

GOVERNMENT OF SWAZILAND



MINISTRY OF AGRICULTURE

**SWAZILAND NATIONAL AGRICUTURAL
INVESTMENT PLAN
(SNAIP)**

SUMMARY REPORT

DRAFT

April 2015

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Executive Summary

The Swaziland National Agricultural Investment Plan (SNAIP) is aimed at (i) increasing growth of agricultural productivity and production and (ii) diversification of agricultural production and overall consumption. This plan is based on agricultural investments for the period 2015-2025. Agriculture is defined as including crops, livestock, fisheries and forestry.

Agriculture had been identified as a key sector for investment to spur economic growth and overall transformation of continental and national economies. In the case of Swaziland the SNAIP is an initiative aimed at increasing investments to the sector to help drive agricultural growth for food security and economic transformation for the Swaziland economy. Success here will underpin the attainment of the country's Vision 2022 Development Agenda, transformation of agriculture and the associated poverty reduction. As a consequence, the commitment of Government, Development Partners, farmers, Non-governmental Organisations and the private sector to mobilising the necessary resources and ensuring their effective use are key factors for successful SNAIP implementation.

The SNAIP prioritised investments and institutional and policy changes in Swaziland that are important in order to enhance agricultural productivity and growth desired under the Comprehensive Africa Agriculture Development Programme (CAADP) framework.

Following the 2003 Maputo Declaration, the CAADP process aimed to achieve an annual agricultural growth¹ rate of at least 6% triggered by an annual national budgetary allocation of a minimum of 10% in African countries including Swaziland. The SNAIP is aligned with this and other agricultural declarations that promote regional agricultural development effort including the 2014 Year of Agriculture and Food Security and the June 2014 Malabo Declaration. The SNAIP is formulated following CAADP programme principles that promote inclusiveness, evidence-based planning and investment choices.

In this regard all relevant stakeholders in the country's agriculture sector signed the Compact on the 4th of March 2010 and the country therefore committed itself to completing and adhering to the CAADP process and its expectations.

Following the undertaking of the gap analysis and extensive stakeholder consultations, the SNAIP identified the following investment programmes:

1. Sustainable Natural Resources Management (SNRM).
2. Improved Access to Markets and Value Chains (IAMVC).
3. Food Supply and Reducing Hunger (FSRH).
4. Agricultural Research, Extension, Training and Education (ARETE).
5. Institutional Strengthening and Knowledge Management (ISKM).

SNAIP programme design was derived from a situation analysis of Swaziland's agriculture together with an analysis of the policy, legislative and institutional environment. The situation analysis was summarised in this document and detailed in the stock-taking report which is annexed to the SNAIP. The SNAIP aimed to have adequate policies and legislations in place to support the development of agriculture because it has remained underdeveloped with a shrinking contribution to food and nutrition security and

¹ Agricultural GDP.

to poverty reduction. This was mainly due to poor agricultural practice and low investment levels. The gap analysis and public expenditure review indeed pointed to continuously low agricultural public investment levels which over the last ten years averaged 4% of the total budget - far below the 10% recommended by the 2003 Maputo Declaration. Some investment in irrigation targeting the expansion of the sugar industry has however contributed to increased public and private agricultural spending.

The SNAIP's overall objective is to (i) increase the contribution of agriculture to economic development (ii) reduce poverty and (iii) improve food and nutrition security. The SNAIP overall goal would be achieved through programmes and projects that are aimed at (i) ensuring optimal utilisation of the natural resources while ensuring their sustainability for future generation use (ii) improving market access through strengthening and improving stakeholder participation in commodity value chains (iii) commercialisation and diversification of agricultural production (iv) supporting the contribution of agricultural research and extension systems to increase agricultural productivity and (v) improving agricultural knowledge management and institutional strengthening to enhance planning, evidence-based decision making and policy implementation coordination. Subject to the growth-multiplier impacts and the specific needs of the country, the programme pillars have various sub-programmes that detail the following intervention areas:

Programme 1: Sustainable Natural Resource Management-This programme has sub-programmes that target (i) water harvesting and irrigation development and (ii) integrated sustainable management of land and other resources. These interventions are important especially given the increasing negative effects of climate change and the need to more efficiently utilise limited water resources. Key outcomes of this programme are (i) the reduction of rainfed agriculture dependence (ii) an increase in value-added from the use of water resources (iii) an increase in yield per unit area under rainfed agriculture for key crops and livestock activities (iv) increased retention of rainfall within catchment areas (v) restored general biodiversity and increased agro-biodiversity and (vi) reduction in the severity and extent of land degradation. This programme involves high-cost investment in water and irrigation infrastructure and the estimated cost is US\$ 1.084 billion. Programme 1 therefore accounted for about 54% of the total SNAIP cost.

Programme 2: Improved Access to Markets and Value Chains- This programme includes interventions in marketing and processing infrastructure, better access to market information and agricultural finance, improved sanitary and phytosanitary (SPS) measures and quality standards and consolidation of agricultural diversification endeavours. Proposed programme outcomes are (i) an increase in the number of rural households undertaking commercialised agriculture (ii) **increased volume and value of agricultural exports as well as decreased volume and value of selected agricultural imports**² (iii) increase in the value of agricultural commodities marketed under quality accreditation systems (iv) increased access to financial services for development of agriculture and (v) an increase in the percentage of locally produced food commodities.. This programme is estimated to cost US\$ 647 million which represented 32% of the total SNAIP cost.

Programme 3: Food Supply and Reducing Hunger-This programme includes sub-programmes in promoting food availability, access ,utilisation and stability involving climate-change adaptation, resilience and mitigation measures. The key outcomes include (i) an increase in the average yield per hectare of food crops and livestock (ii) reduced post-harvest losses (iii) increase in land area under climate smart agriculture (iv) an increase in the number of food secure households (iv) an increase in average food availability³ (v) a reduction in prevalence of under-nutrition and malnutrition (vi) improved

² Comparative advantage studies will soon be conducted to inform the SNAIP of the possibilities in agriculture of the scope for import substitution, further import substitution, export promotion, value addition and employment generation.

³ Calorie and protein.

disaster-risk preparedness and response systems and (vii) increased food affordability for those who rely on purchased food. The programme cost was estimated at US\$ 198 million which was 10% of the total SNAIP cost.

Programme 4: Agricultural Research, Extension, Training and Education- This programme involves sub-programmes in institutional restructuring and capacity building, agricultural-research strengthening and revitalisation of agricultural extension and strengthening of linkages between research, extension, farmers and other value chain stakeholders. Key outcomes are (i) increased adoption of appropriate methods of farming (ii) increased number of improved technologies developed/adapted (iii) increased number of skilled agricultural practitioners⁴ (iv) improved capacity to conduct applied and adaptive research (v) increased formation of collaborative partnerships with national and international research institutions and (vi) establishment of a competitive grant scheme for research and extension. This programme cost is about US\$ 74 million or 4% of the total SNAIP cost.

Programme 5: Institutional Strengthening and Knowledge Management- This programme includes sub-programmes in institutional strengthening, knowledge-management, improving communication and reinforcing planning and monitoring and evaluation (M&E) systems. Key programme outcomes include (i) establishing and maintaining a comprehensive agricultural sector database and website (ii) strengthening policy and planning decisions informed by evidence-based analysis and (iii) promoting stakeholder-access to knowledge to support their activities including (a) policy and regulatory alignment and relevance (b) improved budgeting processes and (c) reformed parastatals. The cost of this programme amount to about US\$ 14 million and accounted for 1% of the total SNAIP cost.

Suitable indicators have been put in place under each sub-programme to monitor progress. Impact indicators have also been identified to evaluate the programmes at the end of their lifetime.

Total programme costs over the 10 year period are estimated at USD 2 billion. Summary costs by programme are given in Table 1 while details are provided in Annex 2. Existing projects and programmes implemented by the Government of Swaziland or outside the Government that will directly support the SNAIP have been identified and their contribution to SNAIP during the 10 year period are estimated at USD 0.6 billion. The estimated financing gap over the period amounts to USD 1.4 billion. The financing GAP corresponds to an investment of around 112 USD⁵ per inhabitant in Swaziland per year of the SNAIP.

Table 1: SNAIP Costs (USD) and GAP

NAIP		USD			%
		Cost	Existing Finance	GAP	GAP
Programme Area 1	Sustainable Natural Resources Management	1,084,112,241	507,394,999	576,717,242	53.2
Programme Area 2	Access to Markets and Value Chains	646,986,121	49,520,300	597,465,821	92.3
Programme Area 3	Food Supply and Reducing Hunger	197,504,544	50,400,000	147,104,544	74.5
Programme Area 4	Agricultural Research, Extension, Training and Education	74,101,517	12,500,000	61,601,517	83.1
Programme Area 5	Institutional Strengthening and Knowledge Management	14,108,374	4,601,400	9,506,974	67.4
Total		2,016,812,797	624,416,699	1,392,296,098	69.0

Source: MOA, FAO, EU

⁴ Such as farmers, researchers and extension workers.

⁵ Based on a national population of 1.25 million.

The costings are based on (a) increasing agricultural government expenditure from 4.4% of the total budget to 10% by 2020-21 in line with the Maputo targets and (b) maintaining a 45% capital expenditure share in the agriculture budget. Other key SNAIP costing assumptions include (i) 2% per year GDP growth which arises partly as a result of SNAIP and (ii) 6% per year growth of agricultural GDP from Year 6.

The projected rates of aid disbursement and expenditure⁶ are not totally out of line with current rates and a key assumption in the SNAIP design is that the GOS's current implementing capacity will be improved. The private sector and SNL farmers are already involved in agricultural investments and the SNAIP implementation is aimed at increasing the level of agricultural investment through improving the agricultural finance environment.

SNAIP's success and impact are wholly dependent on the commitment of the Government of Swaziland (GOS) and supplemented by those of other stakeholders such as (i) development partners,(ii) farmers,(iii) private sector and (iv)civil society. The SNAIP was development-oriented and designed to be inclusive in accomplishment. Contribution to GDP growth will be driven by increased agricultural productivity.

SNAIP is a living document that will be monitored and reviewed on an annual basis and accords with the resources mobilised and the effectiveness of the MOA and all implementing institutions and stakeholders in agriculture.

⁶ Public (including donor) and private.

LIST OF ABBREVIATIONS

ADB	African Development Bank
AMS	Accompanying Measures of Support
CAADP	Comprehensive Africa Agricultural Development Programme
CANGO	Coordination Assembly of Non-Governmental Organisations
CASP	Comprehensive Agricultural Sector Policy
CCT	CAADP Country Team
CDM	Clean Development Mechanisms
COMESA	Common Market for Eastern and Southern Africa
CSO	Civil Society Organisation
DAE	Department of Agriculture and Extension
DARSS	Department of Agricultural Research and Specialist Services
DVLS	Department of Veterinary and Livestock Services
EDF	European Development Fund
EPA	Economic Partnership Agreement
E	Emalangeni Swazi currency
EU	European Union
FAO	Food and Agriculture Organisation
FINCORP	Swaziland Development Finance Corporation
FMD	Foot and Mouth Disease
FSE&CC	Federation of Swaziland Employers and Chamber of Commerce
GAP	Good Agricultural Practice
GDP	Gross Domestic Product
ICT	Information and Communications Technology
IFAD	International Fund for Agricultural Development
LUSIP	Lower Usuthu Smallholder Irrigation Project
M&E	Monitoring and Evaluation
MCIT	Ministry of Commerce, Industry and Trade
MDGs	Millennium Development Goals
MEPD	Ministry of Economic Planning and Development
MFU	Micro-Finance Unit
MNRE	Ministry of Natural Resources and Energy
MOA	Ministry of Agriculture
MOCIT	Ministry of Commerce, Industry and Trade
MOF	Ministry of Finance
MOPS	Ministry of Public Service
MOPWT	Ministry of Public Works and Transport
MPW	Ministry of Public Works
MTEA	Ministry of Tourism and Environmental Affairs
MTEF	Medium Term Expenditure Framework
NAMBOARD	National Agricultural Marketing Board
NARA	National Agricultural Research Authority
NARES	National Agricultural Research and Extension Services
NARS	National Agricultural Research System
NDS	National Development Strategy
NEPAD	New Partnership for Africa's Development
NGO	Non-Governmental Organisation
NMC	National Maize Corporation
NTDT	National Technical Drafting Team
PPP	Public-Private Partnership

PRSAP	Poverty Reduction Strategy and Action Plan
RDA	Rural Development Area
SACU	Southern African Customs Union
SADC	Southern African Development Community
SADP	Swaziland Agricultural Development Programme
SCB	Swaziland Cotton Board
SCC	SNAIP Coordination Committee
SCGA	Swaziland Cane Growers Association
SCM	SNAIP Council of Ministers
SDB	Swaziland Dairy Board
SMI	Swaziland Meat Industries
SNAIP	Swaziland National Agricultural Investment Plan
SNAU	Swaziland National Agricultural Union
SNL	Swazi Nation Land
SRA	Swaziland Revenue Authority
SSA	Swaziland Sugar Association
SWADE	Swaziland Water and Agricultural Development Enterprise
SWASA	Swaziland Standards Authority
SWOT	Strengths, Weaknesses, Opportunities and Threats
TDL	Title Deed Land
UNISWA	University of Swaziland
VAC	Vulnerability Assessment Committee
VAT	Value Added Tax
ZAR	South Africa Rand

WEIGHTS AND MEASURES

Metric System

CURRENCY EQUIVALENTS

(March 2015)

USD 1.00 = Emalangeni (E) 10.0
E 1.00 = South African Rand (ZAR) 1.00

FISCAL YEAR

1st April to 31st March

Swaziland National Agricultural Investment Plan (SNAIP)

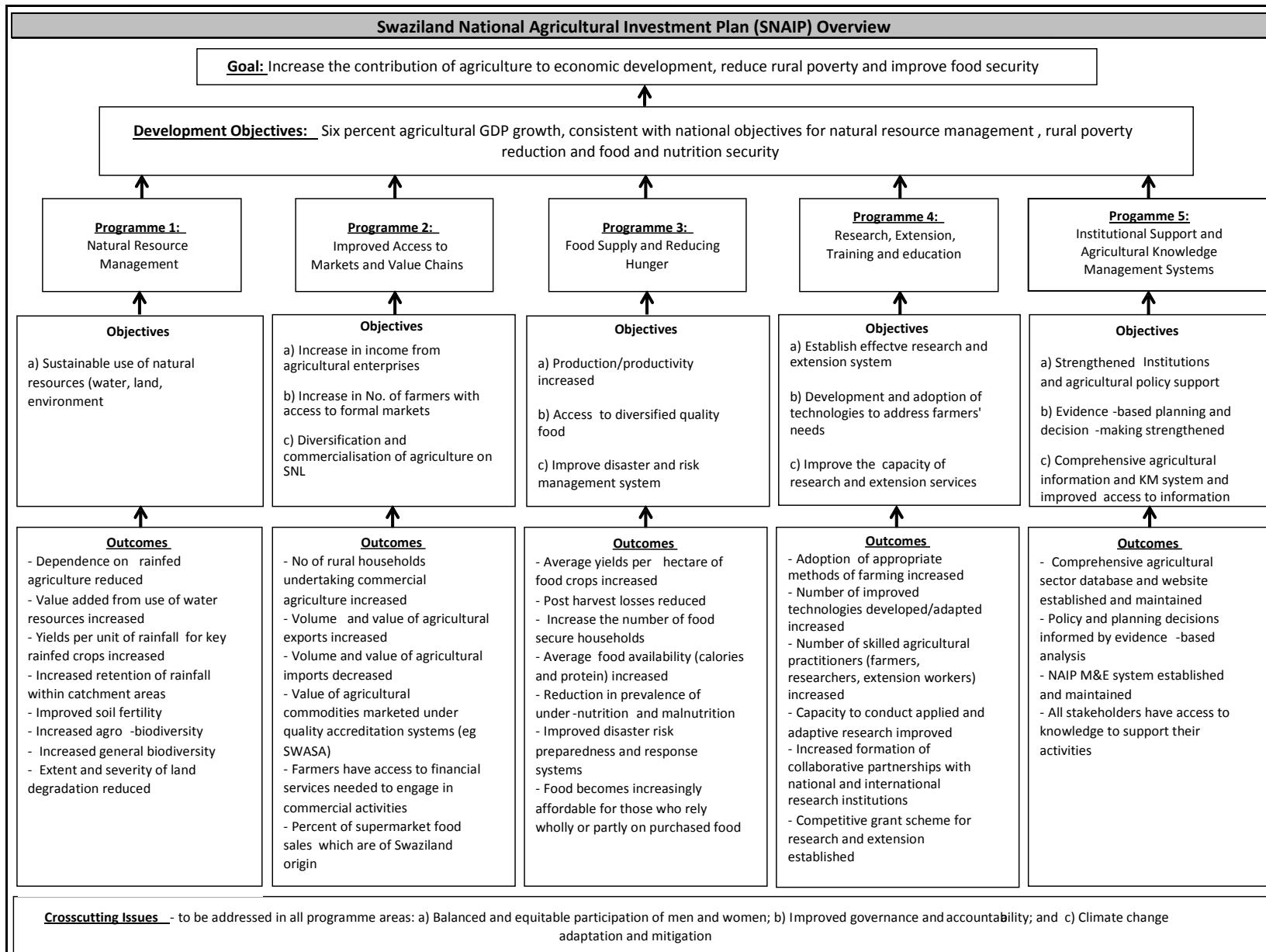


Figure 1 Outcomes are shown in black and outputs in red

I. INTRODUCTION

A. Purpose of the SNAIP

1. **The Swaziland National Agricultural Investment Plan (SNAIP) is an instrument to guide agricultural investment and to coordinate implementation with all of the sector's stakeholders.** The SNAIP's overarching goal is to increase the contribution of agriculture to economic development and to reduce rural poverty and food insecurity. The SNAIP identifies key areas of agricultural investment over a 10-year period to address low productivity and food insecurity through inter alia prioritising investment in natural resource management, market access, food security, research and extension and knowledge management. The SNAIP also identifies the key players in programme planning and implementation.

2. **The SNAIP is informed by the 2003 Maputo declaration in which African Heads of State committed to increase investment in agriculture in order to catalyse socio-economic development.** The CAADP initiative is driven by the NEPAD and regional economic communities which assist member countries to draft compacts and develop plans to attract growth-oriented investment in agriculture. The aim was to allocate at least 10% of the national budget to agriculture in order to finance targeted investment that can achieve the desired 6% annual growth of agricultural GDP. The process started in Swaziland in 2007 and culminated in the signing of the CAADP compact in March 2010.

It is acknowledged however that (i) budget quality and composition may sometimes be more important than a budget increase and (ii) the 10% target is irrelevant if not well invested. It is also correct to state that Swaziland could increase the public wage bill and attain the 10% even though this appears at first glance to contradict the previous statements.

3. The SNAIP is ultimately designed to operationalise the compact which was endorsed by the GOS, development partners, private sector, farmers and NGOs.

B. Policy Alignment

4. **The SNAIP is aligned with national policies and strategies and seeks to coordinate investment and implementation arrangements of existing strategies.** The main policy objectives that inform the SNAIP include the millennium development goals (MDGs) especially MDG1 that targets reducing poverty and hunger. The National Development Strategy (NDS) is also central to the SNAIP in that it provides the long-term vision which sets Swaziland a target of being amongst the top 10% of the middle income countries by 2022. This target has been revised however and was set to making the country attain first world status by 2022. The NDS is currently under review to put in place strategies to achieve the new target. The SNAIP in this regard provides priority actions to be undertaken in agriculture to contribute to attainment of the 2022 vision. The main document guiding the SNAIP was the Comprehensive Agriculture Sector Policy (CASP) which envisaged that an implementation plan would be drafted to attract agricultural investment. The SNAIP furthermore is in line with the Foreign Aid Policy which is informed by the 2005 Paris Declaration on Aid Effectiveness that emphasises harmonisation, division of labour and a sector-wide planning approach. Other key policies on which the SNAIP is anchored are the following:

- Poverty Reduction Strategy and Action Plan, 2007
- Economic Recovery Strategy, 2011
- Food Security Policy, 2005
- National Water Policy, 2003
- Livestock Development Policy 1995
- National Agricultural Research Policy, 2013
- National Agricultural Extension Policy (Draft)
- National Land Policy (Draft)
- National Irrigation Policy, 2005

C. The SNAIP Formulation Process

5. **The SNAIP formulation process was interactive and involved many stakeholders over several years.** The document is based on a consolidation of stakeholder consultation in several forums aimed at identifying key constraints to and opportunities for agricultural growth. One key informative stakeholder consultation was the 2007 Agriculture Summit which informed the proposed programmes in the CAADP Compact of 2010. Inputs from other fora such as the formulation of the 11th European Development Fund (EDF) programme was also incorporated to inform the SNAIP. After the signing of the CAADP Compact, the Ministry of Agriculture (MOA), which is the lead agency for SNAIP development and implementation, convened a National Technical Drafting Team (NTDT) to prepare a Stocktaking Report and assist in SNAIP drafting. The NTDT was drawn from different sub-sectors and had representatives from the various government ministries and farmer organisations. Farmer representation is particularly important since the SNAIP places the farmer at the centre of the development programmes. The Food and Agriculture Organisation⁷ (FAO) provided backstopping support and consultants to assist the drafting process.

⁷ Formerly the International Institute of Agriculture (IIA) founded in 1905. The IIA in 1945 became FAO and was located in Quebec City in Canada before moving to Rome in Italy in 1951.

SITUATION AND GAP ANALYSIS

6. The situation and gap analysis presented a summary of the agricultural sector following the stock taking report which was initially prepared in 2010 and updated by the NTDT in 2014. The situation and gap analysis further identified the urgent agricultural gaps where intervention was necessary. Addressing the identified gaps would help to ensure that agriculture becomes a viable means of reducing poverty and ensuring food and nutrition security.

A. Overview

Social and Economic Context

7. **Swaziland is a small, landlocked and densely populated country whose agricultural potential is constrained by the natural resource base, particularly land and water. Swaziland is categorised as a low middle income country with GDP per capita of US\$ 3,791 (World Bank, 2013). However, over the last ten years the country has experienced a series of challenges that led to a low economic growth averaging around 2% per annum which is much lower than the 5% growth required to create enough jobs and reduce poverty.** Income distribution is very much skewed and makes poverty reduction initiatives very challenging. It is estimated that 56% of the economy is in the hands of the richest 20% of the population. As a result 63% of the population is poverty stricken and this condition is worse in the rural areas where the poverty prevalence is 73%. Unemployment is a major contributor to the poverty situation and the current figures stand at 28% and 40% for restricted and unrestricted unemployment levels respectively. The poverty situation has further been complicated by the stubborn HIV/AIDS statistics that are resulting in child headed households.

8. **Gender inequality still exists with women still being marginalised and lacking access to land and production means.** The marginalisation of women and skewed income distribution worsen the poverty situation in the country. Swaziland has a GINI coefficient of 0.61, which is one of the highest in the world (World Bank, 2013). This indicates wide income disparities amongst households. Most poverty stricken households are in rural areas and depend on agriculture to sustain their livelihoods. The levels of poverty are manifest in the chronic food insecurity that persists, especially during the lean season where between 20 and 30 percent of the population becomes vulnerable. The levels of under-nutrition and malnutrition are very high with the prevalence of stunting at 31% (DHS Data, 2009). The country is a net importer of almost all agricultural and livestock products. Thus there are many opportunities for increasing production and processing of agricultural products especially food commodities. The country still has high levels of stunting as shown by the Household Demographic Survey of 2007 (DSH/07), the Multiple Indicator Cluster Survey of 2010 (MICS/10) and the Food Vulnerability Assessment of 2013 (VAC/13).

B. Role of Agriculture in the Economy

9. **Agriculture is defined as the mainstay of the Swaziland economy although its contribution to GDP has declined over the years. Agriculture and forestry accounted for 8.6% of Swaziland GDP in 2011-12 (CSO, 2012).** According to the Central Bank of Swaziland Report, 2013 the agricultural sector recorded a negative growth of -1.3%. This negative growth was as a result of reduced output and closure of SAPPI Usuthu who was the main exporter of timber, pulp and paper products. The performance of the sector is mainly influenced by value of sugar exports which account for over 70% of the value of agricultural production. The sector is also supporting agro-based industries and manufacturing which contributes about 27% of Swaziland GDP. Export of agricultural commodities in 2012 included sugar (E2.9 Billion), woodpulp (E 0.48 Billion), Citrus Fruits (E88 Million), canned fruits

(E 0.18 billion), meat and meat products (E32 million) and textiles (E1.2 billion). These sectors are the main sources of foreign earnings. However there are future uncertainties as follows:

- **Sugar:** The liberalisation of the EU sugar market and falling global sugar prices are likely to negatively affect the Swaziland sugar industry.
- **Fruit canning:** The plantation production of fruit such as pineapple is facing competition from sugar production expansion especially in the Malkerns valley where there is also increasing competition from human settlement. The fruit canning industry had found it difficult to put more land under pineapple production.
- **Forestry:** the closure of the Sappi Usuthu pulp mill resulted in a sharp decline in forestry contribution to GDP since the country is no longer processing and exporting pulp.
- **Beef:** exports volume continues to increase and the country was able to meet its quota for the Norway market. There is need to always increase vigilance on transboundary diseases to comply with the standards required by the EU markets. Challenges remain on improving the livestock management practice to improve productivity and value addition on livestock products is also weak.
- **Unpredictable weather patterns and climate change remain major threats to agricultural productivity.**

The country is attempting however to increase productivity of the sugar industry and to strengthen its competitiveness. There are also endeavours to increase agricultural productivity of the major crops and livestock and the adoption of climate smart agricultural practice. These endeavours are mainly driven by the MOA and its parastatals.

Many of these uncertainties are being addressed in the SNAIP.

10. Agriculture contributes to the economy through supporting livelihoods of about 70% of the rural population through food and cash income generation. According to the 2007 labour survey report, the sector employs 9% of the country's labour force. The sector's performance is expected to improve owing to ongoing initiatives to increase the area under irrigation and commercialising agricultural production on Swazi Nation Land (SNL). Such initiatives include the development of the Komati Downstream Development Project (KDDP, Lower Usuthu Smallholder Irrigation Project (LUSIP) and other medium scale dams for irrigation schemes which are empowering communities to produce commercially. These schemes involve a number of emerging commercial farmers especially in horticulture production who supply local retailers and export markets.

Land Resources

11. **Swaziland has a total land area of 17,370 km² and a population of 1.2 million.** This represents a population density of 69 persons/km² which is amongst the highest in Africa and ranking 17 in 2012. There are two basic form of land tenure: freehold (known as title deed land – TDL) which comprises around 40% of the land, whilst 60% is Swazi Nation Land (SNL) which is held in trust by the King for the Swazi Nation. TDL is mainly used for commercial farming, with significant areas under irrigation, whilst SNL is mainly used for rainfed cropping and grazing. SNL crop lands are allocated by the chiefs to individual households and SNL grazing lands are communal. Only 11% of the total land area is used for crops with the remainder used for communal grazing (48%), commercial ranching (19%) and commercial forests (6%). Around 20% of land is used for residential purposes, natural reserves, reservoirs, orchards and gardens.

12. **High population density, overgrazing and inappropriate cropping practices has caused widespread land degradation.** Population growth of 1.3% per annum and increasing use of agricultural land for residential purposes is increasing pressure on the small area of high quality arable land, especially in SNL areas. Efforts to introduce sustainable land management practices on SNL have achieved limited success. This is partly attributable to an inadequate regulatory framework. The constitution established the Land Management Board to control land use, but it has never had enabling legislation to make it effective. A draft land policy has been prepared with a guiding vision “to maximise benefits to the entire society from land on a sustainable basis”. The draft policy aims to provide guidance on sustainable land management; and improve productivity, income and living conditions thereby alleviating poverty. The policy also aims at addressing issues of land under-utilisation, inappropriate land use as well as management of grazing areas. However these initiatives require legislative backing to become effective. A Land Bill has been drafted and is awaiting parliamentary approval.

13. **A draft National Land Policy was prepared in 1999 with the view to improve access to land and security of tenure on SNL including tenure on irrigation schemes, as well as clarifying roles and responsibilities for land administration.** The draft policy considers the possibility of leasehold arrangement and transferable user rights for individual farmers and farmer groups on SNL. It proposes that the 99 year leasehold concept, already being applied by the Ministry of Housing and Urban Development in an urban context, be also applied to rural SNL. It also proposes changes to systems of land allocation to allow women to have equal access. In light of the MOA strategic direction on commercialisation of agriculture, the concept proposed in the draft land policy will become very critical considering the advent and implementation of the SNAIP.

14. **Besides its negative effect on food production, land degradation also jeopardises environmental sustainability and biodiversity, including forestry and aquaculture.** Swaziland is off-track in achieving some of the targets of MDG 7. For example, the country is off track in the ratio of area protected to maintain biological diversity to surface area. However, proportion of land area covered by forests is on track. The country is endowed with extensive cultivated plantation, natural forests and woodlands. Commercial forestry and related timber processing industries form a vital part of the Swazi economy, contributing approximately 12% of the agricultural GDP and about 14% of total agricultural exports.

15. **However, these resources continue to be degraded due to unsustainable use,** uncontrolled veld-fires, pests, diseases, severe weather events and land use changes due to human settlement and development. The disappearance of forest is a critical environmental problem since they play a major role in supporting ecosystems, preserving soil fertility and acting as carbon dioxide sinks. Agro-forestry provides an opportunity to re-claim the forest lands and promote biodiversity while increasing agricultural income. Even though agro-forestry benefits justify increased investment, the sector is disadvantaged by adverse policies, legal constraints and lack of coordination between the government and other stakeholders.

16. **Aquaculture is another sector that depends on the country’s natural resources and has potential to contribute to rural incomes.** As a landlocked country with limited water bodies such as lakes, commercial fishing is under-developed. In 1934 a Fisheries Act was promulgated mainly to regulate sport fishing. However, subsistence fishing from rivers and springs has always been practiced by Swazis whose diet patterns have changed to include proportions of fish. Lack of water in most regions of the country hinders the rapid uptake of commercial fish farming. MOA is committed to promoting household production of fish for consumption and commercial purposes although challenges exist. For example, in 1984 Swaziland was attacked by a vicious cyclone which, among other infrastructure, destroyed established hatcheries. This means the country continues to be dependent on expensive and

scarce imported fingerlings. Inadequate equipment for pond construction slows the roll out of fish farming programmes. To reduce dependence on imports, a local fish hatchery is being completed for provision of seed stock (fingerlings) to farmers. Extension services are also being carried out to support potential fish farmers around the country.

Water Resources

17. **Irrigated agriculture is by far the largest user of Swaziland's water resources and water is the key factor of production in the sugar sub-sector.** Rainfall is mono-modal with large inter and intra-annual variations making water storage essential for efficient use of water resources. Rainfall averages around 800mm per annum overall and ranges between 500mm in the dry lowlands to over 1,500mm in the wet midveld and highveld. The effect of climate change on rainfall is uncertain but higher temperatures are expected to increase evaporation and transpiration rates. Currently only about 17% of rainfall is captured in the major dams, but international agreements with Mozambique and South Africa preclude the enlargement of the existing dams or creation of new ones on the five main river systems. Some 96% of surface water resources are used for irrigation, mainly sugar, but there is growing competition from domestic, industrial and hydro-power water uses. There are also a number of water quality issues including waterborne diseases, agrochemical contamination, turbidity, salinisation, microbial pollution and organic pollution.

18. **Better management of water resources is critical to achieving the goals and objectives of the SNAIP.** The options fall into two categories: supply management and demand management. Supply enhancement options include: (i) surface water harvesting through construction of small and medium earth dams for domestic water supply, livestock and small-scale irrigation schemes (subject to the constraints of the international agreements); (ii) greater exploration and use of groundwater resources where this is cost effective and (iii) rooftop rainwater harvesting for domestic use and backyard food gardens. On the demand side much can be done to improve water use efficiency through a package of measures known as Water Conservation and Demand Management. This calls for a stronger water policy framework to increase awareness of and create incentives for efficient utilisation of water resources, and institutional reforms to coordinate water management between various ministries and departments. The most effective policy instruments for efficient water utilisation are to allocate water on a volumetric basis and to introduce water charges so that farmers save money by using less water. This needs to be accompanied by measures to raise awareness of efficient water use technologies. The creation of a water market where by water allocations are tradable would also create an incentive to allocate the available water to the most productive uses. It is also important that improved use of available hydrological data (daily records) be made to ensure that water harvesting investments as viable and sustainable.

C. Policy Framework

National Policies and Strategies

19. **The National Development Strategy and Vision 2022 is Swaziland's overarching development framework.** It was prepared in 1997 and incorporates a vision and mission with strategies for socio-economic development for the 25 years up to 2022, and provides a guide for 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 developments in the country. Agricultural development is one of the seven key strategic areas of the NDS with a focus on raising the capability of the sector to generate a higher volume of goods and services without damaging the environment. Important elements are food security at the household and community levels; commercialisation of agriculture on SNL, efficient water resource management and rational land allocation and utilisation.

20. **The Poverty Reduction Strategy and Action Plan (PRSAP) is Swaziland’s national poverty reduction strategy.** PRSAP was developed to operationalise the NDS by addressing the high level of poverty (estimated at 69% of the population at the time), and address widening income inequalities. Of the six main pillars in PRSAP, agriculture features prominently in the pillar which focuses on empowering the poor to generate income, reduce income inequalities and ensure food security. Specific measures in this regard include: (i) improved access to land; (ii) increasing agribusiness opportunities; (iii) creating employment opportunities; (iv) improving early warning and disaster preparedness; (v) improving access to water for agricultural use; (vi) improving farming methods to increase productivity; (vii) intensifying public education on nutrition; (viii) promotion of nutritious crops such as fruits and vegetables; and (ix) increasing the ability of the poor to generate income.

21. **The Economic Recovery Strategy of 2011 was launched to stimulate recovery of Swaziland’s economy following the global financial crisis.** It identified areas of investment that could enhance quick recovery and identified agriculture as one of the priority sectors. The main strategic areas identified for the sector include finalisation of the land policy to facilitate rational utilisation of land resources, intensification of water harvesting, capacity building for extension services, strengthening agricultural research, improving value chains and introducing high value commodities, and improving management of grazing areas.

Agricultural Sector Policies and Strategies

22. **The CASP, formulated in 2005 remains the cornerstone of Swaziland’s agricultural sector strategy and a key anchor point for the SNAIP.** The goal of CASP is to ensure that the agricultural sector contributes fully to the socio-economic development of the country. The main objective is to provide a clear guidance on policy options and measures necessary to enhance sustainable agriculture sector development and its contribution to overall economic growth, poverty alleviation, food security and sustainable natural resource management. Specific objectives of the CASP are: (i) to increase agricultural output and productivity; (ii) to increase the earnings of those engaged in agriculture; (iii) to improve food security; (iv) to ensure sustainable use and management of land and water resources; and (v) to stabilise agricultural markets. The policy seeks to improve rainfed and irrigated production, livestock, research, extension, marketing and credit. It also addresses the issue of food security and cross-cutting issues such as poverty, HIV/AIDS and climate change. SNAIP will accelerate implementation of the CASP within its ten-year implementation period by enhancing investment in the agricultural sector in accordance with the 2003 Maputo Declaration.

23. **The National Food Security Policy of 2005 defines Swaziland’s long term goal to “ensure that all people in Swaziland, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.”** This goal is based on the four pillars of: (i) food availability; (ii) access to food; (iii) food utilisation; and (iv) stability of access. The policy covers issues such as the sustainable environment for food security, efficient use of land and water, enhancing research and extension, improvement of farm operations and mechanisation, improvement of marketing infrastructure, HIV/AIDS and nutrition aspects. The policy also addresses the need for diversification of crop production, direct support to maize production, and the need to improve the effectiveness and targeting of food aid. Issues relating to nutrition, agro-processing, grain storage, strategic food reserves, and alternative income-generating activities are also dealt with in this policy.

24. **The importance of water resources in contributing to national and sectoral development aspirations is recognised in the 2003 Water Act, 2005 Irrigation Policy and the 2009 National Water Policy.** The 2009 National Water Policy sets out the vision, intention, and strategy of the Kingdom of

Swaziland on the development and management of water resources. The water policy constitutes a statement of intent with respect to water resource management which aims to (i) provide guidance to water managers, legislators and supporting partners (ii) promote integrated planning, development and management of water resources (iii) ensure that previously deprived sectors of society have access to water and (iv) promote sustainable development. The goal of the irrigation policy is to ensure that the irrigated sub-sector contributes fully to economic growth and poverty alleviation and the need to use the country's resources in a sustainable fashion. The specific objectives of this policy are to: (i) optimise the productivity of water in the country's agricultural sector and broaden the scope for agricultural intensification and diversification; (ii) establish an irrigation sector institutional landscape characterised by transparent regulation, strong participatory, responsive and accountable institutions; and (iii) enhance the structure of the irrigated sub-sector by promoting new public and private investment opportunities for smallholder farmers. The policy covers such areas as water productivity, soil erosion, management of wetlands, control of invasive plant species, efficiency of irrigation systems, construction of irrigation infrastructure and water allocation. The implementation of the Water plan combined with the irrigation policy is critical for the sustainability of the large investments on irrigation.

25. **The priorities for agricultural research and extension are defined in the National Agricultural Research Policy (2013) and the National Agricultural Extension Policy (2013).** The research policy aims to create an enabling environment for a National Agricultural Research System (NARS) which is efficient, effective, participatory, responsive to demand, and knowledge and information-age conscious. The policy recommends: (i) the establishment of a National Agricultural Research Authority (NARA); (ii) multi-stakeholder involvement in defining an innovative, demand-led, participatory and market-responsive research agenda; (iii) collaboration and partnership development to promote value chain and innovation systems; (iv) institutionalisation of a research fund management system using resources from both public and private sectors; and (v) capacity development of all service-providers including value chain actors. The vision of the extension policy is *“to be an efficient, pluralistic, participatory, demand-led extension system where all farmers are able to demand and have access to high quality extension services from those best able to deliver them”*. The policy intends to reorient the extension services to be demand driven and encourage pluralism in provision of services. Improving coordination and strengthening linkages with research are central issues to the policy.

26. **The National Land Policy (NLP) was drafted in 2000 and was improved in 2013 but remains a draft.** Administration of land is regulated by various pieces of legislation pertaining to SNL which is held by the King in trust for the Swazi Nation; and freehold land, which is referred to as Title Deed Land (TDL). The draft policy aims to: (i) improve access to land and secure tenure; (ii) encourage rational and sustainable use of land; (iii) improve productivity, income and living conditions and alleviate poverty; (iv) reduce land-related conflicts; (v) develop an efficient and effective system of land administration; and (vi) encourage land ownership by Swazi citizens. The draft policy introduces new elements including the removal of gender bias in land tenure, and compensation for expropriation of land ownership or rights to reflect the extent of economic loss. The policy discourages underutilisation of land by stipulating that all available land should be utilised for the production of basic foodstuffs, livestock or cash crops. It also provides for sub-leasing or reallocation of un-used SNL. Unfortunately, the policy was never formally endorsed and land tenure and land reform remains one of the most controversial national policy issues.

Sub-Sectoral Policies and Strategies

27. **Sub-Sectoral policies and strategies have been defined for livestock (1995), forestry (2002) and fisheries (2012).** The **Livestock Development Policy** aims to achieve an efficient and sustainable livestock industry by improving animal health, nutrition, meat hygiene, marketing, processing industries, commercialisation and promotion of entrepreneurship, range management, legislation and

communication. It covers cattle, goats, sheep, pigs, poultry and others. The **National Forest Policy** aims “to achieve efficient, profitable and sustainable management, utilisation of forest resources for the benefit of the entire society and to increase the role of forestry in environmental protection, conservation of plant and animal genetic resources and rehabilitation of degraded land”. The main objectives of the policy include the promotion of economic development through commercial forestry and conservation of natural forests and woodlands. The **Fisheries Policy** is oriented towards food security by: (i) reversing and preventing river catchment degradation and pollution; (ii) identifying suitable fish species for subsistence and commercial aquaculture; (iii) promoting integrated fish and agrarian farming; (iv) operationalising the national fish hatchery; and (vi) creating an appropriate regulatory climate to attract investment.

D. Laws and Regulations

28. **Swaziland has a comprehensive legal and regulatory framework covering agriculture and rural development.** However many of these statutes and regulations are poorly understood or applied. These are summarised as follows:

Instrument	Provisions
Forestry Preservation Act, 1910	- Preservation of trees and forests on government land and SNL
Cattle Routes Act, 1918	- Establishment of routes to access public dipping tanks
Land and Agricultural Loan Fund Act, 1929	- Establishment of “Swaziland Land and Agricultural Loan Fund” to finance purchase of farms and farm improvements
Cattle Dipping Charges Act, 1950	- Imposition of charges for cattle dipping
Private Forest Act, 1951	- Regulation and protection of privately-owned commercial forests
Natural Resources (Public Stream Banks) Regulations	- Prohibition of development that may destroy vegetation within 100 feet of a public stream (other than on SNL)
Grass Fires Act, 1955	- Consolidation of laws related to grass burning.
Cruelty to Animals Act, 1962	- Prevention of cruelty to animals
Animal Diseases Act, 1965	- Regulation of livestock movements including imports and exports of animal products
Pounds Act, 1966	- Establishment of pounds and procedures for impounding stock
Cane Growers Act, 1967	- Incorporation of the Swaziland Cane Growers Association and collection of levies from cane growers
Citrus Act, 1967	- Establishment and functions of the Citrus Board
Cotton Regulation, 1967	- Constitution and functions of the Cotton Board and its regulatory powers
Dairy Act, 1968	- Control and improvement of the dairy industry and regulation of dairy product prices
Control of Tree Planting Act, 1972	- Regulation of tree planting for commercial purposes including prevention of tree planting on arable land
Public Health (Food Hygiene) Regulations, 1973	- Regulations relating to food premises, methods and practices in food businesses and adulteration of foods
Plant Control Act 1981	- Control, movement and growing of plants and matters relate to nurseries, plant disease and pest control, and noxious weeds
NAMBOARD Act, 1985	- Establishment and functioning of NAMBOARD and control of imports and exports of agricultural products
Flora Protection Act, 2001	- Protection of indigenous flora and related issues
Water Act, 2003	- Establishment of National Water Authority, Water Apportionment Board, River Basin Authorities and Irrigation Districts - Regulation of water pollution and wastewater management

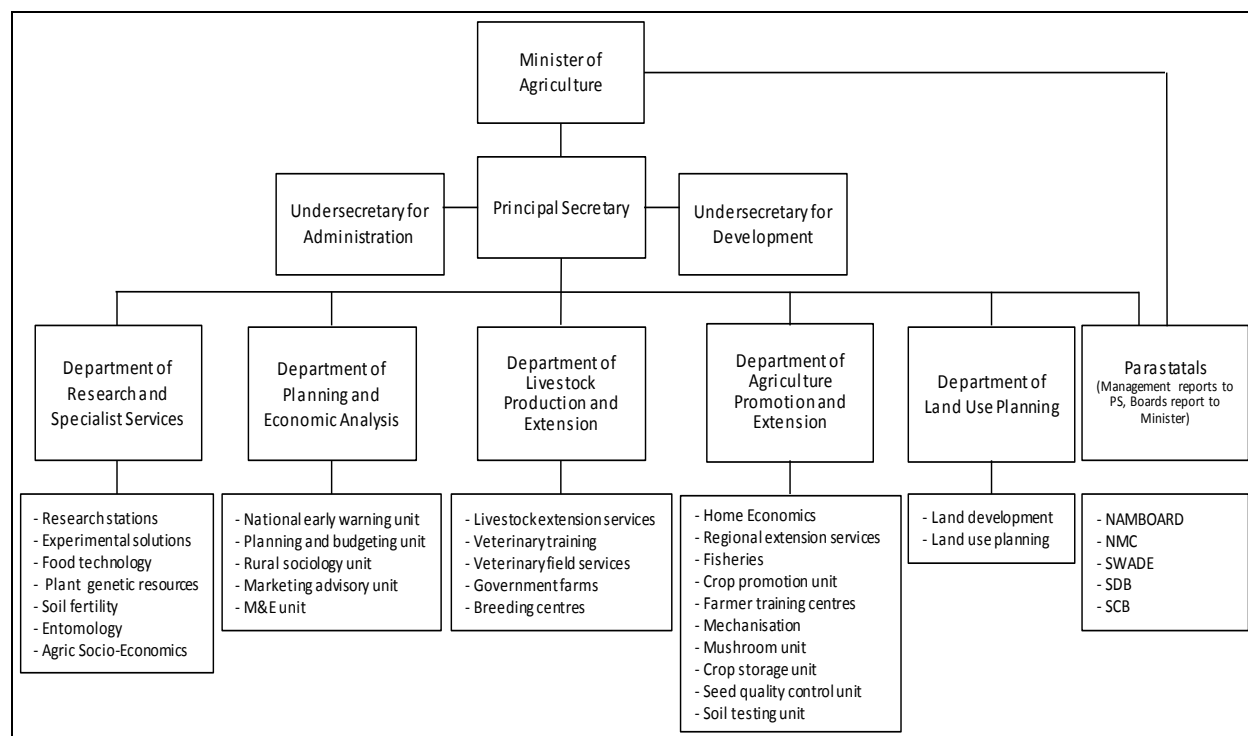
Instrument	Provisions
Veterinary Public Health Act, 2012	- Regulation of food safety for animal products
Plant Health Protection Act, 2013	- Prevent introduction and spread of plant pests and diseases - Establishment of the National Plant Protection Unit

E. Institutional Framework

Overview

29. The Ministry of Agriculture is central to the development of the agricultural sector and its structure is shown in the currently-agreed organogram in Figure 1.

Figure 1: Organisation of the Ministry of Agriculture



As the lead Ministry, the MOA will have primary responsibility for implementation of the SNAIP. MOA's mission is "to transform Swaziland's agricultural production system from its traditional subsistence mode to a more commercial oriented production system through diversification and commercialisation". To achieve this MOA formulates policies and administers all legislation related to agriculture, and is responsible for designing and implementing an agricultural development programmes for the benefit of the economy.

Other Ministries and Institutions

30. Whilst MOA has primary responsibility for sectoral development, there are several other agencies with complementary or supporting functions

Ministry	Related Function
The Cabinet under the Chairmanship of the Prime Minister makes	Policy decisions to be carried out by the different ministries and approves the national budget.
The Office of the Prime Minister	Directs and coordinates policy implementation through a system of performance targets and monitoring.
The Office of the Deputy Prime Minister	is responsible for social safety nets including the Disaster Management Agency, gender and family issues and the Vulnerability Assessment Committee (in conjunction with the MOA Early Warning Unit)
The Ministry of Finance (MOF)	is responsible for fiscal policy, taxation, budget allocations and procurement, as well as for negotiating and managing external funding for development programmes and projects.
The Ministry of Economic Planning and Development (MEPD)	is responsible for economic planning and policy, NDS coordination, integrated development planning, mainstreaming poverty eradication programmes, statistics, external assistance management and millennium projects. The Aid Coordination and Management Section is responsible for external resource mobilisation.
The Ministry of Natural Resources and Energy (MNRE)	is responsible for land and water resource management which are key to sustainable development of the agricultural sector and is also responsible for land administration issues; and in this regard there is a draft National Land Policy and Land Bill in place.
The Ministry of Health	plays a key role in food security and nutrition as well as public health and sanitation and management of the HIV/AIDS pandemic.
MOPWT in conjunction with the Land Development Section of MOA	plays an important role in access roads and bridges to facilitate the transport of agricultural inputs and farm produce.
MTEA	has responsibility for environmental management, forestry, meteorology and climate change.
The Ministry of Information, Communication and Technology (MOICT)	is responsible for information services through print and electronic media and is key in dissemination of agricultural information.
The Ministry of Foreign Affairs and International Cooperation	oversees Swaziland's affiliations with international organisations which facilitates technical cooperation, development finance, training and harmonisation of standards for agricultural commodities and services.
MOCIT	is responsible for industrial development which includes industries reliant on agricultural raw materials, as well as international market access, investment promotion and trade, and is home to the Swaziland Standards Authority (SWASA).
The Ministry of Education and Training	is responsible for formulation of education and training policies for specific industries such as agriculture, and operates several vocational training centres including the University of Swaziland where there is the Faculty of Agriculture.
The Ministry of Public Service	is responsible for authorising and facilitating recruitment and training of officers within the Government system, including MOA.
The Ministry of Tinkhundla	is a crucial ministry with regard to rural development. Regional and

Administration and Development.	local government structures are administered under this ministry
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Parastatals

31. **A number of parastatal organisations with semi-autonomous status are active in the agricultural sector.** These include:

Parastatal	Core Function
National Maize Corporation (NMC)	procures maize from farmers at a guaranteed minimum price, and is the dedicated sole importer of maize.
Swaziland Cotton Board (SCB)	promotes the cotton industry by undertaking research and plant breeding, operate a revolving fund for purchase of inputs, provide specialised extension services, and operates the country's only cotton ginnery.
National Agricultural Marketing Board (NAMBoard)	promotes the marketing and regulates imports of scheduled agricultural commodities. Other activities include the operation of a wholesale market, a poultry abattoir and a banana ripening facility as well as provision of specialised extension services for horticulture. NAMBOARD has also introduced the Global GAP (good agricultural practices) standard for growing vegetables.
Swaziland Dairy Board (SDB)	regulates and controls the dairy industry for the benefit of farmers, milk processors, consumers and other stakeholders. SDB also issues import permits to regulate imports of dairy products.
SWADE	implements agricultural development projects, including large scale irrigation schemes for sugar and other crops based on chiefdom development plans and access to SNL and land management and conservation agriculture

Financial Institutions

32. **Swazi Bank was created in 1973 to service Swazis who were not being adequately serviced by the commercial banks.** The Bank, which is wholly owned by the Government, has struggled with non-performing loans and has been forced to diversify into commercial housing, car loans, insurance and corporate financing. Agricultural financing accounts for around a quarter of the Bank's loan portfolio of which 95% represents loans to the sugar industry. The bank has almost discontinued financing of rainfed agriculture due to the risk of drought.

33. **FINCORP was established in 1996 under MOF to fill the void left by the struggling Swazi Bank.** FINCORP focuses on financing SMEs and farmers and relies mainly on the viability of projects based on evaluation of business plans rather than secured loans. Currently FINCORP is administering the Investment and Marketing Fund which is financed by the EU in collaboration with FAO for implementation of the Swaziland Agricultural Development Programme (SADP). These funds are accessed through competitive applications for agricultural processing and marketing enterprises that are guaranteeing support to smallholder farmers through providing markets for their agricultural products.

Academia

34. **The University of Swaziland is the principal training institution for technical and professional staff in the agricultural sector.** The Faculty of Agriculture formerly provided certificate and diploma programmes for training extension workers, but these have been discontinued and extension workers now undertake B.Sc.level courses in agriculture. The Faculty also offers M.Sc. programmes in areas such as agriculture, agricultural education, extension, crop science and agricultural economics, as well as a M.Sc. programme in environmental resource management. The Faculty collaborates closely with other universities in Africa, Europe and the USA and has forged strong partnerships with the public sector (MOA), parastatals (eg Swazi Bank) and the private sector. In recent years it has shifted its emphasis away from training for public sector employment towards developing agricultural entrepreneurs who will be self-employed. To achieve this all students are required to complete a course in entrepreneurship.

Private Sector

35. **Swaziland's agribusiness sector is dominated by enterprises engaged in the growing and processing of sugar.** However there are several significant non-sugar agribusinesses:

- Ngwane Mills is engaged in milling wheat and maize and production of animal feeds. All wheat is imported and maize is purchased locally from NMC and private farmers and also imported.
- Swaziland Meat Industries (SMI) slaughters and processes cattle and pigs, and also operates a pig farm. It is the major supplier for meat for the local market and also exports beef to Reunion, Mayotte and Mozambique. SMI promotes intensive beef production based on smallholder feedlots and provision of financial and technical support for breeding and fattening cattle.
- Umbuluzi Farm Chickens is a broiler producer and processor. It produces its own broilers and also has a number of contract out-growers who supply around 80% of the birds slaughtered.
- Agro-dealers are also key role players in the development of the sector. Most of these import stock from neighbouring South Africa to supply the local market.

Industry Organisations

36. **SNAU is the apex body for all farmers and farmer organisations.** It was formed in 2008 to create a central farmers' organisation to be the voice of all farmers in Swaziland. SNAU consists of a National Executive Committee of nine members, four regional committees, and a number of commodity groups in the form of Farmers' Associations or Cooperatives. The main objectives of SNAU are to: (i) assist farmers to transform from subsistence to commercial farming; (ii) attain food security; (iii) achieve better prices for inputs and produce; (iv) assist farmers in accessing water for irrigation; (v) assist farmers in negotiations with parastatal organisations; (vi) negotiate for lease agreements for the utilisation of government-purchased farms; (vii) represent farmers' interests in negotiations with Government and international organisations; and (viii) look after the welfare of farmers with respect to HIV/AIDS. SNAU is still in its formative stage, but is already engaging in activities such as bulk procurement of inputs and building linkages with regional organisations.

37. **The Swaziland Sugar Association (SSA) is an umbrella organisation comprising cane growers and sugar millers.** It regulates the relations between growers and millers under the Sugar Industry Agreement, pursuant to the Sugar Act of 1967. The Industry Agreement regulates issues including cane varieties to be grown, disease control, allocation of sucrose quotas to cane growers, sugar

quality, etc. After milling, the sugar and by-products become the property of the SSA which markets the sugar and distributes the proceeds between the growers and millers according to an agreed formula. SSA is also heavily involved in international trade negotiations. Swaziland is one of the Southern African countries that have entered into the Economic Partnership Agreement (EPA) with the EU. SSA is also involved in extending markets in the Southern African Customs Union (SACU) and elsewhere into which half of the country's sugar is sold. Under the EPA, Europe has agreed to receive 150,000 tonnes of Swazi Sugar as opposed to 120,000 tonnes quota provided under the previous Most Favoured Nation agreement. The Association is heavily involved in implementing the National Adaptation Strategy which is supported by funding from the EU. SSA also provides other essential services such as extension, cane testing and warehousing.

38. **The Swaziland Cane Growers Association (SCGA) is a cooperative for small scale sugar cane growers who are mostly located on SNL.** The association was incorporated in 1967 under the Cane Growers Act. SCGA represents the interests of small scale farmers on the SSA Council, which is the highest policy making body in the sugar industry. The Association is mandated to collect a levy from cane growers to finance administrative costs and engage in any other activities including support to improve technical knowledge for cane growers. The Association has been instrumental in implementation of the ongoing diversification programme under the National Adaptation Strategy supported by the EU. The association is empowered to engage in a number of activities in promoting the interests of its membership including accessing credit, investing, acquiring assets, etc. In line with the National Adaptation Strategy programme, the SCGA can play a role in advancing projects aimed at improving efficiency in the sugar sector and diversification to non-sugar crops.

39. **FSE&CC represents formal employers in the business sector.** It comprises over five hundred private sector and parastatal members with a significant portion coming from the agricultural sector. FSE&CC has a keen interest in national issues affecting the agricultural sector including trade restrictions imposed by parastatals and the need to reduce the role of the public sector in the economy.

40. **The institutional SWOT analysis presented in the Stocktaking Report identifies some of the key gaps and deficiencies to be addressed by the SNAIP.** In the public sector the major challenge is that of insufficient human resources capacity in terms of numbers and expertise. All MOA departments are affected, but priority should be given to the extension services because of the current level of staff shortages and the potential positive effect of a sufficiently capacitated service. Another area of concern in MOA is the effectiveness of planning and coordination, monitoring and evaluation. In order to effectively implement multi-stakeholder development initiatives there is need to strengthen planning within and among departments. This also extends to coordination of parastatals and other stakeholders within and outside government. The Ministry's mission is to transform agriculture from subsistence to a more commercial mode of production; in this regard there is a need to reform and establish a dedicated Agri-business Unit which will provide adequate services and complement the extension services on agri-business issues. This would upgrade the services of the current Marketing and Advisory Unit.

41. **Other ministries have similar challenges to those of MOA.** Government planning and management is a highly centralised process directed by Prime Minister's Office, MEPD, MOF and the Ministry of Public Service. These institutions provide policy direction, budgetary control and management of human resources. In the policy arena there is a need for capacity-building in evidence-based planning. Challenges related to budgeting, and human resources management require continued support to create more effective systems in the public service.

42. **The private sector also needs to be engaged to identify opportunities for partnerships for agricultural sector development.** FSE&CC provides an opportune forum for this. Farmers also should be treated as key partners and important investors in agricultural development. SNAU has capacity

challenges but is well placed to represent and sensitize and engage farmers. Due to the issues of weak membership there is a need to involve other farmer associations in the planning process. On the other hand, development partners and NGOs are heavily involved in agriculture development, but there is need to improve coordination and accountability to improve the effectiveness of interventions. Strengthening of the sector wide approach to planning would help to bridge this gap.

43. **In order to improve agricultural productivity there is need for a holistic approach to build capacities of all stakeholders involved.** This can well be addressed using the value chain approach. In this regard, for each commodity, it would be ideal to identify all the role players and their needs and provide targeted solutions. This means changing the current extension services system which is generalised and mostly concerned with production issues.

F. Poverty and Food Security

44. **Poverty levels are declining but remain unacceptably high relative to MDG and NDS objectives, especially in rural areas.** The overall prevalence of poverty declined from 69% in 2001 to 63% in 2010. In rural areas poverty declined from 80% to 73% over this period compared to from 36% to 31% in urban areas. Over the same period poverty in female headed households declined from 72% to 67% and in male headed households from 67% to 59%. The number of households in extreme poverty did not decline significantly. Income distribution is also highly skewed with 56% of the nation's wealth held by the richest 20% of the population whilst the poorest 20% account for only 4%.

45. **Food security is a key thrust of the development of Swaziland's agricultural sector.** In this context food security is achieved "*when all people, at all times have physical and economic access to sufficient safe and nutritious food to meet their dietary needs and food preference for an active and healthy life*⁸." This concept of food security encompasses four pillars: (i) food availability: sufficient quantities of food available on a consistent basis; (ii) food access: having sufficient resources to obtain appropriate foods for a nutritious diet; (iii) food use: appropriate use based on knowledge of basic nutrition and care, as well as adequate water and sanitation; and (iv) stability: adequate access to food at all times, that entails reducing economic and climatic shocks that causes populations to be vulnerable at certain time periods.

46. **Basic indicators strongly suggest that Swaziland is falling well short of its food and nutrition security objectives.** In 2010 31% of children were stunted with severe stunting in 11% of cases, and more prevalent in rural areas (33%) than urban areas (23%). Worse still, the prevalence of stunting increased from 27% in 1983 to 40% in 2008, but recovered somewhat to 31% in 2010. The high prevalence of stunting is evidence of widespread under-nourishment as well as lack of dietary diversity and poor health including the high prevalence of HIV/AIDS. Overall 42% of children under five years and 18% of those 5-11 years have some degree of anaemia.

47. **For the 70% of Swaziland's population which lives in rural areas, household food security depends on a combination of subsistence production and food purchase.** It is estimated (UNS 2012) that other sources of income contribute more to household food availability than household production, and that up to 35% of the total household budget is used for food purchase. Annual vulnerability assessment reports from 2006-12 consistently show higher numbers of food insecure households in the dry midveld and lowveld area where crop yields are lower and less reliable. However there has been a general decline in the number of food insecure people from around 340,000 in 2006 to 116,000 in 2012 due partly to death and partly to development. Even so, the vulnerability assessments indicate that 20-25% of Swazi households are chronically food insecure. Poor dietary diversity is also a challenge leading

⁸As defined at the 1996 World Food Summit.

to a range of malnutrition conditions including stunting and underweight conditions in children and obesity in adults.

48. **Swaziland has not achieved self-sufficiency in staple food production for many years.** During the last five years Swazis have consumed an average of about 113,000 tonnes of maize annually but produced only around 76,000 tonnes with the difference supplied by imports. However overall maize self-sufficiency is increasing due to declining maize consumption from over 150,000 tonnes per annum a decade ago. Maize self-sufficiency over this period has increased from about 50% to over 70% as imported rice replaces maize as a staple food. Food import statistics also point towards low levels of self-sufficiency in animal products especially beef and dairy products.

49. **The subsistence nature of production mostly in SNL results in reduced food supply and continued occurrence of malnutrition cases.** The dependence on rainfed agriculture and climate change has been discussed. Compounding factors in the low agricultural yields experienced in the past 10 years are poor farming techniques and low use of inputs like fertilisers and veterinary medication. The end result of persistent low agricultural output is chronic malnutrition and food insecurity.

50. **Persistent food and nutrition insecurity points to the need to accelerate production through increased agricultural investments and improvements in food production methods.** With the challenges of low food production exacerbated by changing weather patterns, there is need to investigate new climate smart agricultural techniques. Commercialisation and transformation of the agricultural sector will ensure high productivity and income generation.

51. **Access to safe and nutrition food is also advanced through proper food handling and prevention of post-harvest losses.** Proper food handling involves appropriate cooking and storage and these techniques must be inculcated in communities through education and training campaigns. Appropriate nutrition also requires access to diversified food types. This can be achieved through strengthening the drive for agricultural diversification and production of food that is suitable for the different agro-ecological zones of the country.

G. Agricultural Production Status

52. **As highlighted in the stock taking report (2014), agricultural production in the country, has been steadily declining in the past decade mainly due to changes in weather patterns and poor farming practices.** The country therefore remains a net importer of most agricultural commodities, including maize, which is the staple food. However, the country is a big exporter of sugar, which is one industry that has performed well due to factors of favourable markets and prices and the drop in the value the local currency.

Crops

53. **The total area of crop land is 195,000 ha of which 63% is SNL and 37% TDL.** Table 1 shows that only about 55% of SNL crop land is actually planted to crops compared to 79% of TDL.

Table 1: Total Crop Area by Land Tenure Category (ha)

Land Tenure Category	Crop	Fallow	Total
SNL	67,382	55,618	123,000
TDL	54,074	17,926	72,000
Total	121,456	73,544	195,000

Source: MOA, 2013

54. **Swaziland's crop production is dominated by two crops: rainfed maize and irrigated sugar.** In the rainfed farming systems maize represents 84% of the crop area (more in the higher rainfall areas), cotton 7% (mainly in the low veld) and groundnuts 6%. Other crops include grain legumes, root crops (mainly sweet potato) and sorghum. Average maize yields fluctuate according to rainfall and average about 1.5 tonnes/ha, well below potential. The reasons for low maize yields are attributed to low/erratic rainfall, delayed planting, depleted soil fertility, soil acidity, and low use of improved seeds and fertilisers. Consequently there is an annual shortfall in maize production of about 30,000 tonnes which has to be supplied through imports. MOA is attempting to improve the timeliness of planting by providing a tractor hire service, but this has not been effective and contributes to the substantial area of crop land not planted or planted late.

The Sugar Sub-Sector

55. **Swaziland is Africa's fourth largest producer of sugar (after South Africa, Egypt and Sudan)** and is increasing production as more small-scale farmers take up sugarcane cultivation and access to irrigation increases. Furthermore, sugarcane farmers stand to benefit from EU funding for new sugarcane projects. A replanting program with higher-yielding varieties is also underway. Support from the EU aims at improving the productivity and efficiency of small and medium sugarcane growers and to improve provision of social services in sugar growing areas. The expected results include increasing yields of both new and existing small and medium growers as well as the efficient use of water resources, reduced transport costs and lower input costs.

56. **The area planted to sugar has grown steadily from around 36,000 ha in the 1980s to 40,000 ha in the 1990s and reached a record 53,500 ha in 2012.** Initially sugar production was entirely on TDL but small scale farmers on SNL became involved from the late 1980s. Average cane yields have remained at around 100 tonnes/ha. SSA classifies sugar growers as large, medium and small scale. There are currently nine large scale growers planting an average of over 5,000 ha each, 29 medium scale growers with an average of 140 ha, and 430 small growers with about 30 ha each. About 20% of production comes from growers classified as small scale. All sugar is produced under irrigation in the low veld agro-ecological zone.

57. **Sugar is the single biggest industry in Swaziland and accounts for almost 60% of agricultural output, and 35% of agricultural wage employment.** The industry includes four components: large millers and estates (77% of production); large growers (17%); medium sized growers (5%); and small growers (1%). The largest number of growers falls under the category of medium and small growers. South Africa's three biggest sugar companies, Illovo Sugar Ltd, Tongaat Hulett Sugar Ltd, and Tsb Sugar RSA Ltd are involved in the Swaziland sugar industry through their co-ownerships in production estates and mills. There are three sugar mills (Mhlume, Simunye and Ubombo) with a combined annual production capacity in excess of 600,000 tonnes of raw, refined and brown sugar.

58. **The sugar industry is formally structured with growers represented by the Swaziland Cane Growers Association and millers by the Swaziland Sugar Millers Association.** Sugarcane growing is regulated through quotas issued by the Sugar Industry Quota Board. The interests of the different players are coordinated within the framework of the SSA which was formed in 1964 and is governed by the Sugar Act of 1967. SSA is responsible for providing the services necessary for the development of the industry and the marketing of Swaziland's sugar. The growers and millers are equally represented on the SSA Council which is chaired by an independent person, who has no interest in the growing, milling, and marketing of sugar.

Horticulture

59. **Horticultural production consists of about 960 ha of vegetables grown mostly by small scale commercial and subsistence farmers and about 2,600 ha of citrus grown on large estates.** Vegetable production is important from a food security and nutrition point of view and government is attempting to develop vegetable value chains and Global GAP certification in order to compete with imported vegetables, which supply a large segment of the market. Many vegetable farmers also struggle with access to water, financial services, compliance with market standards and incur high post-harvest losses. These challenges make it difficult to attract farmers into vegetable farming.

Livestock

60. **Livestock constitute an important sub-sector within Swaziland's agricultural sector.** The country's livestock resources impact on a large number of households and people. They constitute an integral part of the food security and sustainable livelihood of close to 80% of the Swazi population. Livestock are a source of food and income, provide draught power, are a source of manure for crop fields and grazing lands and are used to meet social and cultural obligations. Livestock play a significant role in food security because in times of need it is common for households to sell animals (especially cattle) to satisfy basic needs. However, the livestock sector is plagued by low productivity mainly due to overgrazing, poor nutrition and bad management.

61. **Cattle account for almost 90% of Swaziland's livestock biomass.** In 2012 there were 634,000 cattle, 503,000 sheep and goats, 12,500 equines (mainly donkeys), 43,000 pigs and 4.0 million poultry. Cattle numbers declined from a peak of 753,000 in 1992. Productivity of the cattle herd is low with an offtake rate of only 7% producing around 10,600 tonnes of carcass weight. Grazing livestock are fairly evenly distributed across the country and are found in all agro-ecological zones and farming systems. There are three predominant animal production systems: (i) the traditional smallholder system on SNL land with minimal inputs, high stocking rates and uncontrolled mating which accounts for around 82% of grazing livestock; (ii) commercial ranching on TDL; (iii) and modern industrial-scale pig and poultry production. In the smallholder system cattle are important for providing draft power, although this is declining as mechanisation increases.

62. **The very high stocking rates on SNL grazing areas are a major cause of land degradation, low productivity and vulnerability to drought.** The area of grazing land is declining due to expansion of cropping and residential development. Efforts to reduce stocking rates, increase forage production and improve livestock management have so far yielded limited success. Continuing low productivity means that Swaziland remains heavily dependent on imported animal products especially meat and dairy products. However the country's foot and mouth disease (FMD) free status enables it to export 600-700 tonnes of boneless beef to the EU, South Africa, Mozambique, Reunion and Mayotte.

63. **Swaziland has a good record of achievement in animal disease control and veterinary public health.** Despite significant transboundary challenges the country has succeeded in eradicating rinderpest, trypanosomiasis, east coast fever and FMD. Ticks and tick-borne diseases are controlled with 528 communal dip tanks on SNL which are serviced free of charge and 347 private dip tanks on TDL. The country has not been affected by avian influenza but has developed a prevention and control programme. Meat hygiene is maintained by regulation of the SMI abattoir and the poultry processors.

64. **The most significant change in the sector over the last decade has been the establishment of a modern industrial-scale poultry meat and egg industry.** This has squeezed out traditional producers of chickens, eggs and pigs who are unable to compete on quality and price. Production of broiler chickens is now estimated to exceed that of beef. The broiler industry is dominated by a single processor who

engages outgrowers with flocks of over 4,000 birds per batch. There are two commercial egg producers with 50-60,000 layers each supplying over 90% of the domestic market and exporting eggs to Mozambique. However, the poultry industry is heavily dependent on imported feeds, feed ingredients, day-old chicks and hatching eggs.

65. **Bee-keeping for honey production is progressively being transformed from subsistence to a commercial level.** Honey is produced under natural conditions using local honey bees, natural forests, Eucalyptus forests, citrus plantations and field crops. There are currently five companies undertaking honey bee farming and associated activities such as hive manufacture. Honey production is estimated to be around 100 tonnes per annum of which about 75% is traded through formal markets, supplemented by a small volume of imported honey. The Swaziland Honey Council has been formed to promote honey production and marketing and assist honey producers to meet EU and USA product standards.

Forestry

66. **Swaziland has forests covering 563,000 ha (of which 107,000 ha is plantation forests) representing 32% of the total land area.** A further 427,000 ha is classified as “other wooded land”. Commercial forestry and related timber processing industries contribute approximately 12% of agricultural GDP and about 14% of agricultural exports. Overall yield is approximately 1.2 million m³ of wood per year which is largely exported as pulp, logs and sawn timber. However Swaziland’s forest resources continue to be degraded and threatened with depletion due to un-sustainable use, uncontrolled fires, pests, diseases and land use changes due to population pressure. The National Forest Policy recognises these threats and calls for prudent, judicious and balanced use of land resources to realise investment and employment opportunities in the forest sector. The sector faces a number of challenges including: (i) closure of the pulp mill; (ii) proliferation of invasive plant species and pests; (iii) attracting investment limited by land ownership issues; (iv) competing uses of forest land; and (v) limited opportunities for forest expansion.

Fisheries

67. **As a landlocked country with limited water bodies, commercial fishing is very limited in Swaziland.** Subsistence fishing from rivers and springs has always been practiced, and there are ongoing efforts to develop pond aquaculture and stock dams with a variety of fish including indigenous species. However, the country does not have a functioning fish hatchery and is dependent on imported fingerlings which are difficult to procure and when procured are expensive.

68. There are more than 1,000 fish ponds around the country but many of these are unproductive. Likewise the fish yields from stocked dams are also very low. Government is currently constructing a fish hatchery to provide seed stock and its speedy completion would help in fast-tracking fisheries development.

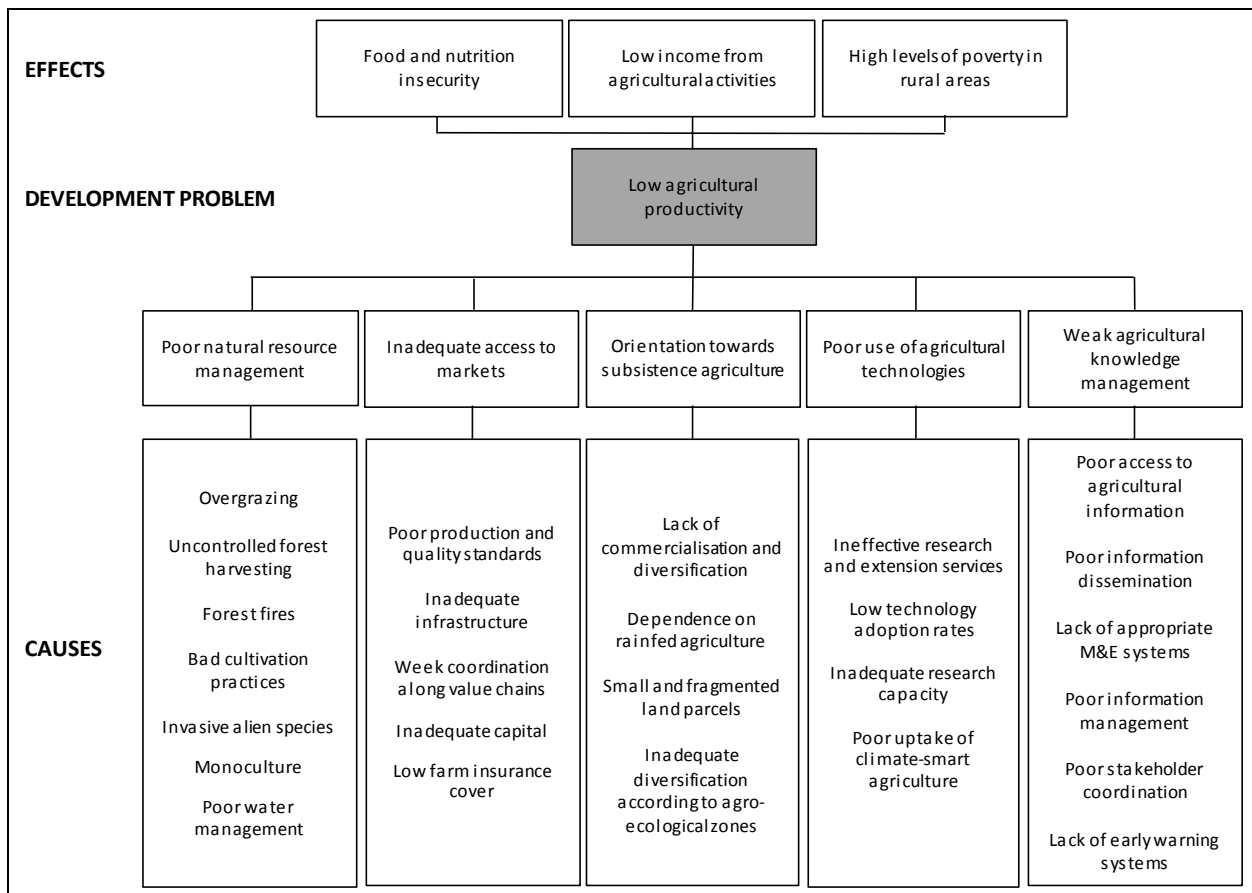
Climate Change

69. **Increasing temperatures and a high level of climatic variability pose special challenges for Swaziland agriculture.** Generally rainfall exhibits high inter-annual variability associated with the El Niño Southern Oscillation and sea surface temperature variations in the Indian Ocean leading to both drought and floods. Variations in temperature are related to the altitude of the different regions across the country. The highveld areas are seldom uncomfortably hot while the lowveld may record temperatures above 40°C in summer. Climate projections suggest a significantly warmer country by the 2050s and beyond. These changes in weather pattern have an adverse effect on food production and calls for adoption of climate resilient agricultural practices.

Different climate smart options are available in the various farming systems and may include some or all of the following: (i) use of drought tolerant and early maturing crop varieties; (ii) early planting by use of zero tillage techniques and herbicides; (iii) measures to control runoff and harvest/store excess rainfall; (iv) erosion control to improve soil fertility and water infiltration; (v) use of fodder crops and fodder trees to reduce grazing pressure; and (vi) forest protection and agro-forestry; These are all measures that can deliver “triple wins” - increased productivity, increased resilience and reduced greenhouse gas emissions⁹.

70. **In particular, maize production is mostly rainfall-dependent and has been erratic but mostly declining in the past decade.** This is despite the fact that the country has raised the importance of increasing maize production and reducing importation. The main reasons for the decline are inadequate rainfall distribution and soil fertility depletion and soil acidity. Generally, the dependence on rainfed agriculture is more acute in SNL. Also cited as a reason for the low maize output is the significant decline in the use of agricultural inputs such as fertilisers and improved quality seed. Besides the maize production trends, the country’s livestock numbers have also been clearly correlated with rainfall levels. The dependence on rainfed agriculture raises the need to intensify investments in irrigation and other water management techniques that will support all-year-round food production, diversification endeavours and better utilisation of water in rainfed systems.

71. **Challenges related to low agricultural productivity and persistent food insecurity are summarised in the problem tree in Figure X below:**



H. Marketing and Value Chains

72. **Swaziland employs a diverse range of formal and informal marketing channels involving export and domestic marketing of agricultural products.** Sugar, by far the most important commodity in value terms, is marketed through a highly formalised and institutionalised export marketing system. Maize, the key staple food, is a subsistence crop as well as being traded informally and formally through a marketing parastatal (NMC) which is also the monopoly importer. There is a range of formal and informal marketing channels for livestock commodities, including some export of meat, domestic marketing channels for poultry and eggs, and dairy products which are largely imported. Sugar is the major export commodity marketed by SSA to EU and the Common Market for Eastern and Southern Africa (COMESA), while citrus is marketed by the Swaziland Canning Company. Fresh fruit and vegetables are marketed through a range of formal and informal channels, in most cases competing with imports from South Africa. Parastatals, some with monopoly powers, are involved in the marketing of maize, fresh produce, cotton, and dairy products.

Trade Balance

73. **The overall balance of trade in agricultural products is positive and expanding due entirely to expansion of the sugar sector.** Sugar exports increased from E0.6 billion in 2000 to almost E3.0 billion in 2012 which overshadowed rising imports of many items and sluggish export performance of other commodities. Over the same period Swaziland experienced negative trade balances on other agricultural product trade of E0.5-0.7 billion per annum.

74. **Over the last nine years the value of imported crop products exceeded the value of exported crop products by a factor of five.** Table 2 shows that the major imports in value terms were maize and rice with rice import value more than doubling over the period. Maize imports¹⁰ averaged E 197 million equivalent to around 100000 tonnes of grain. The overall value of imported crop products increased by 67% between 2005 and 2013 and the annual trade deficit averaged E 314 million in the same period. Exports of crop products also grew strongly but from a low base with citrus and banana performing well.

Table 2: Value of External Trade in Non-sugar Crop Products (E m) 2005-2013

	2005	2006	2007	2008	2009	2010	2011	2012	2013	Average	% Change
Export											
Citrus	38	39	49	60.2	44.7	38.7	55.3	48.4	120.1	54.8	216
Banana	3.4	4.2	5.1	9.5	6.1	2.1	7.5	12.3	14	7.1	312
Maize	2.8	6	12.2	9.1	6.6	4.1	5.5	3.2	4.1	6.0	46
Other	5.1	5.2	13.4	18.4	11.2	3.8	11.7	7.9	15.9	10.3	212
Total	49.3	54.4	79.7	97.2	68.6	48.7	80	71.8	154.1	78.2	213
Import											
Maize	116.2	99.5	345.9	211.9	191	315.5	110.7	206.1	177.1	197.1	52
Rice	55.2	60.9	77.5	107.3	98.8	11.2	103.5	139.3	120.6	86.0	118
Apples and pears	20.6	13.3	20.6	27.6	40.9	24	19.7	28.3	24.8	24.4	20
Leguminous vegetables	12.8	8.7	13.3	14.8	25.9	3.5	15.3	32.6	25.1	16.9	96
Potato	14	11.3	17	18.1	24	34.2	12.4	17.9	13.9	18.1	-1
Other	34.6	28.2	57.7	49.2	77.8	42.4	42.6	57.9	61.2	50.2	77
Total	253.4	221.9	532	428.9	458.4	430.8	304.2	482.1	422.7	392.7	67
Trade balance	-204	-168	-452	-332	-390	-382	-224	-410	-269	-315	

Source: SRA, 2014

¹⁰ For human consumption and animal feed.

Sugar has constantly shown a positive trade balance with well developed value chains. Recent sugar market sales are summarised in Table 3:

Table 3: Sugar Sales by Market 2005-2016

YEAR	SALES BY MARKET (t)					
	SACU	REGIONAL	EU	USA	WORLD	TOTAL
2005/06	316455	138256	152201	27756	1999	636667
2006/07	318202	121771	153251	19813	25000	638037
2007/08	307232	90352	188220	15935	25000	626739
2008/09	319716	99554	182897	16123		618290
2009/10	321783	25638	247692			595113
2010/11	309483	28518	280201	25518		643720
2011/12	309911	80	314830			624821
2012/13	303204		363637			666841
2013/14	307918		339250			647168
2014/15	372814	19842	288941	34000		715597
2015/16	377703	42000	303328			723031

Source: SSA

75. **Over the same nine-year period the value of imported livestock products exceeded exports by almost six times.** Table 4 shows that the main imports were dairy products, beef and live cattle. Exports of beef and live cattle averaged less than a quarter of imports over the period. However overall imports of animal products have not shown any discernible trend, whilst the value of exports has increased from a low base. Export of eggs (mainly to Mozambique) has soared from E0.7 million in 2009 to E16.2 million in 2013.

Table 4: Value of Trade in Animal Products (E million) 2005-2013

	2005	2006	2007	2008	2009	2010	2011	2012	2013	Average	% Change
Export											
Beef & live cattle	12.3	11.1	15.0	21.2	24.7	14.7	15.4	52.0	21.4	21.4	323
Eggs	0.7	0.8	15.1	21.1	21.7	11.1	13.7	16.5	16.2	13.0	2316
Live poultry	5.5	9.5	11.1	8.3	6.9	2.5	7.8	13.1	7.8	8.0	43
Other	8.6	4.5	6.7	10.6	7.8	3.8	6.9	4.1	9.1	6.9	7
Total	34.0	35.4	51.1	62.2	61.3	32.5	58.0	62.3	104.2	55.7	206
Import											
Dairy products	125.5	84.6	107.3	140.5	149.1	11.4	124.8	187.2	176.4	123.0	40.5
Beef & live cattle	130.2	68.4	68.8	91.8	112.6	118.5	98.0	107.2	71.8	96.4	-44.9
Eggs	32.7	21.7	28.2	39.7	36.0	30.6	25.8	36.4	34.7	31.8	6.2
Poultry & live birds	38.3	23.5	26.5	15.5	20.3	9.4	21.9	29.0	30.7	23.9	-19.8
Fish	35.5	20.7	21.2	21.1	23.7	3.3	21.5	28.3	21.2	21.8	-40.2
Other	12.6	10.8	10.7	22.6	33.8	23.4	31.6	28.2	29.8	22.6	136.5
Total	374.8	229.7	262.7	331.2	375.5	196.6	323.6	416.4	364.6	319.4	-2.7
Trade balance	-340.7	-194.3	-211.6	-268.9	-314.2	-164.1	-265.6	-354.1	-260.4	-263.8	

Source: SRA, 2014

Marketing Challenges

76. **The weak trade performance of the non-sugar sector is evidence of a number of marketing challenges faced by Swaziland's farmers.** SNL farmers in particular suffer from small scale and fragmentation of landholdings which creates many logistical difficulties in assembling and transporting marketable quantities of produce. This is accentuated by poor rural roads and lack of market information and marketing skills. The country's demography also presents a challenge with a large rural population supplying food to a small urban population with only moderate purchasing power. As a SACU member state Swaziland is limited the extent to which it can apply protection against imports with the result that farmers find it difficult to compete in the domestic market for many items. Whilst there are large urban markets in reasonable proximity (Johannesburg/Pretoria and Maputo) supplying those markets requires high standards of quality and reliability which SNL farmers struggle to achieve. Grading, processing and storage facilities are generally not available to small farmers and there is weak integration between different actors in the value chain. Farmer organisations have also expressed concerns about the relevance and operating modalities of some of the marketing parastatals, particularly where monopoly powers are involved.

77. **Of importance is the marketing of maize, which is a strategic commodity for food security. Government annually sets a minimum "guaranteed producer price" through National Maize Corporations' (NMC).** Main key features of the maize industry are the NMC's monopoly on maize imports, thus limiting millers and other parties to import maize grain. This raises lots of questions about fairness, transparency, price and efficiency of NMC in promoting local maize production and the conflict of interest on the NMC's commercial interest versus the regulatory one. Similar sentiments have been raised about NAMBoard, who is both the main market for vegetables in the country and also the regulator of vegetable imports, from which the organisation collects levy for its sustenance.

78. **Decline in agricultural productivity has been compounded by reduced access to markets and lack of value addition chains.** Market access barriers discourage production and negatively affect farmers' income. Poor market linkages and decline in farmers' income compromise resiliencies to withstand food production and supply shocks. Weak value addition chains result in the country not benefitting fully from agricultural manufacturing and relying heavily on imports of most agricultural value added products. Areas that have been identified to unlock the agricultural markets and value addition chains are mainly infrastructural, including roads, electrification, communication networks and processing plants. Further, access to finance is a challenge for smallholder farmers to develop viable agribusiness enterprises and benefit fully from value addition chains. There is therefore a need to support initiatives to provide suitable agricultural finance products and farm insurance mechanisms.

79. **Bad road networks especially in rural areas are one of the factors contributing to poor market access.** Bad roads isolate many farmers from formal markets especially during the rainy season. They also make it difficult for them to have access to inputs for their farming enterprises and basically increase their transport costs. This further discourages production and threatens food and nutrition security. Rural electrification is another important factor that supports value addition chains. Electricity is important to power agro-processing industries like abattoirs and packing facilities.

80. **The lack of processing plants in rural areas results in farmers not benefiting fully from value addition potential.** Trade statistics show that the country has a big market for processed agricultural products, most of which are imported from South Africa. Swazi farmers are therefore losing out on the income they could be generating from agro-processing. The country is currently faced with a challenge of unemployment especially amongst youth which stood at more than 50% according to the

latest (2010) labour force survey. Besides increasing farmers' income, agro-processing can help generate employment especially for the rural youth. It is therefore of importance to invest in rural infrastructure that supports agro-processing and value addition in order to increase farmers income and boost production of high quality value added products. Value addition also improves food preservation and protects farmers from food supply fluctuations. Food preservation and reduction of post-harvest losses is key in increasing farm output and income.

81. Access to markets hinges on producing quality products that meet high sanitary and phytosanitary standards as demanded by consumers. The provision of safe and nutritious food is an integrated process that involves monitoring for hazards in the various stages of food production chain. Poor production standards increase long run production costs and result in poor quality products that cannot compete in formal markets. Poor production standards therefore contribute to low food production and farm income, and further pose risks of food-borne infections.

82. Proper functioning markets also depend on good information sharing and feed-back mechanisms between producers and buyers. Proper market information on prices and market dynamics of supply and demand are important factors for a successful agribusiness enterprise. Poor communication networks in most rural areas and paucity of internet access result in most farmers having no information on market trends and development. This results in unplanned production that is not informed by market signals, and therefore not demand driven. A potential communication facility that has seen successful penetration in rural areas is the mobile phones. These have been used successfully in other countries to link farmers with market information. Such systems can also be exploited by the country's agricultural sector.

Opportunities

There are several opportunities to improve farmer income through better marketing and commercialisation. For several key commodities imported products enjoy a substantial market share simply because domestic production is insufficient to satisfy demand. Beef, dairy products and maize are examples of a strong domestic market which is under-supplied. The challenge here is to strengthen commercially viable production systems in the respective value chains to reliably supply existing processing facilities and market outlets. As such there is no immediate need to increase processing/value add capacity until existing operations are working efficiently. Attention to output product price monitoring will be important to ensure reasonable margins throughout the respective value chains. The unmet local demand provides good market opportunities for livestock, fishery, horticulture and cereal crops, including maize. This observation is supported by the large imports of these commodities mainly from South Africa, as analysed in the Swaziland Stock Taking Report (2014). In these cases measures to boost production will not be constrained by the size of the market but quality considerations are important to be competitive with the imported product. Cotton could be one of the areas to invest under crop production since it has a clearly defined value chain. More farmers would be attracted to cotton production once the GMO seeds are fully allowed in Swaziland.

The success of the poultry industry in capturing market share is a good example of what can be done in the way of import substitution without intervention by government or parastatals. However, measures need to be taken that the large companies who run the poultry industries include the small farmers in their business models. This is to ensure that small farmers are not outcompeted through economies of scale and monopolistic tendencies. Strong population growth and urbanisation also means that the domestic market will continue to grow. Preferential trade agreements such as the EU beef quota and SACU also create opportunities for export market development. Other opportunities include parastatal reform to provide better services to farmers, improved dissemination of market information, marketing infrastructure development, stronger application of quality and food safety standards, product diversification targeting

niche markets, out-grower and contract farming arrangements, and training for farmers in how to produce for the market.

83. It is also important that marketing and value addition projects take into account the integration of marginalised population like those that are disabled. Many marketing and value addition projects in agriculture are less labour intensive and can easily afford employment for disabled and HIV individuals. This is to ensure inclusive growth. To date, the number of disabled and marginalised people who are engaged in agricultural activities remain unknown and their engagement in agricultural resources is wanting.

I. Gender and Youth Development in Agriculture

Swaziland women continue to be marginalised with limited access to land and agricultural inputs. This situation is complicated by the high levels of poverty amongst women. According to GenderLinks (2014) Swaziland (46%), Namibia (43%), DRC (36%), South Africa (28%), Lesotho (28%) and Botswana (20%) have the highest rate of women unemployment in the SADC region (Gender Links, 2014). Figures on land ownership remain patchy, but range from 11% (Seychelles) to 25% (in DRC and Tanzania). Gender neutral land reform programmes in Zimbabwe and South Africa have slightly benefited women. This is despite the observation that women provide 70% of agricultural labour force and they produce 90% of all food. These figures show that women are still marginalized yet studies have shown that economically empowering women has a great food and nutrition multiplier effect that men. In this regard, it is paramount that policies and legislations are drafted with a view of strengthening women participation in food and nutrition production activities. Their right to land and other factors of production need to be upheld as enshrined in the country's constitution. The country is making some efforts to promote women participation in agriculture. For example, programmes like awarding woman farmer of the year in partnership with the private sector and other developmental partners have been set up to try and encourage women to take up commercial farming activities. Other agricultural based programmes whose patron is Her Majesty the Queen Mother include the following; mushroom farming, Swaziland trading house which provide and find markets for products made by rural women; Swazi secretes which produce value added products from Marula fruits; and the Swaziland Women's Economic Empowerment Trust (SWEET) with the objective of establishing a Women Empowerment Fund or a women's bank. For such initiatives to be scaled up, it is important that women are further supported by the necessary policies and legislations to access factors of agricultural production.

At almost 30% of the labor force, Swaziland has had one of the highest unemployment rates in Africa (AfDB et al., 2012). Moreover, if people discouraged from searching for employment had been included in the labor force, unemployment would amount to 40%. Youth unemployment is a major contributor to poverty and food and nutrition insecurity. The reluctance of youth to take up farming as a means of generating income and improving their welfare is also a worrying issue. However, the country has observed these problems and means are being undertaken especially by the Ministry of Agriculture and SNAU to analyse the root cause of low youth participation in farming enterprises. It is hoped that outcomes from these studies will help address the problems from policy to household level. The county through His Majesty the King, has also set up a youth development fund which is under the Ministry of Sports and Youth Affairs. Such funds can be used to develop agricultural enterprises and value chains especially in rural areas.

It is important therefore that projects developed under the SNAIP pillars fully integrate the twin problem of women and youth participation in agriculture and their lack of resources and skills in undertaking viable agricultural enterprises. Education and mentorship activities on agricultural enterprises can be a vital starting point.

J. Agricultural Research and Extension

84. **Food shortages and failure to keep up with food demand in the past years has also been a result of weak research and extension services.** An effective and functional National Agricultural Research and Extension System is one that is responsive to client needs, trends and development. In Swaziland, the National Agricultural Research and Extension Services (NARES) have been found wanting in providing high quality research output that will transform the agricultural sector and increase food production.

85. **During the national agricultural Summit of 2007, farmers lamented that agricultural research in the country is not demand driven** and is characterised by lack of appropriate policy guidelines and capacity. The call for the transformation of the research centre is therefore long standing. The main challenges leading to the weak contribution of NARES to national food security include; (i) lack of a research policy and legislation to guide the implementation of research activities; (ii) weak linkages and collaboration of NARES with other research institutions, locally, regionally and internationally; and (iii) a general dilapidation of research infrastructure and capacity.

86. **Transformation of the research system therefore revolves around institutional and policy reform through the formation of a semi-autonomous research institution** which is able to promote a demand driven research and form strong international linkages. As such, it is of paramount importance to increase investment in research to facilitate this transformation process if sustainable high quality research that effectively contributes to increased food production in the country is to be assured.

The National Agricultural Research System

87. **The major institutions that make up the National Agricultural Research System (NARS)** include public and private institutions, the Universities and Civil Society Organisations. The main institutions are the Department of Agricultural Research and Specialist Services (DARSS) of the MOA; the Faculty of Agriculture, University of Swaziland and the SSA Technical Services Division. There are other civil society organisations that are conducting varying amounts of adaptive research and technology dissemination like Technoserve, World Vision etc.

88. **The mandate of the University of Swaziland (UNISWA) is to train high and middle level personnel in order to promote socio-economic development of Swaziland.** The university seeks to pursue excellence in teaching, research, and outreach and enterprise development in various disciplines. Each lecturer is expected to teach, conduct research and to provide a service to the community. Agricultural research is conducted by four main units: Faculty of Agriculture; UNISWA Research Centre; UNISWA Consultancy and Training Centre; and the Swaziland Institute for Research in Traditional Medicine, Medicinal and Indigenous Food Plants. Research within the Faculty of Agriculture is conducted under the following departments: (i) Agricultural Education and Extension; (ii) Agricultural Economics and Management; (iii) Animal Production and Health; (iv) Crop Production; (v) Horticulture; (vi) Home Economics; and (vii) Land Use and Mechanisation.

89. **The DARSS in MOA is the sole government entity responsible for agricultural research.** Its mandate is to conduct demand driven and market responsive research in order to increase and sustain productivity of crops, forestry and livestock. The division is expected to conduct environmentally friendly research and provide technical information and advice to all relevant stakeholders, which include farmers, extension workers and the business sector. Some of the main areas of research include:

- Crops research (cereal agronomy, roots and tuber crops and grain legumes)
- Livestock
- Forestry and natural resources
- Horticulture
- Sanitary and phytosanitary standards
- Weed science
- Food technology
- Socioeconomics
- Conservation of genetic resources
- Cotton breeding
- Soil fertility and crop nutrition
- Pest and disease management

90. **Due to under-funding, the overall output of the NARS in terms of varieties and other technologies released, publications, extension advice and other services is low.** DARSS does not generate any revenue or access external grants. It depends entirely on Government allocations which are not always adequate for effective research performance. With only five active researchers to address a wide range of issues the capacity of the DARSS is clearly very limited. Efforts to undertake multiplication of improved seed varieties and fruit tree seedlings have also proven difficult to sustain due to lack of funding. There has however been some success in developing collaborative linkages with CGIAR-affiliated research institutes including IITA, ICRISAT and CIMMYT.

91. **Farmers have expressed dissatisfaction with Swaziland's agricultural research system.** During the national agriculture summit, farmers stated that. ...*"agricultural research in the country is not demand driven and is characterised by lack of appropriate policy, inadequate capacity and very ineffective delivery systems. It is too centralised. The information generated from most of the research is too scientific and beyond the comprehension of most farmers. Innovations have to be simplified so they can be understood, adopted and applied by farmers at all levels irrespective of their educational background. Structures in research stations are seriously dilapidated and most Research Officers are not adequately trained. Research programs which used to make an impact are no longer in place..."*

92. **In an effort to improve the agricultural research system in 2012 Cabinet approved the National Agriculture Research Policy.** The objective of the policy is to create a research system which is efficient, effective, participatory, responsive to demand, and knowledge and information-age conscious. The policy recommends: (i) the establishment of SNARA for the coordination of agricultural research;(ii) multi-stakeholder involvement in setting up a demand-led, and market-responsive research agenda; (iii) collaboration and partnership development to promote value chain and innovation systems; (iv) establishment of a sustainable fund management system which can access resources from both public and private sector; (v) capacity development of all service providers; (vi) reduction of post-harvest losses and promotion of food security through technology development and value addition; and (vii) rehabilitation of the necessary infrastructure for conducting research.

Agricultural Extension

93. **Several reports point to a long-term decline in the quality and effectiveness of Swaziland's agricultural extension services.** In 2010 an assessment of the national extension system¹¹ highlighted a number of key problem areas:

- The clients for extension services include farmers, farmer organisations, NGOs and commodity boards. However farmer organisations are generally not effective in communicating their need for extension services.

¹¹Schorosch F, Chuma E, Keregero KJB and Andrade A (2010). Assessment of the National Agricultural Extension System Report

- Provision of agricultural extension services is mainly through government (MOA) but parastatals and NGOs also play a role. MOA services are provided by the Department of Agriculture and Extension (DAE) and Department of Veterinary and Livestock Services (DVLS). There are about 536 MOA extension workers of whom less than 20 are female and mostly work in the field of home economics, despite the fact that the majority of active farmers are women. Some 64% of MOA's budget is allocated to extension but most of this is spent on salaries, with little left over for other operational expenses. Some of the parastatals and NGOs provide extension services with a further 96 extension workers and field officers.
- MOA extension services are structured around the workings of Government bureaucracy, unresponsive to client needs, and resistant to innovation and change. They also lack incentives for high levels of performance and sanctions for poor performance. Extension workers are sometimes associated with advocacy for unpopular bureaucratic decisions, regulations and practices, which tend to alienate them from their clientele.
- The extension system generally utilises top-down approaches, largely based on what the Government wants done, rather than on identified farmers' needs due partly, to inability to carry out systematic needs assessments and preoccupation with routine tasks.
- The different parts of the extension system are poorly linked with each other and with the agricultural research system.
- The extension system has poor physical, operational and communications infrastructure and is generally poorly staffed in terms of quality, with no clearly defined in-service training plan.
- The Rural Development Area (RDA) centres are supposed to serve as focal points for advisory services and provision of agricultural inputs and credit. However, the support for RDAs has declined to the point where the buildings are crumbling.
- Extension messages are largely subject-oriented (reflecting the disciplinary orientation of extension workers), rather than problem-oriented (reflecting the problem situation of clientele). Teaching in classroom situations predominates over field demonstrations.
- There is no unit within the extension system charged with knowledge management, there are no systematic field trials and the few field demonstrations are not properly recorded.
- Computer literacy among extension workers is weak and use of information and communications technology (ICT) is weak.
- There is a need to strengthen the demand side of extension through stronger interaction with farmer groups, capacity building for such groups and the use of participatory extension approaches.
- On the supply side there is a need to broaden the services on offer, with special attention the needs of women and youth, intensify in-service training for extension workers and deploy a more diverse range of participatory extension methods, through a pluralistic demand-led extension system. More resources are needed for preparation of extension materials (brochures, leaflets and posters), use of mass media, supply of extension demonstration materials and transport.

94. **Following the 2010 assessment, MOA prepared a draft agricultural extension policy which sets out a roadmap for overhaul and modernisation of the extension system.** The policy proposes a comprehensive re-organisation of extension services under a new National Extension Regulatory Authority (NERA), in line with the findings and recommendations of the extension assessment. The policy envisages diversified sources of funding for extension including a combination of commercialisation and privatisation of extension services in order to enhance efficiency and

competitiveness. This may include: (i) selective withdrawal of the public sector from areas of service provision where private extension providers are judged to have comparative advantage, to be already operating and willing to continue doing so; (ii) contracting out extension service delivery to the private sector (NGOs, farmers' organisations, community-based organisations, faith-based organisations, consulting firms); and (iii) establishment of an Agricultural and Rural Extension Fund that will attract funding from the government, bilateral and multilateral sources and from the private sector.

K. Institutional Strengthening and Knowledge Management

95. **Under-development of the agricultural sector is also due to inadequate knowledge management.** Proper information management forms a cornerstone in monitoring and evaluating agricultural progress and targets, reporting to international partners and linking farmers and stakeholders to each other and to markets. Currently MOA has no integrated agricultural information management system. This makes it difficult to track progress and build from lessons learned in other projects and programmes. Project impact analysis, trend analysis, and M&E rely on proper record keeping. Lack of a knowledge management system also results in weak early warning mechanisms. Further, existing information is not readily accessible or disseminated adequately and efficiently to all stakeholders. A robust information management system is particularly important for MOA as the lead actor in food and nutrition security. An effective communication strategy is therefore paramount in coordinating the various stakeholders institutions involved in complementary activities that reinforce agricultural development and attainment of food and nutrition security. Information management and an effective communication strategy is also a drive by all the Ministries through the e-governance process.

96. **Weak institutional setup and support.** Given the direction that the MOA proposes to commercialise agriculture, the existing institutional setup is antiquated and needs to be revamped. For instance, there is no dedicated department that deals with development of the agribusiness sector for better alignment of the Ministry to its commercialisation of farming endeavours. Furthermore, policies and legislations need to be enacted and where necessary, reviewed to better support the agricultural development in tandem with global trends.

97. **The lack of information management system calls for its establishment and linking it to regional and international organisation** such as the Southern Africa Development Community (SADC) where the country reports annually on implementation of the Regional Indicative Strategic Development Plan, FAO and others. Such a system will form a vital support framework in coordinating all the national agricultural endeavours that promote food and nutrition security.

L. Economic Analysis of Increasing Investment in Agriculture

98. An econometric study was undertaken to identify and prioritize investment options that will have the most significant growth impact in agriculture. Specifically, the analysis aimed to answer the critical question of how much agricultural investment is required to achieve 6% agricultural growth. This study will be available as a separate document.

99. **The study proposed the production of sugar, maize, root crops, horticultural crops and livestock (beef, dairy, pigs, poultry, goats and honey) as top priorities in the investment plan.** It also proposed investment in irrigation, mechanisation, R&D, and agricultural inputs to raise productivity in the sub-sectors. These investments would be matched with investments in rural roads/infrastructure, agro processing and packaging and renewable natural resources to expand the market. There would also be a need for institutional development.

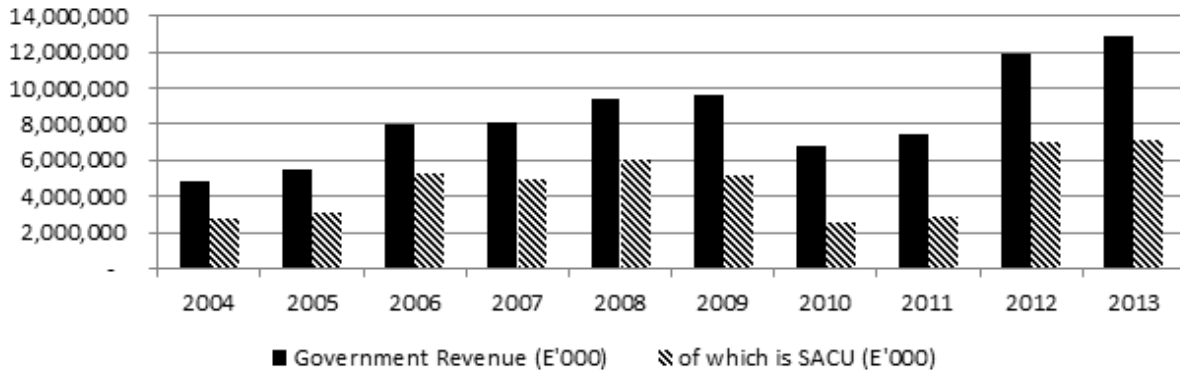
100. **The study recommended that there is a need for a 19% increase** in the current level of annual agriculture expenditure to meet 6% annual growth in agricultural GDP. This translates to an overall agricultural expenditure of 13% of total public sector investment by 2025.

M. Agricultural Sector Expenditure

Public Expenditure

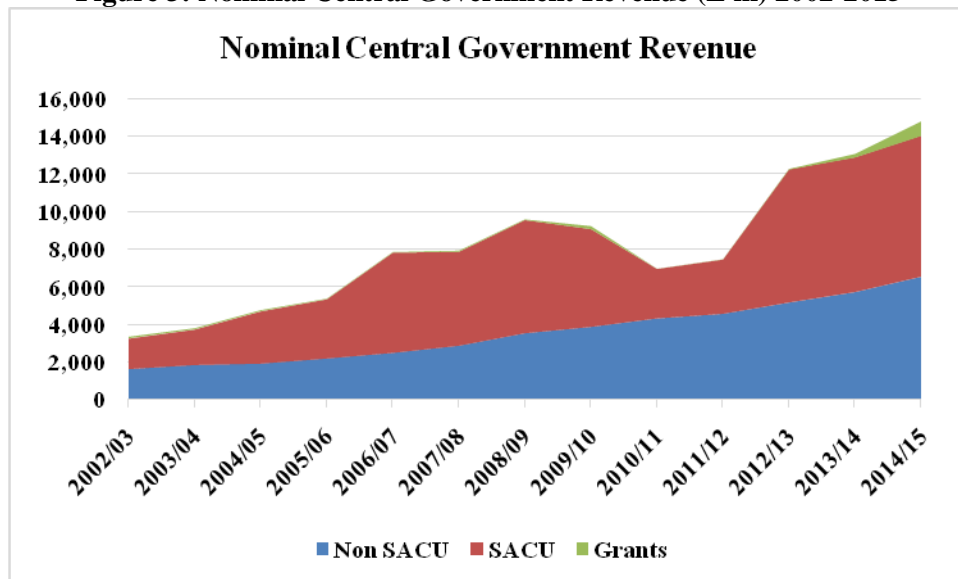
101. **Government revenue comes from three sources: taxes, SACU customs receipts and development partners.** Figure 2 shows that annual Government revenue increased from E4.8 billion in 2004 to almost E10 billion in 2009 and was then followed by a sharp contraction in 2010 and 2011 in the aftermath of the global financial crisis. SACU revenues were also severely affected during 2010 and 2011. Both total and SACU revenues subsequently recovered strongly in 2012 and 2013. Funding from Development Partners is currently running at around E970 million per annum.

Figure 2: Total Government Revenues (E'000) 2003-2013



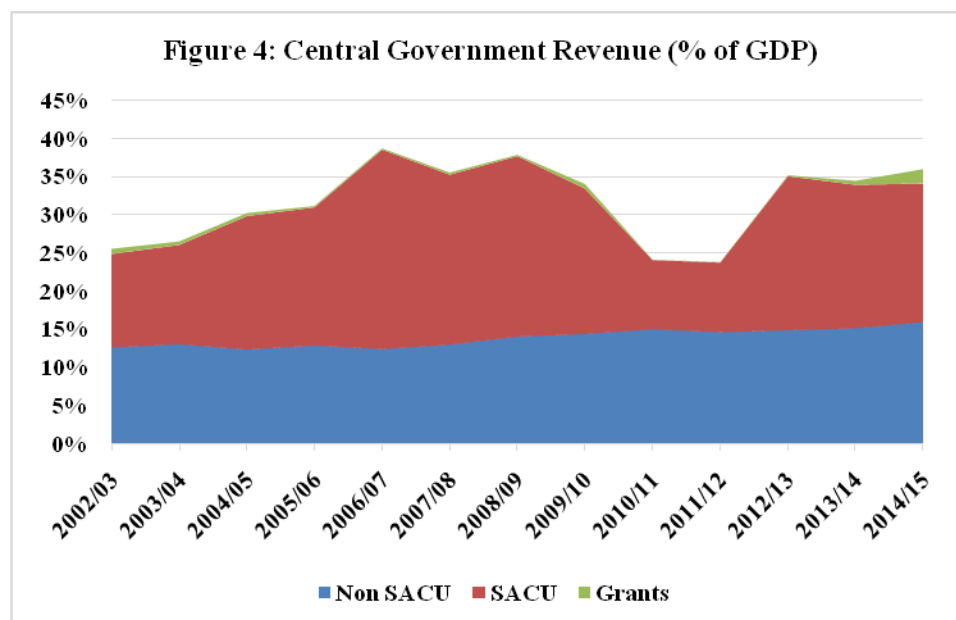
Source: MoF 2014

Figure 3: Nominal Central Government Revenue (E m) 2002-2015



Source: MoF 2015

Figure 3 also shows the sources of and the trend in nominal Central Government Revenue while Figure 4 indicates the proportion of central government revenue expressed as a percentage of GDP.



Source: MoF 2015

102. **Government expenditure has been running at around E10 billion per annum for the last five years** and under the medium term expenditure framework (MTEF) is projected to reach E16 billion by 2016-17. Government expenditure has been maintained at around 35% of GDP except for the fiscal crisis in 2010-11 when it fell to 24%. About 70-80% of the budget represents recurrent costs (mostly salaries for civil servants) and only 20-30% is capital expenditure. However actual capital expenditure tends to be less than the budgeted amounts due to poor project implementation performance, and has been as low as 12% of total expenditure in recent years.

Agricultural Sector Expenditure

103. **Government expenditure on the agricultural is well below the Maputo 10% target, but is strongly oriented towards investment.** Expenditure on the sector is divided into core expenditure and overall expenditure. Core expenditure consists of MOA's budget allocation whilst overall expenditure also includes allocations to other ministries used for activities related to the agricultural sector. Core expenditure averages around 84% of total expenditure. Over the last five years overall agricultural sector expenditure has averaged E470 million per annum which represents 4.4% of the budget, well short of the Maputo target of 10%. However agricultural sector spending incorporates a much higher proportion of capital expenditure than the overall government budget: 45% for agriculture compared to 22% overall. Consequently agriculture invested 9% of the total amount invested by the government. This was attributable to heavy investments in irrigation development financed by government and donor funds, and the transfer of irrigation programmes from MNRE to MOA.

Development Partner Contributions

104. **The investment portion of government expenditure is supported by on-budget contributions by development partners** including the following for 2012/13 financial year:

Agency	Agricultural Projects Funded Under Government Budget
OPEC/OFID Loan	<ul style="list-style-type: none">• Lower Usuthu Downstream Development (E116 Million)
GEF Grant	<ul style="list-style-type: none">• Lower Usuthu Downstream Development (E16 Million)
EDF- Grant	<ul style="list-style-type: none">• Micro-Project Small Scale (E49 Million)
AfDB - Loan	<ul style="list-style-type: none">• Komati Basin Downstream Development (E80 Million)• Farmers Business Strengthening (E61 Million)
Various Financiers	<ul style="list-style-type: none">• Lower Usuthu Downstream Development (E197 Million)• National Livestock Identification Program, (E5 Million)
Exim Bank of India - Loan	<ul style="list-style-type: none">• Food Security Project (E30 Million)
Taiwan	<ul style="list-style-type: none">• Purchase of Heavy Plant and Earth Dam Construction Material (E17 Million)• Taiwan Technical Mission and Vocational Training (E19 Million)

The actual government investment portion in 2012/13 was about E 63.0 m and the actual recurrent amount was E 192.3 m. This excluded Government support for Microprojects which was E 16.56 m for recurrent and E 39 m for investment.

105. **There are also substantial off-budget development partner contributions of which by far the largest is the EU under the EDF 10 programme.** The main funding has been directed to the sugar industry as part of the EU accompanying measure of support (AMS) to assist the sugar industry adapt to the EU sugar reforms. The main themes supported have been infrastructure development and smallholder support programmes, with the aim of improving the competitiveness of the Swaziland sugar industry in the post-reform environment. EU support is expected to continue under EDF 11(2014-2020) and will focus more on diversification away from sugar. Various NGOs also support agricultural development initiatives in the country.

II. SNAIP OBJECTIVES, COMPONENTS AND EXPECTED RESULTS

A. Overall Objectives of the SNAIP

106. **The overall objective of the SNAIP is to (i) increase the contribution of agriculture to economic development (ii) reduce rural poverty and (iii) improve food and nutrition security.** This will be achieved through programmes that are aimed at: (i) ensuring optimal utilisation of the natural resources while ensuring sustainability for use by future generations; (ii) improving access to markets through strengthening and improving participation of all stakeholders in the value chains; (iii) increasing agricultural productivity to improve food security and reduce hunger; (iv) enhancing the contribution of agricultural research and extension systems; and (iv) improving agricultural knowledge management to enhance planning, evidence-based decision-making and coordination of policy implementation.

107. **The development objective of the SNAIP is to achieve six percent agricultural GDP growth,** consistent with national objectives for natural resource management, rural poverty reduction and food and nutrition security.

108. **The major impact indicators of the SNAIP are closely aligned with CAADP initiative and national policies.** These include the targets of: (i) achieving an average agriculture GDP growth rate of 6% through supporting public expenditure of at least 10% of the national budget; (ii) reducing the prevalence of rural poverty from 73% to 59%; (iii) contribute to reduction of stunting of children under five years from 31% to 15%; and (iv) increasing the number of people employed in the agricultural sector from 9% to 18%. These targets will be achieved through deliberate multi-stakeholder collaboration and strengthening partnership development.

109. **The SNAIP prioritises five main programmes for investment in the next ten years and embodies the 2022 vision of the NDS.** These are interrelated and complementary towards achieving the overall goals and objectives of the plan. Cross-cutting issues such as climate resilience, involvement of marginalised and vulnerable groups, poverty reduction, and food and nutrition security are mainstreamed across all the programmes. The five programmes are:

Programme	Objectives	Policy Alignment
<ul style="list-style-type: none"> Programme 1: Sustainable Natural Resources Management 	<ul style="list-style-type: none"> Sustainable use of natural resources (water, land, environment) 	<ul style="list-style-type: none"> CAADP Pillar 1 NDS CASP National Water Policy National Irrigation Policy
<ul style="list-style-type: none"> Programme 2: Improved Access to Markets and Value Chains 	<ul style="list-style-type: none"> Increase income from agricultural enterprises Increase the number of farmers with access to formal markets Diversification and commercialisation of agriculture on SNL 	<ul style="list-style-type: none"> CAADP Pillar 2 NDS PRSAP CASP Economic Recovery Strategy
<ul style="list-style-type: none"> Programme 3: Food Supply and Reducing Hunger 	<ul style="list-style-type: none"> Increase production and productivity Increase access to diversified and high quality food Improve disaster risk management system 	<ul style="list-style-type: none"> CAADP Pillars 2 and 3 PRSAP CASP Agriculture Diversification

Programme	Objectives	Policy Alignment
		Strategy • Livestock Development Policy
• Programme 4: Agricultural Research, Extension, Training and Education	<ul style="list-style-type: none"> • Establish effective national agricultural research and extension systems • Develop and adopt technologies to address farmers needs • Improve the capacity of research and extension services 	<ul style="list-style-type: none"> • CAADP Pillar 4 • NDS • CASP • National Agricultural Research Policy • National Agricultural Extension Policy
• Programme 5: Institutional Strengthening and Knowledge Management	<ul style="list-style-type: none"> • Improve access to and management of agricultural information • Strengthen evidence-based planning and decision-making • Develop a comprehensive agricultural information and knowledge management system 	<ul style="list-style-type: none"> • CAADP Pillar 4 • E-gov Communication Strategy • PRSAP • CASP

B. Programme 1: Sustainable Natural Resources Management

Rationale and Justification

110. **The great majority of Swazis are at least partly dependent on natural resources for their livelihoods.** However, low crop yields mean that the country only produces around two thirds of its maize requirements and roughly half of its total food staple needs (including rice). Efforts to increase production will inevitably place greater pressure on the country's limited land and water resources, accentuated by climate change creating hotter and possibly drier conditions with increasing frequency of dry spells and droughts and other extreme climatic events. A key element of the SNAIP, consistent with Pillar 1 of the CAADP compact, is therefore to manage Swaziland' land and water resources in ways that improve overall productivity in a sustainable manner. This means the capture and storage of as much rainfall as possible in the soil or in storage structures so that it can be used efficiently for both rainfed and irrigated crops; as well as sustainable management of land resources to maintain and increase their productivity.

General Approach

111. **Sustainable utilisation of Swaziland's natural resources is very important for agricultural development as it forms the basis for improving production of crops and livestock.** Water resources development and irrigation are given a high priority to improve productivity and reduce crop and livestock failure due to dependence on rainfall. The water harvesting will be done at different levels starting from the main river basins where the target is to develop one large scale dam (Ethemba) and provide funds for feasibility studies of another large scale dam (Nsilingane). The next level is the construction of 15 medium scale dams which have a capacity to irrigate 50 -100 ha each and 45 small scale earth dams which mainly provide drinking water for livestock in the dry regions of the country and provide for downstream irrigated gardening for income generation and household food security.

112. **The preferred approach is to improve land use planning and environmental management at local level** through development and up-scaling the concept of chiefdom development planning. Land rehabilitation and environmental conservation are included as specific components of the programme,

including development of fisheries, forestry and improving rangeland management and control of alien invasive plant species. The outcomes that Programme 1 is expected to influence and the milestone indicators showing progress towards these outcomes include the following:

Outcomes	Milestone Indicators
• Dependence on rainfed agriculture reduced	• Proportion of staple food crops produced from rainfed sub-sector reduced from 90% to 75%.
• Value added from use of water resources increased	• Net income per M ³ of water allocated to agriculture increased by 20%
• Yields per unit of rainfall for key rainfed crops increased	• Yield per mm of rainfall (November to March) for maize, sugar beans and hay increased by 30%
• Increased retention of rainfall within catchment areas	• Runoff coefficients in the five major river basins reduced by 30% • Reduced flow-rate fluctuations and turbidity levels in the five major rivers
• Improved soil fertility	• N, P and K levels (ppm) at monitoring sites improved by 20% • Average soil pH levels at monitoring sites increased by 0.5
• Increased agro-biodiversity	• Five most common non sugar crops cover < 65% of cultivated land • Reduced % of cultivated land area under monocultures from 90% to 80% • Increased area of mixed farming from 100,000 to 125,000 ha
• Increased general biodiversity	• Declining No. of species listed as rare or endangered
• Extent and severity of land degradation ¹² reduced.	• Area of land classified as moderately or severely degraded reduced by 25% • Uptrend in “greenness” of sentinel sites in selected agro-ecological zones as measured by NDVI ¹³ • Declining area of land infested with invasive species

Sub-Programme 1.1: Water Harvesting and Irrigation Development

113. Sub-Programme 1.1 aims to **increase the availability of water for irrigation and improve the efficiency of water use**. This will be carried out through implementation of five components:

- Construction of large scale dams, specifically the Ethemba dam where feasibility studies and costing has already been done, and Nsilingane Dam where it proposed that within the 10-year period of the SNAIP feasibility studies and costing will be carried out. These multi-purpose dams are expected to avail about 1,165million m³ of water, sufficient to irrigate up to 10,000 hectares as well as providing water for electricity generation and domestic and industrial uses.

¹² There is often confusion about the meaning of the terms land degradation, soil degradation and soil erosion. Here is some clarification. Land degradation may be defined as the reduction of the capacity of the land - together with factors such as climate, topography, soil, hydrology and vegetation - to produce goods and services. It is more than just a physical or environmental process. It is ultimately a social problem with economic costs attached as it consumes the product of labour and capital inputs into production. Soil degradation is a broad term for declining soil quality encompassing the deterioration in physical, chemical, and biological attributes of the soil. Soil degradation is a long-term process. Both erosion and nutrient breach are part of soil degradation. Soil erosion is a physical process referring to the wearing away of the land by water and/or wind as well as to the reduction in soil productivity due to physical loss of topsoil, reduction in rooting depth, removal of plant nutrients, and loss of water. Soil erosion events are quick processes.

¹³ Normalised Difference Vegetation Index.

- Construction of medium scale dams to increase irrigation water availability in the high and upper middle-veld agro-ecological zones. This component is targeting to construct 15 medium scale dams with a combined capacity to irrigate more than 750 ha of non-sugar crops.
- Construction of small earth dams to provide livestock drinking water and downstream gardening in the dry regions of the country. It is targeted that 45 small earth dams will be provided in nine constituencies each having five dams.
- Irrigation is the main intervention to reduce dependence on rain-fed agriculture. Promotion of irrigation is through construction of large dams, small and medium sized earth dams and use of rooftop water harvesting techniques. Large dams are mainly constructed along the five major rivers of the country. These dams have mostly been used to irrigate sugar plantations found in the drier lowveld region of the country. Due to the water allocation agreements with Mozambique and South Africa, there is currently limited scope for horizontal expansion of the large dams but opportunities exist in vertical expansion by improved management and irrigation practices that can save water. Conservation agriculture would also be practiced.
- Medium sized earth dams and concrete weirs are used to harness water from smaller rivers and streams and are thus ideal in wet midveld and highveld areas since this is where there are perennial water sources. Small earth dams are mainly for harnessing rainwater and are ideal in the lowveld and dry midveld areas to provide drinking water for livestock. In these drought prone areas, livestock industry thrives better. The small earth dams are provided with livestock drinking troughs and are also used to irrigate crops on up to one hectare area. As such, small earth dams offer ideal opportunities for agriculture and rural development.
- Rooftop water harvesting is another opportune source of water. Water derived from roof tops is mainly used for domestic water supply and for irrigation of food and nutrition gardens. This intervention is very crucial in the dry areas of the country and has a potential to provide water to a sizeable number of households. These water harvesting techniques also promise great potential in agricultural diversification and supporting small holder farmers.
- Roof-top water harvesting to provide equipment and train communities on roof top water harvesting techniques to supplement domestic water needs and development of food and nutrition gardens. The target is to support 2,000 households in need with the overarching objective to improve their food nutrition status based on the experience developed under the MOA LUSLM project using local materials and local construction teams.
- Construction and rehabilitation of irrigation schemes is targeting development of downstream irrigation infrastructure in the areas where new dams will be constructed and rehabilitating dilapidated irrigation schemes. The target is to provide land equipped with irrigation infrastructure in excess of 1,000 ha excluding the area irrigated by large scale dams. This is expected to benefit directly 1,000 households. The up-dated approach to these earth dams is for an integrated approach to be taken for planning, construction and operation and maintenance through chiefdom development planning and involvement throughout the process of farmers/water user associations.

Sub-Programme 1.2: Integrated Sustainable Land Management

114. This sub-programme has four components targeted at **increasing biodiversity through promoting and supporting sustainable land use practices**. These components are

- Land use planning which will aim at preparing chiefdom development plans to guide the allocation of land uses especially to strike a balance between human settlements and agricultural uses. These plans will be informed by detailed natural resources surveys and active participation of benefiting communities. Within the ten years of this plan is targeting a total of 30 chiefdoms starting with those that have suitable sites for construction of dams. This initiative will use water development as an entry point for strengthening chiefdom planning, and provide lessons for upscaling to other communities.
- Reclamation of degraded land will include mapping of degraded land throughout the country to establish a baseline. This will inform and galvanise initiatives to reclaim degraded land. Reclamation initiatives will include use of gabions and planting of trees in degraded areas, these areas will then be fenced off to ensure minimum disturbance during the rehabilitation period.
- Soil and water conservation component will promote measures to reduce soil erosion and land degradation. This will involve improving the management of grazing land, reducing tillage for crop production and protection of river courses.
- Supporting initiative to improve soil fertility is important to ensure continued productivity of the soil. Targeted interventions include increasing the vegetation cover and biomass. Planting of crops and trees that fix nitrogen is prioritised¹⁴.

Sub-Programme 1.3: Other Natural Resources

115. This programme has four priorities aimed at **ensuring that other natural resources such as forestry, natural genetic resources and fisheries are managed sustainably**:

- Support to reforestation is key in this plan to increase the country's canopy cover and improve carbon sequestration. This programme will promote afforestation to reduce depletion of forests for various land uses and for fuel purposes. Agro-forestry will be promoted to increase tree planting alongside cropland and provide community woodlots for fuel under sustainable management.
- Promoting conservation of natural genetic resources will include identification of indigenous species and their characterisation for preservation in gene banks. The target for plants is to collect 500 plant species and characterise 200 within the planned period. Continued breeding and preservation of the Nguni cattle will be a priority for this plan.
- Supporting fisheries and aquaculture will be up-scaled under this sub-component to improve the contribution of fisheries to for both food and nutrition purposes and income generation by fish farmers. Targeted activities include operationalisation of the fish hatchery to produce fingerlings for fish farmers. This will include supporting fish farmers with pond digging equipment and mentorship towards commercial fish production.
- Promoting sustainable use of rangelands and control of invasive species is considered to be key in preventing the loss of biodiversity. The target is to decrease livestock density through increased off-take and supplementary feeding by farmers. Strengthening control of invasive species is key ensuring sustainable biodiversity and sustainable grazing land.

¹⁴It should be noted that there are various techniques that have been used in Africa (mainly in Kenya) to promote climate smart agriculture and monitor soil organic matter. The monitoring mechanisms involve the use of activity baseline and monitoring surveys (ABMS) variables and the application of the Roth C model.

Policy and Institutional Considerations

116. **Whilst Swaziland has well developed policies to guide the management of its natural resources there are several policy areas that could be further elaborated.** These include:

- The two-way link between environmental health and rural poverty needs to be explicitly recognised in key policies and strategies – poverty exacerbates pressure on natural resources, and environmental degradation exacerbates poverty.
- There also needs to be an informed decision on the balance between investment in irrigated and rainfed agriculture. Whilst irrigation development is able to generate much greater increases in production, it is unavoidably capital intensive, and is not necessarily the best use of the country's financial resources. On the other hand, rainfed agriculture may generate high returns on investment but is subject to the vagaries of climate and cannot be the sole pillar of food security.
- In both rainfed and irrigated sub-sectors the concepts of sustainable agricultural intensification need to be firmly embedded as part of efforts to identify and adopt climate resilient agricultural practices.
- In addition to capturing additional water for agricultural use, policy measures to improve water use efficiency also merit consideration, including the possibility of water pricing and tradable water allocation systems to provide financial incentives for efficient water use.
- Land degradation on communal grazing lands needs to be addressed by reducing livestock numbers and/or intensive fodder production to reduce grazing pressure. Possible regulatory measures through the customary land tenure system deserve consideration.
- Natural resource management issues need to be overseen by MNRE as well as MOA.
- Community sensitisation and education should be core elements of natural resource management policy.

C. Programme 2: Improved Access to Markets and Value Chains

Rationale and Justification

117. **The shift from subsistence to commercial agriculture requires good access to markets and marketing channels.** Ensuring proper functioning of these markets calls for a comprehensive approach which includes the establishment of markets, creating linkages between actors in marketing chains, improving access to finance, and ensuring quality products as demanded by the markets. Swaziland is strategically aligned to benefit from markets such as COMESA, USA, EU, SADC and SACU but farmers need to be capacitated in production standards to meet market-led demand, as well as access to proper infrastructure and market information. Swaziland is faced with the challenge of a negative trade balance in most fresh and processed agri-food products. Apart from sugar, formal marketing systems are limited to a few commodities (citrus, cotton, maize, beef and dairy), but supplies do not satisfy local demand, hence their continued importation. Sanitary and phytosanitary standards do not generally meet market specifications. There are also poor linkages between financiers, producers and the markets which results in poor agribusiness capitalisation. Weak information flows between markets and producers results in uncoordinated production and supply arrangements, exacerbated by erratic electricity supply, poor road and communication networks and lack of processing and storage facilities. Programme 2 is designed to address these shortcomings.

General Approach

118. Programme 2 aims to **improve marketing and processing infrastructure, improve access to market information and link farmers to markets**, promoting farmers access to finance and improving sanitary and phytosanitary standards in value chains. The programme will target specific value chains and develop strategies for capitalising production and marketing initiatives. The Programme also includes measures to strengthen commercial arrangements including contract enforcement, transparency and ease of doing business. The outcomes that Programme 2 is expected to influence, and the milestone indicators showing progress towards these outcomes include the following:

Outcomes	Milestone Indicators
<ul style="list-style-type: none"> No. of rural households (including women headed households) undertaking commercial agriculture increased 	<ul style="list-style-type: none"> No. of rural households earning more than E 100 per day (in real terms) from 15% to 35% Declining flow of remittances to rural households??? Improved distribution of agricultural income opportunities between men and women - Increase in income of female headed households Increase in number of youth agricultural enterprises baseline to be established
<ul style="list-style-type: none"> Volume and value of agricultural exports increased 	<ul style="list-style-type: none"> Trade statistics show 15% pa uptrend in volume and value of agricultural exports
<ul style="list-style-type: none"> Volume and value of agricultural imports decreased 	<ul style="list-style-type: none"> Trade statistics show 5 % pa downtrend in volume and value of agricultural imports
<ul style="list-style-type: none"> Decline in post harvest losses especially maize 	<ul style="list-style-type: none"> Post-harvest losses decline from 25% to 10%?
<ul style="list-style-type: none"> Value of agricultural commodities marketed under quality accreditation systems (e.g. SWASA) and those finding new markets 	<ul style="list-style-type: none"> volume of non-sugar commodities marketed under accreditation systems increased from 5 to 25% Proportion of product sales through formal market outlets increases compared to traditional or alternative (status quo ante) outlets increases to 55% from 25%
<ul style="list-style-type: none"> Road access to markets and services strengthened 	<ul style="list-style-type: none"> Transportation costs reduced by 15% and average speed increased for 25 to 50 km/hr
<ul style="list-style-type: none"> Farmers have access to financial services needed to engage in commercial activities 	<ul style="list-style-type: none"> Percent of farm households with access to financial services increased from 54 to 80% and to credit form 30 to 65% (source MFU, MoF)

Sub-Programme 2.1: Marketing and Processing Infrastructure

119. This sub-programmes aims to **increase income generation form agricultural markets and also increase the number of farmers having access to markets** through the following components:

- Construction of feeder roads so that at least 90% of farmers are linked to feeder road networks. This will reduce their transport costs and make it easy for farmers to access markets for their inputs and products.
- Construction of collection centres and pack houses in major production areas. This component targets the building of at least four pack houses, one for each region. Such pack houses will

provide vital value addition means in rural areas. The pack houses are to be developed under a PPP arrangement between NAMBoard, SWADE and the producer-community based on the model developed in Siphofanenei.

- Construction of processing facilities. This component targets the construction of four new processing facilities for each region and to rehabilitate five existing small scale processing facilities and five poultry abattoirs in the various rural areas of the country. These activities will be scheduled so as to incorporate the developing knowledge base of NAMBoard and SWADE under the High Value Crop and Horticulture Project (HVCHP).
- Support for rural electrification so that 90% of rural households have electricity.
- Revival of sale/auction of fresh produce and livestock market infrastructure. This component aims to establish 55 sale yards and fresh produce markets linked to the 55 Tinkhundla centres.

Sub-Programme 2.2: Improved Access to Market Information

120. This sub-programme has the objective of **improving access to market information** to enable evidence-based decision making in value addition and agro-processing. The components and targets are the following:

- Establishment of market information system in the regions. This component targets the establishment of a functional national market information system together with four regional market information centres that will be linked to the national marketing information system.
- Linking farmers to local and international markets with the objective of increasing trade in agricultural commodities.
- Identification and engagement of national and international markets to increase the number of farmers linked to formal national and international markets.
- Product value chain strengthening to increase the number of value chains and the number of farmers benefiting from these in rural areas.
- Strengthening of relationships between markets and farmers to increase the number of farmers capacitated with the ability to maintain contracts with markets. This will be done through training farmers in business skills and enforcing their relationships with markets.

Sub-Programme 2.3: Improved Access to Agricultural Finance

121. This sub-programme aims to **increase the number of viable agricultural investments**. It has the following components:

- Drafting an agricultural finance policy that will promote and guide agricultural financing options and investments.
- Structuring financing portfolios to suit the agribusiness sector in order to increase the number of farmers having access to loans and to reduce the number of agribusiness non-performing loans.
- Creation and promotion of insurance for agricultural products to increase the number of agribusiness enterprises that are insured.

Sub-Programme 2.4: Improved Sanitary and Phytosanitary (SPS) Measures and Quality Standards

122. This sub-programme aims to **improve the safety and quality standards of agricultural products**. It has the following components:

- Improving plant health by establishing a fully functional phytosanitary service.
- Improving animal health by establishing a fully functional sanitary service.
- Promoting food safety to ensure that agricultural production in the country adheres to accepted food safety standards.

Sub-Programme 2.5: Agricultural Commercialisation

123. **The subsistence nature of agricultural production in the country, especially in SNL, has been cited as one of the major causes of low agricultural productivity.** This results in low farm income and worsens food insecurity and rural poverty. This sub-programme aims to promote commercialisation, productivity and rural incomes through the following components:

- Enhanced targeted commercial agricultural production to increase the number of farmers practicing commercial farming. This calls for the transformation of the agricultural sector through activities that will support commercial farming enterprises. Promotion of intensive farming methods especially for livestock is an important intervention. Intensive farming is also considered a climate smart way of livestock rearing and it has less effect on environmental degradation. It is therefore important to combine animal husbandry with crop production to maximise production while protecting the environment and increasing soil fertility. Climate smart agriculture seeks to increase sustainable productivity, strengthen farmers' resilience, reduce greenhouse gas emissions and increase carbon sequestration.
- Promoting agribusiness skills development. Agricultural commercialisation efforts have to be rolled out together with strengthening of farmers' agribusiness skills. The ability to run viable failsafe agribusiness enterprises ensures their sustainability resulting in increased productivity and incomes. Agribusiness skills empower farmers to propose projects that will attract funding and also enable them to monitor their cash flows. Agribusiness skills also include the capacity to keep proper records for effective monitoring and evaluation of enterprise performance.
- Supporting investment in livestock and high value crop production and processing to ensure high productivity and increasing return to investment. Farmers need to be supported to procure quality agricultural stock that will replicate quickly. The use of high producing agricultural varieties is also considered a climate smart method of farming.

Sub-Programme 2.6: Agricultural Diversification

124. This sub-programme has the objective of **promoting agricultural diversification and building resilience to shock**. This programme would be informed by markets to ensure uptake and sustainability since past use only of the agro-climatic suitable approach led to failure.

125. Promotion of diversification is important in that it will diversify farmers' income and help farmers hedge against shocks. It will deliver its objectives through the following components:

- Encouraging farmers to produce according to the agro-ecological suitability of the commodities. In this way, they benefit fully from comparative advantage resulting in high productivity. Diversification also results in the availability of a larger basket of food sources that ensure uptake of quality nutrition and therefore nutrition security.
- Enhancing sanitation: access to diversified food sources and assurance of proper nutrition also depends on proper sanitation and food handling techniques. Activities that promote proper sanitation in food handling therefore need to be promoted through strengthening education and outreach programmes.
- Improving the preparedness of households to occurrence of disasters. Diversification increases farmers' production options and therefore hedges them against disasters affecting their food production and cash flows.
- Up-scaling cottage industries: these industries can be useful in supporting rural livelihoods and increasing rural income. These industries do not need large investment and barriers to entry are therefore low. Most of them are not labour intensive and can be used to support women headed households and people living with HIV in rural areas.
- Up-scaling agro-forestry: this is a vital intervention in agricultural production. Agro-forestry has the potential to increase rural incomes while protecting biodiversity and promoting soil fertility. In this way, agroforestry offers a win-win to rural development and biodiversity given the challenges of climate change and the need to adapt. Agro-forestry provides an opportunity for intercropping and leverages the benefits of increasing productivity and income while protecting the environment. Some intercropped trees can provide feed for livestock e.g *Leucaena* species.

Policy and Institutional Considerations

126. **Since value chains cross many policy and institutional domains it is not surprising that they touch on a number of policy and institutional issues.** These include:

- MOA does not have sole responsibility for agricultural marketing and any efforts it makes in this area need to be carefully coordinated with other relevant ministries, as well as one or more of the parastatal marketing boards. Key ministries include the Ministry of Commerce, Industry and Trade for the regulation of trade, and the Ministry of Public Works for marketing infrastructure development.
- Whilst MOA has traditionally focussed on agricultural production, Programme 2 needs to adopt a “whole value chain approach” to agricultural commercialisation.
- Increasingly stringent food safety and quality assurance systems are a challenge for smallholders to maintain market access, and special policy initiatives may be needed to ensure that they are not unfairly disadvantaged.
- There is need to build strong relationships with the private sector in developing market linkages. In this regard the role of the parastatal marketing boards needs to be carefully defined so that they do not crowd out the private sector.

D. Programme 3: Food Supply and Reducing Hunger

Rationale and Justification

127. **Food and nutrition security is key to national prosperity and wellbeing.** MOA is entrusted with the duty of ensuring the availability of healthy food for the country. However, for food and nutrition security to be achieved, a multi-sectoral approach is necessary. This includes the involvement of other Ministries, NGOs and development partners who have important roles to play in providing adequate healthy food to the nation. The challenges of climate change and erratic weather patterns further emphasises the need for stronger linkages between various sectors if the fight against these new challenges is to be won.

128. **Programme 3 seeks to improve access to diversified, quality, safe and nutritionally balanced food.** Further, the programme seeks to increase sustainable income for farmers and build resilience to economic and weather related shocks that affect food production. To build these resiliencies against climate change, the programme also aims to increase adoption of climate resilient technologies in all agro-ecological zones.

129. **The programme addresses issues of food supply and hunger in line with CAADP pillar 3, MDG1 and the country's development strategies and policies.** As discussed in the situational/gap analysis, the country is faced with a number of economic and social challenges which compromise the quality of life for a majority of the population.

130. Programme 3 was therefore made explicit¹⁵ in order to focus attention on key target variables namely household food security and household nutrition security.

General Approach

131. **Swaziland's persistent food and nutrition insecurity calls for a concerted effort to increase food production.** The approach recognises that the availability of diverse and healthy food is key in ensuring food and nutrition security and reducing hunger. In this regard, the programme will not focus only on maize production, but will be incorporate crop and livestock diversity. The programme through a collaboration of key sector players will implement activities that will promote crop and livestock production and productivity, with the aim of increasing yield per unit of input. The programme will promote adoption of climate smart agriculture and agro-forestry farming practices that protect the environment and increase biodiversity. Production and productivity increases ensure high income for farmers and this builds their resilience in withstanding shocks that can affect their livelihoods. The role of agriculture in job creation especially for the youth needs to be catalysed through supporting value addition and agro-processing. For this to be a reality, strengthening of training in agribusiness skills need to be undertaken. Food and nutrition security will also involve promotion of hygiene and proper handling

¹⁵ Instead of being subsumed by other Programmes and recognising that Programme 3 is cross-cutting. Programme 3 would be addressing four different questions about Swaziland's achievements in relation to food supply and reducing hunger. Each question points to the following foci of attention (i) is the country self-sufficient in food (ii) does the country have adequate food availability (iii) do the people in the country have sufficient food entitlement and (iv) do the people have adequate nutritional capability. There are causal links between the respective points of attention in these questions. Achieving food self-sufficiency for example can be one way for a country to ensure adequate food availability and having an adequate supply of food will generally help to a varying extent the guaranteeing of sufficient food entitlements for all. And securing an adequate entitlement to food must contribute to a person's nutritional capability. There are however complexities and indeed gaps in such causal relationships but these would be taken into account in the further detailed planning and implementation of SNAIP's Programme 3. The question of land access is also addressed in the chapter on institutions. The cost of Programme 3 may represent a small percentage of the total SNAIP cost but this does not imply that the Programme is less important than another Programme with a higher cost. A key aim is to obtain a benefit-cost ratio that is greater than 1 and the benefit is indeed likely to well exceed the cost if interventions are correctly appraised and targeted. There are also synergies between programmes.

of food. Education and capacitating in proper food handling will therefore also be done targeting rural communities. One aspect of food handling that will be promoted includes proper storage of food especially through value addition technologies.

132. Programme 3 aims to improve access to diversified, quality, safe and nutritionally balanced food for all Swazis. Increase in livestock and crop production will be achieved through interventions like: (i) up-scaling cottage industries; (ii) investment in high value crops and livestock; (iii) supporting commercialisation and diversification of the agricultural sector; and (iv) supporting agribusiness skills development. Education on nutrition and proper food production and handling techniques will also be undertaken. Increase food production should result in increased incomes of rural households so that they are buffered against unpredictable food supply fluctuations. The increase in food production must be achieved most importantly through adoption of climate smart agricultural practices that preserve natural resources and the environment. There are strong links and synergies between this Programme and some of the activities in Programme 1.

133. Overall, these initiatives will address all the pillars of food security, which are availability, access and affordability of nutritious and safe food. The outcomes that Programme 3 is expected to influence, and the milestone indicators showing progress towards these outcomes include the following:

Outcomes	Milestone Indicators
<ul style="list-style-type: none"> • Average yields per hectare of food crops increased • Fish farming established at key locations • Average beef off-take increased • Dairy production increases 	<ul style="list-style-type: none"> • Uptrend in average crop yields of >5% per annum • 50 fish farms operating viably • Beef off-take increased from 3% to 10% (beef offtake is measured as the percentage of cattle slaughtered at commercial abattoirs to total cattle population) • >5020 cow dairy herds operating viably
<ul style="list-style-type: none"> • Reduce post-harvest losses 	<ul style="list-style-type: none"> • Post-harvest losses decline from 35% to 15%
<ul style="list-style-type: none"> • Increase the number of food secure households 	<ul style="list-style-type: none"> • Households reporting food shortage for >2 months declines to no more than 20% of total
<ul style="list-style-type: none"> • Average food availability (calories and protein) increased 	<ul style="list-style-type: none"> • Food balance sheet shows per-capita calorie availability increases from x to y and protein availability from x to y
<ul style="list-style-type: none"> • Reduction in prevalence of under-nutrition and malnutrition 	<ul style="list-style-type: none"> • Declining levels of stunting and wasting in children <5 years • Declining levels of obesity, diabetes and hypertension in adults
<ul style="list-style-type: none"> • Improved disaster risk preparedness and response systems 	<ul style="list-style-type: none"> • Reduction in No. of households in need of emergency assistance • Improvements in response time by emergency and relief services
<ul style="list-style-type: none"> • Food becomes increasingly affordable for those who rely wholly or partly on purchased food 	<ul style="list-style-type: none"> • Decline in the weighting of food staples in the Consumer Price Index from x to y

134. Programme 3 will implement activities to address the three key pillars of food security: (i) availability, (ii) access and (iii) utilisation; as well as climate change adaptation and mitigation.

Sub-Programme 3.1: Food Availability, Access and Utilisation

Sub-Programme 3.1 will promote sustainable intensification of staple food crop production with a focus on maize. Farmers in high maize potential areas will be supported with inputs including training in adoption of good agronomic practice to increase average yields to at least 4 tonnes/ha. Around 21,500 farmers are targeted with each contributing 1ha of land under maize production. This intervention is expected to increase maize production from the current 70,000-80,000 tonnes to more than 150,000 tonnes, thus meeting the consumption requirement of 115,000-130 000 tonnes. It should be noted that for programmes that increase agricultural output, there is a need to adopt conservation agriculture. Such techniques include the adoption of water harvesting measures (tied ridges and “potholes”), reducing evapo-transpiration (mulching, crop cover, and zero tillage), using open pollinated varieties (OPVs), organic manure and rotations with leguminous crops amongst others.

135. **Sub-Programme 3.1 will also increase the cultivated area and number of farmers engaged in vegetable production** for both household consumption and commercial purposes. Vegetable

production is mainly targeted in areas that will benefit from the development of irrigation infrastructure. This is inclusive of the approximately 1,500 ha of new land under the LUSIP I Project area earmarked for growing of non-sugar crops. Other areas to be used for intensive production are those targeted by small and medium scale dams development with a total new area of about 800 ha.

136. **Livestock production will be intensified through measures to increase the productivity of the nation's livestock inventories.** For cattle production this will entail training of farmers on good animal husbandry practices, including management of grazing land, forage production, breeding and the value of commercialising their production. Increased production of indigenous chickens will be undertaken through training of farmers on management practices, provision of breeding stock and developing marketing channels. Pig production will be upscaled through training farmers in piggery management. This will be supported by supply of breeding stock from the Mpisi Breeding Station and strengthening of the pork value chain through building partnerships among stakeholders. The Sub-Programme will also promote fisheries production for both household and commercial purposes. This will be supported by completion of the fish hatchery constructed by government to produce and supply farmers with fingerlings.

137. **Food availability will also be enhanced by reduction of post-harvest losses** which are known to be substantial due to inadequate harvesting, processing and storage facilities. Under this component the SNAIP will promote adoption of technologies that will improve food storage and preservation and appropriate food harvesting techniques.

138. **To improve access to food Sub-Programme 3.1 will focus on improving income for households through promotion of agricultural enterprises and cooperatives to support their livelihoods.** This reflects the fact that the food security of the majority of rural households is at least partly dependent on purchased food. Initiatives will include upscaling of cottage industries including processing, agro-forestry, and support business skills capacity building. This is expected to build the resilience of households to economic and weather related shocks.

139. **Sub-Programme 3.1 will promote production of diversified food crops and livestock products to ensure availability of diversified food for households or individuals.** This will be promoted through specific nutrition programmes and training at community level. This will include training on food processing, storage and utilisation which entails preparation of balanced diets. This sub-programme has strong links and synergies with parts of Programme 2.

Sub-Programme 3.2: Climate Change Adaptation and Mitigation

140. **Climate change adaptation and mitigation aims to increase agricultural productivity in the face of climate change.** This objective will be delivered through the following components:

- Improve climate smart agriculture technology adoption
- Support initiatives that advance farmers and improve productivity in view of climate change
- Support sugar cane industry climate change mitigation strategies
- Crop and livestock production/productivity increased
- Support protected cultivation (tunnel/greenhouse production) and hydroponics

Policy and Institutional Considerations

141. Increasing agricultural production is key to improving national and household food security, but needs to be pursued in concert with other initiatives. These include:

- Maintaining an appropriate balance between emergency relief, regular food aid for vulnerable and chronically food insecure households, and measures to improve agricultural production and productivity. This recognises the “dependency syndrome” that has evolved amongst some households. However, food insecurity will not disappear overnight and food aid will need to continue for some time, but managed in a way that does not reduce farmers’ incentives to produce.
- Specific nutrient and micronutrient (vitamins, minerals) deficiencies need to be considered as key pillars of food policy along with increased availability and affordability for calories and protein.
- The balance of resources allocated to commercial agriculture and production of food staples has to be carefully considered. This recognises that production of non-food cash crops can contribute indirectly to food security by increasing the purchasing power of rural households, and that food security and food self-sufficiency are not the same thing.
- The need to stimulate private sector investment in food production – currently most private investment is directed towards industrial crops (eg sugar, cotton, fruit for processing etc).
- The policy on maintenance of strategic food reserves needs to be elaborated and compared to other instruments for insuring against food emergencies.

E. Programme 4: Agricultural Research, Extension, Training and Education

Rationale and Justification

142. Agricultural sector stakeholders have frequently expressed dissatisfaction with the performance of Swaziland’s agricultural research and extension systems. Although agricultural research has a 50-year history in the country, performance has declined over the last 15 years due to lack of funding and experienced personnel, lack of a clearly articulated research policy, the perceived lack of relevance of research efforts to farmers’ problems, and inadequate coordination between the various actors. Similarly, the performance of the agricultural extension system has waned over time, despite its large staff complement and allocation of over 50% of MOA’s budget. This calls for the transformation of Swaziland’s agricultural research and extension systems as one of the key priorities of the SNAIP in accordance with the recently formulated research and extension policies.

143. Also decision making on research priorities is made centrally with limited participation of targeted end-users. There is an inadequate information management system for disseminating scientific research results and insufficient linkages between national, regional and international agricultural research institutions.

General Approach

144. Agricultural research and extension is the basis for the transformation of a functional agriculture sector and is an important contributor to food security. This is more important especially with the climate change phenomenon and the need to adopt climate smart agricultural methods. Climate smart agriculture includes mulching, intercropping, conservation agriculture, crop rotation, integrated crop-livestock management, agroforestry, improved grazing and improved water management and innovative practices such as better weather forecasting, more resilient food crops and risk insurance. The outcomes that Programme 4 is expected to influence, and the milestone indicators showing progress towards these outcomes include the following:

Outcomes	Milestone Indicators
<ul style="list-style-type: none"> • Adoption of appropriate methods of farming increased 	<ul style="list-style-type: none"> • Uptrend in productivity of key crop and livestock enterprises • Uptrend in sales of fertilisers and improved seeds
<ul style="list-style-type: none"> • Number of improved technologies developed/adapted increased 	<ul style="list-style-type: none"> • Increase in number, quality and adequacy of extension publications and training materials relevant for farmers
<ul style="list-style-type: none"> • Number of skilled agricultural practitioners (farmers, researchers, extension workers) increased 	<ul style="list-style-type: none"> • Annual numbers of farmers, researchers and extension workers trained and employed
<ul style="list-style-type: none"> • Capacity to conduct applied and adaptive research improved 	<ul style="list-style-type: none"> • Institutional capacity of NARA enhanced • Increase in budget allocation for NARA • Number of active researchers trained and employed (B.Sc., M.Sc., PhD)
<ul style="list-style-type: none"> • Increased formation of collaborative partnerships with national and international research institutions 	<ul style="list-style-type: none"> • Number and content of MOUs with national and international research institutions
<ul style="list-style-type: none"> • Competitive grant scheme for research and extension established 	<ul style="list-style-type: none"> • Value of grants approved/disbursed for applied/adaptive research and extension activities

Sub-Programme 4.1: Institutional Restructuring and Capacity Building

145. **Sub-Programme 4.1 will implemented the institutional restructuring and capacity building measures which have been advocated in a number of recent studies.** These include the creation of an Agribusiness Unit within MOA, and establishment of a semi-autonomous NARA to replace the current DARSS. The need for capacity building in all Departments of MOA and the agricultural parastatals reflects the age profile of the staff, with a significant number scheduled to retire in the coming years. The investments required to undertake the institutional restructuring are not large, since it will mainly involve reallocation of existing resources. However capacity building will require significant investments in in-service training.

Sub-Programme 4.2: Agricultural Research

146. **Sub-Programme 4.2 will implement the findings and recommendations of the NARS Assessment (2011) and the Agricultural Research Policy (2012).** The key thrust of the Research Policy is for the NARS to be “*restructured and transformed into an effective, efficient, participatory, more effectively-managed, strategy-focused, and knowledge and information-age conscious semi-autonomous Government agency to be known as the NARA*”. The strategic outcomes of the policy are expected to be:

- NARS responsive to stakeholder participation established and mechanisms for stakeholder participation institutionalised.
- Policy and legislative frameworks ensuring efficient execution of multi-sector and multi-stakeholder research agenda and delivery of market-oriented agricultural knowledge and innovations developed and operationalised.
- Demand-driven agricultural knowledge, technologies and innovations generated and promoted.

- Effective frameworks for developing linkages, collaboration and partnership with different stakeholders nationally, regionally and internationally developed.
- Sustainable funding mechanisms harnessing resources from local, regional and international public and private institutions developed and institutionalised.
- Human resource capacity development in the NARA strengthened and capacitated to conduct research and disseminate demand-driven and market-orientated technologies, knowledge and innovations that are useful to clientele.
- Systematic knowledge and information management systems facilitating the continual collection, analysis and archiving of data and dissemination developed and institutionalised.
- Post-harvest, food technology and value addition processes established and institutionalised.
- Knowledge, information and innovations addressing climate change developed and practices institutionalised.
- Cross-cutting issues identified and mainstreamed in all programmed.
- Quality assurance institutional framework for coordination, monitoring and ensuring successful implementation and delivery of technologies and knowledge for impact established and operational.
- NARA established through an agricultural research policy and legal instrument.

147. **The new approach to agricultural research to be implemented under NARA will require substantial expenditure over the ten-year life of the SNAIP.** Specific investments will include: (i) the creation of NARA with its own offices, staff and management; (ii) establishment of a competitive research grants fund financed by government, development partners and the private sector; (iii) training and capacity building for research staff; (iv) investment in research facilities, vehicles and equipment; and (iv) formation and maintenance of regional and international research partnerships.

Sub-Programme 4.3: Revitalisation of Agricultural Extension

148. **Sub-Programme 4.3 will implement the findings and recommendations of the Agricultural Extension Assessment (2010) and the draft Agricultural Extension Policy (2013).** Its aim is to establish and operationalise an effective and functional agricultural extension system that will be responsive to stakeholder needs and also respond to global changes and developments. Responsiveness to global changes specifically refers to provision of farming services that are climate smart and build resiliencies in agricultural productivity. The starting point of the Extension Policy is that farmers have to be better served through more pluralistic, demand-driven extension services by adopting change processes that aim, inter alia, to fulfil the new mandate of the extension system by:

- Broadening the technical focus beyond technology transfer towards rural advisory services that embrace wider approaches, such as development of farmers' organisations, business management, value addition, market integration and capacity development.
- Promoting pluralism by involving public, private and civil society organisations.
- Promoting operational linkages between extension, research and other relevant stakeholders to ensure effective partnerships and coordination.
- Empowering farmers' organisations to build farmers' demand, and developing advisory service systems from community grassroots through to national levels.

- Strengthening organisational, learning and operational processes in order to facilitate the new role for extension staff, as a key element to enable individuals and institutions to acquire the necessary skills to lead development processes and recognise the status of the extension profession.
- Developing and applying information and communication technology (ICT) tools and supports to facilitate the work of extension staff.

149. **In order to achieve these results the Extension Policy recognises that four major policy shifts are imperative.** First, it is necessary to promote a greater role for other non-public actors and agencies, particularly farmers' organisations, in the delivery of extension services. Second, the need for public agencies, such as MOA to transition speedily to the role of coordinator, facilitator and knowledge broker for the service system, rather than continuing to act as a direct provider of services. Third, the need to review staffing complements and proficiencies with a view to moving towards a smaller, more multi-skilled, staff complement in MOA. Fourth, the need for the new system to adopt an updated knowledge management approach at national and decentralised operational levels.

150. **These policy shifts may save money in the long run and through a more efficient and effective extension system, but will require significant investments under the SNAIP.** Such investments may include: (i) rehabilitation and re-equipping of the 17 RDA centres; (ii) purchase of vehicles and motorcycles for extension workers; (iii) creation and functioning of RDA-level stakeholder advisory panels (iv) launch of a new diploma-level course for extension workers; (v) diploma-level training for new extension staff; (vi) in-service training for existing extension workers; and (vii) pilot programmes for new extension methods.

Policy and Institutional Considerations

151. **The agricultural research and extension policy frameworks provide a roadmap for revitalisation of Swaziland's research and extension considerations.** However financing constraints within the government system mean that simply re-building the systems that existed in the 1980s and 1990s is probably not feasible. This raises a number of policy and institutional issues including the following:

- The shortage of experienced researchers and the long lead-time required to train new ones suggest that collaborative approaches need to be strengthened with international (CGIAR) research institutes as well as national research institutions in neighbouring countries. In addition to cost savings, this has the potential to generate significant synergies through sharing of knowledge and experience, and hence interactions with Programme 5, Knowledge Management.
- The need to focus on farmer-driven applied and adaptive research and the strengthening of linkages between research and extension at institutional level.
- The importance of developing new, low-cost approaches to agricultural extension that works in the social and institutional context of Swaziland. There are many models that have been effectively deployed in other Southern and Eastern African countries, but they need to be trialled in the local context to assess their effectiveness.

F. Programme 5: Institutional Strengthening and Knowledge Management

Rationale and Justification

152. **The success of all the SNAIP programmes hinges on effective information and knowledge management systems.** This will involve detailed record-keeping and documentation of lessons learned to

promote replication and scaling-up of success stories, and remedial actions where things are not going well. Evidence-based planning is therefore a critical element of the SNAIP approach which will be spearheaded under Programme 5, and will support the implementation of the other four programmes. Good record keeping also need to be supported by valid data and proper data validation tools. Key to this is also development of strong institutional support to oversee proper implementation of the SNAIP programmes together with putting in place the necessary human capacity to oversee and monitor the programmes. A dedicated agribusiness unit is also critical in promoting commercialisation in the country for increasing income generation projects.

153. The diversity of stakeholders in the agricultural sector and the upstream and downstream value chain linkages makes knowledge management particularly challenging but essential to avoid duplication efforts and ensure that valuable knowledge is captured, stored, processed and shared. This will help improve the level of monitoring and evaluation to support decision-making and ensure development of effective evidence-based policies. Currently there is a proliferation of overlapping systems of monitoring, evaluation and communication systems and no effective platform for sharing lessons learned from different interventions. Within MOA, planning is practiced in a narrow sense and mainly limited to supporting budgeting processes, with no adequate information or data for establishing long-term goals, setting realistic targets and tracking progress.

General Approach

154. **The situation analysis identified the need for a system to strengthen agricultural sector M&E, knowledge management, communication, and learning and to further strengthen institutional capacity of the MOA.** Programme 5 will ensure that all sectoral stakeholders are aware of what the others are doing and that there is full transparency and transferability of knowledge. It will also contribute to efficient allocation of resources through reduced duplication and overlap with each development partner and implementing agency focusing on its own areas of comparative advantage. It involves a sector-wide approach to planning involving multiple stakeholders sharing knowledge and harmonising their efforts towards shared goals. The outcomes that Programme 5 is expected to influence, and the milestone indicators showing progress towards these outcomes include the following:

Outcomes	Milestone Indicators
<ul style="list-style-type: none"> • Well informed agriculture Industry 	<ul style="list-style-type: none"> • Annual NAIP M&E reports documenting results planned and achieved • NAIP M&E system established and maintained
<ul style="list-style-type: none"> • Policy and planning decisions informed by evidence-based analysis 	<ul style="list-style-type: none"> • No. of analysis documents produced and used to inform policy-making • Comprehensive agricultural sector database and website established
<ul style="list-style-type: none"> • Strengthened management and staff reports submitted on a timely basis 	<ul style="list-style-type: none"> • Quantity and quality of data included in database • Level of database utilisation (No. of website hits and volume of data downloaded) • Strengthened systems and capacities to report to regional and international bodies using validated data and reporting formats
<ul style="list-style-type: none"> • All stakeholders using MoA knowledge to support their activities 	<ul style="list-style-type: none"> • Key stakeholders' satisfaction with access to information and knowledge

Outcomes	Milestone Indicators
<ul style="list-style-type: none">• Strengthened Policy and regulatory alignment and relevance;• Improved budgeting processes based on evidence needs assessments• Improved performance of parastatals in line with modified mandates	<ul style="list-style-type: none">• Improved service delivery and human capacity.• Improved efficiency of the Ministry and reduction of duplications• Evidence based planning and budgeting and reduction of wastage, duplication and bureaucracy and improved transparency• Improved regulatory performance of functions• Improved quality and timeliness of annual reports

Sub-Programme 5.1 Institutional Support

The specific objective of this programme is that:

‘The Ministry of Agriculture and related agencies are strengthened, configured and capacitated to deliver on their mandate’.

- Strengthening the institutional capacity of the Ministry to support agriculture sector development based on updated and relevant policies and legislations.
- Focuses on improved management of and access to agricultural information and improved evidence based planning and decision making.

To achieve these objectives, activities will be implemented under the following key components:

Component 1. Planning, policy development and review

- This component will improve the development and coordination of sector policies, plans, programmes and projects geared towards enhancing a conducive and an enabling environment necessary for the private sector to operate effectively. This will be mainly achieved through some of the activities outlined in the Components below.
- Clarify and improve budgeting process so to make evidence based claims for future resources.
- Improve the monitoring, implementation and impact analysis of public programmes and projects to ensure value for money.

Component 2: Human resource capacity development

The specific objective of this component is to improve the capacity of sector personnel. To achieve this objective the following activities should be implemented:

- Conducting a capacity needs assessment in the agricultural sector.
- Developing and implementing a comprehensive sector capacity building programme.
- Improving staffing levels through filling of existing vacancies and recruiting competitive new staff in critical specialized areas.
- Identifying partners and service providers to assist with the capacity building.

Component 3: Restructuring and equipping MOA and parastatals

- Conducting a core functional analysis of the MOA and parastatals.
- Developing and implementing a systematic plan for equipping the MOA.

Component 4: Public education programmes for agriculture

The specific objective of this component is ‘improved public education and communication around key agriculture and natural resource issues.’ To achieve the objective the MOA and other relevant Ministries should:

- Develop and implement an Agricultural sector communication and advocacy strategy

Sub-Programme 5.2: M&E and Statistics

155. **The foundation for knowledge management and communication will be an upgraded M&E and statistics system within MOA.** The measures required to create and maintain such as system were identified in the 2011 M&E Policy Assessment Report, which concluded that MOA’s M&E capacity was seriously lacking. The objective is to establish an efficient and effective system for capturing, compiling and storing essential information on agricultural sector performance based on the milestone indicators specified in the SNAIP results framework (see Annex 3). This will require significant investment in a number of areas including: (i) international technical assistance to design and install a comprehensive M&E system covering the entire agricultural sector; (ii) training for M&E personnel at all levels including the Central MOA and at Regional and RDA levels; (iii) computer hardware and software (to be updated every three years); (iv) conduct of an agricultural census (repeated every ten years); and (v) special studies and thematic reviews. These initiatives are address the overall sectoral level M&E needs and do not replace the requirement to undertake M&E work at project level.

Sub-Programme 5.3: Knowledge Management

156. **Based on the data captured and stored by the M&E/statistics system, Sub-Programme 5.2 will organise and analyse this information so to support evidence-based decision-making.** This will involve the development of an agricultural knowledge management system within MOA with established links between the national information system and other national and international systems and to train decision-makers on the management and use of the information system. This will also be supported by the international technical assistance, and will involve investments in training, website development and maintenance, and computer hardware and software.

Sub-Programme 5.4: Communications

157. **Sub-Programme 5.4 will strengthen the communication of information and knowledge so that all stakeholders can readily access the information they need at all times.** The first step will be for MOA to develop an effective communication strategy based on identified stakeholder needs. The strategy will specify the communication channels and instruments to be deployed including, but not necessarily limited to: (i) improvement in the communication infrastructure to increase the number of innovative communications systems; (ii) increasing the number of institutions linked to the national database; (iii) formation of communication networks to disseminate knowledge by electronic means; (iv) creation of a “virtual library” of information on Swaziland’s agricultural sector; (v) real-time market information and market analysis; (vi) weather and climate information including improved weather forecasting; (vii) radio and TV programmes publicising success stories; (viii) an annual “state of food and agriculture” report and conference to review overall progress in SNAIP implementation and impacts; and (ix) an improved early warning systems to increase the number of households with disaster coping strategies and to plan emergency programmes.

158. **Knowledge management should also consider the following issues:**

- How to develop effective mechanisms for engaging farmers and farmer organisations in knowledge harvesting and sharing.
- How to finance the recurrent costs of data collection, management and analysis.
- How to ensure high levels of transparency and accountability in policy, planning and implementation.

Sub-Programme 5.5: Strengthen planning, monitoring and evaluation systems

- Development of an assessment tool that uses a common monitoring framework to report on financial and physical performance at districts and national levels.
- Carry out public expenditure tracking survey (PETS) and a quantitative service delivery surveys.
- Develop a learning and knowledge sharing tool on best practices and lessons learnt.

III. SNAIP COSTS AND FINANCING SCENARIO

7.1. COSTING METHODOLOGY

For each programme under SNAIP, a few strategic objectives have been identified, with their associated outcomes. Priority interventions contributing to achieve these outcomes have been described above, by program. These interventions have been characterised by output indicators, along with their associated unit, unit cost, baseline value and target value by the end of the SNAIP (2025). The outputs have to the extent possible been quantified, with annual targets, and resulting annual values.

Following an output based budgeting methodology, the budget for each intervention has been calculated by multiplying an intervention's annual target by its unit cost, for each year of intervention. The sum of each annual value was then added over the total period of LAFSIP implementation (2015-25). The result is a total for each intervention, and by aggregation, for each sub-component, component and Programme.

7.2. BASE COSTS

The identification of the base costs have been derived based on strategic investments in the agricultural sector with specific targets set for each intervention which will be used as the monitoring indicators. Table 5 provides a breakdown of the costs by programme and the calculation of the financing Gap. The overall base costs required in the sector for the period 2015 - 2025 are USD 1.4 billion.

Table 5: Total SNAIP Financing Required

SNAIP PROPOSED EXPENDITURE PER YEAR		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
Programme Area 1	Sustainable Natural Resource Management	33,564,000	56,397,460	339,296,362	192,668,855	193,648,433	72,126,857	66,010,486	52,388,148	38,999,173	39,012,466	1,084,112,241
Programme Area 2	Access to Markets and Value Chains	49,818,000	78,706,145	70,691,979	69,661,002	67,309,554	69,611,938	57,753,486	62,171,292	59,499,085	61,763,640	646,986,121
Programme Area 3	Food Supply and Reducing Hunger	23,260,000	18,787,650	18,554,352	18,832,668	19,115,158	19,401,885	19,474,225	19,766,338	20,062,833	20,249,436	197,504,544
Programme Area 4	Agricultural Research, Extension, Training and Education	2,668,000	14,400,820	17,511,765	20,095,847	4,954,445	2,874,194	2,917,307	2,850,082	2,892,833	2,936,225	74,101,517
Programme Area 5	Institutional Strengthening and Knowledge Management	1,550,000	2,385,250	2,214,984	2,248,209	1,119,739	861,827	874,755	1,037,705	901,194	914,712	14,108,374
Sub-Total Annual Expenditure		110,860,000	170,677,325	448,269,442	303,506,580	286,147,328	164,876,701	147,030,259	138,213,565	122,355,119	124,876,480	2,016,812,797
Existing Programme Expenditure Per Year		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
Programme Area 1	Sustainable Natural Resource Management	47,668,415	72,413,398	93,744,021	93,840,285	68,621,620	44,351,260	23,500,000	21,636,000	20,960,000	20,660,000	507,394,999
Programme Area 2	Access to Markets and Value Chains	6,224,000	7,824,000	7,474,100	7,174,100	7,074,100	3,850,000	3,150,000	2,250,000	2,250,000	2,250,000	49,520,300
Programme Area 3	Food Supply and Reducing Hunger	13,883,333	13,883,333	13,883,333	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	50,400,000
Programme Area 4	Agricultural Research, Extension, Training and Education	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	12,500,000
Programme Area 5	Institutional Strengthening and Knowledge Management	2,351,400	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	4,601,400
Sub-Total Existing Programme Expenditure Per Year		71,377,149	95,620,731	116,601,454	103,764,385	78,445,720	50,951,260	29,400,000	26,636,000	25,960,000	25,660,000	624,416,699
TOTAL	PROPOSED EXPENDITURE PER YEAR	39,482,851	75,056,594	331,667,988	199,742,195	207,701,608	113,925,441	117,630,259	111,577,565	96,395,119	99,216,480	1,392,396,098

7.3. AVAILABLE FUNDS

The funds provisionally committed in the various programmes during the period total USD 624 million of which Government is contributing USD 250 million (Table 6). It should be noted that the Government contribution includes projects/programmes funded by development partners.

Table 6: Total available funds

SNAIP EXISTING FINANCE		Existing Projects & Programmes	Internal Capital Budget	Total
Programme Area 1	Sustainable Natural Resource Management	307,394,999	200,000,000	507,394,999
Programme Area 2	Access to Markets and Value Chains	27,020,300	22,500,000	49,520,300
Programme Area 3	Food Supply and Reducing Hunger	37,900,000	12,500,000	50,400,000
Programme Area 4	Agricultural Research, Extension, Training and Education	0	12,500,000	12,500,000
Programme Area 5	Institutional Strengthening and Knowledge Management	2,101,400	2,500,000	4,601,400
TOTAL		374,416,699	250,000,000	624,416,699

7.4. FINANCING GAP

The financing Gap is estimated at USD 1.4 million over the 10 year period. Table 7 provides the financing gap per programme per annum.

Table7: Financing GAP

NAIP		COSTS	Existing Projects & Programmes	Internal Capital Budget	GAP	% GAP
Programme Area 1	Sustainable Natural Resource Management	1,084,112,241	307,394,999	200,000,000	576,717,242	53.2%
Programme Area 2	Access to Markets and Value Chains	646,986,121	27,020,300	22,500,000	597,465,821	92.3%
Programme Area 3	Food Supply and Reducing Hunger	197,504,544	37,900,000	12,500,000	147,104,544	74.5%
Programme Area 4	Agricultural Research, Extension, Training and Education	74,101,517	0	12,500,000	61,601,517	83.1%
Programme Area 5	Institutional Strengthening and Knowledge Management	14,108,374	2,101,400	2,500,000	9,506,974	67.4%
TOTAL		2,016,812,797	374,416,699	250,000,000	1,392,396,098	69.0%

The Gap will be financed provisionally 22 % by the private sector and the balance through Government and Development Partners.

Table 8: Financing Plan

NAIP		TOTAL COSTS	Costs		Financed	Proposed Financing	
			Development Partners	Private Sector		Development Partners	Private Sector
Programme Area 1	Sustainable Natural Resource Management	1,084,112,241	857,105,986	227,006,255	507,394,999	455,956,295	120,760,947
Programme Area 2	Access to Markets and Value Chains	646,986,121	529,112,372	117,873,749	49,520,300	488,614,126	108,851,696
Programme Area 3	Food Supply and Reducing Hunger	197,504,544	698,106,590	127,693,885.1	50,400,000	51,996,096	95,108,448
Programme Area 4	Agricultural Research, Extension, Training and Education	74,101,517	59,198,368	14,903,150	12,500,000	49,212,343	12,389,174
Programme Area 5	Institutional Strengthening and Knowledge Management	14,108,374	14,108,374	0	4,601,400	9,506,974	0
TOTAL		2,016,812,797	1,529,335,759	487,477,039	624,416,699	1,055,285,832	337,110,266

IV. IMPLEMENTATION FRAMEWORK

A. Overview

159. **The SNAIP will be coordinated and managed by MOA using Government systems and procedures.** MOA will adopt a sector wide approach¹⁶ to coordination and management by engaging a broad cross section of stakeholders including all relevant ministries, development partners, parastatals, NGOs, CSOs etc. MOA at national level (see organogram in Figure 1) will be responsible for overall coordination and management of the SNAIP including: (i) institutional arrangements and coordination; (ii) financing mechanisms; (iii) liaison with stakeholders; and (iv) monitoring and evaluation. The five SNAIP programmes will also be coordinated by MOA nationally but implementation of specific sub-programmes and projects will generally be undertaken through the regional, RDA and Tinkhundla levels of government; and/or through the relevant ministries'/departments, parastatals, NGOs, CSO and other implementing partners.

B. Coordination and Management Framework

160. **The expected outcome is that all SNAIP programmes are efficiently and effectively managed and coordinated to ensure achievement of expected results.** MOA, as the host Ministry is the key institution in the SNAIP implementation process. However, under the sector-wide approach a number of other ministries and institutions will also be involved so it is important to have a well-structured coordination system based on the following elements (see Figure 5):

- **A SNAIP Council of Ministers (SCM)** will be established to guide high level coordination of the SNAIP. This will be based on the existing Cabinet Committee on Food Security. It will be responsible for national policy-level coordination of SNAIP and will work in close collaboration with Development Partners. The SCM will be chaired by the Minister of Agriculture and will include the Ministers of:
 - Commerce, Industry and Trade
 - Economic Planning and Development
 - Environment and Tourism
 - Health
 - Information and Communication Technology
 - Natural Resource and Energy
 - Sports and Youth Affairs
 - Tinkhundla Administration and Development
 - Any other Ministry that may become involved
- **The SNAIP Coordination Committee (SCC)** comprising the Principal Secretaries of the participating Ministries. The PS/MOA will chair this committee. The SCC will act as a bridge between the SCM and the SNAIP Secretariat.
- **The SNAIP Secretariat** will be established in the office of the MOA Undersecretary for Development. The Secretariat will be responsible for day-to-day management of the SNAIP including coordination/networking amongst implementing partners, programme support, high level monitoring and evaluation, liaison with development partners, knowledge management and communications. The Secretariat will also provide operational support to the SCM and SCC and various Programme Management or Technical Committees including convening meetings, preparing agendas and minutes; as well as organising periodic SNAIP review workshops. The Secretariat will progressively be staffed as the SNAIP unfolds by inter alia the SNAIP Coordinator, an M&E Specialist and a Communications Officer. The Government of Swaziland

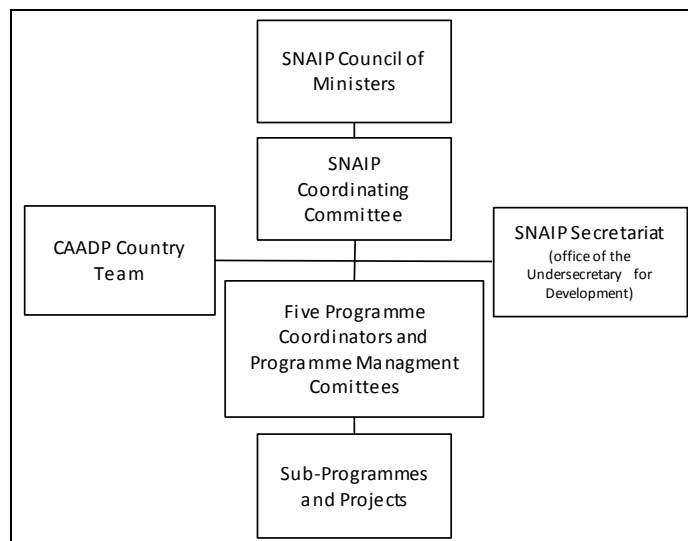
¹⁶MOA is one of the four ministries that is mandated by MEPD to adopt a sector-wide approach.

will finance the SNAIP Secretariat. Mobilization of investment funds for SNAIP is discussed in the section C below.

- Each of the five SNAIP Programmes will have a **Programme Coordinator** and a **Programme Technical Committee**. The Programme Coordinators will generally be the director of the relevant MOA Department and the Technical Committees will include representatives of all organisations involved in the Programme and its various sub-programmes and components.
- Projects will be managed in the normal way through the relevant departments, parastatals and implementing agencies with their respective project managers and project management structures.

161. The **CAADP Country Team (CCT)** which has overseen the CAADP process in Swaziland, including design of the SNAIP, will continue to have an advisory and consultative function during SNAIP implementation. The CCT includes a range of important stakeholders: participating ministries, development partners, parastatals, academia, private sector, NGOs, farmer organisations, et al.

Figure 5: SNAIP Coordination and Management Framework



162. **At regional and community levels, SNAIP programmes and projects will be implemented through decentralised structures** such as the Regional Administrators (RAs) offices, the RDAs and the various Tinkhundla Centres. The Tinkhundla Centres will act as a nucleus of programme implementation at local level. The RA will work in close collaboration with chiefs, parastatals and NGOs working on agriculture and rural development, farmer organisations, the private sector and the MOA extension services. The RAs and Chiefs will have the duty of ensuring smooth programme implementation through community mobilisation and ensuring community participation and ownership. The MOA, affiliated parastatals and NGOs will provide on-the-ground technical expertise for program implementation. Under these arrangements there will be maximum implementation benefits for agricultural and rural development.

A. Financing Arrangements

163. **The financing of the SNAIP implementation will be through various mechanisms including public expenditure, private sector, donor funds and in-kind contributions of farmer beneficiaries.** Consideration will be given to establishing a multi-donor trust fund. Government's contributions will come through the CAADP compact commitment to increase the agricultural sector's allocation to 10% of

the total budget. The MEPD aid coordination unit will be responsible for soliciting development partner funds for the SNAIP programme. This approach aligns with Government's vision and policy of aid coordination. Mechanisms however will necessarily remain reasonably flexible, taking into account specifications of different development partners. Government's preferred modality for external resources is budget support (pooled funding), but recognises that earmarked and discrete (off-budget) funding mechanisms may be necessary in some cases.

164. **Government has recently initiated a public-private partnership (PPP) arrangement that is expected to provide useful funding options** for some of the SNAIP programmes. The Micro-Finance Unit (MFU) of the MoF, FINCORP (a government parastatal) and the private banking sector will also be used to mobilise funding for the SNAIP programmes.

165. **The private sector especially those involved in agriculture enterprises are expected to make significant contribution towards financing the SNAIP** and form strong links with small-scale farmers. The programme on market access and value addition is expected to foster such linkages and strengthen the involvement of established agricultural enterprises in rural development. The banks are also expected to support private sector participation. Swaziland Commercial banks have shown some resilience and are characterised by high liquidity. However, funding to the agricultural sector tends to be low due to high risks and lack of acceptable collaterals/securities. Commercial banks predominantly fund sugar operations where the risk of loan default is low. It is expected that with strong market linkages and promotion of value added chains and agricultural diversification, commercial banks will be able to fund other agricultural products as well. There has been considerable dialogue with the finance sector through the MFU of MoF and the MoA and its parastatals in this regard. Favourable policies that support farmers' insurance and smallholder agricultural finance are also expected to increase the participation of commercial banks in funding some areas of the SNAIP programmes. The MFU of the MoF has been addressing the rural and micro-financing policy and operating environment and is expected to continue to play a key role here.

B. Monitoring and Evaluation

166. **Implementation of the SNAIP requires the development of an effective M&E system to track progress and provide feedback to stakeholders.** In this regard there is need to put in place a system of capturing and reporting the data on agreed indicators from the output level, outcomes to impact indicators. This will be done through setting the higher impact goal that is to contribute to sustainable and equitable economic growth, reduction of rural poverty and improvement of food and nutrition security over the next 10 years. All departments and stakeholders have to plan and report on milestones as per the various programmes of the SNAIP. These will entail policy impact of different segments of the farming community, technology uptake, production, productivity, marketing information and trends, etc. Through the Knowledge Management programme capacity building will be provided for all departments on M&E. The Secretariat will provide overall guidance for the SNAIP through undertaking the necessary consolidation and analytic work to inform decision-making. As a matter of urgency there is need to establish a dedicated office for agricultural statistics to support data management and to establish a common approach and methodology for base line and impact surveys to contribute to this process. It is expected that the M & E function and associated capacity building will be addressed as part of the current institutional review of MoA. Field staff need special attention with regard to capacity building on M&E and equipping them with necessary equipment to capture and transmit timely information. Before the start of the programme there is need to establish the baseline information on which to measure progress against. It is proposed that there be two interim evaluations with an interval of three years and a post evaluation at the end of the ten year period to inform the re-planning of the agriculture sector.

C. Risks and Mitigation Measures

167. **The size and breadth of the investments envisaged under the SNAIP necessarily imply a number risks** which are articulated below together with the risk mitigation measures proposed. The SNAIP is subject to a number of generic risks that affect all development programmes and projects in Swaziland. These include: (i) limited capacity in Government institutions; (ii) poor coordination between different agencies and between government and non-government organisations; (iii) limited private investment in the SNL sub-sector; (iv) deterioration in the fiscal position due to slow economic growth and/or loss of SACU customs revenues; (v) loss of support from development partners; and (vi) the threat of natural disasters, principally drought

Risk	Mitigation Measures
<ul style="list-style-type: none"> • Limited management and implementation capacity of government institutions 	<ul style="list-style-type: none"> • Capacity building measures will be incorporated in all SNAIP Programmes where capacity limitations are found
<ul style="list-style-type: none"> • Weak knowledge base for SNL transformation 	<ul style="list-style-type: none"> • Strengthen the national agricultural research system through the establishment of a national agricultural research authority and adaption of the national agricultural extension system
<ul style="list-style-type: none"> • Poor inter-agency coordination 	<ul style="list-style-type: none"> • The implementation framework includes mechanisms for inter-ministerial and inter-agency coordination at Ministerial and PS level
<ul style="list-style-type: none"> • Limited private investment in the SNL sub-sector 	<ul style="list-style-type: none"> • Programmes 2.5, 2.6 and 3 on commercialisation and diversification incorporates measures to stimulate private sector investment
<ul style="list-style-type: none"> • Deterioration in the fiscal position 	<ul style="list-style-type: none"> • Positive direction given by Cabinet to assure priority of the agricultural sector and annual budget in line with the Maputo and Malabo accords and the CAADP compact
<ul style="list-style-type: none"> • Loss of support from development partners 	<ul style="list-style-type: none"> • Close engagement of key development partners in the SNAIP formulation process, and in the design and implementation of specific programmes and projects
<ul style="list-style-type: none"> • Natural disasters 	<ul style="list-style-type: none"> • Impact of natural disasters (principally drought) to be mitigated through adoption of climate resilient agricultural technologies and heavy investment in irrigation infrastructure

These risks are significant, but need to be considered in comparison to the risks associated with a less ambitious approach to sector development, which imply a high likelihood of continuing poverty, food insecurity, environmental degradation and economic stagnation. Against this background, and the proposed mitigation measures suggested above, the case for implementing the SNAIP is compelling.

ANNEX 1: STATISTICAL SUMMARY

<p>Figure 2: Agricultural Sectors Contribution to Agricultural GDP in 2008</p> <p>The graph shows that TDL crops, mainly sugar contribute most to agricultural GDP</p>	<table border="1"> <caption>Data for Figure 2: Agricultural Sectors Contribution to Agricultural GDP in 2008</caption> <thead> <tr> <th>Sector</th> <th>Contribution (%)</th> </tr> </thead> <tbody> <tr> <td>Crops - Individual Tenure Farms</td> <td>80%</td> </tr> <tr> <td>Crops - Swazi Nation Land</td> <td>5%</td> </tr> <tr> <td>Forestry</td> <td>8%</td> </tr> <tr> <td>Livestock, etc.</td> <td>7%</td> </tr> </tbody> </table>	Sector	Contribution (%)	Crops - Individual Tenure Farms	80%	Crops - Swazi Nation Land	5%	Forestry	8%	Livestock, etc.	7%																																																												
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<p>Figure 3: Agricultural Sectors Contribution to Agricultural GDP in 2012</p> <p>Livestock contribution to GDP has remained constant while that from forestry has shrink mainly due to the closure of SAPPI Usuthu, a major paper and pulp producer in the country in 2010.</p>	<table border="1"> <caption>Data for Figure 3: Agricultural Sectors Contribution to Agricultural GDP in 2012</caption> <thead> <tr> <th>Sector</th> <th>Contribution (%)</th> </tr> </thead> <tbody> <tr> <td>Crops - Individual Tenure Farms</td> <td>78%</td> </tr> <tr> <td>Crops - Swazi Nation Land</td> <td>9%</td> </tr> <tr> <td>Forestry</td> <td>6%</td> </tr> <tr> <td>Livestock, etc.</td> <td>7%</td> </tr> </tbody> </table>	Sector	Contribution (%)	Crops - Individual Tenure Farms	78%	Crops - Swazi Nation Land	9%	Forestry	6%	Livestock, etc.	7%																																																												
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<p>Figure 4: Agricultural Contribution to Total Trade</p> <p>Because of the developed sugar industry, the country experiences an overall positive trade balance in agricultural commodities. However, the sugar industry obscures the underperformance of the other sectors of agriculture and lack of diversification as trade figures show.</p>	<table border="1"> <caption>Approximate Data for Figure 4: Trade values (E) from 2000 to 2012</caption> <thead> <tr> <th>Year</th> <th>Value Total Exports (E)</th> <th>Value Total Imports (E)</th> <th>Value Agric. Exports (E)</th> <th>Value Agric. Imports (E)</th> </tr> </thead> <tbody> <tr><td>2000</td><td>7.0</td><td>7.0</td><td>1.0</td><td>1.0</td></tr> <tr><td>2001</td><td>11.0</td><td>10.0</td><td>1.5</td><td>1.5</td></tr> <tr><td>2002</td><td>12.0</td><td>10.5</td><td>1.5</td><td>1.5</td></tr> <tr><td>2003</td><td>11.5</td><td>10.5</td><td>1.5</td><td>1.5</td></tr> <tr><td>2004</td><td>11.0</td><td>10.5</td><td>1.5</td><td>1.5</td></tr> <tr><td>2005</td><td>11.5</td><td>8.5</td><td>2.0</td><td>1.5</td></tr> <tr><td>2006</td><td>12.5</td><td>9.5</td><td>2.0</td><td>1.5</td></tr> <tr><td>2007</td><td>13.0</td><td>11.5</td><td>2.5</td><td>1.5</td></tr> <tr><td>2008</td><td>13.5</td><td>12.5</td><td>3.0</td><td>1.5</td></tr> <tr><td>2009</td><td>13.5</td><td>13.0</td><td>3.5</td><td>1.5</td></tr> <tr><td>2010</td><td>14.0</td><td>13.5</td><td>4.0</td><td>1.5</td></tr> <tr><td>2011</td><td>15.0</td><td>13.5</td><td>4.5</td><td>1.5</td></tr> <tr><td>2012</td><td>16.0</td><td>14.0</td><td>5.0</td><td>1.5</td></tr> </tbody> </table>	Year	Value Total Exports (E)	Value Total Imports (E)	Value Agric. Exports (E)	Value Agric. Imports (E)	2000	7.0	7.0	1.0	1.0	2001	11.0	10.0	1.5	1.5	2002	12.0	10.5	1.5	1.5	2003	11.5	10.5	1.5	1.5	2004	11.0	10.5	1.5	1.5	2005	11.5	8.5	2.0	1.5	2006	12.5	9.5	2.0	1.5	2007	13.0	11.5	2.5	1.5	2008	13.5	12.5	3.0	1.5	2009	13.5	13.0	3.5	1.5	2010	14.0	13.5	4.0	1.5	2011	15.0	13.5	4.5	1.5	2012	16.0	14.0	5.0	1.5
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Figure 5: Bovine Meat Trade (E Million)

Low beef off take in the country has resulted in persistent negative trade balance despite the large number of cattle.

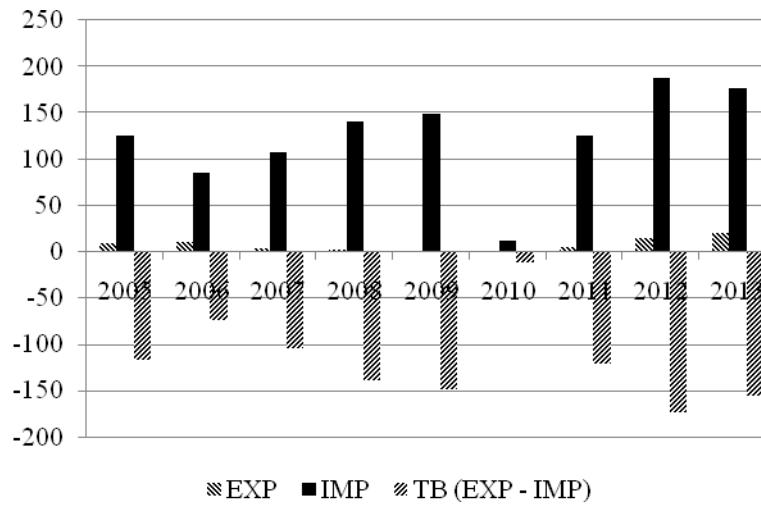
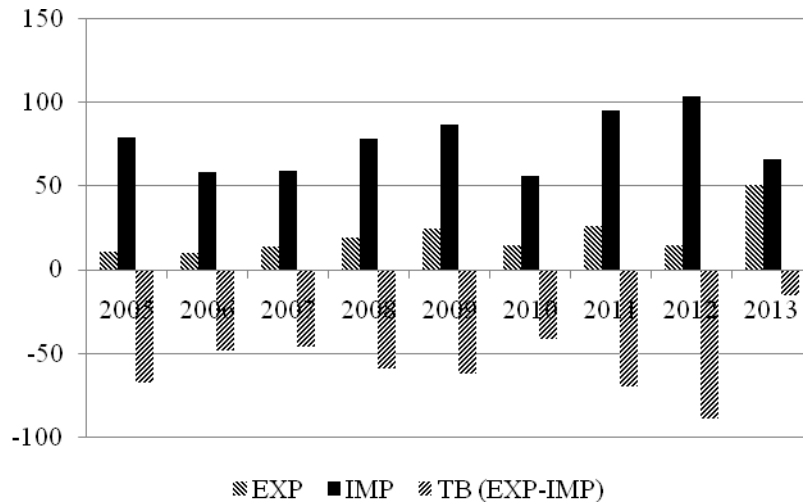


Figure 6: Milk and Milk Products Trade (E Million)

Low milk production and lack of milk value addition chains result in the country being a net milk and milk products importer. Milk and milk products here include milk and cream, buttermilk, cheese, whey and other natural milk constituents.



<p>Figure 7: Poultry Meat Trade (E Million)</p> <p>The country still imports large and increasing quantities of poultry meat. Poultry Meat refers to Meat and edible offal of poultry, fresh, chilled or frozen</p>	<table border="1"> <thead> <tr> <th>Year</th> <th>EXP (E Million)</th> <th>IMP (E Million)</th> <th>TB (EXP - IMP) (E Million)</th> </tr> </thead> <tbody> <tr><td>2005</td><td>-10</td><td>11</td><td>-1</td></tr> <tr><td>2006</td><td>-10</td><td>6</td><td>-4</td></tr> <tr><td>2007</td><td>-10</td><td>6</td><td>-4</td></tr> <tr><td>2008</td><td>-10</td><td>6</td><td>-4</td></tr> <tr><td>2009</td><td>-10</td><td>8</td><td>-2</td></tr> <tr><td>2010</td><td>-10</td><td>2</td><td>-8</td></tr> <tr><td>2011</td><td>-10</td><td>9</td><td>-1</td></tr> <tr><td>2012</td><td>-14</td><td>14</td><td>0</td></tr> <tr><td>2013</td><td>-20</td><td>19</td><td>-1</td></tr> </tbody> </table>	Year	EXP (E Million)	IMP (E Million)	TB (EXP - IMP) (E Million)	2005	-10	11	-1	2006	-10	6	-4	2007	-10	6	-4	2008	-10	6	-4	2009	-10	8	-2	2010	-10	2	-8	2011	-10	9	-1	2012	-14	14	0	2013	-20	19	-1
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<p>Figure 8: Eggs Trade (E Millions)</p> <p>The country is also a net importer of eggs despite increase in internal egg production and exports. Eggs refer to Birds' eggs, in shell, fresh, preserved or cooked.</p>	<table border="1"> <thead> <tr> <th>Year</th> <th>EXP (E Millions)</th> <th>IMP (E Millions)</th> <th>TB (EXP - IMP) (E Millions)</th> </tr> </thead> <tbody> <tr><td>2005</td><td>-10</td><td>5</td><td>-5</td></tr> <tr><td>2006</td><td>-15</td><td>16</td><td>-1</td></tr> <tr><td>2007</td><td>-10</td><td>22</td><td>12</td></tr> <tr><td>2008</td><td>-15</td><td>37</td><td>22</td></tr> <tr><td>2009</td><td>-15</td><td>36</td><td>21</td></tr> <tr><td>2010</td><td>-20</td><td>30</td><td>10</td></tr> <tr><td>2011</td><td>-10</td><td>25</td><td>15</td></tr> <tr><td>2012</td><td>-20</td><td>36</td><td>16</td></tr> <tr><td>2013</td><td>-18</td><td>34</td><td>16</td></tr> </tbody> </table>	Year	EXP (E Millions)	IMP (E Millions)	TB (EXP - IMP) (E Millions)	2005	-10	5	-5	2006	-15	16	-1	2007	-10	22	12	2008	-15	37	22	2009	-15	36	21	2010	-20	30	10	2011	-10	25	15	2012	-20	36	16	2013	-18	34	16
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<p>Figure 9: Pork Trade (E' Million)</p> <p>The country is a net importer of pork with insignificant export volumes.</p>	<table border="1"> <thead> <tr> <th>Year</th> <th>EXP (E' Million)</th> <th>IMP (E' Million)</th> <th>TB (EXP - IMP) (E' Million)</th> </tr> </thead> <tbody> <tr><td>2005</td><td>-30</td><td>29</td><td>-1</td></tr> <tr><td>2006</td><td>-18</td><td>18</td><td>0</td></tr> <tr><td>2007</td><td>-18</td><td>19</td><td>1</td></tr> <tr><td>2008</td><td>-18</td><td>19</td><td>1</td></tr> <tr><td>2009</td><td>-20</td><td>20</td><td>0</td></tr> <tr><td>2010</td><td>-2</td><td>3</td><td>1</td></tr> <tr><td>2011</td><td>-20</td><td>20</td><td>0</td></tr> <tr><td>2012</td><td>-25</td><td>27</td><td>2</td></tr> <tr><td>2013</td><td>-20</td><td>20</td><td>0</td></tr> </tbody> </table>	Year	EXP (E' Million)	IMP (E' Million)	TB (EXP - IMP) (E' Million)	2005	-30	29	-1	2006	-18	18	0	2007	-18	19	1	2008	-18	19	1	2009	-20	20	0	2010	-2	3	1	2011	-20	20	0	2012	-25	27	2	2013	-20	20	0
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Figure 10: Fish Trade (E Million)

The poorly developed fish industry means the country relies on imports for all internal fish demand. Fish here refer to fresh, chilled and frozen fish, fish fillet and other fish meat.

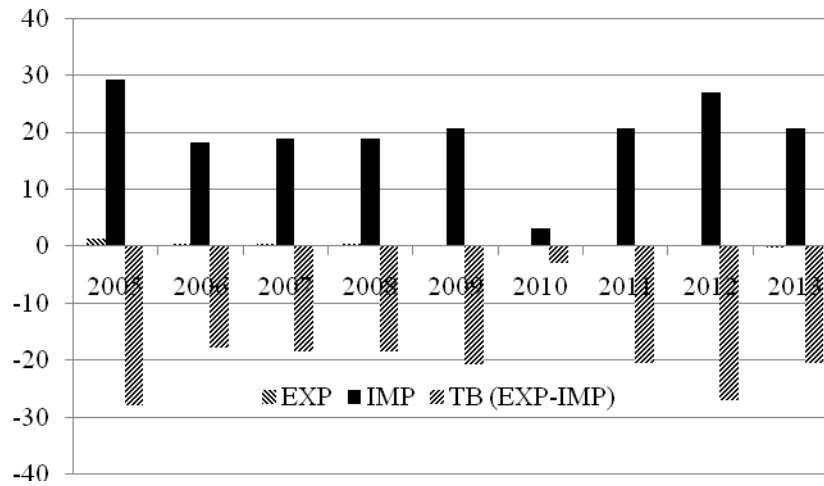


Figure 11: Honey Trade (E' Thousands)

Honey production is an important potential niche market for Swaziland and trade figures show that there is a significant internal demand for honey in the country.

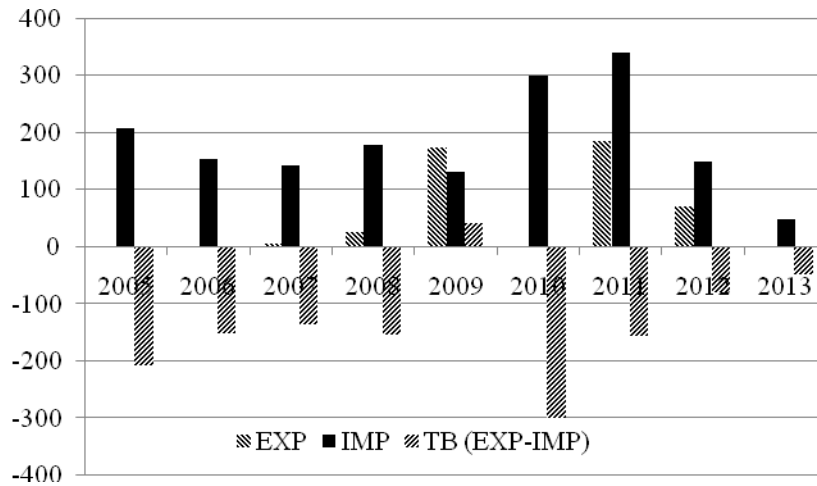


Figure 12: Live Animals Trade Balance (E' Million)

Trade data reveals that the country also import significant numbers of live animals. These are mainly used for breeding purposes, which signifies the need to promote local production of animal breeding stocks.

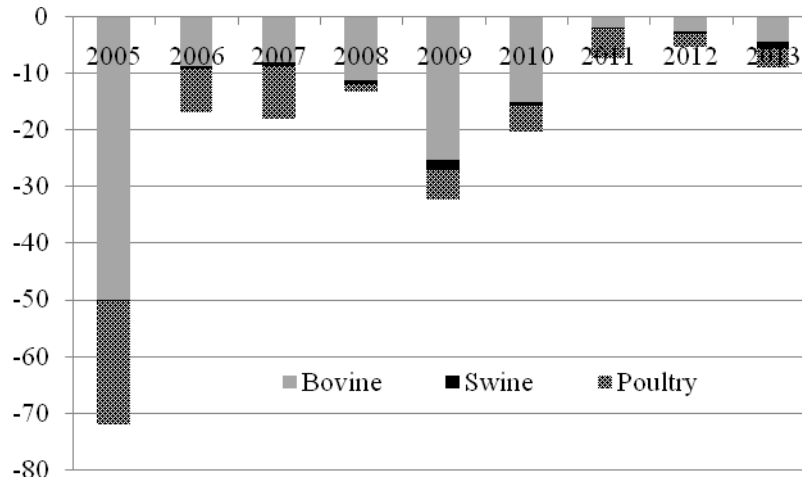


Figure 12: Poultry Eggs Imports and Exports in 2012 (Value in E' Million)

Most egg imports are for breeding/hatching purposes, which points to the need to increase investments in internal breeding stock production.

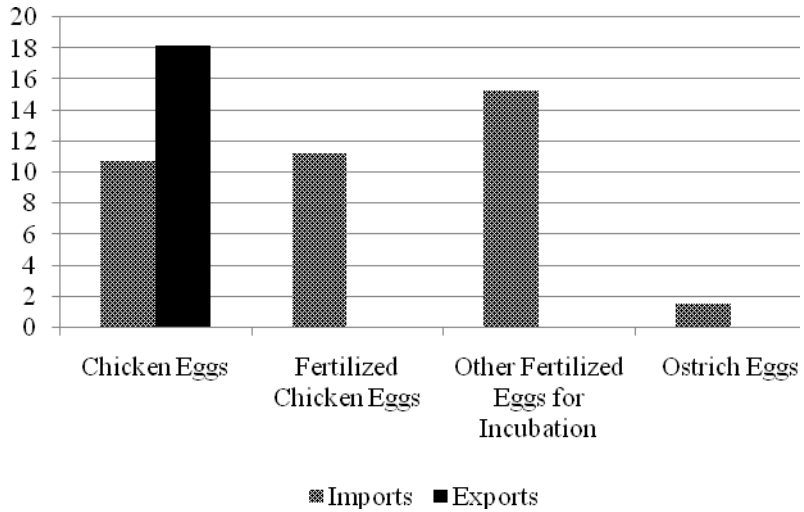


Figure 13: Maize Trade (E Million)

Maize is the staple food of Swaziland and the country has experienced persistent maize deficit due to low and decreasing internal productivity.

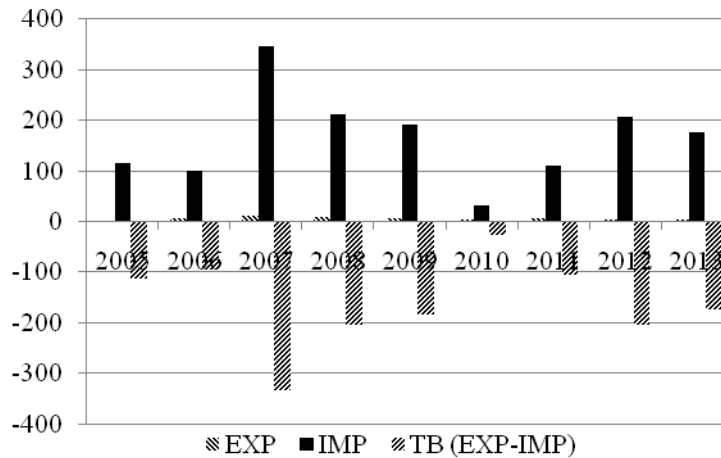


Figure 14: Potatoes Trade (E Million)

The country can increase internal potatoes production since it has suitable climate and soil types to produce most tuber crops.

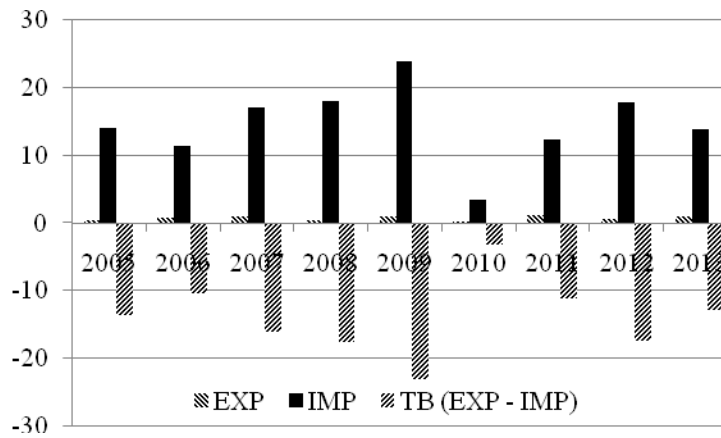


Figure 15: Soybeans Trade (E' Million)

The country is net importer of soybeans, an important protein crop that can be produced locally.

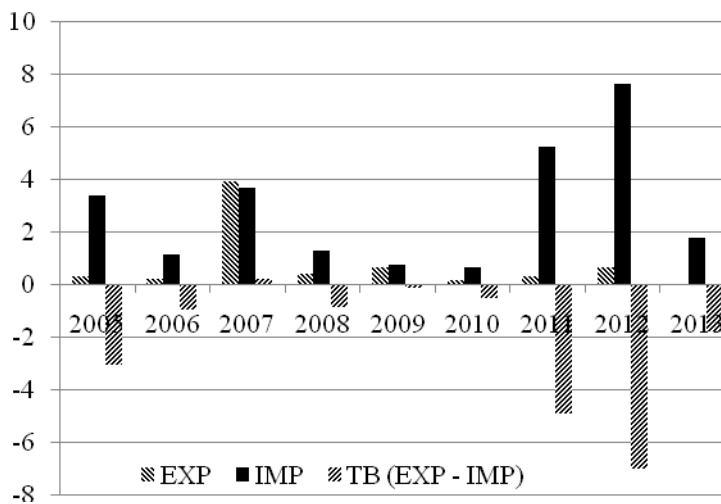


Figure 16: Rice Trade (E' Million)

Rice consumption in the country has been increasing and rice offers an import substitute to maize or wheat based starches.

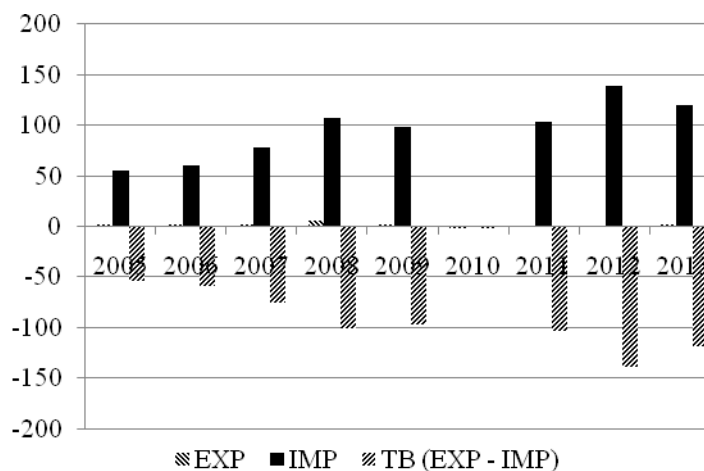


Figure 17: Trade Balance of Vegetables (E' Million)

Most common vegetables are imported despite that the country can produce these.

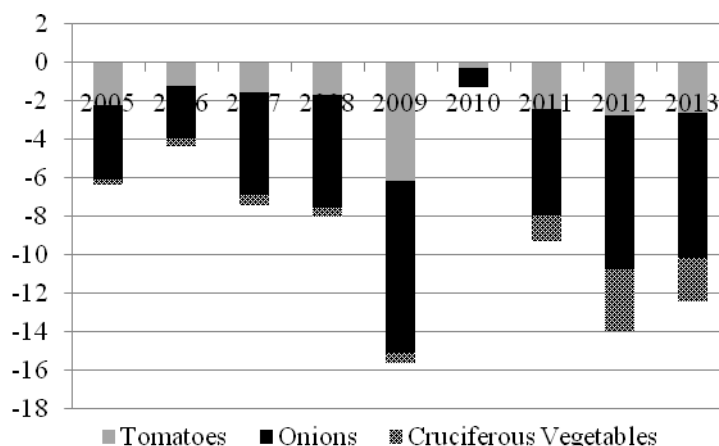


Figure 18: Trade Balance of Fruits

The country has well developed citrus and pineapple industries, as trade balance figures support.

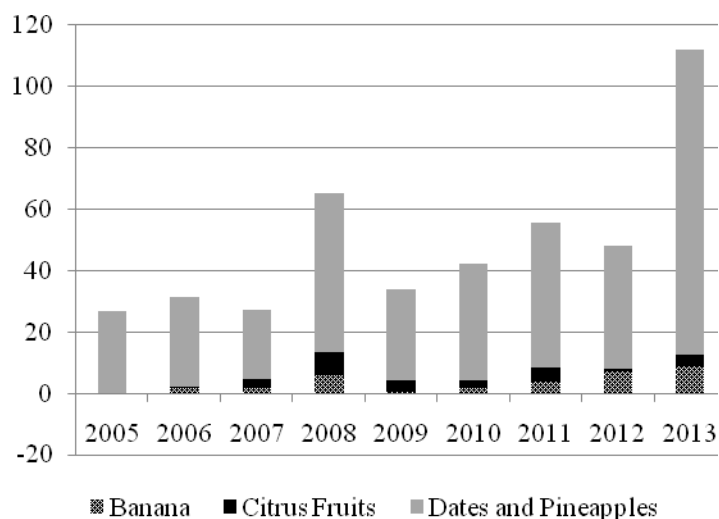


Figure 19: Sugar Cane Production (Million Tonnes)

The country has well developed sugar industry, with productivity being one of the highest in the world. The sugar industry is the mainstay of the Swaziland agricultural sector.

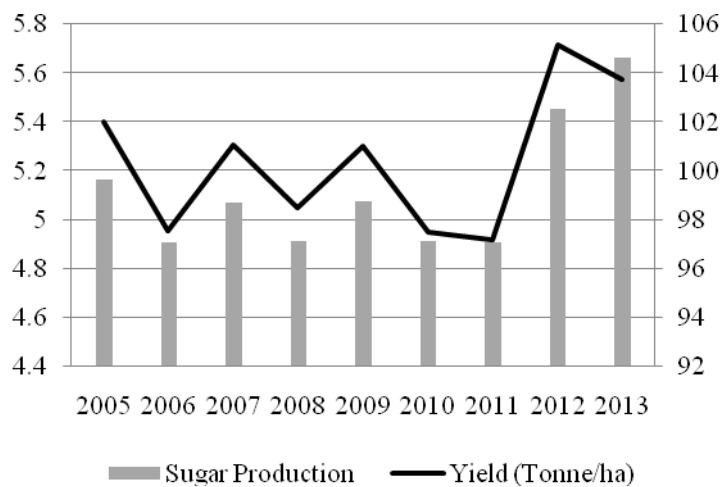


Figure 20: Maize Production

The country has a maize production deficit mainly due to low maize productivity (FAO Data)

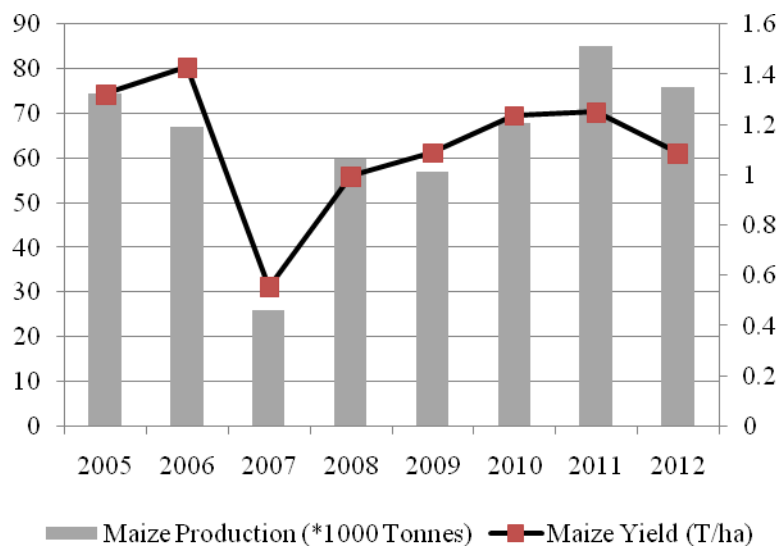


Figure 21: Maize Production, Consumption and Self Sufficiency

NMC Data. As in most agricultural statistics, there are discrepancies in maize production data from FAO and from the country's statistics.

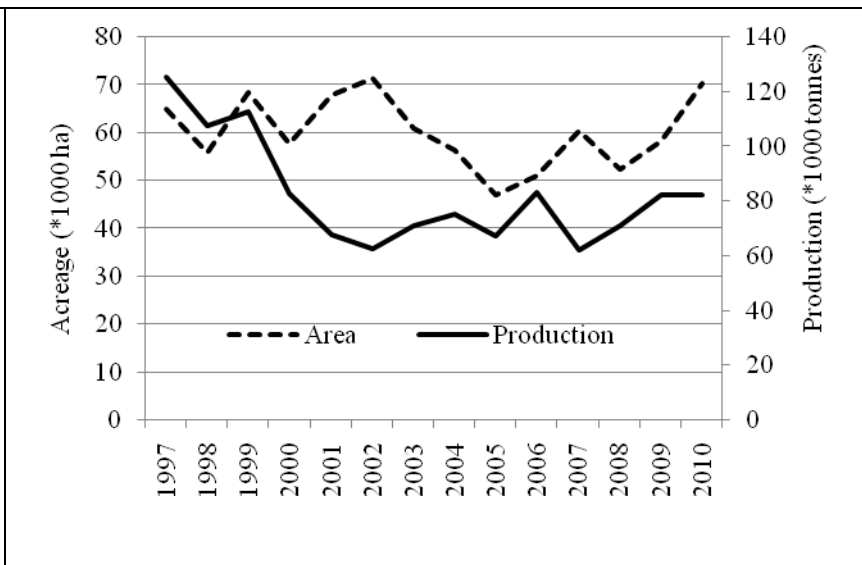


Figure 13: Cattle, Goats and Sheep Numbers

*Sheep Population and % of Cattle Population on the 2^o Axis)

Cattle and goat numbers have been fairly stable in the past years

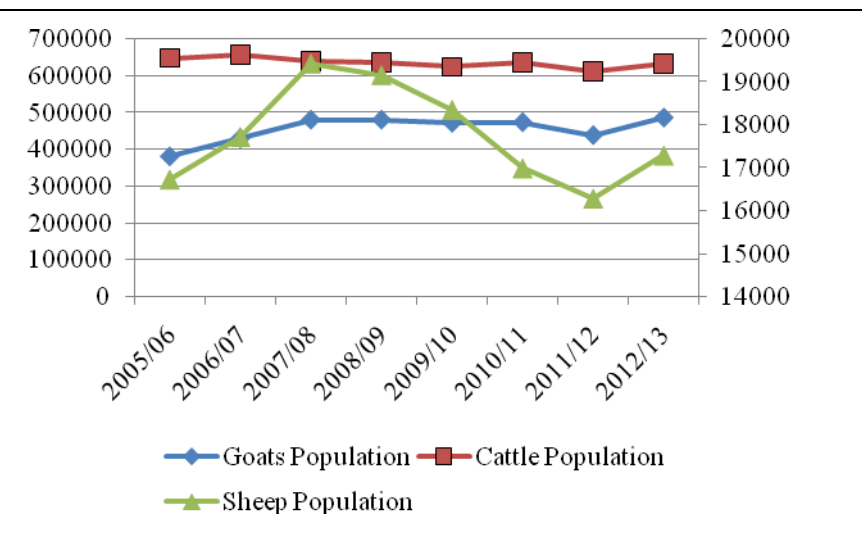


Figure 14: Beef Off-take

Beef off-take has been low despite the large number of cattle. This is mainly due to the subsistence nature of livestock rearing in the country.

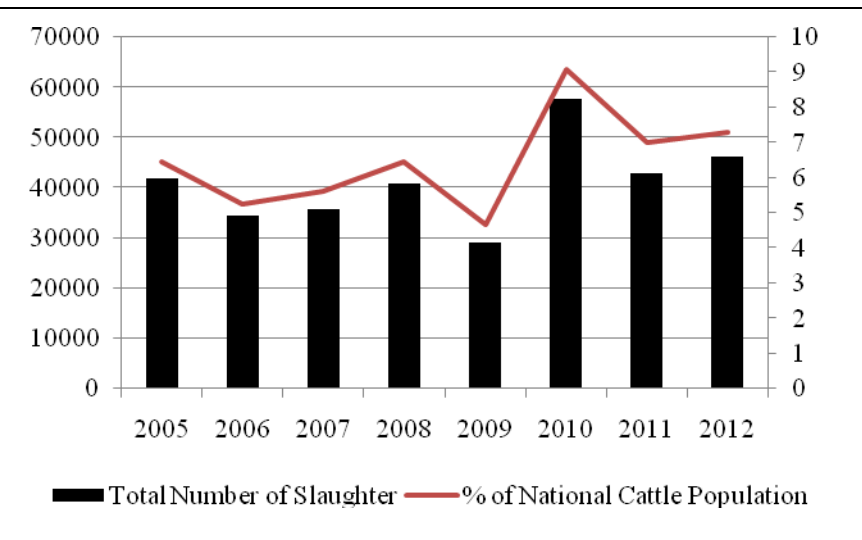
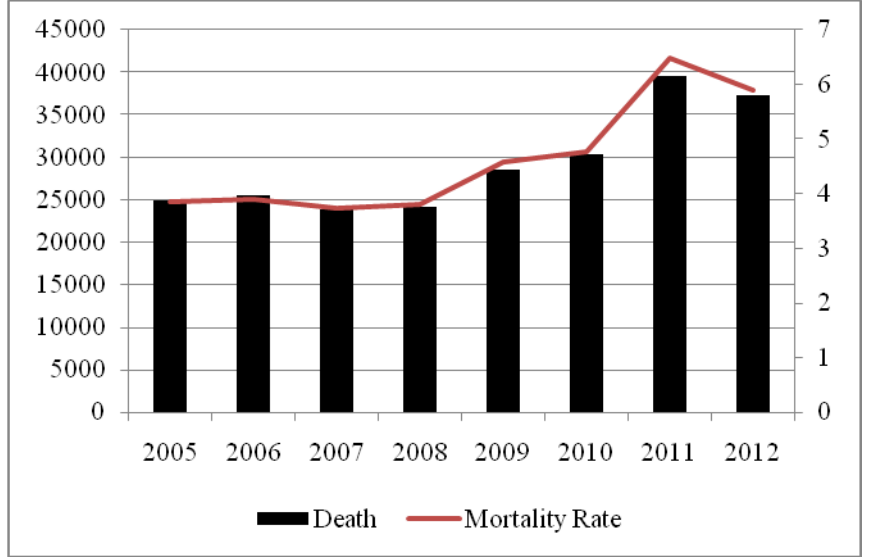


Figure 15: Cattle Mortality
(Rate on 2^o axes)

The nature of livestock rearing result in low productivity and high mortality



**Figure 16: Milk Statistics
(Million Liters)**

Internal milk production has not been able to meet demand due to poorly developed dairy industries.

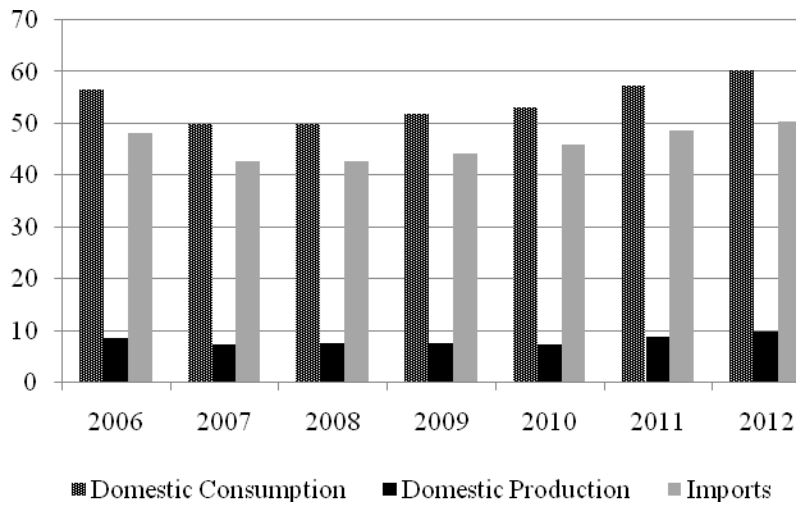


Figure 17: Monthly Beef Prices (E/Kg)

Beef prices are those quoted from the Swaziland Meat Industries, the country only export abattoir.

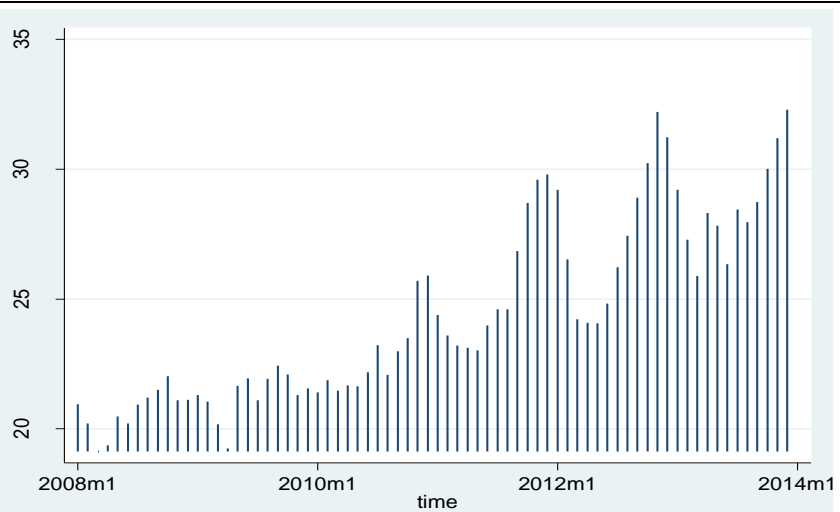


Figure 18: Monthly Maize Prices (E/Tonne)

The maize prices are the selling price of maize from the National Maize Corporation, the country's maize regulating body.

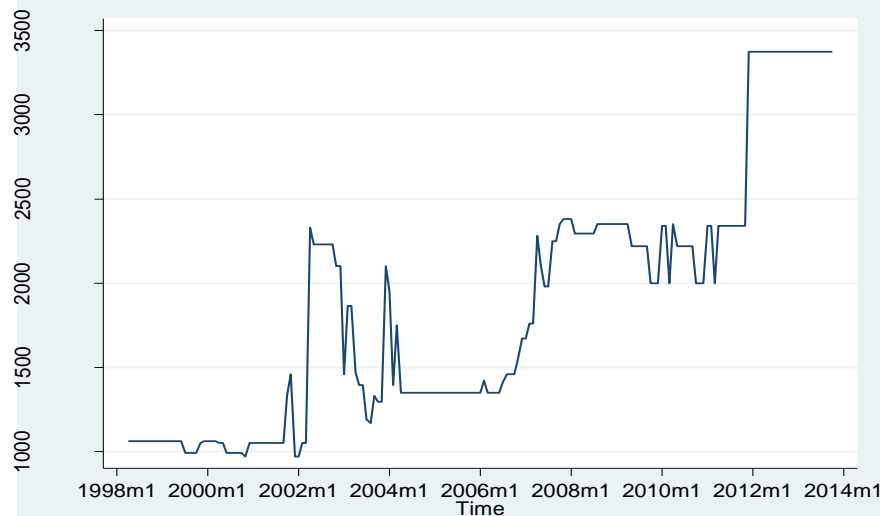


Figure 19: Population needing food aid

The country still has about 10% of the population needing food relieve

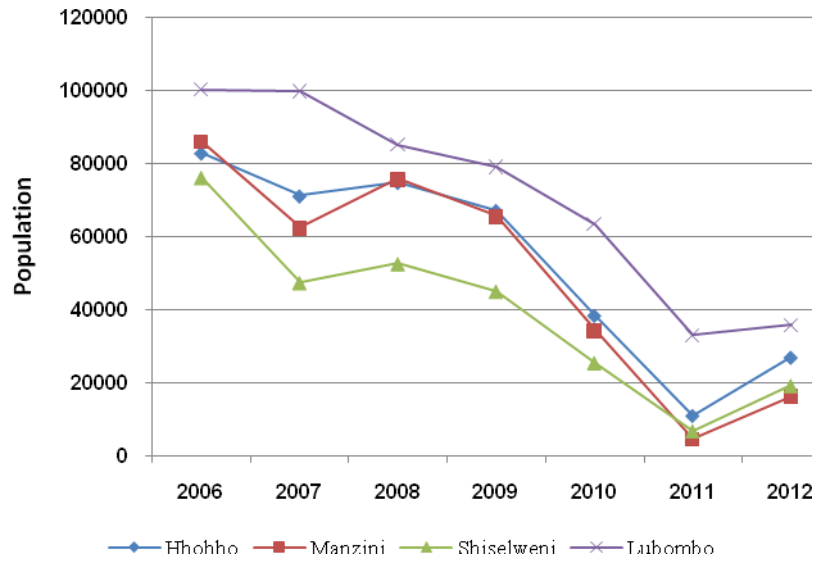


Figure 20: Malnutrition Prevalence in Children <5

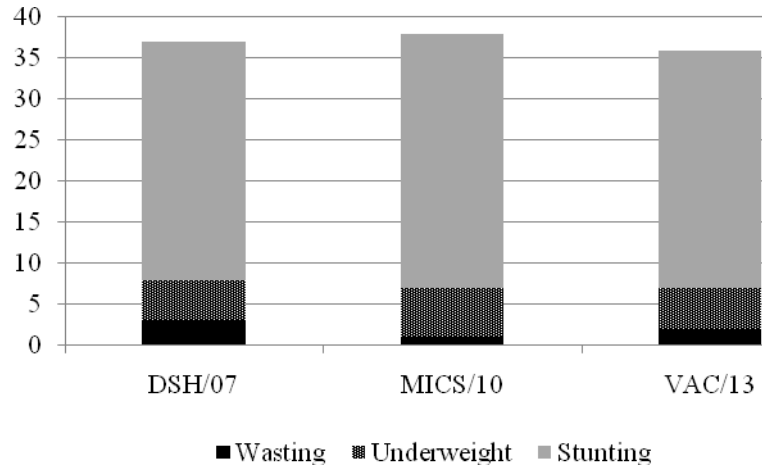
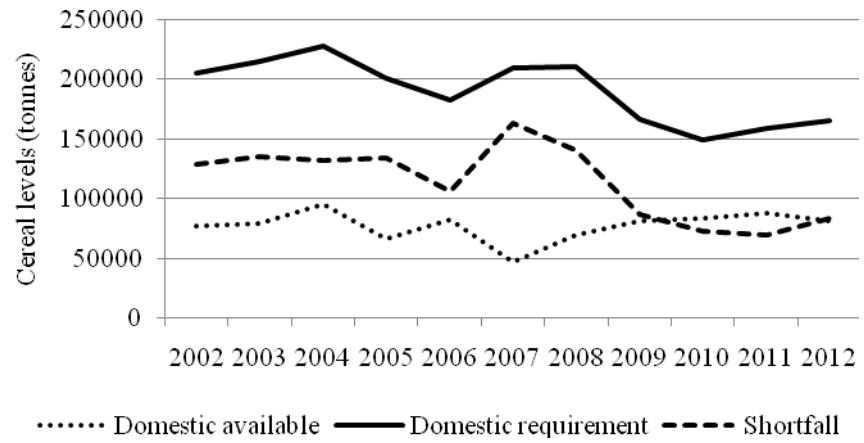


Figure 30: National Food Balance Sheet

The national food balance sheet from the VAC confirms that the country still experiences food deficits



<p>Figure 31: SACU revenues in comparison to total government revenue</p> <p>SACU revenue forms significant sources of funding for the government of Swaziland; despite the increasing role played by SRA.</p>	<table border="1"> <caption>Data for Figure 31: SACU revenues in comparison to total government revenue (E'000)</caption> <thead> <tr> <th>Year</th> <th>Government Revenue (E'000)</th> <th>SACU Revenue (E'000)</th> </tr> </thead> <tbody> <tr><td>2004</td><td>4,800,000</td><td>2,800,000</td></tr> <tr><td>2005</td><td>5,500,000</td><td>3,200,000</td></tr> <tr><td>2006</td><td>8,000,000</td><td>5,500,000</td></tr> <tr><td>2007</td><td>8,000,000</td><td>5,000,000</td></tr> <tr><td>2008</td><td>9,500,000</td><td>6,000,000</td></tr> <tr><td>2009</td><td>9,800,000</td><td>5,200,000</td></tr> <tr><td>2010</td><td>7,000,000</td><td>2,500,000</td></tr> <tr><td>2011</td><td>7,500,000</td><td>3,000,000</td></tr> <tr><td>2012</td><td>12,000,000</td><td>7,000,000</td></tr> <tr><td>2013</td><td>13,000,000</td><td>7,200,000</td></tr> </tbody> </table>	Year	Government Revenue (E'000)	SACU Revenue (E'000)	2004	4,800,000	2,800,000	2005	5,500,000	3,200,000	2006	8,000,000	5,500,000	2007	8,000,000	5,000,000	2008	9,500,000	6,000,000	2009	9,800,000	5,200,000	2010	7,000,000	2,500,000	2011	7,500,000	3,000,000	2012	12,000,000	7,000,000	2013	13,000,000	7,200,000
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<p>Figure 32: Core Agricultural Expenditure as a % of National Budget.</p> <p>Core agricultural expenditure estimate as a percentage of total national budget has been persistently below 10%. (The length of the bar represents the gap to the 10% target.) The actual agricultural expenditure is even further below 10% of the national budget due to low project implementation.</p>	<table border="1"> <caption>Data for Figure 32: Core Agricultural Expenditure as a % of National Budget</caption> <thead> <tr> <th>Year</th> <th>Estimated Expenditure (%)</th> <th>Actual Expenditure (%)</th> </tr> </thead> <tbody> <tr><td>2007/8</td><td>3.5</td><td>3.0</td></tr> <tr><td>2008/9</td><td>3.5</td><td>3.0</td></tr> <tr><td>2009/10</td><td>7.5</td><td>6.0</td></tr> <tr><td>2010/11</td><td>4.5</td><td>3.5</td></tr> <tr><td>2011/12</td><td>4.0</td><td>3.0</td></tr> <tr><td>2012/13</td><td>4.5</td><td>3.5</td></tr> <tr><td>2013/14</td><td>4.0</td><td>3.0</td></tr> <tr><td>2014/15</td><td>5.0</td><td>4.0</td></tr> <tr><td>2015/16</td><td>5.5</td><td>4.5</td></tr> <tr><td>2016/17</td><td>5.5</td><td>4.5</td></tr> </tbody> </table>	Year	Estimated Expenditure (%)	Actual Expenditure (%)	2007/8	3.5	3.0	2008/9	3.5	3.0	2009/10	7.5	6.0	2010/11	4.5	3.5	2011/12	4.0	3.0	2012/13	4.5	3.5	2013/14	4.0	3.0	2014/15	5.0	4.0	2015/16	5.5	4.5	2016/17	5.5	4.5
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2016/17	5.5	4.5																																
<p>Figure 33: Actual Versus Estimated Core Agricultural Budget Expenditure (E'000)</p> <p>Agricultural budget expenditure increased by almost 156% between the financial years 2008/9 and 2009/10 mainly due to increase in irrigation capital projects.</p>	<table border="1"> <caption>Data for Figure 33: Actual Versus Estimated Core Agricultural Budget Expenditure (E'000)</caption> <thead> <tr> <th>Year</th> <th>Estimated Expenditure (E'000)</th> <th>Actual Expenditure (E'000)</th> </tr> </thead> <tbody> <tr><td>2007/8</td><td>250,000</td><td>200,000</td></tr> <tr><td>2008/9</td><td>300,000</td><td>300,000</td></tr> <tr><td>2009/10</td><td>800,000</td><td>600,000</td></tr> <tr><td>2010/11</td><td>550,000</td><td>380,000</td></tr> <tr><td>2011/12</td><td>400,000</td><td>300,000</td></tr> <tr><td>2012/13</td><td>450,000</td><td>280,000</td></tr> <tr><td>2013/14</td><td>550,000</td><td>550,000</td></tr> <tr><td>2014/15</td><td>550,000</td><td>550,000</td></tr> <tr><td>2015/16</td><td>750,000</td><td>750,000</td></tr> <tr><td>2016/17</td><td>780,000</td><td>780,000</td></tr> </tbody> </table>	Year	Estimated Expenditure (E'000)	Actual Expenditure (E'000)	2007/8	250,000	200,000	2008/9	300,000	300,000	2009/10	800,000	600,000	2010/11	550,000	380,000	2011/12	400,000	300,000	2012/13	450,000	280,000	2013/14	550,000	550,000	2014/15	550,000	550,000	2015/16	750,000	750,000	2016/17	780,000	780,000
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ANNEX 2: COSTS AND FINANCING

EXCEL COSTING TABLES (TO BE ATTACHED)

ANNEX3: SNAIP RESULTS FRAMEWORK

Goal: Increase the contribution of agriculture to economic development, reduce rural poverty and improve food and nutrition security

Development Objectives: Six per cent agricultural GDP growth, consistent with national objectives for natural resource management, rural poverty reduction, and food and nutrition security

Programme Areas and Policy alignment	Key Results for SNAIP			Policy and Institutional Considerations
	Programme Objectives	Outcome that the SNAIP is Expected to Influence	Milestone Indicators Showing Progress Towards Objectives a/	
<p>Programme 1: Natural Resource Management</p> <p>Aligned with:</p> <ul style="list-style-type: none"> • CAADP Pillar I • Swaziland CAADP Compact 2010 • MDG 7: Environmental sustainability • NDS and Vision 2022 • CASP 2005 • National Environment Policy • Swaziland Environmental Action Plan • National Irrigation Policy 2005 • National Forest Policy 2003 • National Water Policy 2009 and Water Resources Master Plan • Draft national land policy 	<p>a) Sustainable use of natural resources (water, land, environment)</p>	<ul style="list-style-type: none"> • Dependence on rainfed agriculture reduced 	<ul style="list-style-type: none"> • Proportion of staple food crops produced from rainfed sub-sector reduced from x to y 	<ul style="list-style-type: none"> • Link between environmental health and rural poverty needs to be explicitly recognised in key policies and strategies • Identification and adoption of climate smart agricultural practices • Balance between investment in irrigation and rainfed sub-sectors • Water pricing to be considered as an incentive for more efficient use of water for irrigation • The concept of sustainable intensification of agricultural production needs to be incorporate in agricultural sector strategy • Land degradation on communal grazing lands needs to be addressed by reducing livestock numbers and/or intensive fodder production to reduce grazing pressure
		<ul style="list-style-type: none"> • Value added from use of water resources increased 	<ul style="list-style-type: none"> • Net income per M³ of water allocated to agriculture increased by 20% 	
		<ul style="list-style-type: none"> • Yields per unit of rainfall for key rainfed crops increased 	<ul style="list-style-type: none"> • Yield per mm of rainfall (November to March) for maize, sugar beans and hay increased by 30% 	
		<ul style="list-style-type: none"> • Increased retention of rainfall within catchment areas 	<ul style="list-style-type: none"> • Runoff coefficients in the five major river basins reduced by 30% • Reduced flow-rate fluctuations and turbidity levels in five major rivers 	
		<ul style="list-style-type: none"> • Improved soil fertility 	<ul style="list-style-type: none"> • N, P and K levels (ppm) at monitoring sites improved by 20% • Average soil pH levels at monitoring sites increased by 0.5 	
		<ul style="list-style-type: none"> • Increased agro-biodiversity 	<ul style="list-style-type: none"> • Five most common crops cover < x% of cultivated land • Reduced % of land area under monocultures • Increased area of mixed farming 	
		<ul style="list-style-type: none"> • Increased general biodiversity 	<ul style="list-style-type: none"> • Declining No. of species listed as rare or endangered 	
		<ul style="list-style-type: none"> • Extent and severity of land 	<ul style="list-style-type: none"> • Area of land classified as 	

Swaziland National Agricultural Investment Plan (SNAIP)

Programme Areas and Policy alignment	Key Results for SNAIP			Policy and Institutional Considerations
	Programme Objectives	Outcome that the SNAIP is Expected to Influence	Milestone Indicators Showing Progress Towards Objectives a/	
		degradation reduced.	<ul style="list-style-type: none"> moderately or severely degraded reduced by x% Uptrend in “greenness” of sentinel sites in selected agro-ecological zones as measured by NDVI Declining area of land infested with invasive alien species 	<ul style="list-style-type: none"> Involvement of other ministries (eg MNRE) Need for community sensitisation and education on natural resource management
<p>Programme 2: Improved Access to Markets and Value Chains</p> <p>Aligned with:</p> <ul style="list-style-type: none"> CAADP Pillar II Swaziland CAADP Compact 2010 NDS and Vision 2022 CASP 2005 Economic Recovery Strategy 2011 	a) Increase in income generation from agricultural enterprises	<ul style="list-style-type: none"> No. of rural households undertaking commercial agriculture increased 	<ul style="list-style-type: none"> No. of rural households earning more than 75% of income from agriculture increased from x% to y% Declining flow of remittances to rural households 	<ul style="list-style-type: none"> Need to adopt a “whole value chain” approach to agricultural commercialisation Import substitution offers significant potential to address agri-food trade imbalance Increasingly stringent food safety and quality assurance systems are a challenge for smallholders to maintain market access Need to engage with the private sector in developing market linkages Importance of building strong partnerships with the private sector Parastatal marketing boards should not crowd out private sector Involvement of ministries other than MOA: eg MCIT and MPW
		<ul style="list-style-type: none"> Volume and value of agricultural exports increased 	<ul style="list-style-type: none"> Trade statistics show x% uptrend in volume and value of agricultural exports 	
	b) Increase in No. of farmers with access to formal markets	<ul style="list-style-type: none"> Volume and value of agricultural imports decreased 	<ul style="list-style-type: none"> Trade statistics show x% downtrend in volume and value of agricultural imports 	
		<ul style="list-style-type: none"> Value of agricultural commodities marketed under quality accreditation systems (eg SWASA) 	<ul style="list-style-type: none"> Gross value of commodities marketed under accreditation systems increased from x to y 	
	c) Diversification and commercialisation of agriculture on SNL	<ul style="list-style-type: none"> Farmers have access to financial services needed to engage in commercial activities 	<ul style="list-style-type: none"> Percent of farm households with access to banking services increased from x to y 	
		<ul style="list-style-type: none"> Percent of supermarket food sales which are of Swaziland origin 	<ul style="list-style-type: none"> Uptrend in sales of locally-sourced produce in major urban supermarkets 	
<p>Programme 3: Food Supply and Reducing Hunger</p> <p>Aligned with:</p>	a) Production/ productivity increased	<ul style="list-style-type: none"> Average yields per hectare of food crops increased 	<ul style="list-style-type: none"> Uptrend in average crop yields of >5% per annum 	<ul style="list-style-type: none"> Balance between emergency relief/food aid and other forms of development assistance Specific nutrient deficiencies
		<ul style="list-style-type: none"> Post-harvest losses reduced 	<ul style="list-style-type: none"> Post-harvest losses decline from x% to y% 	
	b) Access to diversified	<ul style="list-style-type: none"> Increase the number of food secure 	<ul style="list-style-type: none"> Households reporting food 	

Swaziland National Agricultural Investment Plan (SNAIP)

Programme Areas and Policy alignment	Key Results for SNAIP			Policy and Institutional Considerations
	Programme Objectives	Outcome that the SNAIP is Expected to Influence	Milestone Indicators Showing Progress Towards Objectives a/	
<ul style="list-style-type: none"> • CAADP Pillar III • Swaziland CAADP Compact 2010 • MDG 1: Eradicate poverty and hunger • NDS 2022 • CASP 2005 • Food Security Policy 2005 • PRASP 2007 	quality food c) Improve disaster and risk management system	households	shortage for >2 months declines to no more than 20% of total	<ul style="list-style-type: none"> • need to be addressed in food security policy • Balance of resources allocated to commercial agriculture and production of food staples • Need to stimulate private sector investment in food production • Approach to maintenance of strategic food reserves
		<ul style="list-style-type: none"> • Average food availability (calories and protein) increased 	<ul style="list-style-type: none"> • Food balance sheet shows per-capita calorie availability increases from x to y and protein availability from x to y 	
		<ul style="list-style-type: none"> • Reduction in prevalence of under-nutrition and malnutrition 	<ul style="list-style-type: none"> • Declining levels of stunting and wasting in children <5 years • Declining levels of obesity, diabetes and hypertension in adults 	
		<ul style="list-style-type: none"> • Improved disaster risk preparedness and response systems 	<ul style="list-style-type: none"> • Reduction in No. of households in need of emergency assistance • Improvements in response time by emergency and relief services 	
		<ul style="list-style-type: none"> • Food becomes increasingly affordable for those who rely wholly or partly on purchased food 	<ul style="list-style-type: none"> • Decline in the weighting of food staples in the Consumer Price Index from x to y 	
Programme 4: Agricultural Research, Extension, Training and Education Aligned with: <ul style="list-style-type: none"> • CAADP Pillar IV • Swaziland CAADP Compact 2010 • NDS and Vision 2022 • CASP 2005 • National Agricultural Research Policy 2012 	a) Effective and functional NARS b) Development and adoption of technologies to address farmers' needs c) Improvement of capacity for research and extension	<ul style="list-style-type: none"> • Adoption of appropriate methods of farming increased 	<ul style="list-style-type: none"> • Uptrend in productivity of key crop and livestock enterprises • Uptrend in sales of fertilisers and improved seeds 	<ul style="list-style-type: none"> • Human resource constraints for agricultural research need to be addressed • Importance of collaborative linkages with other national and international research institutions • Focus on applied and adaptive research and linkages between research and extension • New, low-cost approaches to agricultural extension need to be explored
		<ul style="list-style-type: none"> • Number of improved technologies developed/adapted increased 	<ul style="list-style-type: none"> • Increase in number of extension publications and training materials for farmers 	
		<ul style="list-style-type: none"> • Number of skilled agricultural practitioners (farmers, researchers, extension workers) increased 	<ul style="list-style-type: none"> • Annual numbers of farmers, researchers and extension workers trained and employed 	
		<ul style="list-style-type: none"> • Capacity to conduct applied and adaptive research improved 	<ul style="list-style-type: none"> • Institutional capacity of NARA enhanced • Increase in budget allocation for NARA • Number of active researchers 	

Programme Areas and Policy alignment	Key Results for SNAIP			Policy and Institutional Considerations
	Programme Objectives	Outcome that the SNAIP is Expected to Influence	Milestone Indicators Showing Progress Towards Objectives a/	
			<ul style="list-style-type: none"> trained and employed (B.Sc., M.Sc., PhD) 	
		<ul style="list-style-type: none"> Increased formation of collaborative partnerships with national and international research institutions 	<ul style="list-style-type: none"> Number and content of MOUs with national and international research institutions 	
		<ul style="list-style-type: none"> Competitive grant scheme for research and extension established 	<ul style="list-style-type: none"> Value of grants approved/disbursed for applied/adaptive research and extension activities 	
<p>Programme 5: Agriculture Knowledge Management System</p> <p>Aligned with:</p> <ul style="list-style-type: none"> CAADP Pillar IV Swaziland CAADP Compact 2010 NDS and Vision 2022 CASP 2005 	a) Management of and access to agricultural information improved	<ul style="list-style-type: none"> Comprehensive agricultural sector database and website established and maintained 	<ul style="list-style-type: none"> Quantity and quality of data included in database Level of database utilisation (No. of website hits and volume of data downloaded) 	<ul style="list-style-type: none"> Develop effective mechanisms for farmer engagement and knowledge sharing Funding recurrent costs of data collection, management and analysis Transparency and accountability in policy, planning and implementation Budget allocation to be supported by evidence-based planning
	b) Evidence-based planning and decision-making improved	<ul style="list-style-type: none"> Policy and planning decisions informed by evidence-based analysis 	<ul style="list-style-type: none"> No. of analysis documents produced and used to inform policy-making 	
	c) Comprehensive agricultural information and KM system established	<ul style="list-style-type: none"> NAIP M&E system established and maintained 	<ul style="list-style-type: none"> Annual NAIP M&E reports documenting results planned and achieved 	
		<ul style="list-style-type: none"> All stakeholders have access to knowledge to support their activities 	<ul style="list-style-type: none"> Key stakeholders' satisfaction with access to knowledge 	
Crosscutting Issues – to be addressed in all programme areas				
<ul style="list-style-type: none"> Balanced and equitable participation men and women in agricultural development Climate change adaptation and mitigation Improved governance and accountability 				

a/ All indicators to be gender and age disaggregated