated by the windfall revenues in the form of SACU payments received in 2009. The jump in expenditure between 2008 and 2009 could be attributed to the increases in emoluments and capital expenditure towards the integrated irrigation schemes under SWADE.

TABLE 4.1 BUDGET ALLOCATION AND EXPENDITURE FOR AGRICULTURAL AND NONAGRICULTURAL SECTORS IN SWAZILAND 2000–2011 (2005 VALUES), SZL MILLION.

Year	Approved Budget			Actual Expenditure		
	Total	Agricultural	Nonagricultural	Total	Agricultural	Nonagricultural
2000	2,076	91	1,985	2,399	85	2,314
2001	1,995	92	1,903	2,465	86	2,379
2002	1,366	56	1,310	1,513	58	1,455
2003	2,560	100	2,460	2,849	116	2,733
2004	4,304	153	4,152	3,818	195	3,624
2005	5,499	196	5,303	4,416	182	4,234
2006	7,264	169	7,095	4,240	169	4,070
2007	4,791	138	4,653	3,272	118	3,155
2008	3,585	119	3,466	2,953	108	2,846
2009	6,171	451	5,720	5,635	370	5,265
2010	7,181	395	6,786	8,196	400	7,796
2011	6,287	228	6,060	6,198	193	6,005
Average 2000–03	1999	85	1,914	2,306	86	2,220
Average 2003–11	5,294	216	5,077	4,620	206	4,414
Average 2000–11	4,423	182	4,241	3,996	173	3,823
Average growth (2000–11) (%/yr.)	13.6	14.3	13.6	11.1	12.6	11.0
Coefficient of variation	47.7	67.3	47.3	47.4	62.8	47.0

Source: Authors' calculation based on Central Bank of Swaziland 2005, 2009, 2012.

FIGURE 4.1 AGRICULTURE BUDGET ALLOCATION AND EXPENDITURE (IN 2005 VALUES), SZL MILLIONS AND BUDGET EXECUTION RATES, SWAZILAND, 2000–2011.
Source: Authors' calculation based on Central Bank of Swaziland 2005, 2009, 2012.

4.3 Maputo declaration 10% agriculture expenditure target

In order to assess whether Swaziland is meeting the Maputo Declaration target in allocating at least 10% of its national budgetary resources to agriculture, the trends for expenditure on agriculture as a percentage of total government spending are presented Figure 4.2 below.

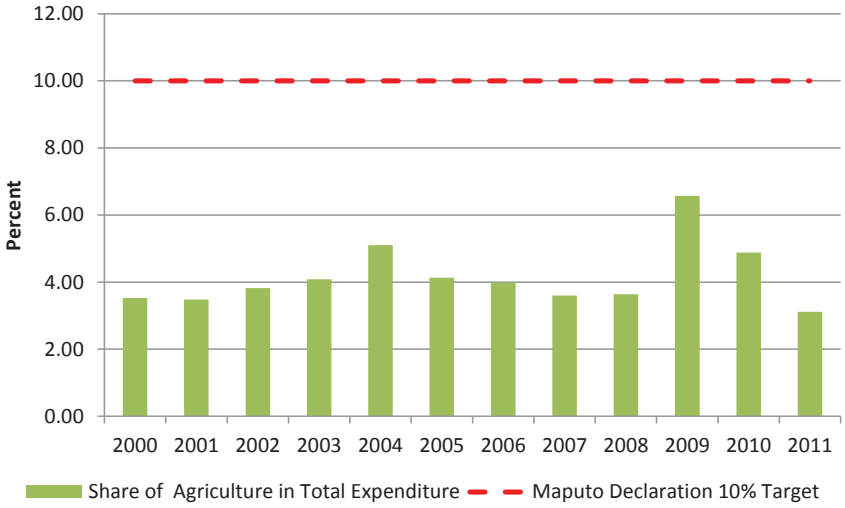

FIGURE 4.2 EXPENDITURE ON AGRICULTURE AS A PERCENTAGE OF THE TOTAL GOVERNMENT SPENDING 2000–2011.
Source: Authors' calculation based on Central Bank of Swaziland 2005, 2009, 2012.

It is shown that over the period 2000–2011, the share of agriculture in total expenditure fluctuated between 3% and 6.5%. For most years the share of agriculture in total expenditure stayed below 4%. Overall, Swaziland was unable to achieve the Maputo Declaration target of allocating 10% of national budget expenditure to the agricultural sector. The government needs to increase its allocations to the agricultural sector in order to bring about the required economic growth that can lead to the attainment of the MDG1 (cutting poverty and hunger into half by 2015).

4.4 Expenditure on the agricultural sector as a percentage of agricultural GDP

Expenditure on the agricultural sector as a percentage of agricultural GDP (AgGDP) measures the intensity of government spending on agriculture relative to the size of the sector. Figure 4.3 shows the performance of Swaziland between 2000 and 2011 with respect to this indicator. The share of agricultural expenditure in the AgGDP ranged between 10% and 36%, with an average value of about 18%. It is noted that although Swaziland has a low share of agriculture in total expenditure this is depicted by the 4.2% average annual share between 2000 and 2011, it has a relatively high average share of 18% when the size of the sector in the overall economy is taken into account. This occurs mainly because the agricultural sector is very small in this economy, which translates into a relatively high share (18%) of agricultural spending in total AgGDP.

The highest share of agricultural spending in total AgGDP occurred in 2009, which corresponds with the highest share of agricultural spending in total national spending. The increased spending on agriculture in 2009 is associated with the high government revenue boosted by SACU payments at that time.

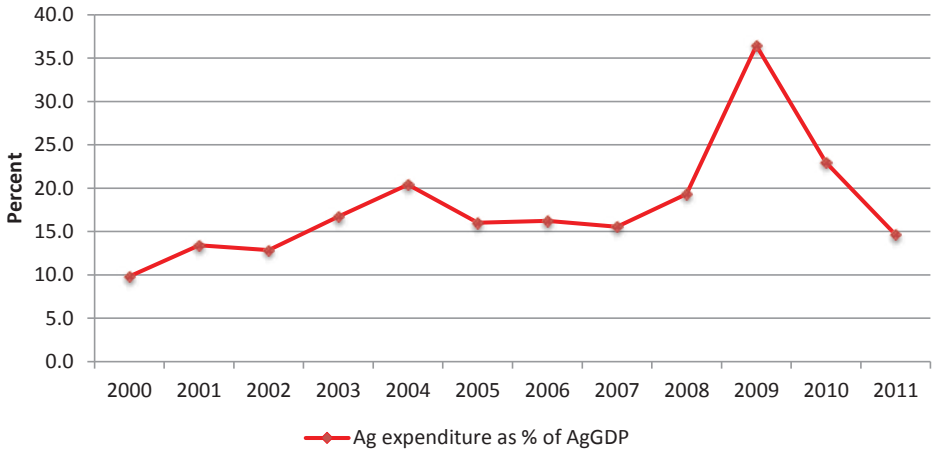

FIGURE 4.3 EXPENDITURE ON AGRICULTURE AS A PERCENTAGE OF THE AgGDP, 2000–2011.
Source: Authors' calculation based on Central Bank of Swaziland 2005, 2009, 2012.

4.5 Composition of public agricultural expenditure

Table 4.2 below shows the four major public agricultural sector budget and expenditure items, namely: personnel emoluments, goods and services (operational expenditure), capital expenditure and grants and other payments. Personnel emoluments cover salaries, wages, and pension contributions for MOA staff. The goods and services are the expenditures to support the operations of MOA staff covering fuel, spare parts, stationery, field allowances and supplies. Capital expenditure includes expenditures on civil works and purchase of movable and immovable assets. Grants and other payments include agricultural subsidies on inputs, grants and social relief services (benefits).

TABLE 4.2 ANNUAL SHARES OF AGRICULTURAL EXPENDITURE ITEMS IN TOTAL AGRICULTURAL SECTOR EXPENDITURE (PERCENTAGES), SWAZILAND, 2000–2011.

Year	Personal emoluments	Goods and services	Capital expenditure	Subsidies, grants and social benefits
2000	34	17	48	0
2001	34	20	45	1
2002	41	26	31	2
2003	39	27	34	1
2004	39	34	27	0
2005	42	27	31	1
2006	51	34	7	8
2007	33	20	47	1
2008	45	34	21	1
2009	27	19	51	3
2010	53	21	25	0
Average (2000–03)	36	21	42	1
Average (2004–10)	41	27	30	2
Average (2000–10)	40	25	33	2
Coefficient of variation	19	25	40	149

Source: Authors' calculation based on Ministry of Finance 2005, 2008, 2011.

Over the past decade, personnel emoluments had the largest annual average share of 40% of total agricultural sector expenditure, followed by capital expenditure at 33%, goods and services at 25% and grants and subsidy payments at 2%. In most years the share for personnel emoluments was greater than the share for capital expenditure, except in the years 2000, 2001, 2007 and 2009. This could imply that there were major capital expenditures made in these years by the GOS in the agricultural sector. For example, in 2009 the highest share of 51% for capital expenditure in total agricultural expenditure is due to the allocations made for smallholder irrigation infrastructure under SWADE.

A comparison of the two periods 2000–2003 and 2004–2010, reveals that the annual average share for personnel emoluments and goods and services increased from 36% to 40% and from 21% to 27%, respectively. Over the same periods, the share for capital expenditure decreased from 42% to 30%, while that of grants and subsidy payments increased marginally by 1%. These expenditures reveal that a higher priority is being given to personnel emoluments and goods and services, while capital expenditure is on the decline in terms of agricultural sector expenditure priorities.

4.5.1 Agricultural sector expenditure by economic use or subsector

The expenditure by economic use or subsector focuses on the four subsectors that constitute the agricultural sector. These are: crops, livestock, fisheries and forestry. The subsector expenditure is the sum of four expenditure items namely: (i) personnel emoluments, (ii) goods and services, (iii) capital expenditure, and (iv) agricultural sector subsidies, grants and social benefits. The trends in the shares of subsectors in total agricultural sector expenditure over the period 2000 to 2011 are presented in Table 4.3 below.

Over the period 2000–2011, the crops subsector dominates total agriculture expenditure with an average of 53.9%, followed by livestock at 44.5%, while forestry has 1% and fisheries has the least share of 0.6%. Although the crops subsector has a higher average share than the livestock subsector, in 5 out of 11 years, the share of livestock in total agricultural expenditure was greater than that of the crops subsector. The large shares for crops and livestock in total agricultural expenditure reflect government's emphasis on crop and livestock production as critical for addressing the needs of majority of smallholder farmers who depend on crop production and livestock for their livelihood, and consequently for the attainment of national goals of enhanced food security and poverty reduction.

TABLE 4.3 SUBSECTOR PROPORTIONS OF TOTAL AGRICULTURAL SECTOR EXPENDITURE IN SWAZILAND, 2000–2011.

Year	Percentage of total agricultural sector expenditure			
	Crops	Livestock	Fisheries	Forestry
2000	53.9	44.5	0.6	1.0
2001	54.1	44.2	0.5	1.2
2002	43.5	54.1	0.4	1.9
2003	46.0	49.3	0.5	4.3
2004	51.4	46.5	0.6	1.5
2005	47.1	49.0	0.7	3.2
2006	42.2	52.5	0.7	4.7
2007	63.0	31.4	0.4	5.3
2008	38.6	53.9	0.7	6.7
2009	61.3	35.9	1.5	1.4
2010	33.4	62.4	1.7	2.5
2011	40.4	55.6	0.7	3.3
Average (2000–2003)	49.4	48.0	0.5	2.1
Average (2004–2011)	47.2	48.4	0.9	3.6
Average (2000–2011)	53.9	44.5	0.6	1.0
Coefficient of variation	18.9	17.8	53.2	59.5

Source: Authors' calculation based on Ministry of Finance 2005, 2008, 2011.

4.5.2 Agriculture expenditure by core function

Agricultural spending by government function or department cover the expenditures on core functions namely: (i) research and development (R&D), (ii) extension, (iii) irrigation and infrastructure and, (iv) others, (e.g., grants and subsidy payments). The trends in levels of agricultural spending by government function over the period 2000–2011 are presented in Table 4.4 below.

Over the period 2000–2011, the average annual expenditure stood at SZL65.3 million in total as shown in Table 4.4. Among the core functions, extension had the highest annual average expenditure estimated at SZL37.8 million, followed by irrigation and infrastructure with SZL14.2 million and research and development (R&D) with SZL9.5 million. Other payments at SZL 3.8 million were the lowest annual average expenditure.

TABLE 4.4 REAL EXPENDITURE ON AGRICULTURE BY CORE FUNCTIONS (CONSTANT 2005 VALUES), SZL MILLION, (2000–2011).

Year	Research and development	Extension	Irrigation and infrastructure	Other	Total
2000	6.6	19.5	7.1	1.2	34.3
2001	5.7	15.6	5.4	1.6	28.4
2002	4.1	14.2	4.9	1.5	24.7
2003	8.3	29.7	11.2	0.9	50.1
2004	12.4	50.1	21.1	1.0	84.6
2005	13.3	41.2	22.1	0.5	77.1
2006	13.4	45.1	18.2	2.2	78.9
2007	8.7	28.9	13.3	2.7	53.5
2008	7.2	25.7	9.1	1.2	43.2
2009	10.0	54.7	15.4	8.7	88.8
2010	15.6	83.0	29.2	14.6	142.4
2011	9.3	45.6	13.1	9.8	77.8
Annual average spending	9.5	37.8	14.2	3.8	65.3
Annual average growth rate (%)	6.2	11.7	10.0	24.0	11.2
Coefficient of variation (%)	36.6	52.2	52.3	120.1	50.3

Source: Authors' calculation based on Ministry of Finance 2005, 2008, 2011.

The expenditure by functions fluctuated widely over the study period. The variability in terms of the coefficient of variation (C.V) shows that other payment has the highest variability with a CV of 120%, followed by extension and irrigation & infrastructure with 52% and the lowest was a CV of 37% for R&D. This high variability in investment expenditure by core function is of concern, since it implies that Swaziland is not accumulating capital consistently over time to enable the sector to raise and sustain growth in agricultural productivity. Variability in agricultural expenditure could lead to increased variability in agricultural productivity and production, and this could compromise the sector's ability to contribute to reducing poverty and hunger.

Over the study period, all the four core functions experienced positive growth. Extension expenditure grew at an average annual growth rate of 11.7%, followed by irrigation and infrastructure at 10% per year and R&D with a growth rate of 6.2% per year. The expenditure levels and growth rates reveal that GOS paid most attention to extension, followed by infrastructure and irrigation and that R&D received the least attention in terms of government expenditure. This implies that the GOS could be under investing in R&D, which could jeopardize the development of productivity enhancing technologies that are required for raising and sustaining future agricultural productivity growth and attainment of food security and poverty reduction goals. There is need for the government to re–examine its expenditures to avoid the dangers of over investing in some other activities or functions at the expense of agricultural research and extension, which often give the highest returns of any form of agricultural spending, particularly in sub–Saharan Africa (SSA) (World Bank 2007; Alene and Coulibaly 2009). Thus, the positive annual growth in extension and research in Swaziland between 2000 and 2010 should be maintained.

4.6 Foreign direct investment in agriculture

During the 1970s to mid–1990s – the era[4] of political instability in the Southern African Region, Swaziland was a favorable destination for foreign direct investment and was used as a base for addressing the needs of the larger Southern African Region. Increased foreign direct investment (FDI) inflows led to the expansion of employment opportunities, accelerated industrialization and the development and expansion of infrastructure including road networks and communication networks. In fact, the Swazi economy enjoyed high economic growth rates of over 8% in the 1970s to mid– 1990s, and improved quality of life, which enabled her to acquire the 'lower middle income' country status (MEPD 2009). The return of peace and political stability in the region and, in particular, the political independence of South Africa has caused a decline in FDI into the Swazi economy. Swaziland has to compete with her bigger neighbors with bigger economies and markets in the FDI arena. With a small population, Swaziland has limited market potential, and has experienced a sluggish economic growth rate partly due to the declining of FDI. Figure 4.4 below shows the trends in FDI into agriculture and the total FDI into the Swazi economy over the period 2000–2011.

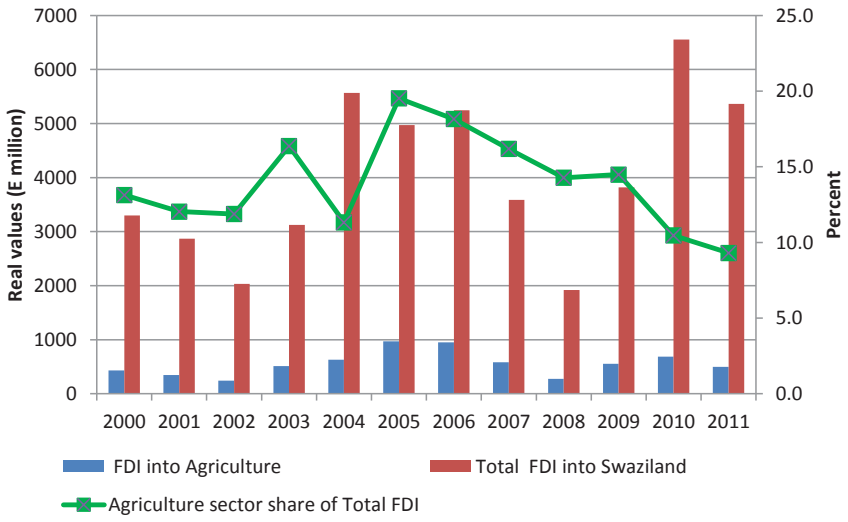

FIGURE 4.4 TOTAL FOREIGN DIRECT INVESTMENTS (FDI) INTO THE AGRICULTURAL SECTOR AND SWAZI ECONOMY (SZL MILLION IN 2005 CONSTANT VALUES), 2000–2011.
Source: Authors' calculation based on Central Bank of Swaziland 2005, 2008, 2012.

Between 2000 and 2011, the total FDI into the Swazi economy increased from SZL4, 000 million to SZL6, 818 million, growing at an annual average rate of 3.61%. The FDI into agriculture ranged between a minimum value of SZL532 million and a peak value of E1, 052 million. The FDI into agriculture initially increased during 2000–2005 but was followed by a decreasing trend between 2006 and 2011. Overall during the period 2000–2011, the FDI into agriculture grew at an annual average rate of 3.6%. This indicates that the growth of FDI into agriculture was smaller than that of the whole economy (4.84%). The decline in agricultural sector's FDI since 2007 is attributed to the slow recovery of companies in the forestry industry, which have been affected by major disruptions due to the forest fires of 2007 and 2008. Thus, such companies are paying for losses and the recovery strategies that have being adopted. This led to the 9.3% decline in agriculture related stocks in 2011 (Central Bank of Swaziland, 2011/12).

Figure 4.4 shows that the FDI into agriculture as a percentage of the total FDI in the Swazi economy, increased from 13% in 2000 to 19.5% in 2005, followed by a decrease to 9.3% in 2011. The annual average share for agriculture in total FDI was 13.9% over the decade. Although the average of 13.9% seems to be small relative to the share of FDI going to the nonagricultural sectors, it is larger compared to the share of public investments of 4–5% going into agriculture. Another noted concern is that the average share for agriculture in total FDI has been declining since 2005 (from 21% to 9% in 2011). These findings suggest that the agricultural sector was finding it more difficult to attract FDI compared to the nonagricultural sectors. In other words, the

[4] Prior to 1994, when countries like Angola, Namibia, Mozambique, Zimbabwe and South Africa were pursuing liberation struggles for independence or fighting civil wars.

nonagricultural industries such as mining, energy, transport, manufacturing and services continue to enjoy higher shares of total FDI compared to agriculture. However, FDI is required in agriculture and other sectors for employment creation, skills transfer, productivity improvement and for stimulating economic growth and poverty reduction. Hence, Swaziland should continue with its efforts to diversify its economy by attracting FDI to boost long-term growth in the key sectors of the economy including the agricultural sector. There is a need to address the deterrents to foreign and domestic investment in Swaziland that include: heavy regulations, absence of a one–stop shop for investors, limited access to land, among other factors (African Economic Outlook 2012).

4.7 Private sector investment in the agricultural sector: Agricultural credit

Assessment of private sector investment is usually hampered by non-availability of investment data from private businesses. For this report, agricultural credit is used as proxy for private sector investment into the agricultural sector. The major providers of credit to the agricultural sector are commercial financial institutions including the Swazi Development Bank, which is a parastal, and South Africa Banks operating in Swaziland. Agricultural lending by financial institutions in the country is limited to serving large–scale corporate farms like sugar and citrus estates, with which they have long–standing credit relationships (Central Bank of Swaziland 2008). Loans are also available to large–scale livestock farmers operating cattle feedlots, pig producers and poultry farmers, and to a limited extent to vegetable producers. The condition that requires farmers to provide collateral in order to get credit has made it difficult for small–scale farmers to access credit from financial institutions. Figure 4.5 shows the trends in credit to the agricultural sector and total credit in the Swazi economy during 2000 to 2011.

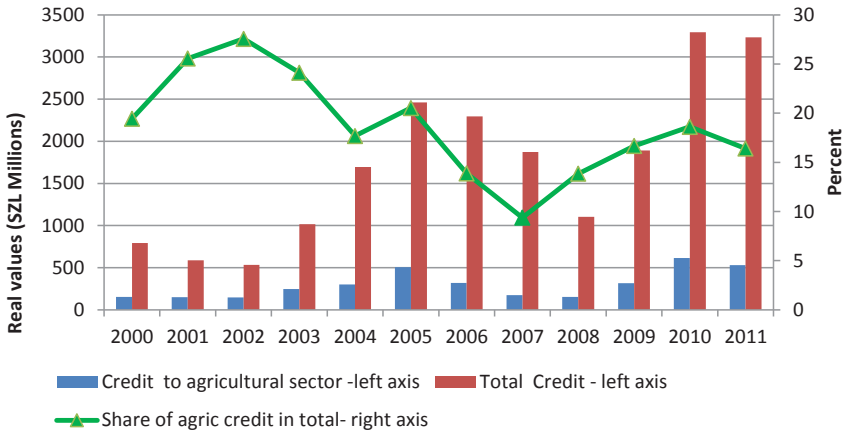

FIGURE 4.5 TOTAL CREDIT AND CREDIT TO THE AGRICULTURAL SECTOR IN SWAZILAND, 2000–2011 (2005 CONSTANT VALUES).
Source: Authors' calculation based on Central Bank of Swaziland 2005, 2009, 2012.

During 2000–2011, despite the observed fluctuations, total credit increased from about SZL793 million to SZL3, 293 million, and credit to the agricultural sector increased from SZL79.3 million to SZL323.4 million. On average total credit increased at a higher rate of 15.2% per year compared to 9.98% per year for agricultural credit. The share of agricultural credit in total credit fluctuated between 9% and 28% with an average share of 19% in the period 2000–2011. Focusing on the two periods 2000–2003 and 2004–2011, reveals that the average proportion of agricultural credit in total credit decreased by 8 percentage points from 24% in 2000–2003 to 16% in 2004–2011.

This indicates that the share of agricultural credit in total credit has been declining over time. This implies that private investment in terms of agricultural credit into the agricultural sector has been decreasing. This has implications and can slow the implementation of agricultural development programs like the CAADP, which calls for increased participation of the private sector in the four pillars (1.Land and Water Management; 2.Market Access; 3. Food Supply and Hunger and; 4. Agriculture Research) of the CAADP. The decreasing availability of credit to agriculture will affect private sector investments in the agricultural sector and also constrain farmer-

adoption of improved farming technologies, which are required for raising agricultural productivity. In this regard, Swaziland should find ways to improve availability and access to agricultural among farmers including the smallholder farmers on SNL. This could include alleviating the constraint of collateral for small farmers on SNL and encouraging small farmers to join savings and credit cooperatives, so that they can access credit and improve production through the use of improved technology and inputs (Mavimbela et al. 2010).

4.8 Summary on investment in the agricultural sector

During 2000–2011, the share of agriculture in total expenditure ranged from 3% to 6.5%, indicating that Swaziland was unable to achieve the Maputo Declaration target of allocating 10% of the national budget to agriculture. In order for Swaziland to achieve the CAADP objectives and targets of growth, her food security and poverty reduction, public investment to agriculture should increase from its present 3 – 6.5%, respectively, to at least 10% as required under the Maputo Declaration.

Distribution of agriculture expenditure indicated that the largest proportion was on personnel emoluments (40%), followed by capital expenditure (33%), goods and services (25%) and the least was on grants and subsidies (2%). The expenditure by subsector was dominated by crops subsector (54%), followed by livestock (44%) and then forestry (1%). The expenditure by core function found that extension (58%) had the largest proportion compared to infrastructure and irrigation (22%) and research and development (R&D) (15%). This suggests that Swaziland could be under investing in R&D that could derail the generation of productivity enhancing technologies that are required for raising and sustaining future agricultural growth and attainment of food security including poverty reduction goals.

The total FDI into Swazi economy grew at a modest rate of 4.8% per year, which is slightly higher than the agriculture FDI growth rate of 3.61% per annum. The average share of agriculture FDI in total FDI was 13.9% and the share of agricultural credit in total credit was19%. It is noted that the share of agriculture in total FDI has been declining since 2005 and the share of agriculture in total credit also exhibited a decreasing trend over the period 2000–2011. This suggests that private sector investment into agriculture from FDI and credit sources has been declining. This has implications for commercialization of agriculture and the implementation of CAADP, which calls for private sector participation in agriculture.

Chapter 5

Agricultural Sector Growth Performance

5.1 Introduction

This chapter examines the composition of agricultural GDP, the contribution of agriculture to the total GDP and tracks the progress made towards achieving national objectives and targets. In addition, the progress made towards the CAADP's 6% agricultural growth target. It analyses the trends in the production and productivity of major crops and livestock, as well as forestry performance. The national objectives and targets considered were: (i) a 30% increase in agriculture contribution to the GDP by 2010 from the 8.7% in 2005/6; (ii) increasing tractor hire service by 100%; (iii) increasing extension service coverage by 100%; and (iii) establishing four integrated irrigation development schemes in each of the administrative regions by 2015. The chapter also assesses the progress made towards achieving the SADC-RISDP targets of: (i) increasing livestock production by at least 4% annually; (ii) increasing cereal yield to 2,000 kg per hectare; (iii) increasing fertilizer use rate to 65 kg per hectare of arable land; and (iv) increasing irrigated area to 7% of cropland. It also explores reasons for low agricultural productivity by examining the level of technology use and access to complementary services among smallholder farmers. Finally, it examines the productivity of land and labour in the Swazi agricultural sector.

5.2 The composition of agricultural GDP

The agricultural sector contributes about 7% to the total GDP in the Swazi economy. In Swaziland, fish production is in its infancy stage and, as such, primary agricultural sector GDP is based on output from crop, livestock and forestry subsectors. Figure 5.1 illustrates the trends in the contributions of the three subsectors to the total agricultural GDP over the period 2000–2011.

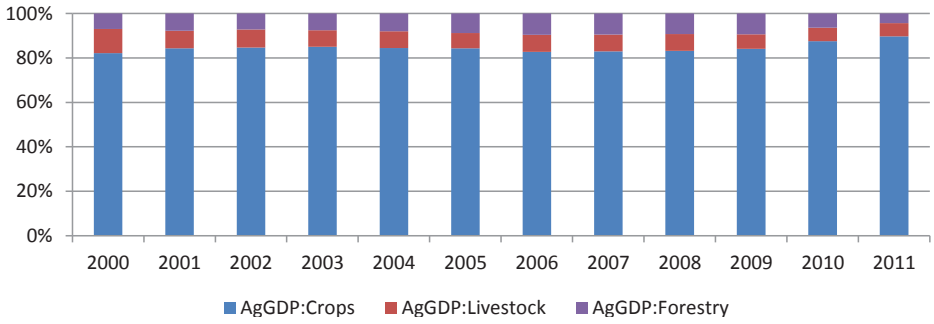

FIGURE 5.1 CONTRIBUTION OF EACH SUBSECTOR TO THE TOTAL AGRICULTURAL GDP, 2000–2011.
Source: Authors' calculation based on Central Statistics Office 2005, 2012.

The crop subsector was the dominant contributor to the total agricultural GDP (AgGDP), its contribution increased from 82% in 2000 to 90% in 2011. The contribution to the AgGDP by livestock ranged between 6% and 11% while the contribution by forestry ranged from 4% to 10%. Forestry has experienced a larger decrease of 6% between 2008 and 2011, compared to livestock whose share decreased by 2% during the same period. This decrease in the contribution of forestry to the AgGDP can be attributed to the forest fires that affected the industry in 2007 and 2008.

5.3 Progress towards achieving national agricultural objectives and targets

Assessment of the progress against national agricultural objectives and targets was done and the following targets were considered: (i) a 30% increase in agriculture contribution to the GDP by 2010 from 8.7% in 2005/6; (ii) increasing tractor hire service by 100%; (iii) increasing extension service coverage by 100%; and (iii) establishing four integrated irrigation development schemes in each of the administrative regions by 2015. The findings are presented below.

5.3.1 A 30% increase in agriculture contribution to the GDP by 2010

Figure 5.2 shows that the contribution of agriculture to the GDP decreased from 10% in 2000 to about 5.7% by 2010. The annual changes in the contribution of agriculture to the GDP ranged between a negative 16% to a positive 3%. Thus, it clearly indicates that Swaziland was unable to achieve the national target of increasing the contribution of agriculture to the GDP by 30% by 2010.

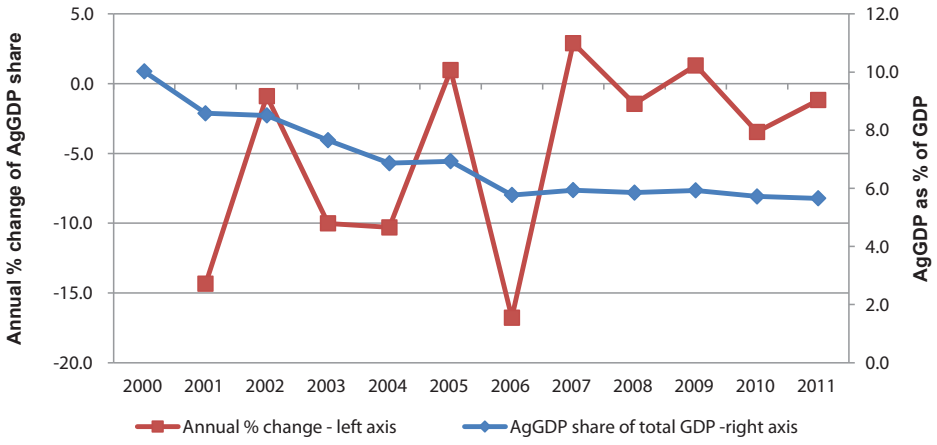

FIGURE 5.2 PROGRESS TOWARDS ACHIEVING A 30% INCREASE IN THE CONTRIBUTION OF AGRICULTURE TO THE GDP BETWEEN 2005 AND 2010.
Source: Authors' calculation based on Central Statistics Office 2005, 2012.

5.3.2 Increasing tractor hire service by 100% by 2010

The most common forms of draught power in Swaziland are oxen, donkeys and tractors. Most farmers prefer to prepare their fields using government tractor hire services. In 2008, there were 257 tractors but this reduced to 245 tractors in 2009 (see SVAC 2008 and 2009). The government tractors are not usually in good operational condition. This is chiefly due to maintenance problems that impede their effectiveness, particularly at critical times in the ploughing season. The decline in the tractor numbers implies that there has been a decrease in the availability of tractor hire services and, as such, Swaziland may not be able to achieve the target of increasing tractor–hire services by 100% by 2010. Delays in access to tractor services lead to delayed land preparation and late planting of crops, which adversely affects crop productivity later.

5.3.3 Increasing extension service coverage by 100% by 2010

The extension service provides a link for technology transfer between research and the farmers. The target of increasing extension service coverage by 100% by 2010 was assessed by examining the percentage of farmers with access to effective extension services, and their satisfaction with the extension services. However, data was only available for the year 2008 from the SVAC (2008) report. Table 5.1 shows the percentage of farming households who accessed and used extension services in the four regions by wealth groups in 2008.

TABLE 5.1 PERCENT OF HOUSEHOLDS BY WEALTH GROUP WHO ACCESSED AND USED AGRICULTURAL EXTENSION SERVICES IN 2008.

Item	Wealth group	Hhohho	Manzini	Shiselweni	Lubombo
% with access to agricultural extension	Better off	38.9	27.8	–	33.3
	Middle	19.4	22.6	29.6	29.0
	Poor	29.6	22.2	14.8	33.3
	Very poor	26.5	17.6	32.4	23.5
% who used agricultural extension services	Better off	33.3	33.3	–	33.3
	Middle	11.8	23.5	11.8	52.9
	Poor	29.2	16.7	16.7	27.5
	Very poor	31.8	22.7	13.6	31.8

Source: Compiled based on Swaziland Vulnerability Assessment Committee 2008.

The table above shows that access to extension services was higher (27.8 to 38.9%) among the better off wealth group in most regions relative to other wealth groups. Among the regions Hhohho Region had higher access to extension services compared to other regions. Among the groups with low access were the poor wealth group in Shiselweni (14.8%) and the very poor in Manzini. The percentage of households who used extension services was higher among the better off wealth groups (33.3%) in both Hhohho and Manzini, and among the middle wealth group in Lubombo with (52.9%). It is also noted that the very poor in the regions of Hhohho and Lubombo also exhibit higher usage levels of extension services relative to Manzini and Shiselweni regions.

Overall, the above shows that there was no single wealth group that had 100% access to extension services and that far below a third of households had used extension services in most wealth groups across the regions in Swaziland. This indicates that Swaziland is far from achieving the 100% extension coverage by 2010 in terms of access and use. This also implies that although extension receives a large portion of the budget (58%), delivery of extension services needed to be improved.

5.3.4 Establish four integrated irrigation development schemes per region by 2015

This target was assessed by examining the number of integrated irrigation schemes established in each region under SWADE. This target has not been achieved as there are only two integrated irrigation schemes so far established namely; the KDDP and the LUSIP. More effort and resources are needed if this target is to be achieved by 2015. In short, Swaziland should increase her funding to infrastructure and irrigation development.

5.4 Progress against CAADP 6% annual agricultural GDP growth target

The annual percent change in the AgGDP is used to assess the progress made by the agricultural sector in Swaziland towards achieving the CAADP 6% agricultural growth target as shown in Figure 5.3.

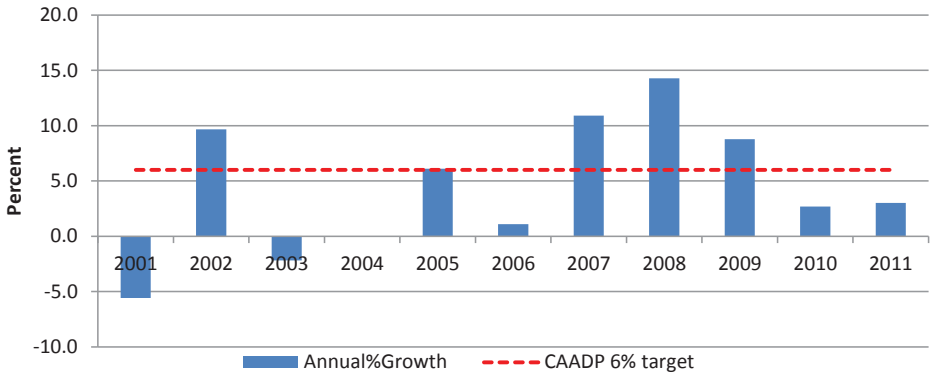

FIGURE 5.3 AGRICULTURAL OUTPUT GROWTH AND THE CAADP 6% GROWTH TARGET.
Source: Authors' calculation based on Central Statistics Office 2005, 2012.

Figure 5.3 shows that there was no consistent growth in the AgGDP over the study period, and that it fluctuated from year to year. The average annual AgGDP growth rate over the period 2001 to 2011 was 4.4%. Although most years (8 out of 10) recorded positive changes in the AgGDP, the CAADP 6% growth target was achieved only in 5 years, (i.e., 2002, 2005, 2007, 2008 and 2009) over the period 2001–2011. Negative changes were recorded in 2001 and 2003. The highest positive change was in 2008 (14.3%). Thereafter, the AgGDP growth has been declining. The erratic changes in the AgGDP growth suggest that the sector was adversely affected by various shocks such as droughts and forest fires. The declining of the AgGDP growth since 2008 suggests that urgent measures are needed to stimulate positive growth in the sector, which is required to improve food security and to attain poverty reduction goals of (MDG1).

5.5 Progress against agricultural RISDP targets

The progress made towards achieving the SADC-RISDP targets was examined focusing on the agricultural targets listed below:

(i) increasing cereal yield to 2,000 kg per hectare;

(ii) increasing fertilizer use rate to 65 kg per hectare of arable land;

(iii) increasing irrigated area to 7% of cropland; and

(iv) increasing livestock production by at least 4% annually.

5.5.1 Maize yield and progress against RISDP cereal yield target 2,000 kg/ha

Given that maize is the major food crop in Swaziland, production and productivity performance of this crop at national and regional levels was examined. In addition, the progress against the RISDP cereal yield target of 2,000 kg/ha was assessed.

Table 5.2 presents trends in national maize production, planted area and yield over the period 2000–2011. It is evident that maize planted area fluctuated between 47,000 ha and 70,000 ha and, similarly, the annual maize productions varied between 46,600 tonnes and 112,779 tonnes. The maize yield ranged from 983 kg/ha to 1,646 kg/ha and the annual average yield was about 1,246 kg/ha. In general, maize planted area, maize yield and total maize production during 2000–2011 decreased at average annual rates of 0.92%, 1.25% and 2.16%, respectively. It is noted, that production, however, started picking up since 2007, but the same cannot be said about the yield, implying that any increase in production was due to area expansion rather than productivity improvement.

TABLE 5.2 AVERAGE MAIZE PRODUCTION, HARVESTED AREA AND YIELD IN SWAZILAND, 2000–2011.

Year	Area (ha)	Production (Mt)	Yield (kg/ha)	Increment required to meet RISDP cereal yield 2,000 kg/ha target
2000	68,533	112,779	1,646	354
2001	57,900	82,536	1,425	575
2002	67,900	67,940	1,001	999
2003	67,682	69,725	1,030	970
2004	54,470	77,540	1,424	576
2005	56,400	68,565	1,216	784
2006	47,000	65,836	1,401	599
2007	47,409	46,604	983	1,017
2008	60,355	61,994	1,027	973
2009	52,400	70,672	1,349	651
2010	58,335	75,068	1,287	713
2011	70,344	82,057	1,167	833
Growth(%/year)	–0.92	–2.16	–1.25	–

Source: Computed based on FAOSTAT 2012.

This analysis shows that in the case of maize, Swaziland was unable to achieve the RISDP cereal yield target of 2,000 kg/ha (see also Figure 5.4). The average maize yield of 1,246 needs to be improved by as much as 754 kg/ha to reach the RISDP target of 2,000 kg/ha. The reduction in maize production has been attributed to a combination of factors including limited input access, irregular rains, unfavorable maize prices and changes in land use (SVAC 2012; Ndlela and Mkhabela 2008).

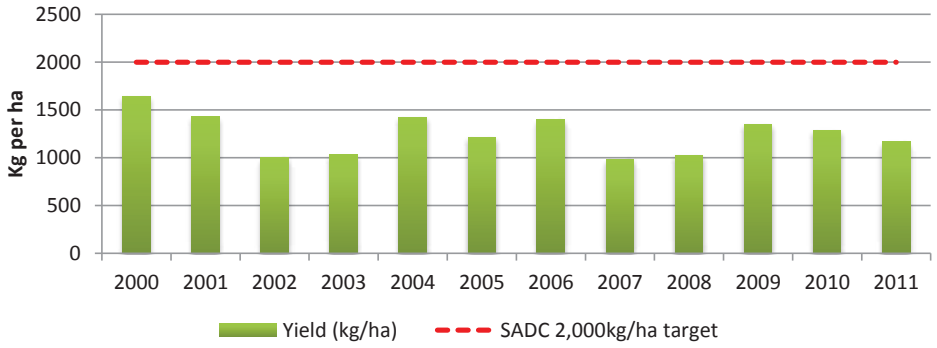

FIGURE 5.4 AVERAGE MAIZE YIELD AND THE SADC-RISDP CEREAL YIELD TARGET OF 2,000 KG/HA.
Source: Computed based on FAOSTAT 2012.

5.5.2 Maize production and productivity in Swaziland by agro–ecological zone

Data on maize planted area by agro–ecological zone presented in Table 5.3 indicates that over the period 2003–2008, the largest maize planted area was in the Middleveld, followed by Highveld in second place, Lowveld in third place and Lubombo in fourth place. On average 38.8% of total maize planted area was in the Middleveld, in Highveld it was 29.9%; in Lowveld it was 25.4%; and in Lubombo it was 5.9%. During this period there was a negative growth of 4.2% per year in maize planted area in the Middleveld, and about 1% per year growth occurred in the Highveld, the second largest maize producing region (see Table 5.3).

TABLE 5.3 MAIZE PLANTED AREA (HA) BY AEZ 2003/04 to 2007/08.

Region	2003/04	2004/05	2005/06	2006/07	2007/08	Growth (%/year)
Highveld	17,236	15,340	13,713	14,682	18,349	0.8
Middleveld	23,642	21,840	19,114	16,645	21,824	–4.2
Lowveld	11,064	15,730	11,320	13,331	15,863	5.7
Lubombo	2,528	3,355	2,826	2,751	4,319	9.1
TOTAL	54,470	56,265	46,973	47,409	60,355	0.3

Source: Swaziland Vulnerability Assessment Committee 2008.

Annual total maize production data in metric tonnes by agro–ecological region presented in Table 5.4 shows that the Middleveld is the largest producer followed by Highveld, then Lowveld and lastly Lubombo. In the two major maize producing regions of Middleveld and Highveld, maize production experienced a negative average annual growth of –11.8% and –10.5%, respectively. The Lowveld was the only region that had a positive annual growth of 3.2% during the period 2003–2008. Overall, Swaziland experienced a negative growth in maize production of about –9% per year over this period, driven mostly by the negative growth in the Middleveld and Highveld regions.

TABLE 5.4 MAIZE PRODUCTION (MT) BY AEZ 2003/04 TO 2007/08.

Region	2003/04	2004/05	2005/06	2006/07	2007/08	Growth (%/year)
Highveld	34,010	25,027	27,058	16,243	24,180	–10.5
Middleveld	37,600	27,154	28,628	19,697	23,598	–11.8
Lowveld	6,903	12,173	7,228	7,738	10,129	3.2
Lubombo	3,587	4,211	2,921	2,921	4,087	–1.0
TOTAL	82,100	68,565	65,835	46,599	61,994	–9.0

Source: Swaziland Vulnerability Assessment Committee 2008.

Maize productivity in terms of average yields (kg/ha) varied across the agro–ecological regions during the period 2003–2008 as shown in Table 5.5. The highest average yield was 1,600 kg/ha that occurred in the Highveld, followed by 1,319 kg/ha in the Middleveld, then 1,143 kg/ha in Lubombo and the lowest was 651 kg/ha in Lowveld. Across all the four regions, yields exhibited downward linear trends, with average annual negative growth rates of –11,3% in Highveld and –7.9% in Middleveld, and –9.4% at the national level.

TABLE 5.5 MAIZE YIELD (KG/HA) BY AEZ 2003/04 TO 2007/08.

Region	2003/04	2004/05	2005/06	2006/07	2007/08	Growth (%/year)	Average yield (Kg/ha)
Highveld	1,973	1,631	1,973	1,106	1,318	–11.3	1,600
Middleveld	1,590	1,243	1,498	1,183	1,081	–7.9	1,319
Lowveld	0,624	0,774	0,639	0,580	0,639	–2.4	651
Lubombo	1,419	1,255	1,034	1,062	0,946	–9.3	1,143
Swaziland	1,507	1,219	1,402	0,983	1,027	–9.4	1,227

Source: Swaziland Vulnerability Assessment Committee 2008.

The regional yield differences reflect the differences in the climatic conditions for maize production. Maize yield was highest in the Highveld, which is considered the high rainfall zone, followed by Middleveld and lowest in the Lowveld zone, which is characterized by semi–arid climate.

5.5.3 Fertilizer usage in Swaziland and the SADC-RISDP 65 kg/ha target

Figure 5.5 shows the trends in fertilizer use for Swaziland and the progress the country has made towards achieving the SADC-RISDP target of increasing fertilizer application to 65 kg per ha of arable land. It is shown that the average fertilizer use has increased substantially in recent times (2007–2011) and far surpasses the SADC-RISDP target.

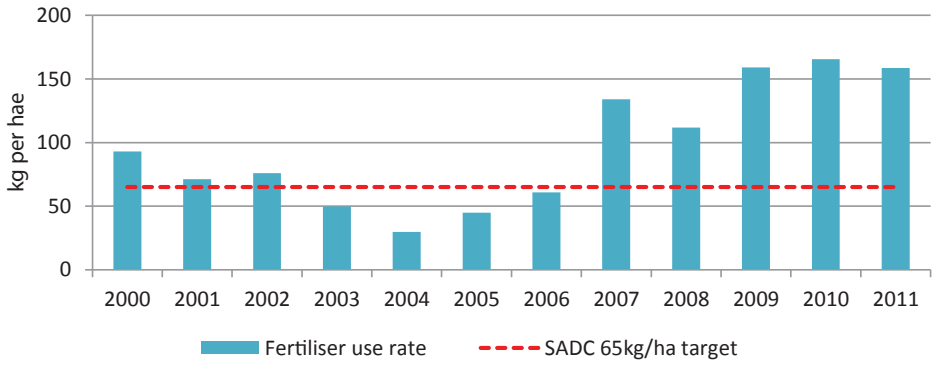

FIGURE 5.5 AVERAGE FERTILIZER APPLICATION IN SWAZILAND (KG/HA), 2000–2011.
Source: Computed based on FAOSTAT 2012.

Although fertilizer usage in Swaziland has improved vastly, this has not been translated into maize yield improvement, which suggests that fertilizer use is not fairly distributed across major crops and farmer types. It is known that most of the fertilizer was used mainly by the large-scale farmers under TDL and some smallholder irrigation farmers, in particular, in the production of sugarcane, which is the dominant agricultural crop of Swaziland. According to Dlamini and Masuku (2013), smallholder sugarcane growers in the Farmers' Association of the Komati Downstream Development Program (KDDP used an average of 456 kg/ha basal fertilizer and 225 kg/ha of urea. They also noted that SNL farmers fail to meet the recommended basal and top dressing fertilizer rates due to the constraints of operational loans (credit). This suggests that farmers should be assisted with access to finance to encourage fertilizer usage.

5.5.4 Progress against the RISDP target for irrigated area in Swaziland

The irrigation potential in Swaziland is estimated at 90,000 ha (Lukhele 2007), but the actual irrigated area as of 2011 was 61,314ha (see Table 5.6). Irrigated area in Swaziland is dominated by commercial sugarcane production, which takes up about 54,000 ha or about 90% of irrigated area; and citrus irrigation takes up about 2,500 ha. In addition to the large–scale operators, the Government of Swaziland through SWADE and other projects has encouraged smallholder participation in irrigation schemes on SNL. These include: the Lower Usuthu Smallholder Irrigation Project (LUSIP), which is expected to bring 11,000 ha under irrigation; and the Komati Downstream Development Project (KDDP), which has already developed 4,500 ha but has irrigation potential for 6,000 ha.

Regarding the progress towards achieving the SADC-RISDP target of increasing irrigated area from 3.5% to 7% of cropland, Table 5.6 shows that the share of irrigated area in cropland increased enormously from 19% in 2000 to 31% in 2001 and it has been in the range of 32% to 35% from 2002 to 2011. Thus, it is clear that Swaziland has exceeded the SADC-RISDP target for irrigated area throughout the study period.

TABLE 5.6 TOTAL IRRIGATED AREAS AS A PERCENTAGE OF TOTAL CULTIVATED AREA IN SWAZILAND 2000–2011.

Year	Total irrigated area (ha)	Total cultivated area	Irrigated area as % of cultivated area
2000	34,483	178,205	19.3
2001	55,981	178,205	31.4
2002	57,772	178,205	32.4
2003	59,397	178,917	33.2
2004	60,397	179,117	33.7
2005	61,661	179,182	34.4
2006	61,698	179,314	34.4
2007	61,720	179,304	34.4
2008	61,557	179,330	34.3
2009	62,311	179,287	34.8
2010	62,861	178,917	35.1
2011	61,314	179,117	34.2

Source: Computed based on FAOSTAT 2012.

5.5.5 Livestock production and growth performance

Livestock production in Swaziland is dominated by cattle, followed by goats and poultry. In terms of stocks in 2010/11, there were 611,790 cattle, 439,032 goats, 16,290 sheep, and 41,000 pigs. According to the Southern Africa Poultry Association, the broiler industry in 2011 supplied an average of 210,000 birds per week for slaughter and live sales or an equivalent of 11 million birds per year. However, data from the Ministry of Agriculture indicates that there were 19 million broiler birds produced in 2010, of which 20% came from smallholder farmers and the rest from large-scale producers.

Livestock production is spread throughout the country and across the four agro–ecological zones. The distribution of species varies between zones (see Table 5.7).

TABLE 5.7 LIVESTOCK DISTRIBUTION BY AGRO-ECOLOGICAL ZONES.

Agro–ecological zone	Cattle	Sheep	Goats	Pigs	Poultry
Highveld	22	44	21	22	31
Middleveld	36	35	36	42	41
Lowveld	37	14	37	32	23
Lubombo	5	7	6	4	5
Total	100	100	100	100	100

Source: Extracted from World Bank 2011.

Livestock holding takes place within three broad categories of farms: (i) communally held SNL; (ii) privately held on TDL; and (iii) publicly held on government ranches. The 2003 Census showed that the distribution of animals across the three categories varied by species. The SNL farmers owned 86.6% of total cattle, 95.6% of total sheep and goats, 78% of total pigs and 90% of total poultry in the country. The TDL farmers had 12% of total cattle, 3.8% of sheep and goat, 22% of pigs and 9% of total poultry. In general, for all species the productivity was higher on TDL farms than on SNL. The reason for this is, in the TDL farms there is better animal husbandry and improved disease control. The livestock carrying capacity differs by agro–ecological zone. The Middleveld has the lowest stocking rate, which is averaging at 1.9 ha/LU, preceded by the Highveld with 2.93 ha/LU; the Lowveld comes next at 4.1ha/LU and the Lubombo plateau is on top of them all at 4.5 ha/LU (World Bank 2011). Trends in annual growth rates for cattle, goats, sheep and chickens are presented below in Figure 5.6.

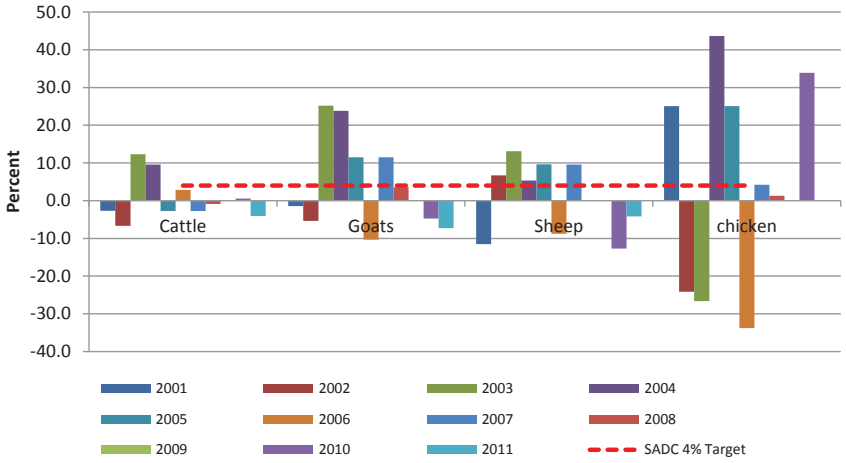

FIGURE 5.6 ANNUAL GROWTH RATES IN STOCKS OF CATTLE, GOATS, SHEEP AND CHICKEN IN SWAZILAND, 2000–2011.
Source: Authors' calculation based on Swaziland Directorate of Veterinary and Livestock Services (DVLS) 2012.

Figure 5.6 shows that during 2000–2011, the annual growth rates in the stocks of livestock were unstable, with gains in 1-2 years being offset by negative growth in the following 1-2 years. Overall, the average annual growth rates recorded were 0.5% for cattle production, 4.2% for goat production, 0.7% for sheep production and 4.9% for chicken production. The largest negative changes (–25 to –35%) occurred in chicken production around 2002, 2003 and 2006, and these may be attributed to outbreaks of diseases like Newcastle and bird flu. Regarding progress towards attaining the SADC-RISDP 4% annual growth target for livestock production, during 2000–2011, this target was achieved in cattle production twice (2003 and 2004), in goat production five times (2003, 2004, 2005, 2007 and 2008), and in sheep production five times (2002, 2003, 2004, 2005 and 2007), and in chicken production five times (2001, 2004, 2005, 2007 and 2010).

Despite achieving the 4% growth target in some years, the instability in growth rates and frequent negative changes seen for cattle, goats, sheep and chicken in the study period is of some concern. The poor performance is a reflection of the underlying productivity constraints affecting the livestock subsector in Swaziland. The major reasons for the poor performance of the subsector are: the high cost of feeds; worsening rangelands owing to overstocking; poor range management; and overgrazing (Central Bank of Swaziland 2010).

5.6 Adoption of vaccinations and dipping of livestock

Outbreaks of livestock diseases and pests can have detrimental effects on livestock growth and productivity. As such, disease control and prevention is important for the livestock industry. In Swaziland, the efforts by DVLS, in particular, the mandatory dipping of all ruminants every two weeks, and provision of free vaccinations whenever an outbreak is declared, has led to reduced incidences of disease outbreaks and the elimination of some diseases, e.g., East Coast Fever, Trypanosomiasis and Foot and Mouth Disease (FMD). Figure 5.7 shows the percentage of cattle and small ruminants that were dipped and percentage of cattle vaccinated against Black Quarter, Botulism, and Anthrax and Lumpy skin over the period 2000–2011.

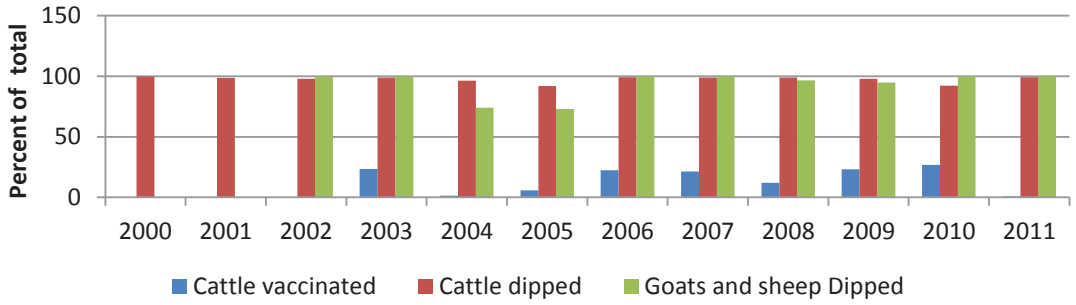

FIGURE 5.7 CATTLE AND SMALL RUMINANTS VACCINATED AND DIPPED AS A PERCENTAGE OF TOTAL STOCKS, 2000–2011.
Source: Authors' calculation based on Directorate of Veterinary and Livestock Services (DVLS) 2012.

Over the period 2000 and 2011, it is estimated that 92% to 100% of cattle were dipped and 72% to 100% of small ruminants were dipped per annum. The percentage of total cattle that was vaccinated ranged between a minimum of 1.2% recorded in 2004 and a maximum of 26.8% recorded in 2010. The fluctuations of cattle vaccinated reflect the erratic pattern of disease outbreaks prompting provision of vaccines to the affected livestock. The low percentages of cattle vaccinated could be indicating the low incidence of disease outbreaks requiring prevention through vaccinations. This implies that the expenditures incurred by DVLS on improving the health of livestock in the country are likely to lead to productivity improvement in livestock. Hence, such efforts should be upheld.

5.7 Food production and food security

To assess food production and food security status, this study analyzed trends in per capita output for main staple foods (maize, potato and sweet potato) in Swaziland over the period 2000–2010 (see Figure 5.8). In the period 2000–2010, maize per capita output decreased by about 40% from 111 kg per capita in 2000 to about 70 kg per capita in 2010. The per capita output for other food crops namely, potato and sweet potatoes remained around 6 kg and 2 kg, respectively. The chart shows a declining trend for main food staples per capita.

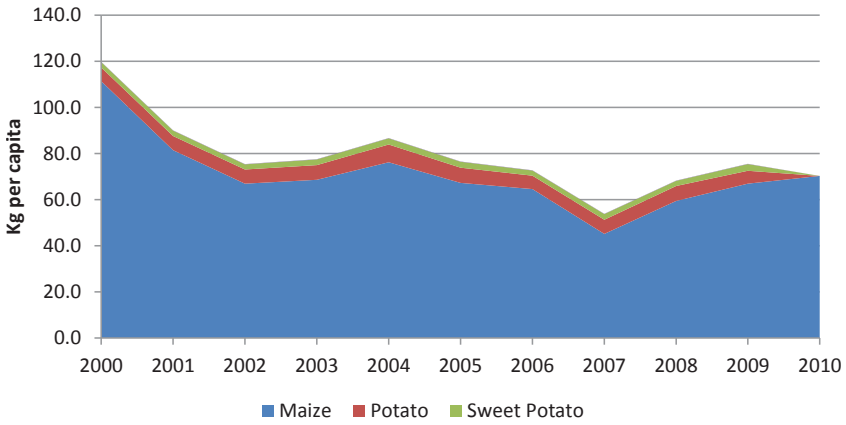

FIGURE 5.8 TRENDS IN PER CAPITA PRODUCTION OF MAIN STAPLE FOODS, SWAZILAND, 2000–2010.
Source: Authors' calculation based on FAOSTAT 2012.

In Swaziland, the national food security is mainly defined in terms of people's access to the main staple food – maize. The annual per capita consumption for maize in Swaziland was estimated to be about 90 kg (FAO 2008). A comparison of trends in maize per capita output to the 90 kg per capita consumption level indicates that Swaziland has been unable to meets its maize consumption from domestic production. The declining trend in maize per capita output suggests that the national maize deficit has been rising over time and imports of maize and other food crops, especially rice are required to bridge this gap. In other words Swaziland has been facing a big challenge in meeting its food security and poverty reduction objectives.

5.8 Per capita meat production

Performance of livestock production was also assessed in terms of meat production focusing on per capita production of beef, pork and chicken meat as shown in Figure 5.9 below. The trends revealed that per capita meat production was stagnant for pork at around 0.5 kg, and it decreased for beef from 14 kg in 2000 to 8 kg in 2008. An upward trend was observed for per capita chicken meat production, which increased from 6 kg in 2001 to 25 kg in 2008.

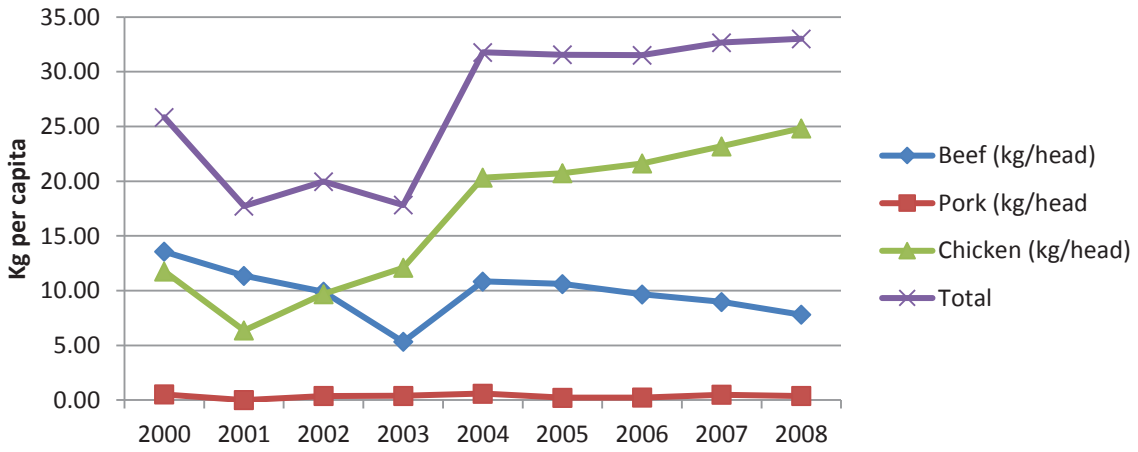

FIGURE 5.9 PER CAPITA MEAT PRODUCTION IN SWAZILAND, 2000–2008.
Source: Authors' calculation based on FAOSTAT 2012.

Since 2003, chicken took over from beef as a dominant contributor to total per capita meat output in Swaziland. This suggests that there has been a significant increase in chicken production, which is possibly due to increased investment in this commodity compared to beef that, faced a declining per capita output.

5.9 Forestry production performance in Swaziland

Forestry is an important subsector in the economy of Swaziland, which employs 8,000 people or 17% of the formal labor force. In addition, forestry production and allied processing industries contributed about 20% to the GDP and about 15% to the total annual export earnings (Swazibusiness 2013).

Forestry provides raw materials for many value–added wood–based exportable products. These products include unbleached Kraft–pulp; sawn timber; wooden furniture; shelving units, doors, pallets, coffins, poles for transmission lines and mining and construction timber. The major destination for forestry products of Swaziland is South Africa.

In 1990, Swaziland's total forest area covered 624,000 ha or 36% of the country's land area (FAO 2010). The forest area comprised of 464,000 ha of indigenous forest and 160,000 ha of planted forest (pine and eucalyptus). The planted forests are among the world's largest planted forests.

Commercial forests are owned by five major companies including: South African Pulp and Paper Industries (SAPPI) with 65,000 ha; Mondi Forest Company with 26,000 ha; and Shiselweni Forest Company with 11,000 ha of planted forest. The other companies are Peak Timbers and Swaziland Plantations. In addition to pine, wattle is also grown commercially.

The planted commercial forest production operations are located in the Highveld ecologies. The Usutu Forest, which is under pine, is one of the largest man–made forests in the world, covering 66,000 hectares. Table 5.8 shows planted area for wattle and plantation trees between 2000 and 2010.

TABLE 5.8 ESTIMATES OF PLANTED FOREST AREA BY TYPE OF TREES IN SWAZILAND DURING 2000, 2005 AND 2010.

Year	Planted forest area (hectares)		
	Wattle	Plantation (Pine and Eucalyptus)	Total
2000	22,217	121,214	150,431
2005	31,106	114,304	145,410
2010	32,995	107,394	140,389
Total % change (2000-10)	48.51	-11.40	-6.68
Annual % change (2000-10)	4.85	-1.14	-0.67

Source: Authors' calculation based on FAO 2010.

There was an annual marginal decline in total planted forest area of -0.67 percent, which could be attributed mainly to the changes in planted area for pine and eucalyptus. The trends for annual forestry industrial output for some products, between 2000 and 2010, are illustrated in Figure 5.10 below.

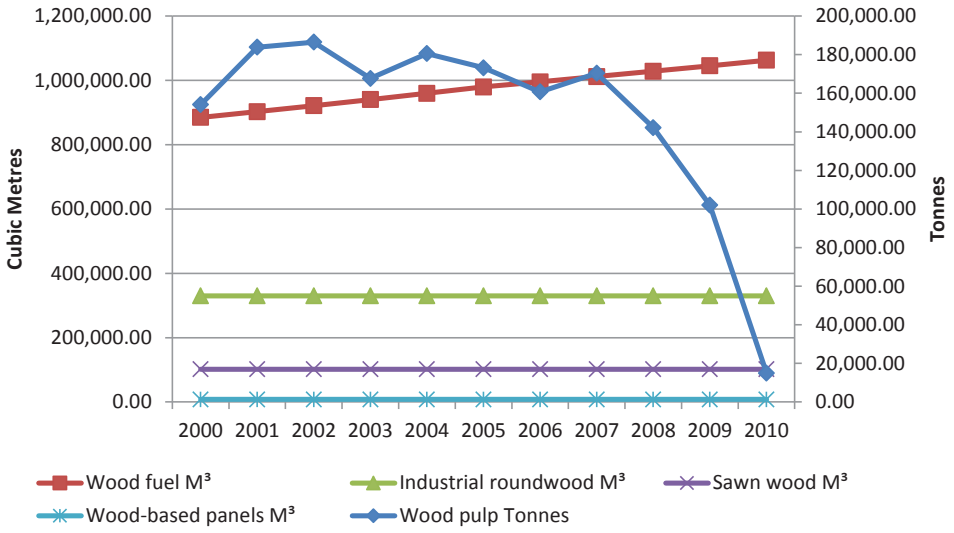

FIGURE 5.10 SWAZILAND'S ANNUAL FOREST INDUSTRIAL OUTPUT, 2000-2010.
Source: Authors' calculation based on FAO 2013.

Forest production has varied little in the period 2000 to 2010, except for wood fuel and wood pulp. The annual average production was 102,000 m3 for sawn wood, 330,000 m3 for round wood, and 8,000 m3 for wood-based panels. Over the same period, wood fuel production and consumption increased at an average annual rate of 1.82%. Between 2001 and 2007, pulp wood production fluctuated from150, 000 tonnes to 184,000, but after 2007 it sharply decreased due to the devastating effect of the forest fires of 2007 and 2008. In 2007, fires destroyed up to 80% of Peak Timbers' forests in the northern wood/pulp areas of Swaziland and 7.5% of SAPPI Usutu's pine trees. In 2008, more fires occurred and destroyed an additional 25,000 ha of SAPPI's pine trees. These fires resulted in the destruction of more than 40% of SAPPI forests, forcing the company to close its wood pulp processing operations in the country. The destruction was estimated at a loss of SZL240 million. Overall, the contribution of commercial forest subsector to the Swazi economy declined, and the situation is likely to remain unchanged for a long time given the long production cycles of forests (Central Bank of Swaziland 2005, 2009).

5.10 Productivity of labor and land in Swaziland's agricultural sector

The two partial productivity indicators of agricultural productivity used here are: land productivity (expressed as agricultural value added in dollars per hectare); and labor productivity (expressed as agricultural value added in dollars per agricultural worker). The trends for these two indicators of agricultural productivity are presented below in Table 5.9 in terms of constant international dollars (2004–2006). Overall, land productivity and labor productivity exhibited some upward trends over the period 2000–2010. Both increased marginally, with labor productivity growing annually at an average rate of 2.32% and land productivity at the rate of 1.60%. The trends show productivity sliding in 2001, and 2006–2007, which may be attributed to drought conditions in those years.

TABLE 5.9 AGRICULTURAL LAND PRODUCTIVITY AND LABOR PRODUCTIVITY IN SWAZILAND, 2000–2010.

Year	Labor productivity (US$/agricultural worker)	Land productivity (US$/ha)
2000	1,686	204
2001	1,653	199
2002	1,834	219
2003	1,850	218
2004	1,918	223
2005	2,052	236
2006	2,030	231
2007	1,980	225
2008	2,035	231
2009	2,061	233
2010	2,118	–
Average	1,929	222
Average growth 2000–10	2.32	1.60

Source: Authors' calculation based on World Bank 2011 and FAO 2012.

The average labor productivity of US$1,929 per agricultural worker in Swaziland was moderate compared to that of its neighbors –South Africa with US$8,697 per agricultural worker. The average land productivity of US$222 per hectare for Swaziland fell below the average of US$2,461 for Mauritius and even US$433 for Malawi in the SADC Region (Chilonda et al. 2014). Thus, the prevailing land and labor productivities may be inadequate to bring about attainment of food security and poverty reduction goals. These findings imply that Swaziland has the unexploited potential to increase its productivity to that of South Africa or Mauritius. To do that, increased public investment will be required in productivity-enhancing technologies in the agricultural sector.

5.11 Summary of findings on agricultural growth and productivity

Analysis found that Swaziland was unable to achieve its national and agricultural objectives and targets. The annual changes in the contribution of agriculture to the GDP ranged from –16% to 3%, which is below the 30% target. Extension coverage in form of access was below 33% for most wealth groups and is far less than the 100% target. The government tractor services experienced a decline in the number of tractors, indicating that the 100% coverage was unattainable. Regarding, the establishment of four the integrated irrigation schemes per region, only two schemes (LUSIP and KDDP) were set in place in the whole of the country.

The average AGDP growth during 2000–2011 was 4.4% per year. The country had achieved the CAADP 6% annual agricultural growth target only during 2007 to 2009, the rest of the years it was unable to achieve this target.

The country had done well on two RISDP targets for irrigation and fertilizer. Swaziland had surpassed the 7% target for irrigated area in cropland. It had 32–35% of cropland under irrigation between 2002 and 2011. The fertilizer use rate target of 65 kg/ha has been surpassed since 2007. However, despite this improvement in fertilizer use it had not been translated into productivity improvement in the key crop of maize, implying that fertilizer use may be biased towards certain crops like sugarcane at the expense of maize.

During 2000–2011, maize yield was about 1,146 kg/ha and remained below the RISDP cereal yield 2,000 kg/ha target throughout the study period. The average maize yield by agro–ecological zone also failed to reach the RISDP cereal yield target. However, average maize yield during 2003–2008 period for which data was available indicated that it was highest in the Highveld (1,600 kg/ha), followed by Middleveld (1,319 kg/ha) and Lubombo (1,143 kg/ha) and lowest in the Lowveld (651 kg/ha).

The RISDP 4% livestock annual growth target was attained only in a few years during the period 2000-2011 for cattle and goat, but sheep and chicken achieved the target five times during the same period. In most years the growth rates fluctuated widely. This suggested that the livestock subsector was experiencing productivity constraints.

It was also noted that the forest production was adversely affected by forest fires in 2007 and 2008 and, since then its contribution to the GDP has declined steeply and also has caused job losses.

An assessment of the food security situation, in terms of per capita staple food production, indicated a declining trend from 120 kg/head in 2000 to 75 kg/head in 2011. This implies that Swaziland has challenges to meet regarding its food security, in terms of average per capita staple food consumption estimated at of 90 kg/head by the FAO, without imports. Regarding per capita meat production, the average has been around 32 kg/head, since 2004. Chicken share in per capita meat production has increased from 12 kg/head in 2003 to 25 kg/head in 2011, whereas beef has decreased from 10 kg/head in 2004 to 7 kg/head in 2011. This indicates that a considerable investment has been made in chicken production compared to beef or pork.

Chapter 6

Agricultural Trade Performance

6.1 Introduction

This chapter discusses the performance of agricultural trade in Swaziland over the period 2000–2011. It gives an overview of the importance of agricultural trade in the context of the Swazi economy. It examines trends in agricultural exports and agricultural imports and their shares in total trade. It also analyses trends in agricultural trade balance for selected major agricultural food crops and livestock (meat), and regional sources of exports; and draws implications of agricultural trade performance for food security and poverty reduction in Swaziland. The chapter also briefly examines trends in food prices and how they relate to international prices and trade, and their implications on import substitution and export promotion.

Swaziland has an open trade policy, which is geared towards increasing trade competitiveness through enhancing value addition, export diversification and market access as outlined in its National Export Strategy. The trade pattern and performance of Swaziland, to a large extent, is region–centered. This is because of its close proximity to South Africa and the country's membership to SACU (Southern African Customs Union), Southern African Development Community (SADC) and the Common Market for Eastern and Southern Africa (COMESA). The country trades with South Africa, EU, USA and SADC countries.

6.2 Contribution of agricultural trade to the Swazi economy

The total merchandize exports of Swaziland in constant 2005 values increased nearly threefold from SZL4, 059 million in 2000 to SZL12, 498 million in 2010. On the other hand, total merchandise imports into Swaziland more than doubled in value from SZL5, 972 million in 2000 to SZL13, 863 million in 2010. Figure 6.1 shows that the value of total merchandise exports exceeded total merchandise imports only in four years (2003, 2006, 2007 and 2009) over the last decade, suggesting that the Swazi economy has been running a negative trade balance in most years over the last decade.

The total value of agricultural exports exceeded the value of agricultural imports in most years during 2000–2010, except in 2002 and 2005, suggesting that the agricultural exports were more than enough to cover the agricultural import bill over the last decade.

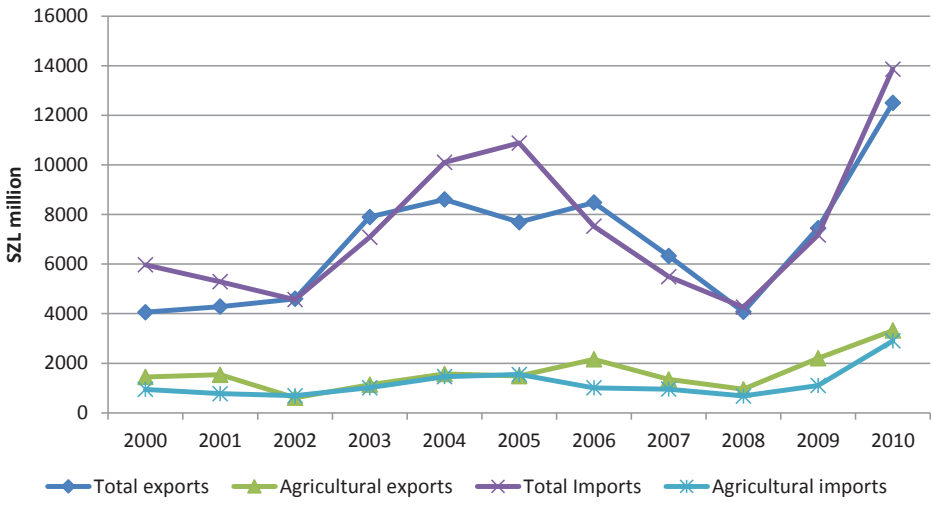

FIGURE 6.1 REAL VALUE OF AGRICULTURAL IMPORTS AND AGRICULTURAL EXPORTS VERSUS TOTAL MERCHANDIZE EXPORTS AND IMPORTS OF SWAZILAND, 2000–2010.
Source: Authors' calculation based on Swaziland Revenue Authority 2012.

Figure 6.2 below shows the trends in the percentage share of agricultural exports in total exports, and the percentage share of agricultural imports in total imports. The share of agricultural exports in total export earnings dropped drastically from 35% in 2000–2001 to 13% in 2002, but thereafter, it increased reaching 30% in 2009. These figures suggest that agriculture is relatively a major contributor to exports. On the import side, the share of agricultural imports in total merchandize imports was relatively stable, ranging between 13.3% and 17.4 % during 2000–2009 before rising to 20.9% in 2010. As is the case with export side, agriculture is a major player with regards to imports in relation to the Swazi economy.

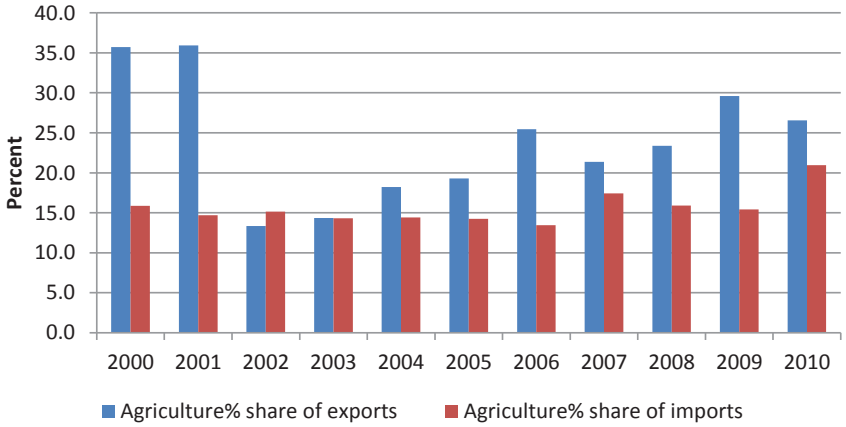

FIGURE 6.2 TRENDS IN THE SHARES OF AGRICULTURAL EXPORTS AND AGRICULTURAL IMPORTS IN SWAZILAND, 2000–2010.
Source: Authors' calculation based on Swaziland Revenue Authority 2012.

6.3 Composition of agricultural exports

Over the period 2000–2010, the agricultural exports were dominated by two groups of commodities namely; sugar and related products with an average share of 47.6%, followed by wood and related forest products with a share of 28.5%. The minor agricultural exports included vegetables and cereal preparations (7.0%), live animals and meat (2.2%), fruits and cereal preparations (1.8%) and others (9.4%). In Figure 6.3, sugar showed an upward trend, increasing its share from 26.1% in 2001 to 71% in 2010, although it experienced some drop in the shares in the years 2001 and 2007. The export share of forest products, increased from 25% in 2000 to 39% in 2003, followed by a decrease of 10 percentage points to 30% in 2007, and then a further decrease of 20 percentage points down to a share of 12% in 2010. The steep decline in the share of wood exports since 2007 is related to the destruction of forests in Swaziland by forest fires. The group of miscellaneous and other agricultural commodities had a large share of 30–36% during 2000–2001, and thereafter has been between 2% and 7%. The export shares for vegetables, cotton and related products, fruits and feed and fodder products have remained relatively stable over the period. The livestock products showed a small rise from 2.8% in 2000 to 4.0% in 2003, but decreased to 1.6% by 2010. Thus, the aforementioned indicates that the key exports contributing to earnings of agricultural producers in Swaziland are mainly, sugar and forest products and to a lesser extent vegetables.

6.4 Composition of agricultural imports

In the period 2000–2011, the composition of agricultural imports for Swaziland remained relatively stable. The three dominant agricultural imports were cereals with an average share of 19.9%, followed by forest products (mainly paper) with a share of 18.6% and livestock and meat products with 16.5%. Other agricultural imported commodities included vegetables (8.9%), cotton and related products (6.6%), feeds and fodder (6.5%), fats and oils (4.4%), fish and crustaceans (3.6%), fruits (2.5%) and others (6.7%). Figure 6.4 shows that the shares for imports of wood products decreased from 21% to 14.6% between 2000 and 2010. The shares for livestock and meat imports decreased from 18.9% to 10.6% during 2000–2007 and was followed by an upward trend and reached the largest share of 35% in 2010. The shares for cereal imports increased initially from 15.8% in 2000 to 30% in 2007, but later dropped to 15.9% in 2010. Overall, the trends indicate that the largest share for cereal imports was in 2007, the year in which Swaziland experienced its worst drought of the decade.

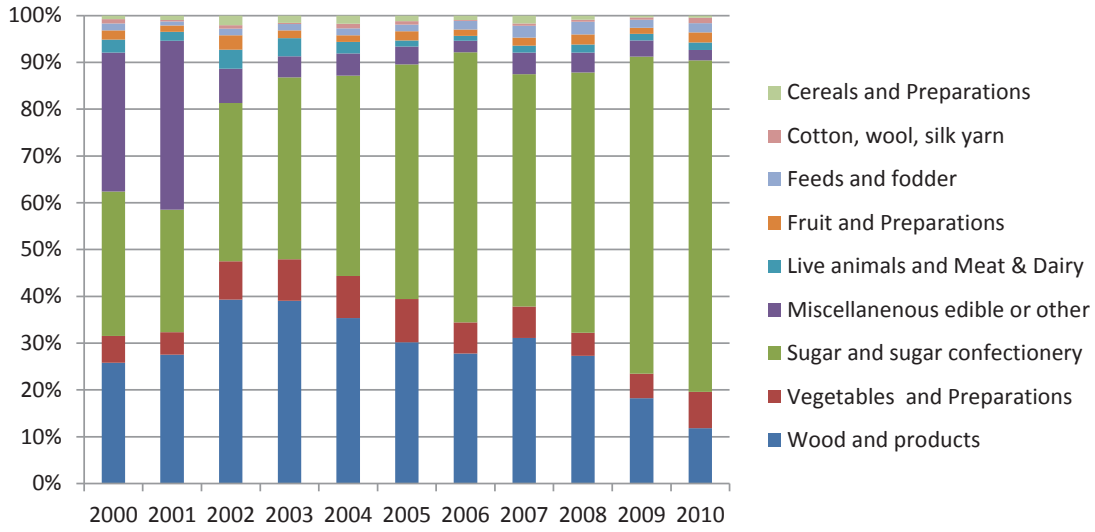

FIGURE 6.3 SHARES OF AGRICULTURAL COMMODITIES IN TOTAL AGRICULTURAL EXPORTS FOR SWAZILAND, 2000–2010.
Source: Authors' calculation based on Swaziland Revenue Authority 2012.

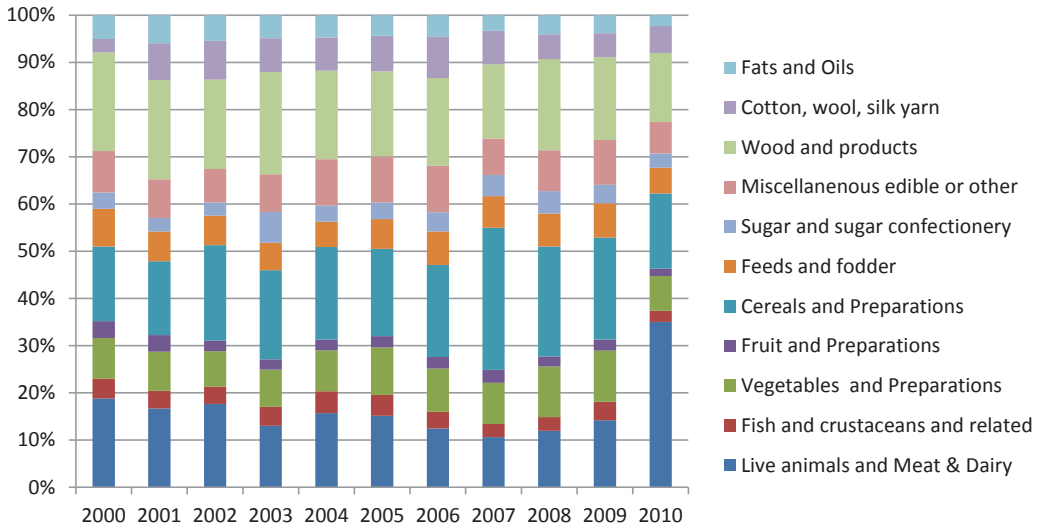

FIGURE 6.4 SHARES OF AGRICULTURAL COMMODITIES IN TOTAL AGRICULTURAL IMPORTS FOR SWAZILAND, 2000–2010.
Source: Authors' calculation based on Swaziland Revenue Authority 2012.

6.5 Trends in agricultural exports of sugar, fruit and vegetables and cotton

The major agricultural exports from the crop subsector include sugar and sugar products, fruit and vegetables, with cereals and cotton as minor exports. Table 6.1 below shows the trends in the real value of agricultural exports of sugar, fruit and vegetables, cotton and allied products during 2000–2010. Sugar and related products are the dominant export crops from Swaziland. Sugar exports with an average growth rate of 15.4% per year have a higher growth rate compared to fruits and vegetables, which are the second most important crop exports of Swaziland. The cereal crop which is mainly maize showed a declining growth rate of –3% per year during 2000–2011.

TABLE 6.1 TRENDS IN THE REAL VALUES OF AGRICULTURAL EXPORTS (SZL MILLION) OF SELECTED CROPS.

Year	Sugar	Fruit and vegetables	Cereals	Cotton
2000	620	170	16	18
2001	561	144	21	6
2002	353	125	22	8
2003	740	208	30	4
2004	1,079	271	44	32
2005	1,098	252	26	17
2006	1,776	251	29	6
2007	1,017	183	35	15
2008	763	105	12	12
2009	1,896	193	12	43
2010	2,758	398	19	123
Growth %	15.4	4.2	–3.0	19.2

Source: Authors' calculation based on Swaziland Revenue Authority 2012.

6.6 Net trade in agricultural cereal crops and cereal products

The trends for trade in cereal crops reveal that Swaziland is a net importer of major cereals namely; maize, wheat and rice. It is predominantly an importer of cereals, but an adjustment had to be made due to re–exports of cereals. Figure 6.5 shows that maize imports have been fluctuating over time. They increased from SZL52 million in 2000, to SZL122 million in 2003, followed by two declines in 2006 and 2008 and two peaks in 2007 and 2010. The peak value was about SZL200 million in both years. The wheat imports and rice imports have been increasing overtime but with minor swings. Overall, the total cereal imports exhibited an upward trend, implying that Swaziland is becoming more dependent on cereal imports to meet its food security needs.

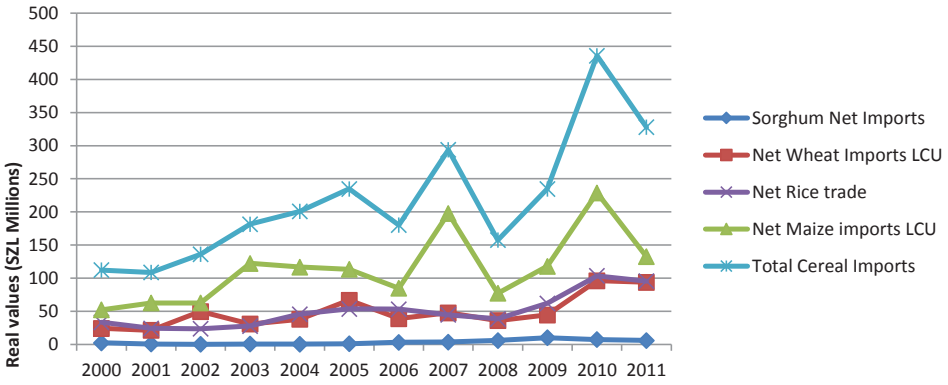

FIGURE 6.5 REAL VALUES (2005 CONSTANT PRICES) OF MAJOR CEREAL IMPORTS OF SWAZILAND, 2000–2011 (SZL MILLIONS).
Source: Author's' calculation based on Swaziland Revenue Authority 2012.

6.7 Net trade in food legumes

Figure 6.6 shows that the exports of legumes increased slightly from SZL1.4 million in 2000 to about SZL7.5 million in 2011, but the imports were by far greater than the exports resulting in net imports rising from SZL11 million in 2000 to SZL32 million in 2010 before dropping to SZL19 million in 2011. The decline in imports of legumes during 2007–2008 is associated with the largest decline in chicken production and maize production at that time.

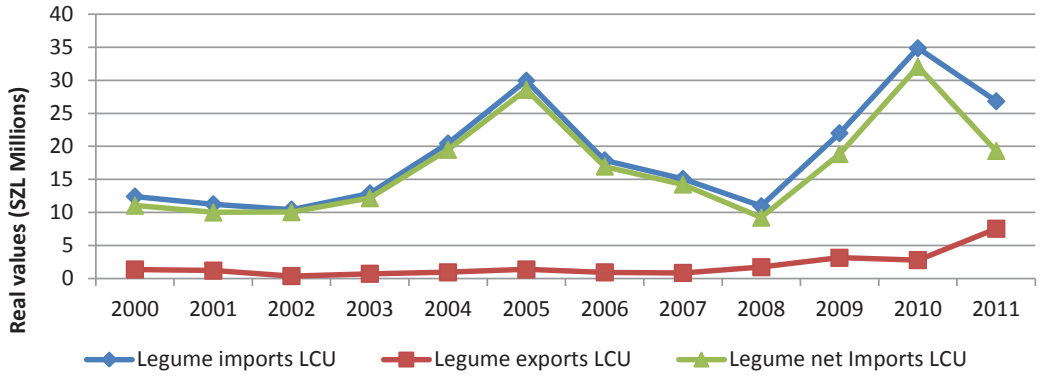

FIGURE 6.6 REAL VALUES OF EXPORTS, IMPORTS AND NET TRADE FOR LEGUMES (SZL MILLION) IN SWAZILAND, 2000–2011.
Source: Authors' calculation based on Swaziland Revenue Authority 2012.

6.8 Trends in net trade for livestock and meat products

The livestock subsector exports smaller quantities of beef, mutton, chicken, milk and fish, but imports larger volumes of the same products. Hence, the net result is that Swaziland is a net importer of livestock and meat products as shown in Figure 6.7. The trends in the net trade balance for beef, mutton, pork, chicken meat, milk and fish over 2000–2010 clearly show that beef and milk are the major net imports of Swaziland. The beef imports ranged from a minimum of about SZL50 million recorded in 2002 to a maximum of about SZL110 million recorded in 2010, and were growing at an average growth rate of 12.5%. Dairy net imports grew at a rate of 6.1% per year, followed by mutton and lamb with a growth rate of 3.4% per year. Net imports for chicken meat showed an overall growth rate of 0.44% per year. Fish decreased at an average annual rate of –1.3%. In value terms, the fish imports had swings from a low value of SZL9 million in 2009 to a high value of SZL28 million in 2010. The net exports were recorded in pork in 2001, 2003 and 2004, but from 2005 to 2010 Swaziland was a net importer of pork. The slow growth rate in net imports of poultry meat is a reflection of rising domestic production.

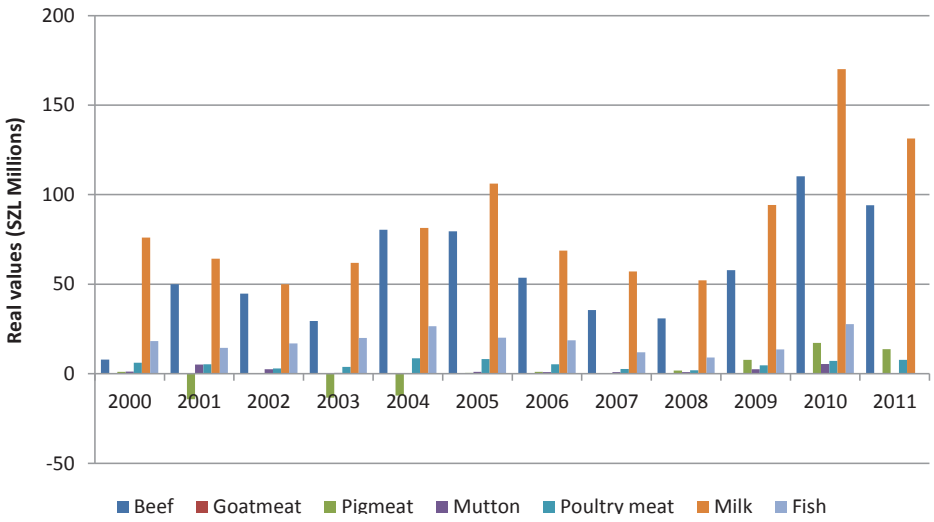

FIGURE 6.7 REAL VALUES OF NET IMPORTS OF BEEF, PORK, CHICKEN, MILK AND FISH (SZL MILLION), SWAZILAND, 2000–2011.
Source: Authors' calculation based on Swaziland Revenue Authority 2012.

6.9 Trends in net trade for forest and related products

Trade in forestry covers aggregate values of three products based on forestry production and processing. They are: wood, pulp and paper or paper boards. Figure 6.8 shows the trends in the total value in 2005 constant prices of imports, exports and net trade for forest products from 2000 to 2010.

The exports fluctuated between SZL431 million and SZL1,146 million, but experienced a declining trend between 2004 and 2010. The effect of forest fires of 2007/2008 is felt through the drastic decline of export earnings to SZL431 million in 2010. The imports of forest-related products remained relatively low and stable ranging from SZL313 million to SZL543 million over the study period. However, the net export earnings from forestry have been declining in the last 5 years, from SZL631 million in 2006 to negative SZL110 million in 2010. Thus forest products have lost their position as one of the major exports of Swaziland.

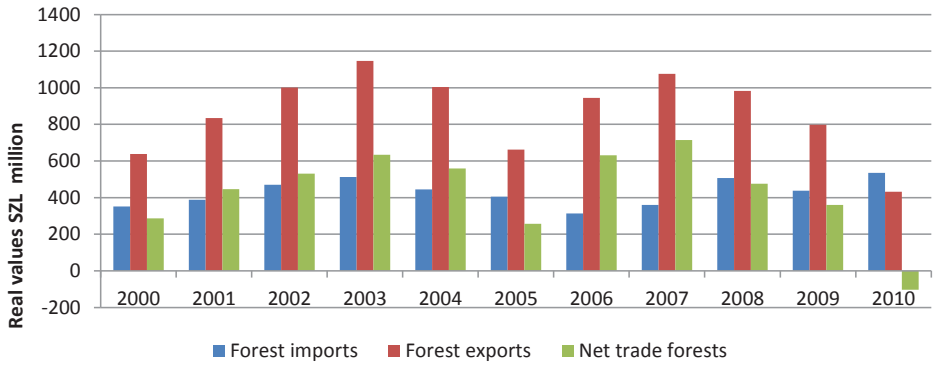

FIGURE 6.8 REAL VALUES OF IMPORTS AND EXPORTS AND NET TRADE FOR FOREST PRODUCTS, SWAZILAND, 2000–2010.
Source: Authors' calculation based on Swaziland Revenue Authority 2012.

6.10 Relationship between domestic food prices to international prices

Understanding the relationships between domestic food prices and international prices is necessary for pointing out commodities for import substitution or export promotion. This analysis was done only for maize for which some data was available. The maize producer or domestic price used here is the floor price offered to the National Maize Corporation (NMC) as the buyer of last resort. The border price is based on the average value of maize imports per tonne using data from SRA. The relationship between the domestic price and border price was expressed in terms of the nominal protection coefficient (NPC), which is a ratio of domestic price to border price (See Figure 6.9).

The estimated nominal protection coefficient was less than 1, ranged between 0.23 and 0.64 over the period 2000–2010. This suggests that the maize producers in Swaziland were being taxed, since the domestic maize producer price was less than the equivalent import price for maize. The low price set by NMC could influence other local maize buyers to pay equally low prices for maize. This has contributed in discouraging the farmers from increasing their maize production. In the past, too, producers have been complaining that the maize prices in Swaziland were far below the cost of production.

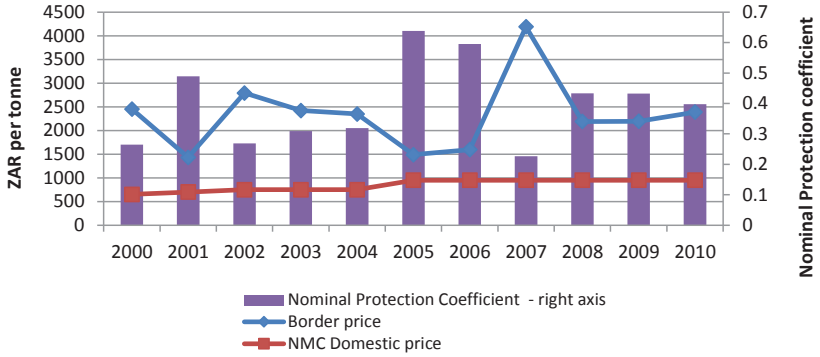

FIGURE 6.9 MAIZE PRODUCER PRICE AND IMPORT PARITY PRICE FOR SWAZILAND, 2000–2010 (ZAR /MT).
Source: Authors' calculation based on National Maize Corporation 2005, 2010 and FAOSTAT 2012.

Although the NMC argues that the floor price is based on the cost to bring maize into Swaziland (import parity) plus a small compensation for the relatively higher production costs in the country (National Maize Corporation 2005), the analysis above shows that the price paid has been less than the maize import parity price. To encourage maize production in Swaziland and to contribute to reducing the maize imports, the NMC should review its maize pricing and bring it in line with the import parity price.

6.11 Subnational analysis of sources of exports

The major agricultural exports of Swaziland, which have been identified above include sugar, forest products, vegetables and citrus fruits. There are spatial differences in the regional distribution of production of these exportable crops in Swaziland.

(i) Large portions of the Hhohho and Shiselweni administrative regions on the Highveld are covered by the forestry industry.

(ii) The Lubombo Region on the Lowveld, comprises the main irrigation area. This is the region where production, milling and refining of sugar, citrus production and cattle ranching are located. Smallholder irrigation schemes (KDDP and LUSIP) are found in the Lowveld on Swazi Nation Land, and are involved in the production of vegetables and sugarcane. The private large–scale commercial estates that irrigate only citrus and sugarcane are found on Title Deed Land in the Lowveld, and occupy about 40,000 ha (Lankford 2007).

The main export crops of Swaziland namely; sugar and vegetables are produced under the irrigation system, Mainly on TDL and with low participation of smallholder farmers. The implications of the distribution of export crop production on food security, poverty and inequality are that: since these major export crops (sugarcane and citrus) are produced under irrigation and mainly on TDL, it implies that the export earnings will accrue chiefly to large-scale commercial farmers and estates who own such resources. In addition, also to a small number of smallholders who are organized to produce such crops, this includes vegetables under smallholder irrigation schemes.

Forestry resources are concentrated in the Highveld, and are under the commercial estates. Hence, it is the local people who mainly benefit through local employment. Nevertheless, the devastation of large forest areas by fires in 2007 and 2008 adversely affected employment in the Shiselweni and Hhohho regions. The reduced employment in these regions implies that poverty and food security have also been affected.

6.12 Summary of findings on agricultural trade performance

The major agricultural export is sugar and its related products, which accounts for over 70% of export earnings from agriculture. The minor exports are: meat and meat products as well as fruits and fruit juices. The export earnings from forestry products have declined noticeably since 2007. The major food imports are cereals and related products, meat and meat products, and dairy products. Cereals account for between 15% and 30% of the crop imports. Although agricultural trade has a positive trade balance, the total merchandise trade has had a negative trade balance during most of the last decade. The rising imports of cereals, legumes, meat products and dairy products, imply that an opportunity exists for Swaziland to examine its situation and encourage domestic production of commodities in which it has comparative advantage, and import cheaper food commodities in which other countries have comparative advantage in producing. To encourage production of commodities with good comparative advantage, will require the country to use appropriate pricing, identify the commodities and make available the necessary productivity-enhancing technologies and strategies by region or agro–ecological zones (AEZs), and ensure the participation of SNL farmers for equity reasons. The country should encourage production of exports where it has a comparative advantage, and import those where it has no comparative advantage. Through export promotion the country could improve farm incomes, create employment through direct production and effect value-added processing, and contribute to food security and poverty reduction.

Chapter 7

Poverty and Hunger Trends

7.1 Introduction

As indicated already in Chapter 1 and Chapter 2, the national goals on poverty and hunger, which are contained in the PRSAP are to cut poverty and hunger by half by 2015. The CAADP and RISDP also have the same goal referred to as the first Millennium Development Goal (MDG 1) to halve the 1990's poverty and hunger rates by 2015. In this regard, this Chapter examines the trends in the levels of poverty and hunger in Swaziland and assesses the progress the country has made against achieving the first Millennium Development Goal (MDG1).

It also examines the trends in child mortality in view of its close association with child malnutrition and poverty.

7.2 Poverty trends

The progress on poverty trends were assessed using the international poverty line of US$1.25 per day and the national poverty line of SZL461 per month per adult equivalent (this national poverty line equates to US$2.86/day).

7.2.1 International poverty headcount ratio at US$1.25 per day

Figure 7.1 shows the trends in the percentage of the Swaziland's population below the international poverty line of US$1.25 per day. The trends indicate that between 1990 and 2009, poverty headcount ratio decreased from 90% to 43%. Thus, based on the observed poverty rates at US$1.25/day, it can be said that Swaziland had achieved the target of cutting poverty into half, i.e., to 45% by the year 2007.

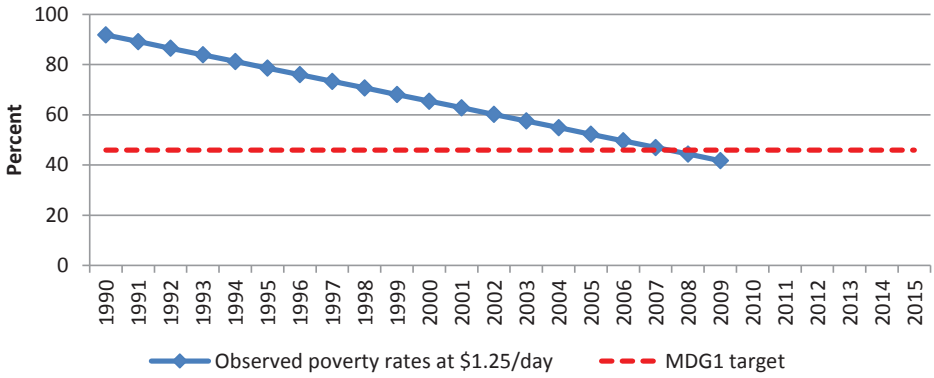

FIGURE 7.1 TRENDS FOR INTERNATIONAL POVERTY HEADCOUNT RATIO AT US$1.25/DAY FOR SWAZILAND, 1990–2015
Source: Authors' calculation based on World Bank 2012.

7.2.2 National poverty line at SZL461 per month per equivalent adult

The national[5] poverty line in constant terms of January 2010 has been set at SZL 461 per month per adult equivalent. The Swaziland Household Income and Expenditure Survey (SHIES) report of 2010 (Central Statistics Office 2011a), indicated that the national poverty rate increased from 66% in 1995 to 69% in 2000, followed by a decline to 63% in 2010. This translates to a decrease in the number of poor people from 678,500 to 641,000 between 2000 and 2010.

[5] The poverty line of E461 per month per adult equivalent translates into US$2.86 per day at the PPP conversion factor (private consumption) of SZL4.87 per US$ in 2010. It represents a higher poverty line than the US$1.25 per day. (hhttp://data.worldbank.org/indicator/PA.NUS.PRVT.PP <accessed August 26, 2013).
PPP refers to how many dollars are needed to buy a dollar's worth of goods in the country as compared to the United States.

The national target for meeting MDG Goal 1 is to reduce the incidence of poverty to 30% by 2015. Based on the observed trends in the national poverty rates over the last decade, it is estimated that poverty decreased at an annual average rate of 0.6 percentage points. Using this rate, a linear estimate indicates that the national poverty level could decrease by 3 percentage points in the next 5 years and, as such, the national poverty rate in 2015 is likely to be around 60%. Thus, it can be concluded that Swaziland is unlikely to achieve the MDG1 goal to reduce the poverty level to 30% by 2015. This finding contradicts the earlier result based on the international poverty headcount ratio at US$1.25/day, which estimated a consistent reduction in poverty rates and that Swaziland would manage to cut poverty into half by 2008 as was shown in Figure 7.1.

The international poverty line at US$1.25/day compared to the national poverty line of SZL461/month give different results, this arises because the two poverty lines are parallel to each other. The equivalent amount of the national poverty line would be US$2.86/day, implying that not all who live above the US$1.25/day line would live above US$2.86/day. Hence, the poverty head count ratio will be higher at US$2.86/day than at US$1.25/day. The US$1.25/day is good for international comparison across countries and the national poverty line is necessary for subnational comparisons.

7.2.3 Spatial distribution of poverty in Swaziland

The Swaziland Household Income and Expenditure Survey (SHIES) noted that the decline in poverty between 2000 and 2010 was not evenly distributed across the four regions of Swaziland. In fact, poverty decreased the most by 14 percentage points from 82% to 68% in the southern region of Shiselweni, followed by the central region of Manzini with a decrease of 8 percentage points from 66% to 58%, and the eastern region of Lubombo with a decrease of 2 percentage points from 71% to 69.3%. Overall, Shiselweni, along with Lubombo, remain the poorest regions. The northern region of Hhohho saw no decline but a small rise by one percentage point from 60% to 60.9% (Central Statistics Office 2011b).

Comparisons between urban and rural residences showed that poverty incidences in 2010 were lower in urban areas (31%) than in rural settings (73%). Between 2000 and 2010, the incidence of poverty in urban areas decreased from 35% to 31% while for rural areas it decreased from 80% to 73%. This suggests that poverty remains predominantly a rural phenomenon.

Some of the factors cited in other studies on Swaziland indicate that those contributing to the incidence of poverty across regions include:

(1) Not having access to production resources such as irrigation. It is known that poverty has been declining among emerging smallholders participating in the integrated irrigation schemes under SWADE in the Lubombo Region.

(2) Not having proper access to tractor hire services – as a result farmers fail to plough their fields and plant on time, which subsequently contribute to poor crop yields.

(3) Not having access to adequate land – most smallholders operate small plots and produce mainly for subsistence. SVAC 2006 noted that access to land was highest in Shiselweni (97%), followed by Manzini with (94%), Lubombo with (89%) and Hhohho with (84%). For those who had access to agricultural land, the proportion of land cultivated varied from 83% in Hhohho and Manzini to about 80% in Shiselweni and 70% in Lubombo.

(4) Frequent occurrence of dry spells and erratic rainfall adversely affects agricultural production and certain regions are more prone to these climatic conditions, e.g., (Lubombo) than others.

(5) Not having sufficient access to employment and income is another factor – unemployment has risen due to the closure of major manufacturing companies in urban areas and the limited availability of domestic employment opportunities in the country. The 2010 Labor Force Survey noted that unemployment rate was highest in Shiselweni with (32.1%), followed by Lubombo with (29.2%), Hhohho with (28.8%) and Manzini with the lowest of (26.9%).

(6) The prevalence of HIV and AIDS – the breadwinner becoming a victim of chronic illness and sometimes even death. SVAC (2008) found that Lubombo Region at 16% had the highest percentage of households with chronic illness, followed by Hhohho with 14%, Shiselweni with 13%), and lowest was Manzini with 11%.

(7) The rising number of dependents, (e.g., orphans) in households is associated with poverty. The poorer regions such as Lubombo and the Shiselweni regions have the highest percentages of households accommodate orphans at 42% and 41%, respectively, compared to 36% for Hhohho and 35% for Manzini (SVAC 2012).

(8) High commodity prices – the informal maize prices tend to be high in the Lowveld or drought-prone areas or areas most affected by adverse production compared to the other regions. For example, during 2004, the NMC was buying and selling a tonne of maize at SZL1,300 and SZL1,590 respectively, while the high informal maize price was SZL3,200 in the Lowveld, SZL2,400 in Middleveld and Lubombo Plateau, and SZL2,140 in the Highveld.

The SVAC 2012 found that most common means of livelihood for households in rural areas was formal salary and wages (20%), followed by food crop production and sales (14%), small businesses (13.5%), remittances (13%), pensions (11%) and petty trade (10%). The major shocks experienced by households, which caused a negative impact on food security and by implication on poverty, included: (1) high prices (42.1%); (2) drought or prolonged dry–spells (23.1%); (3) illness of breadwinner (7%); (4) death of the breadwinner (7%); and (5) reduction in employment (5.9%).

7.2.4 Poverty distribution by sex of household head

A comparison of poverty by sex of household head reveals that a greater proportion of female–headed households (67%) were poor compared to the male–headed households (59%) in 2009/10. The reduction in poverty between 2000 and 2010 by 8 percentage points from 67% to 59% for male–headed households was slightly higher than the 5 percentage point reduction from 72% to 67% for female–headed households (Central Statistics Office 2011b). Differential access to employment could be one reason for this difference. The 2010 Labor Force Survey (LFS) noted that males dominated the formal workplace, with 82% of males employed as paid employees against 69% females. There were more females (27.1%) in self–employment compared to males (15.1%).

7.2.5 Depth of poverty: Poverty income gap ratio

Another important indicator of poverty is the poverty income gap ratio, which reflects how intense poverty is in a country. It is measured as the proportion by which the average consumption level of a household falls below the poverty line (Central Statistics Office 2011b). This indicator shows that in 2009/10, the average consumption among the urban poor household was 33% below the poverty line, while that of the rural poor household was 51% below the poverty line. The income gap ratio reveals that the poor individuals in rural areas are even poorer than the urban poor. It is further noted that over the last decade, those who are poor have not seen any improvement in the standard of their welfare. It is further noted that there were very small changes in the income gap between 2000 and 2009/10 in urban areas from 35% to 33% and in rural areas from 49% to 51% (Central Statistics Office 2011b).

7.3 Hunger trends

The second component of the MDGI is halving hunger, which is usually measured by the prevalence of child malnutrition and adult malnutrition. Here, in addition to child malnutrition, which is measured in terms of stunting and underweights, we considered hunger trends in terms of extreme poverty also known as food poverty.

7.3.1 Prevalence of food poverty

Food poverty refers to the condition in which individuals are unable to meet their minimum dietary nutritional requirements as specified by the adult equivalent scale. The food poverty or extreme poverty line for Swaziland was set at SZL215 per month per equivalent adult (Central Statistics Office 2011b). Figure 7.2 presents the food poverty incidences by region during 2000 and 2010.

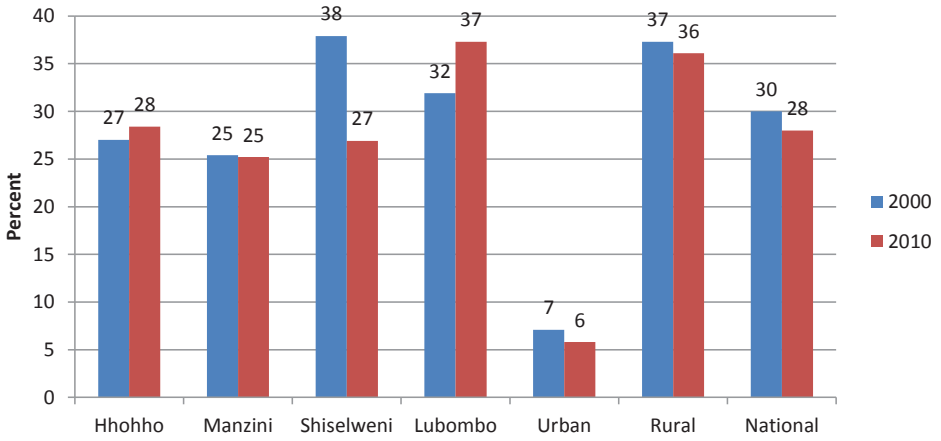

FIGURE 7.2 EXTREME POVERTY OR FOOD POVERTY INCIDENCE BY REGION IN SWAZILAND, 2000 and 2010.
Source: Central Statistics Office 2011b.

Figure 7.2 shows that overall, 30 in 100 persons in Swaziland fall short of meeting their daily nutritional needs, and the situation has remained unchanged over the last decade. A comparison of the incidence of food poverty between rural and urban areas reveals that rural residents continued to experience high incidences of extreme poverty than urban residents. At the regional level, between 2000 and 2010, food poverty increased by 5 percentage points in Lubombo from 32% to 37%. On the other hand, there was a large decrease of 11 percentage points in food poverty from 38% to 27% in Shiselweni. The high food poverty situation in Lubombo is not surprising as this region is known to be drought-prone.

7.3.2 Prevalence of child malnutrition

Prevalence of stunting or height–for–age is used to measure the prevalence of chronic malnutrition. Malnutrition is globally regarded as a manifestation of poverty or any form of chronic status that affects growth of a child over a long period of time. A child under 5 years of age who is below minus 2 standard deviations from the WHO reference population median in terms of height–for–age is considered stunted or short for his or her age. Stunting is an indicator of linear growth retardation and, as such, it reflects failure to receive adequate nutrition over a long period of time and is also affected by recurrent and chronic illness.

Besides stunting, the prevalence of underweight is the official measure of the rate of child malnutrition, which also takes into account both acute and chronic malnutrition. Children who are under the age of 5 whose weight–for–age is below minus 2 standard deviations from WHO reference population median are classified as underweight. Figure 7.3 below shows the prevalence of underweight and stunting among under 5-year old children in Swaziland during 1983, 2000, 2006, and 2008.

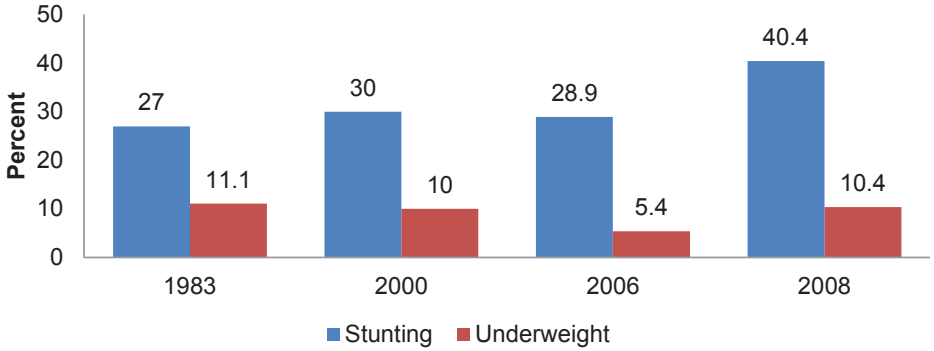

FIGURE 7.3 PREVALENCE OF UNDERWEIGHT AND STUNTING FOR UNDER–5 CHILDREN IN SWAZILAND, 1983, 2000, 2006 and 2010.
Source: Ministry of Health 2008.

Figure 7.3 shows that there has been a gradual increase in the prevalence of stunting among under 5-year children from 27% in 1983 to 40% in 2008. This indicates that chronic malnutrition has increased in Swaziland. A comparison by area revealed that prevalence of stunting was slightly higher among children in rural areas (42%) than in urban areas (38%). Furthermore, a comparison by sex indicates that the prevalence of stunting was slightly higher among male children (32%) compared to female children (30%) (Ministry of Health 2008). Stunting is a form of malnutrition that takes long to manifest and the change normally takes a longer period to occur. The key factors, which are likely to influence stunting levels include poverty, HIV and food insecurity (Ministry of Health 2008).

As shown in Figure 7.3, in 2008 the prevalence of underweight children under 5 years nationally stood at 10.4%. It is also known that rural settlements (7.8%) are more affected compared to their urban counterparts (6.5%) (Ministry of Health 2008). Overall, underweight trends have remained relatively unchanged around 10–11% between 1983 and 2008 as reflected in Figure 7.3.

7.4 Proportion of the population below minimum dietary energy consumption

The proportion of the population with food consumption below the minimum dietary energy requirements are considered underfed or undernourished. Hence, this measure provides information on a broad dimension of the problem of hunger and nutrition security in a developing country. As shown in Figure 7.4 below, the proportion of the population that is undernourished increased from 16% in 1991 to 24% in 1996, followed by a decrease to about 15% during 2002–2003. However, this was followed by an increase until it reached the highest level of 30% in 2010. The annual average rates of undernourished proportion of the population increased from 19% during 1990–1995 to 25.3% during 2005–2011 (Ministry of Health 2008). Over the period 1991 to 2011, the proportion of the population that is undernourished increased at an annual average rate of 1.8%. This implies that Swaziland has a major challenge to achieve the MDG 1 component of halving hunger by 2015.

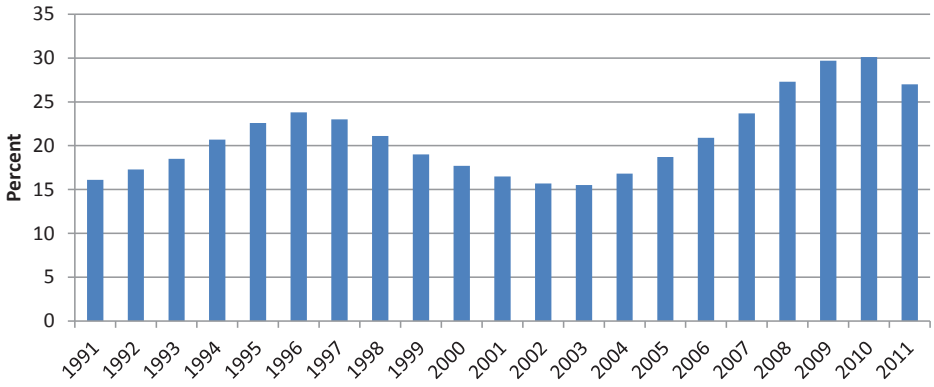

FIGURE 7.4 PROPORTION OF THE POPULATION BELOW MINIMUM DIETARY ENERGY CONSUMPTION IN SWAZILAND, 1991–2011.
Source: Authors' calculation based on UN Statistics Division 2013.

7.5 Child mortality

Prevalence of child malnutrition tends to be highly correlated with child mortality rates. Child mortality refers to the number of children per 1,000 live births who die before reaching the age of 5 years. Another related concept is that of infant mortality, which refers to deaths of infants per 1,000 live births before their first birthday. Figure 7.5 presents the trends in under–5 mortality over the period 1990 to 2010.

Based on data from international sources, the under–5 trends presented in Figure 7.5, show that their mortality rate increased from 92 to 105 per 1,000 live births between 1990 and 2000. It stabilized at 105 per 1,000 live births during 2001–2005, and decreased to 73 per 1,000 live births in 2009. A similar trend is captured by national data, which reported an increase from 106 per 1,000 live births in 1997 to 122 per 1,000 live births

in 2000, stabilizing at 120 per 1,000 live births in 2006 and decreasing to 104 per 1,000 live births in 2010 (Swaziland MDG Report 2010). It is clear that Swaziland has made remarkable progress to reduce child mortality by almost 30% during 2005–2010. However, with the current food security crisis, the under–5 children have become more vulnerable. Hence, the mortality progress made so far to reduce mortality may get negated.

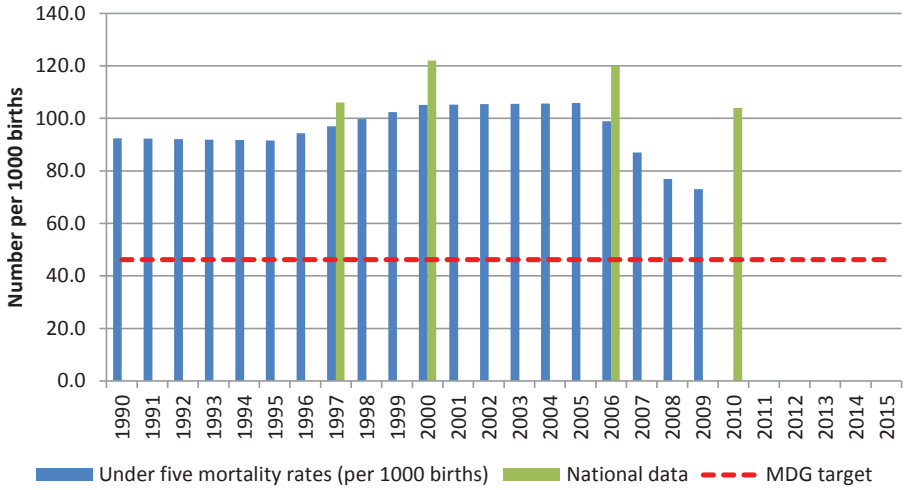

FIGURE 7.5 TRENDS IN MORTALITY RATES FOR UNDER-5 CHILDREN IN SWAZILAND, 1990–2010.
Source: Authors' calculation based on UNSD 2013 and MDG 2010.

It is noted that about 47% of deaths among children under–5 in Swaziland are HIV/AIDS-related. As such, the reduction in under–5 mortality is expected to continue as the up–take on the prevention of mother to child transmission interventions increases. In addition, further reductions in child mortality can be achieved through improved food security and access to safe water and sanitation.

7.6 Is Swaziland on track to meet the MDG1 targets?

Poverty Trends: According to the national poverty line at E461 per month per adult equivalent, poverty increased from 66% in 1995 to 69% in 2000 and then decreased to 63% in 2010. A linear estimate indicated that poverty will be at 60% in 2015, which by far exceeds the national poverty target of 30%. Thus, this indicates that Swaziland is unlikely to achieve the MDG1 target of halving poverty by 2015.

Estimates of hunger in terms of undernourished or underfed, which refers to the proportion of the population below the minimum dietary energy requirements, based on data from UNSD indicated that over the period 2001 to 2011, it increased from about 16% to 28%. This implies that Swaziland has a major challenge and needs to make serious efforts to reduce the proportion of the population failing to meet their minimum dietary energy requirements. In other words Swaziland is unlikely to achieve the MDG1 component to cut hunger by half to 8% by 2015.

The above clearly indicates that Swaziland is unlikely to meet either one of the two targets of MDG1 by 2015. Poverty is estimated to be 60% by 2015 against a target of 30%. The hunger level in terms of minimum dietary energy requirements was at 25% in 2011 against a target of 8% by 2015. The situation on the ground, in particular with rising unemployment and high prevalence of HIV/AIDS are not favorable for Swaziland to expect any reduction in the number of undernourished people by 2015.

Chapter 8

Investment, Growth and Poverty and Hunger Linkages

The assessment of agricultural sector performance found that although the government has made some effort to increase investment in the agricultural sector, public investment in the sector has been low (average 4.5% per year) and the country has consistently been unable to achieve the 10% budget allocation target as required under the Maputo Declaration. This has subsequently led to a slow annual average agricultural GDP growth of 4.4% and, at that rate Swaziland has been unable to achieve the CAADP 6% annual growth target in most years.

Expenditure analysis revealed that personnel emoluments averaging 40% was the largest share of the budget, compared to 33% for capital expenditure and 25% for goods and services. Furthermore, 54% of the agricultural budget went to the crop subsector and 45% to the livestock subsector. However, a look at the contribution to agricultural GDP found that the crop subsector contributed 82–90%, compared to 6–11% contributed by the livestock subsector. This suggests that, relative to subsector contribution to the AgGDP, the agricultural expenditure would appear to be biased towards livestock at the expense of the crop subsector. However, in both subsectors as noted already the largest portion of the budget was spent on salaries and wages. The expenditure by core functions revealed that R&D at 9.5% had the smallest share in the agriculture expenditure compared to extension (37.8%) and infrastructure and irrigation (14.2%). This implies that there has been underfunding of R&D in Swaziland and that it has slowed the development of productivity enhancing technologies. This has subsequently contributed to low agricultural growth and productivity in the crop and livestock subsectors.

The average annual livestock growth rates were 0.5% for cattle, 0.7% for sheep, 4.2% for goat and 4.9% for chicken. In most years the livestock annual growth rates were below the 4% annual growth target of SADC-RISDP set for livestock. Most livestock production, in particular cattle is carried out by smallholder farmers, but these have low numbers of animals, low–off take and are mainly subsistence–oriented. Efforts are needed to encourage commercialization and to raise livestock productivity through better access to inputs, breeding animals and veterinary services.

Regarding crop productivity, the yields for maize, which is the major cereal crop in Swaziland, averaged 1,246 kg/ha. This is below the target of 2,000 kg/ha set by SADC- RISDP for cereal yield. The average maize yield was highest in the Highveld Region, which has high and reliable rainfall, and lowest in the Lowveld Region, which has low and erratic rainfall. Under rainfed production it will be difficult to raise productivity in the Lowveld. Hence, it is necessary to encourage maize production in the high rainfall areas like the Middleveld and Highveld. In the dry areas like the Lowveld, efforts should be made to encourage households to grow more drought-tolerant crops such as cassava, cotton, sunflower, groundnuts, sorghum and legumes (chick pea).

The differences in crop productivity across agro–ecological zones, implies that certain crops are more suitable for growing in some areas than others. In this regard, research should be encouraged to identify appropriate crops and agricultural activities in line with the agro–ecological potential of the regions. The role of fertilizer usage in raising crop productivity may need to be addressed. It should be noted that although Swaziland has surpassed the SADC-RISDP fertilizer target rate of 65 kg/ha, it is has not yet been translated into yield improvements for maize, which is the major staple crop in the country. This implies that fertilizer use may be low among maize producers majority of them happen to be smallholder farmers on SNL. Extension services may need to be intensified to address crop productivity issues, in particular fertilizer application and the choice of suitable crops according to agro–ecological regions. In addition, enhance farmers' access to farm inputs like fertilizer, credit and market access for agricultural produce. Smallholder farmers in the appropriate regions should be encouraged to graduate from subsistence production to commercial production and, thereby ensure progress being made in poverty and hunger reduction.

Furthermore, the use of farm inputs such as fertilizer and pesticides have implications on the cost of production and returns. To encourage farmers to use such inputs, appropriate produce pricing would be necessary. In the case of maize in Swaziland, the intervention in maize marketing by the NMC as buyer of last resort and the sole importer of maize has implications on pricing, which discourages increasing maize production in the country.

The analysis of poverty and hunger trends shows that income and employment are key drivers of better access to food, dietary diversity and enhancing food security. Poverty rates were higher in regions with high

unemployment (Shiselweni and Lubombo) than those with low unemployment (Manzini). Other factors or shocks affecting livelihood and causing food insecurity and poverty included: high food prices; drought or prolonged dry spells; and chronic illnesses and deaths, especially those associated with HIV/AIDS.

In regions that are constrained by drought, agricultural investment could contribute to reducing hunger, poverty and inequality among affected households by improving access to drought-tolerant crops and smallholder irrigation technologies for vegetable and fruit production. In addition, to ameliorate the labor constraints in households affected by chronic illnesses (HIV/AIDS) and deaths, the agricultural strategy will have to enhance use of labor–saving technologies, including provision of government tractor hire services.

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