KINGDOM OF SWAZILAND

SWAZILAND ANNUAL VULNERABILITY ASSESSMENT & ANALYSIS REPORT 2017

SWAZILAND
Vulnerability
Assessment Committee

July 2017

UKaid
from the British people

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Agency for Development
and Cooperation SDC

WFP

A. ACKNOWLEDGEMENT

The 2017 Annual Vulnerability and Livelihood Assessment was undertaken in all the four regions of Swaziland covering all key sectors including; agriculture, health, nutrition and education in an effort to understand household vulnerability status. This multi-sectoral approach required that the Swazi VAC team collaborates with; some government departments, cooperating partners, NGOs and traditional structures for its success.

On behalf of the Swazi VAC Core team, I would like to recognise the support of the Swaziland Government through the Deputy Prime Minister's Office for demonstrating astute leadership, financial commitment throughout the whole annual assessment process. I also want to extend our sincere appreciation for the significant financial and logistical support contributed by cooperating partners, WFP and FAO through SADC. Appreciation is also extended to the external consultant, Mr Manuel VeigaLopez who worked with the entire Swazi VAC technical team to conduct IPC training and support the analysis process.

Sincere gratitude is due to all the respondents and facilitators in the communities we visited, from which the ultimate purpose of this exercise is derived. May such a spirit of cooperation continue in the future for the betterment of the lives of our people. Finally, may I also applaud the data collection team that worked extremely hard to cover vast numbers of households in each region so to ensure representativeness of the 2017 Annual Assessment findings.

Thembumenzi Dube
Chairperson Swazi VAC

B. EXECUTIVE SUMMARY

The Swaziland Vulnerability and Assessment Committee conducted this year's annual assessment to assess the level of vulnerability at household level countrywide over the 2017/18 consumption period. The 2016/17 rainfall season provided relief for Swaziland after a poor performance in the previous season. The agriculture, energy and water sectors were among the worst affected during the 2015/16 drought period. The performance of the domestic economy has continued to face slow growth due to both domestic and external influences. Owing to the improved performance of the agriculture sector throughout most of the Southern Africa region, with some countries predicted to have a surplus particularly on cereals, will significantly drive down food inflation and improve households' access to food. As such the consumer inflation levels since the beginning of 2017 have been on a downward trend.

There has been a substantial improvement in the nutritional status of children under five years of age in Swaziland over the past years as indicated by the reduction in the prevalence of stunting from 25.5% (MICS 2014) to 23%, and the prevalence of underweight (4.1%) which was found at 5.8% in 2015. The results from the Rapid Nutrition and Health Assessment conducted in 2017 revealed that the prevalence of acute malnutrition had increased from 2% to 3% during the drought period. There were also reported incidences where adherence to anti-retroviral (ARV) among persons living with HIV in food insecure households reduced. The assessment also revealed that ART and TB treatment defaulter rate increased during the drought period.

The Swaziland Meteorological Services had projected rainfall in the normal to above-normal category over most areas in the country during the 2016/17 season. Compared to the long-term avarage, the recorded rainfall during the season show that the 2016/2017 seasonal rainfall distribution was near normal and above that of the previous season (2015/2016) especially in the central and Northern parts of the country. The effective rainfall began mid-September with intermittent dry spell for selected sites. The significant dry spells were observed in December and early February, significantly affecting maize at critical maturity stages of early and late planted crop especially in the drier areas of the country. Cyclone Dineo improved the situation, bringing much needed relief to both water stressed maize crop and those attacked by Fall Army worm. Warmer maximum temperatures were recorded over most parts of the country during the season. Minimum temperatures were relatively above the long-term average throughout the season, thus not adversely affecting the summer crops, which are sensitive to cold temperatures.

The country's major dams and rivers have shown a great improvement in terms of the water storage volumes and river flow for the 2017 when compared to the previous two years (2015 and 2016). Generally, water availability has greatly improved in the country with more emphasis on portable water. Hawane dam which supplies water to the country's capital is still at full capacity since the last year's rainy season. The Luphohlo dam on the other hand is currently at 28.65% as the water has been used to generate electricity during the peak generation period of June - August. The current river flows in our major rivers seem better when compared to those of the 2015, 2016 situations, with an exception of the Ngwavuma basin where the flow is currently at zero flow.

Access to safe portable water has also improved mainly due to the improved rainfall performance. In Manzini region, 63% of the population uses drinking water that is protected. In Hhohho and Shiselweni regions, 72% and 55.4%, respectively use drinking water that safe. Overall 18.5% of the household uses drinking water source within their premises. About 30% of households in Manzini and Shiselweni regions indicated hazard near water sources respectively which includes liquid waste, water waste and sewage discharges. Solid waste was the major hazard identified by households, where 81% of households in the Lubombo region indicated the presence of such. Overall, 68.3% of households reported having access to improved toilet facilities.

Maize production for the 2016/17 season was at 84,344 MT and improvement of 152% from the 33, 460 MT observed in the 2015/2016 season. The production is also 10% higher when compared to the five years (2012 – 2016) average (79,723MT). Access to food is relatively adequate in the country. The proportion of rural households that had acceptable food consumption levels was at 84 % an increase when compared to the 73 % observed in 2016. Regionally food consumption levels have also shown improvements as the proportion of households with poor and borderline consumption levels has reduced in 2017 compared to 2016. Lubombo region (21 %) had the highest proportion of vulnerable population, while Hhohho region (11%) had the lowest proportion of households with FCS ≤=2.

The consumption of nutrient rich food was relatively low in the country. Consumption of protein rich foods was relatively high (48%) when compared to the other nutrients. Compared to last year (2016), the consumption of protein rich foods has improved, indicating improvement in the access to nutritious food by households. Households with poor or borderline food consumption (food insecure) have limited consumption of all nutrients rich foods.

Dietary diversity which is a qualitative measure of food consumption reflecting households' access to a variety of foods has improved in the country when compared to last year (2016). 12% of households had low score, consuming less than 3 food groups, 36% had a medium score, indicating that

households were consuming 3 – 6 different food groups, while 52% had a high score, consuming more than 6 food groups.

The use of coping strategies was relatively high in the country when compared to last year. The national average CSI for the country was at 19.94, with Lubombo region having the highest mean coping strategy index 30 compared to 18 last year. Shiselweni region had 20, an increase from the 17 observed in 2016, while Hhohho region (13.48) compared to 9 in 2016 had the lowest. The Shiselweni (3.4%) and Lubombo (2.8%) regions had higher proportions of households that were engaged in crisis coping strategies, indicative of the increased food insecurity levels existing in the regions.

Household and HEA surveys of the Vulnerability Assessment and Analysis outputs were used on the IPC analysis. Other inputs that were considered in the IPC analyses were from the Health and Nutrition sector, CSO, Meteorology, WFP, HEA Baseline and the Agriculture and Livestock sector. The current projection indicates that 16% (137,380) of the population is classified in IPC phase 3 or worse phase. This population will require urgent assistance between July and October 2017 and the Lubombo region has highest vulnerable population with 49,250 people in phase 3 or worse, followed by Shiselweni with 44,000 people while Manzini and Hhohho had the least with 31,680 and 12, 450 respectively. In the projected time period November 2017 to February 2018, the food insecurity situation is expected to worsen where the population will increase up to 19% (177,000).

C. ABBREVIATIONS AND ACRONYMS

ACAT	:	AFRICA COOPERATION ACTION TRUST
AIDS	:	ACQUIRED IMMUNE-DEFICIENCY SYNDROME
ART	:	ANTI-RETROVIRAL THERAPY
ARV	:	ANTI-RETROVIRAL
CSO	:	CENTRAL STATISTICAL OFFICE
EA	:	ENUMERATION AREA
FAO	:	FOOD AND AGRICULTURE ORGANIZATION
GDP	:	GROSS DOMESTIC PRODUCT
GOS	:	GOVERNMENT OF SWAZILAND
HIV	:	HUMAN IMMUNE-DEFICIENCY VIRUS
IPC	:	INTEGRATED FOOD SECURITY PHASE CLASSIFICATION
LZ	:	LIVELIHOOD ZONE (ALSO KNOWN AS FOOD ECONOMY ZONE)
MEPD	:	MINISTRY OF ECONOMIC PLANNING AND DEVELOPMENT
MICS	:	MULTIPLE INDICATOR CLUSTER SURVEY
MOA	:	MINISTRY OF AGRICULTURE
MT	:	METRIC TONNES
NEWU	:	NATIONAL EARLY WARNING UNIT
NHSSP	:	NATIONAL HEALTH SECTOR STRATEGIC PLAN
NMC	:	NATIONAL MAIZE CORPORATION
NMS	:	NATIONAL METEOROLOGICAL SERVICES
SADC RVAA	:	SOUTHERN AFRICAN DEVELOPMENT COMMUNITY REGIONAL VULNERABILITY ASSESSMENT AND ANALYSIS
SHIES	:	SWAZILAND HOUSEHOLD INCOME AND EXPENDITURE SURVEY
SNL	:	SWAZI NATION LAND
SNAIP	:	SWAZILAND NATIONAL AGRICULTURAL INVESTMENT PLAN
SWAZI VAC	:	SWAZILAND VULNERABILITY ASSESSMENT COMMITTEE
UNICEF	:	UNITED NATIONS CHILDREN'S FUND

VAA	:	VULNERABILITY ASSESSMENT AND ANALYSIS
WFP	:	WORLD FOOD PROGRAMME
WHO	:	WORLD HEALTH ORGANIZATION

D. TABLE OF CONTENTS

E. LIST OF TABLES

F. LIST OF MAPS

G. TABLE OF FIGURES

1.0 BACKGROUND AND OVERVIEW

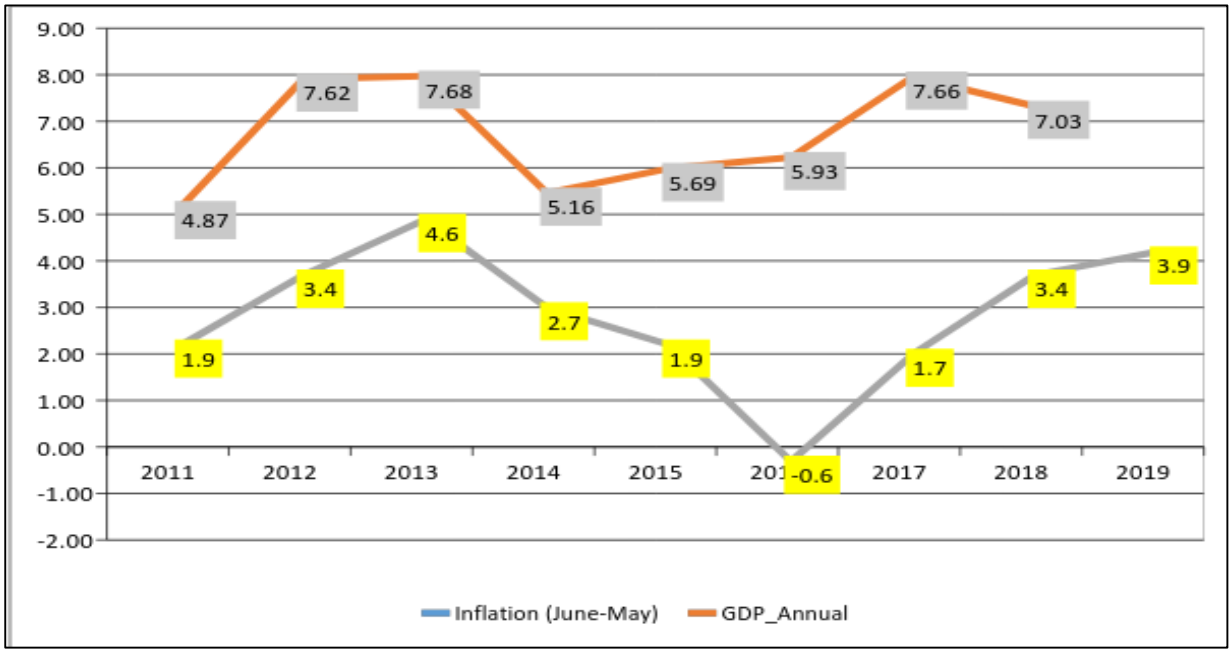
The Swaziland Vulnerability and Assessment Committee conducted the annual assessment in an effort understand the level of vulnerability at household level countrywide over the 2017/18 consumption period. The 2016/17 rainfall season provided relief for Swaziland after a poor performance in the previous season. The agriculture, energy and water sectors were the worst affected during the drought period. The development of an emergency response plan to assist affected areas was instrumental in averting a humanitarian crisis

1.1 Macro- Economic Indicators

The performance of the domestic economy has continued to face slow growth due to both domestic and external influences. Reduced activity in a number of sectors including agricultural sector due to the impact of the severe drought during the 2015/16 season.

Owing to the improved performance of the agriculture sector throughout most of the Southern Africa region, with some countries predicted to have a surplus particularly on cereals, this will significantly drive down food inflation and improve households' access to food. The consumer inflation levels since the beginning of 2017 have been on a downward trend as depicted in the figure 1 below:

Figure 1: Macro-Economic Indicators (2011 – 2017)



Source: Central Statistical Office

1.2 Agriculture

Development of the agriculture sector continues through interventions from the Ministry of Agriculture with the view of improving crop and livestock production so to meet the local consumption demand and external markets. Through technical and specialist services, farmers are empowered with skills to improve production. Support mechanisms to ensure maximum output include the provision of draft power and adequate animal health and hygiene facilities to minimise risk of disease outbreak.

1.3 Water and Sanitation

A safe and sustainable water supply, basic sanitation and good hygiene are fundamental for a healthy, productive and dignified life. Safe drinking water is a necessity for good health. Unsafe drinking water can be a significant determinant of diseases such as cholera, typhoid, and schistosomiasis. Drinking water can also be contaminated with chemical and physical contaminants with harmful effects on human health. In addition to preventing disease, improved access to drinking water may be particularly important for women and children, especially in rural areas, who bear the primary responsibility for carrying water, often for long distances.[1]

Inadequate disposal of human excreta and personal hygiene is associated with a range of diseases including diarrhoea and polio, both important determinants for stunting. Improved sanitation can reduce diarrhoea by more than a third[2], and can significantly lessen the adverse health impacts of other disorders responsible for death and disease among millions of children in developing countries.

1.4 Health and Nutrition

There has been a substantial improvement in the nutritional status of children under five years of age in Swaziland over the past years as indicated by the reduction in the prevalence of stunting from 25.5% (MICS 2014) to 23%, and the prevalence of underweight (4.1%) which was found at 5.8% in 2015. For the overall survey, the prevalence of wasting was 2.5% which has never been more than 5% in the previous years. Such prevalence is said to be acceptable according to the WHO cut offs. Further analysis could be done to determine whether the stabilisation could be attributed to the fact that there are intervention strategies that were put in place as well as access to health care services.

[1] WHO/UNICEF. 2012. *Progress on Drinking water and Sanitation: 2012 update*.

[2] Cairncross, S et al. 2010. *Water, sanitation and hygiene for the prevention of diarrhoea*. International Journal of Epidemiology 39: i193-i205

Humanitarian crises due natural disasters, disease outbreaks and other hazards are a major and growing contributor to ill-health and vulnerability. The persisting effects of crises on health and health systems can undermine decades of social development

The results of the Rapid Nutrition and Health Assessment conducted in 2017 revealed that the prevalence of acute malnutrition had increased from 2% to 3% during the drought period. In addition, there was a gradual increase in the overall monthly number of cases of anaemia diagnosed in the health facilities during the drought period as well as an increase in number of clients admitted in the Food by Prescription Programme. There were also reported incidences where adherence to anti-retroviral (ARV) among persons living with HIV in food insecure households reduced. The assessment also revealed that ART and TB treatment defaulter rate increased during the drought period. The assessment revealed that there was limited access to health facilities as some people were unable to make the journey to the facilities due to illness, weakness or lack of finances.

According to the weekly Epidemiological Bulletin (Week 25th June -1st July, 2017), a total of 14 perinatal deaths were reported in week 26. Early neonatal deaths (death of a neonate within 7 days) remains the most prevalent (n=7), followed by macerated stillbirths (n=4) and fresh stillbirths (n=3) (Epi Bulletin, 2017).

As shown in Table 2, a total of 74 perinatal deaths have been reported between week 22 and 26. Early neonatal deaths were the highest (n=29), followed by macerated stillbirths (n=27), and fresh stillbirths (n=18).

Table 1: Number of Perinatal Deaths per Facility, week 22-26

CONDITION	Health Facilities				
	GSH	HGH	MGH	RFM	Grand Total
Early neonatal death	3	5	8	13	29
Fresh stillbirth	1	7	7	3	18
Macerated stillbirth	5	2	7	13	27
Grand Total	9	14	22	29	74

In terms of Maternal Mortality there was one maternal death reported through the Immediate Disease Notification System (IDNS) reported from Pigg's Peak Government Hospital.

1.5 Education

The Education Sector Policy promotes equitable and inclusive education systems that affords all Swazi citizens access to high quality education which contributes immensely to human development. Key pieces of legislation such as the Free Primary Education Act of 2010 have greatly improved enrolment

rates at primary level reaching the highs of over 95% in recent years. According to the Swaziland Livelihood Baseline of 2016, school feeding program provided by the Ministry of Education and Training contributes 10% - 15% towards sources of food for all wealth groups in the entire country. The education cluster has recently developed an Education in Emergencies (EiE) Strategy which seeks to integrate emergency preparedness and response in the education sector. Hazards such as drought, floods, diseases, hailstorms have a huge effect on education.

The education cluster mounted a response to the effects of severe El' Nino induced drought experienced in 2016. The main sectors affected within the school environment included; water and sanitation, the feeding program as well as some aspects of curriculum including agriculture and science. The education cluster conducted a post drought evaluation to learn about effectiveness of the response.

2.0 METHODOLOGY

2.1 Objectives

The main purpose of the annual vulnerability assessment and analysis (VAA) was to generate a current and projected context of livelihoods and vulnerability in the country over the 2017/2018 period. Specific objectives are as follows;

- ➢ To determine levels of food insecurity and livelihoods status in an effort to estimate vulnerable populations with missing food or cash entitlements.

- ➢ To identify and understand underlying causes of food insecurity and malnutrition along with respective household coping mechanisms applied during stressful periods.
- ➢ To provide empirical multi sectorial data depicting household vulnerability status to inform decision making in programming and contribute to relevant policy review at regional and national levels.

2.2 Methodological Approach

The vulnerability assessment and analysis exercise was carried out using both qualitative and quantitative approaches covering all four regions of the country. Quantitatively, a total of 233 enumeration areas (EAs) were randomly sampled across the four regions and at least 2097 households were interviewed. On the qualitative approach key informants and focused group discussions were held in all seven rural livelihoods zones spread across the four regions using Household Economy Approach (HEA). The assessment also benefited from secondary data produced by different government entities ranging from rain fall, inflation, crop production etc.

2.2.1 Field work Operation and Data Quality

To ensure data quality, a team of 40 enumerators was trained over a period of five days on the different data collection instruments. The team was also trained on the use of tablets for data collection to enhance efficiency. For the actual data collection, a total of 10 enumerators were deployed per region. The teams were provided with the relevant information to find the sampled EAs. The enumerators were instructed to select up to 10 households, that is, they had to interview every fifth household within the same EA. For the qualitative (HEA) aspect, at least one chiefdom was selected per livelihood zone where key informants and focused groups were interviewed. Overall coordination and supervision of the data collection was supported through the Swazi VAC technical core team.

2.2.2 Data Processing and Analysis

Household data collected was captured into SPSS (Statistical Package for Social Surveys). Cleaning of the data was carried out by the Swazi VAC core team to ensure that there was consensus in every step taken. As an important part of the analysis, SPSS was used to generate tables per module which were later exported into excel to generate graphs and figures to present the results. The qualitative data was analysed using Livelihood Integrated Analyses Spreadsheets (LIAS) where both primary and secondary data was captured resulting in respective calculations per livelihood zone per module.

2.3 Integrated Food Security Phase Classification (IPC) Framework

After all results from both SPSS and HEA were released, the Swazi VAC core team organised a two days' refresher training which preceded the analysis and brought together about 20 participants from government and NGOs. The analysis was conducted through four groups that represented each of the four administrative regions (Hhohho, Lubombo, Manzini, and Shiselweni). The analysis covered only rural populations. The groups had plenary sessions to review the available evidence and reach common understanding on how to interpret them. The TWG worked in pairs to complete different sections of the standard communication brief. Household and HEA surveys of the Vulnerability Assessment and Analysis outputs were used on the IPC analysis. Other inputs that were used in the IPC analyses were from the Health and Nutrition sector, CSO, Meteorology, WFP, HEA Baseline and the Agriculture and Livestock sector.

The IPC analytical framework enabled the technical working group to present results indicating households that are classified phase 1 – 5 across all four regions. Definition of each phase is presented in the table below.

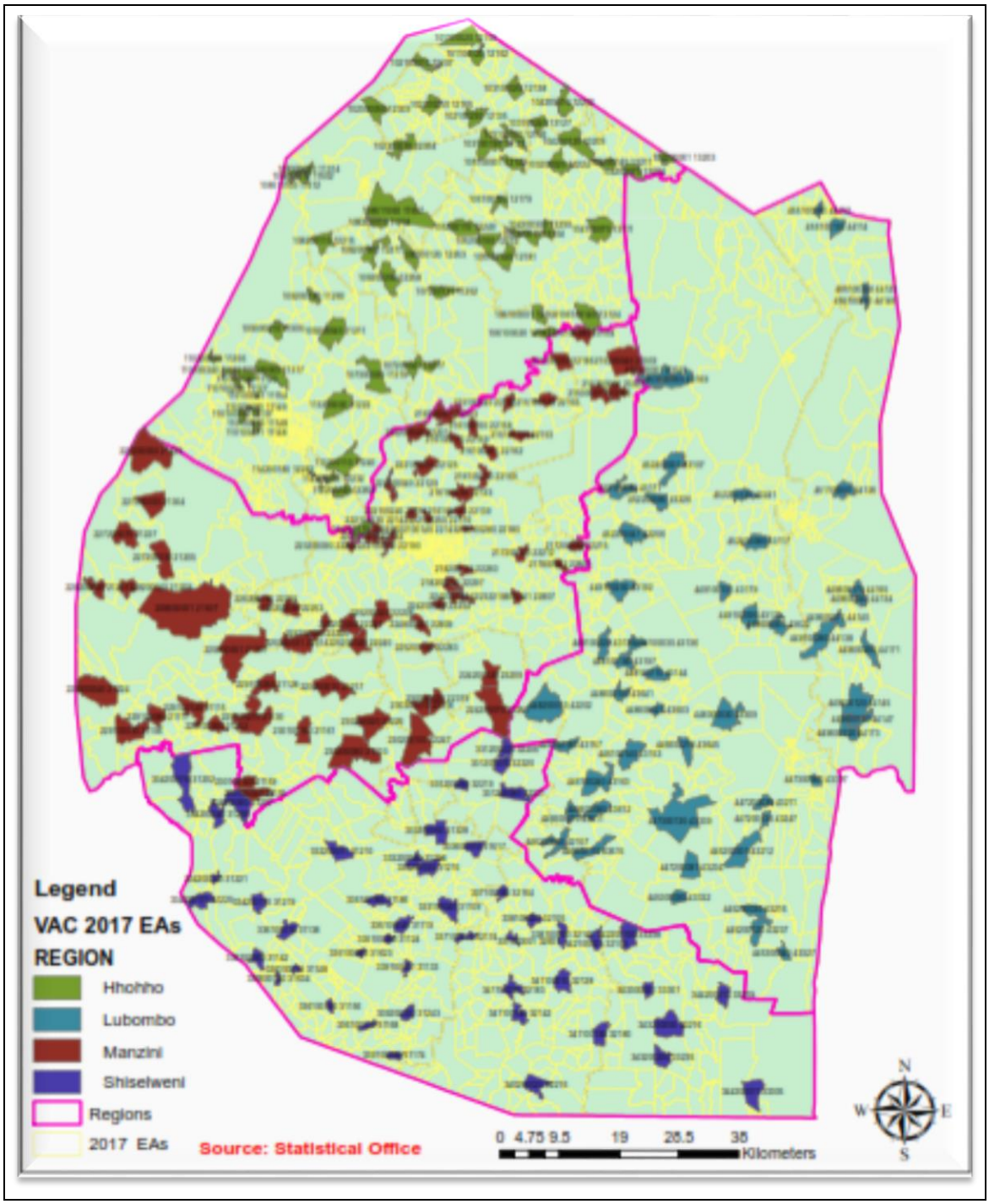
Table 2: IPC Phase name and description

Usage: Classification is based on convergence of evidence of current or projected most likely conditions, including effects of humanitarian assistance.

	Phase 1 None	Phase 2 Stressed	Phase 3 Crisis	Phase 4 Emergency	Phase 5 Catastrophe
Phase Name and Description	*HH group is able to meet essential food and non-food needs without engaging in atypical, unsustainable strategies to access food and income, including any reliance on humanitarian assistance.*	*Even with any humanitarian assistance:* · *HH group has minimally adequate food consumption but is unable to afford some essential non-food expenditures without engaging in irreversible coping strategies*	*Even with any humanitarian assistance:* · *HH group has food consumption gaps with high or above usual acute malnutrition;* ***OR*** · *HH group is marginally able to meet minimum food needs only with accelerated depletion of livelihood assets that will lead to food consumption gaps.*	*Even with any humanitarian assistance:* · *HH group has large food consumption gaps resulting in very high acute malnutrition and excess mortality;* ***OR*** · *HH group has extreme loss of livelihood assets that will lead to large food consumption gaps in the short term.*	*Even with any humanitarian assistance:* · *HH group has an extreme lack of food and/or other basic needs even with full employment of coping strategies. Starvation, death, and destitution are evident.*
Priority Response Objectives	Action required to Build Resilience and for Disaster Risk Reduction	Action required for Disaster Risk Reduction and to Protect Livelihoods	**Urgent Action Required to:** → Protect livelihoods, reduce food consumption gaps, and reduce acute malnutrition	Save lives and livelihoods	Prevent widespread death and total collapse of livelihoods

Sampled Enumeration Areas

The map below indicates Enumeration areas across the four regions namely Hhohho, Manzini, Lubombo and Shiselweni.



Map 1: Sampled Enumerated Areas 2017

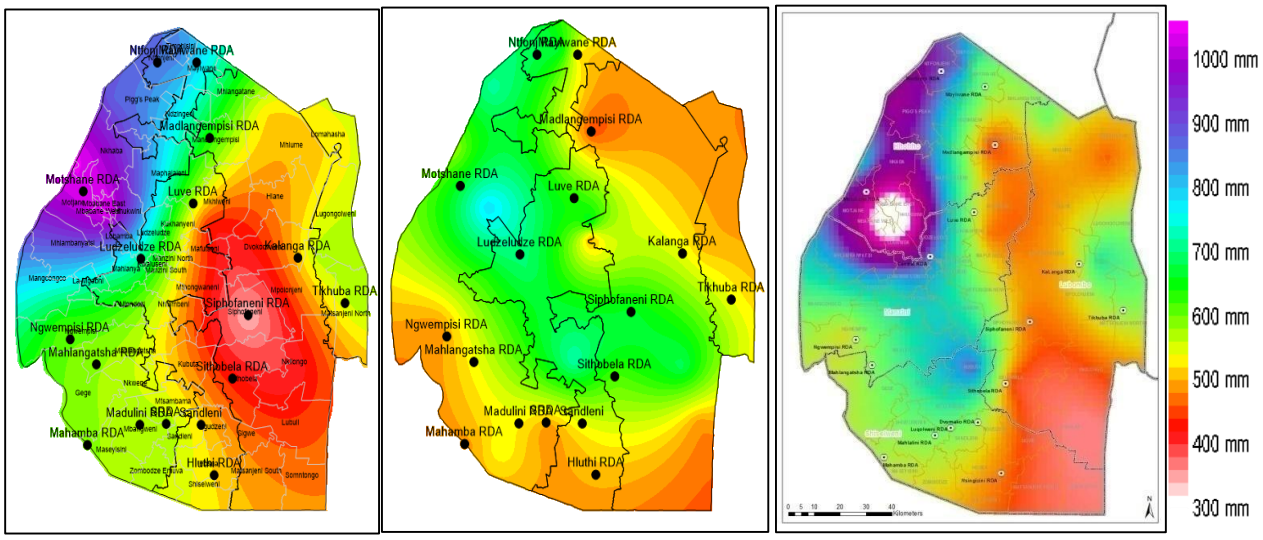
3.0 SEASONAL PERFORMANCE

This section gives information on seasonal rainfall and agricultural performance. Rainfall and temperature have a huge influence on the performance of agricultural production, thus the start of a rainfall season and its distribution, determines the prospects of rain-fed agricultural activities. Above normal temperatures have an adverse effect on agricultural production.

3.1 Seasonal rainfall performance for 2016/17

In comparison to the long-term, the recorded amount of rainfall during the season show that the 2016/2017 seasonal rainfall distribution was near normal and above that of the previous season (2015/2016) especially in the central and Northern parts of the country. However, some places like Lomahasha, Ngwempisi, Ntfonjeni and Timphisini received below normal rainfall with intermittent dry spells and sporadic storms. Map 2 shows that areas receiving the lower than expected rainfall (insufficient for maize production without irrigation) for the third season in a row included; Lomahasha, Mandlangempisi, Matsanjeni, Shiselweni1. Additionally, Dvokodvweni, Hlane, Siphofaneni, Sithobela and Lubulini as usual continued to receive very low rainfall amount, though higher than normal.

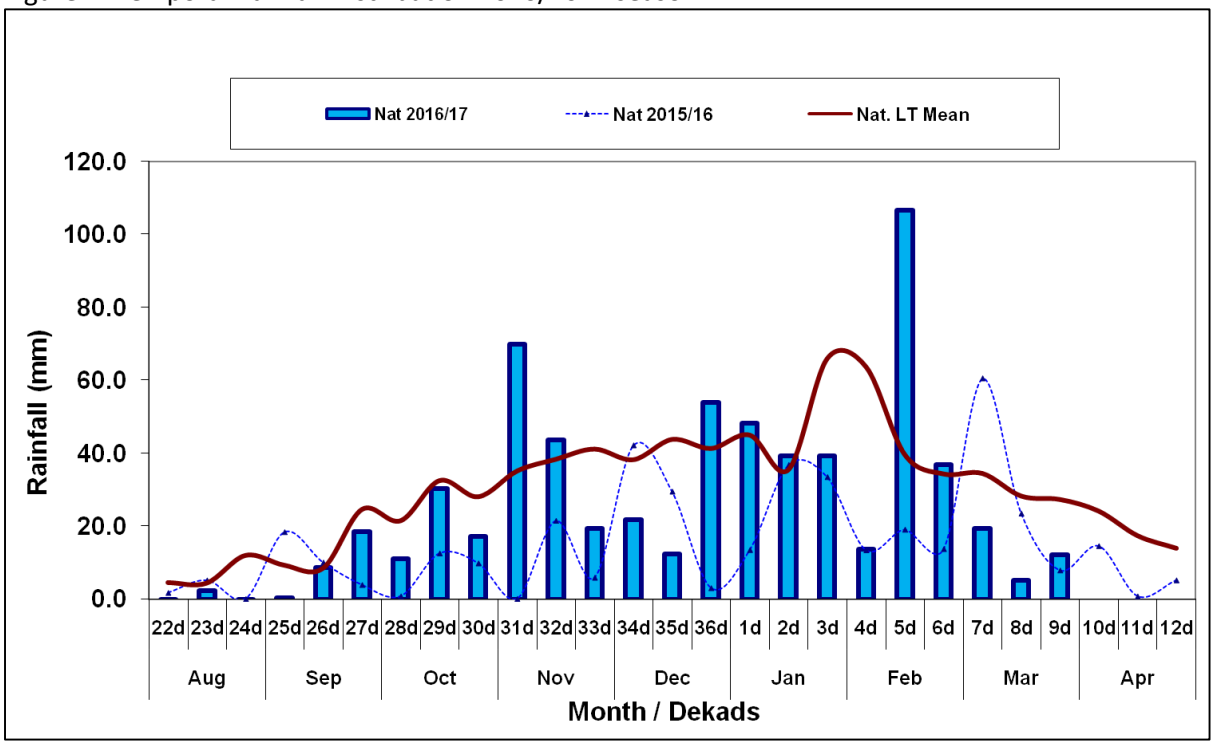
Prior to the beginning of the season, the Swaziland Meteorological Services had issued a seasonal climate forecast that projected rainfall in the above-normal category over most areas in the country during the 2016/17 season. The map below shows the total amount of rainfall recorded over most parts of the country during the 2016/17 season from October 2016 until March 2017.



Map 2: Spatial rainfall distribution over longterm (left), 2015/16 season (middle) and 2016/17 season (right)

Temporal rainfall distribution indicates that the season started off normally in August and was followed by short dry spells. While the distribution in the figure below shows a consistently lower than normal rainfall, instances of dry spells were experienced during the season.

Figure 2: Temporal Rainfall Distribution 2016/2017 season



Source: Meteorology Department

The effective rainfall began mid-September with intermittent dry spell for selected sites. The significant dry spells were observed in December and early February, significantly affecting maize at critical maturity stages of early and late planted crop. Cyclone Dineo improved the situation, bringing much needed relief to both water stressed maize crop and those attacked by Fall Army worm.

3.1.1 Temperature

Warmer maximum temperatures were recorded over most parts of the country during the season and this was coupled with dry spells at some instances, thus detrimental to crop growth and development. Above average maximum temperatures were recorded over most dekads during the season with some instances where the temperatures were exceeding 28^{o}C. Minimum temperatures were relatively above the long-term average throughout the season, thus not adversely affecting the summer crops, which are sensitive to cold temperatures.

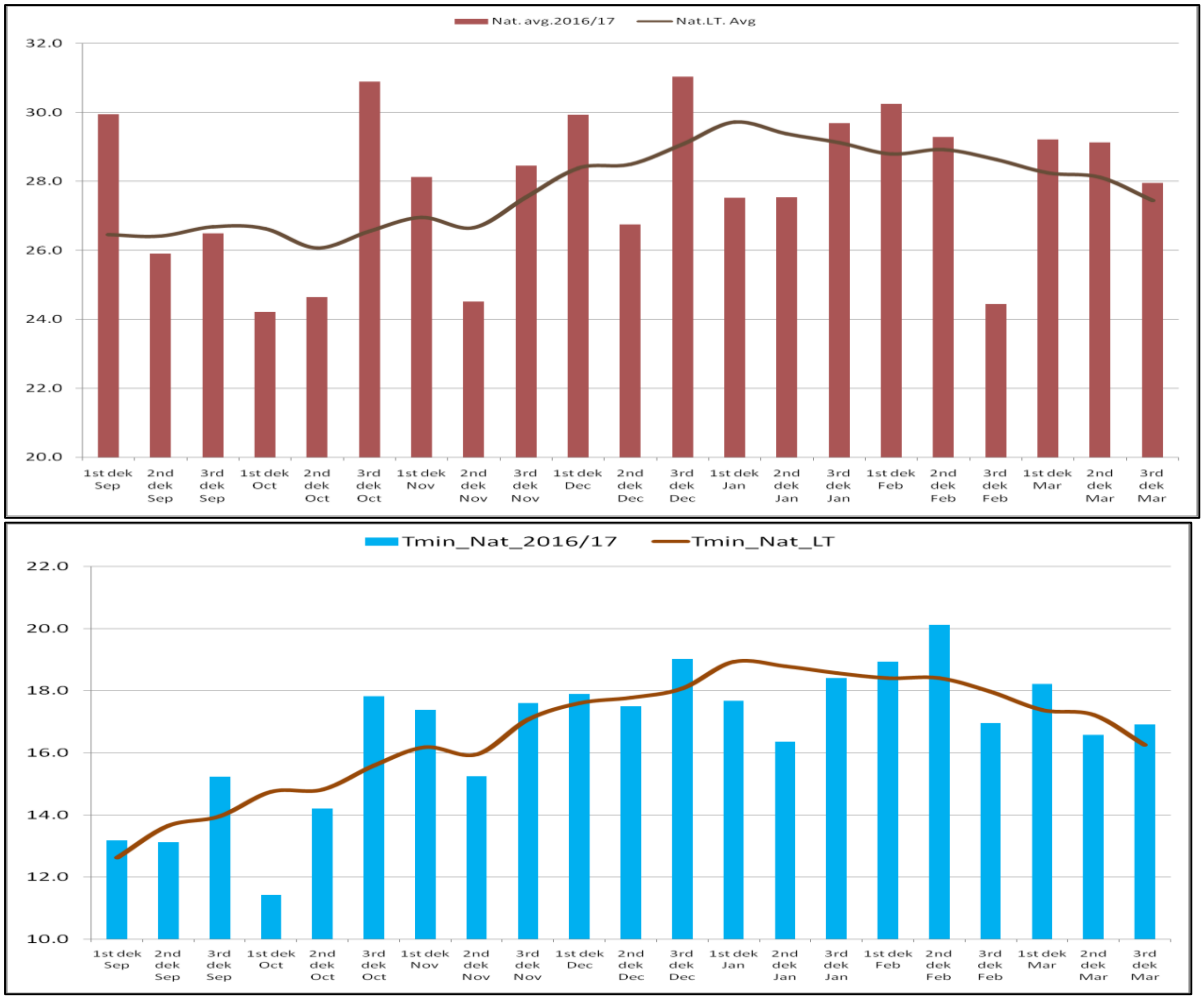


Figure 3: Maximum (top) and Minimum (bottom) Temperatures, 2016/2017 Rainfall Season (*Meteorology Department*)

3.2 Dams and River Flow

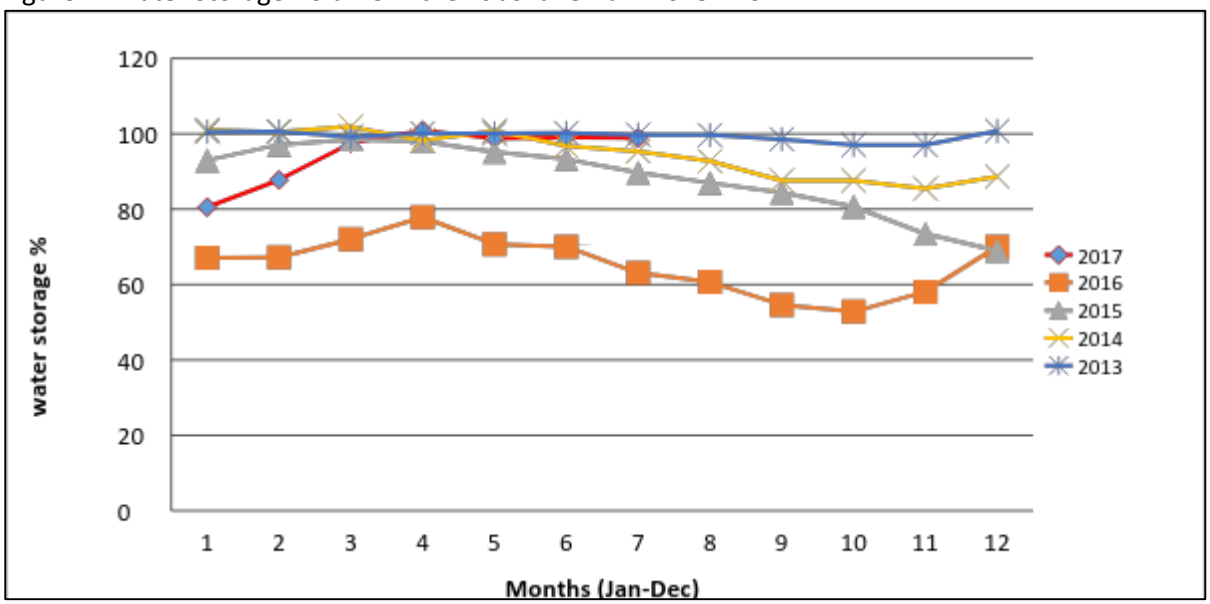
The country's major dams and rivers have shown a slight increase in terms of the water storage volumes and river flow for the 2017 year, as compared to those of the previous two years (2015 and 2016)

3.2.1 Dams

Observations from the graphs below indicate that current dam levels are better than those observed in the last three years (2014, 2015 and 2016). Illustrated below are graphs showing storage level trends from the three major dams in the country.

The Lubovane dam one key dam in the country located in Siphofaneni in the Lowveld was at 99.8% capacity in July 2017 (Figure 4). This was a great improvement from levels (63.04%)observed same time last (July 2016). Compared to the other years, the dam level almost as level observed in 2013.

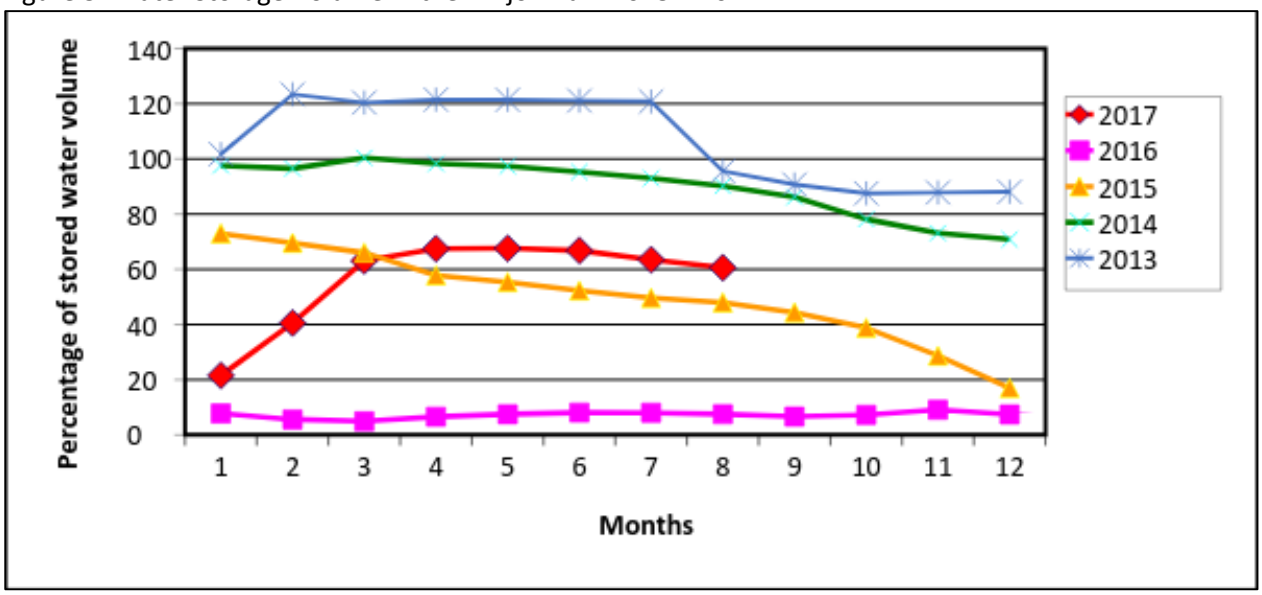
Figure 4: Water Storage Volume in the Lobovane Dam 2013 - 2017



Source: Ministry of Natural Resources and Energy, 2017

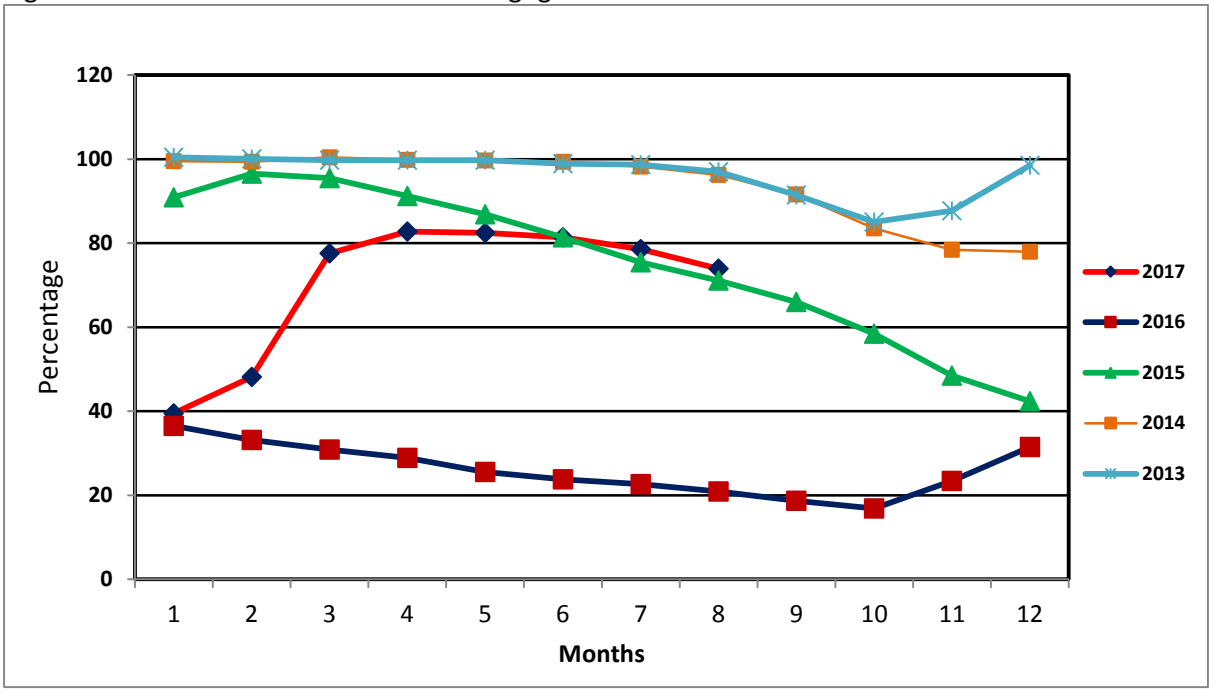
The Mnjoli dam another key agricultural dam especially for the sugar industry, has also improved as by July 2017 levels were at 63.5%, an improvement from the 8.06% observed in July 2016. Due to continual abstraction of the water for irrigation purposes the levels have not yet reached the pre-drought levels as presented in figure 5 below. Maguga dam, the largest water reservoir in the country was at 78.54% capacity (Figure 6). The dam has improved from the level observed also in 2016 where 22.65 was observed in July.

Figure 5: Water Storage Volume in the Mnjoli Dam 2013 – 2017



Source: Ministry of Natural Resources and Energy, 2017

Figure 6: Water Volumes Stored at the Maguga Dam 2013 - 2017



Source: Ministry of Natural Resources and Energy, 2017

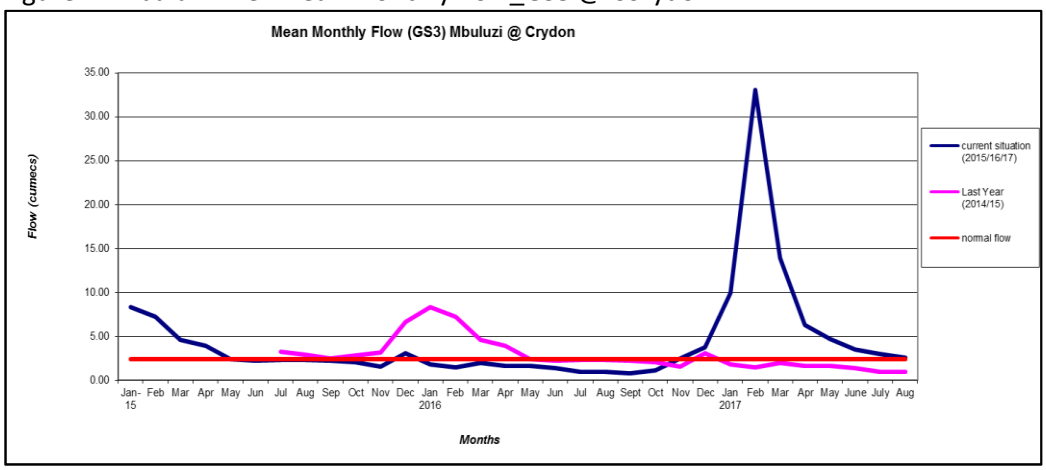
Generally, water availability has greatly improved in the country with more emphases on portable water. Hawane dam which supplies water to the country's capital is still at full capacity since the last year's rainy season. The Luphohlo dam on the other hand is currently at 28.65% as the water has been used to generate electricity during the peak generation period of June - August.

3.2.2 River Flow

The current river flows in our major rivers seem better when compared to those of the 2015, 2016 situations, with an exception of the Ngwavuma Basin where the flow is currently at zero flow (Figure 7, 8 and 9). An overview of the current situation stands as follows:

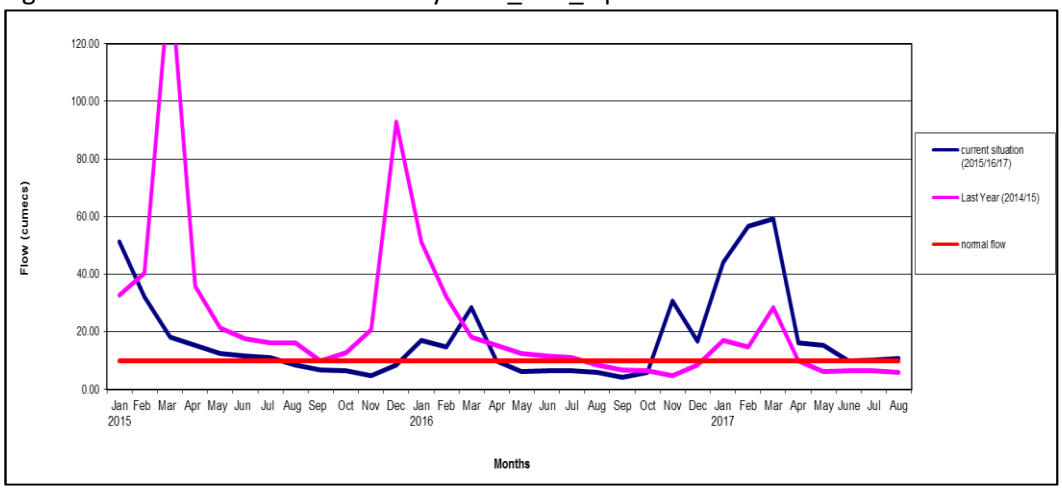
- The Black Mbuluzi River at gauging station No. 3 in Corydon is currently recording an above normal flow and a flow better than last year's record.
- The Great Usuthu River at gauging station No. 6 in Siphofaneni is also recording an above normal flow which is higher than that of the previous year.
- The flow in the Ngwavuma River at gauging station No. 8 at Lubulini is currently at zero and is below the river's normal flow.

Figure 7: Mbuluzi river mean monthly flow_GS3 @ Corydon



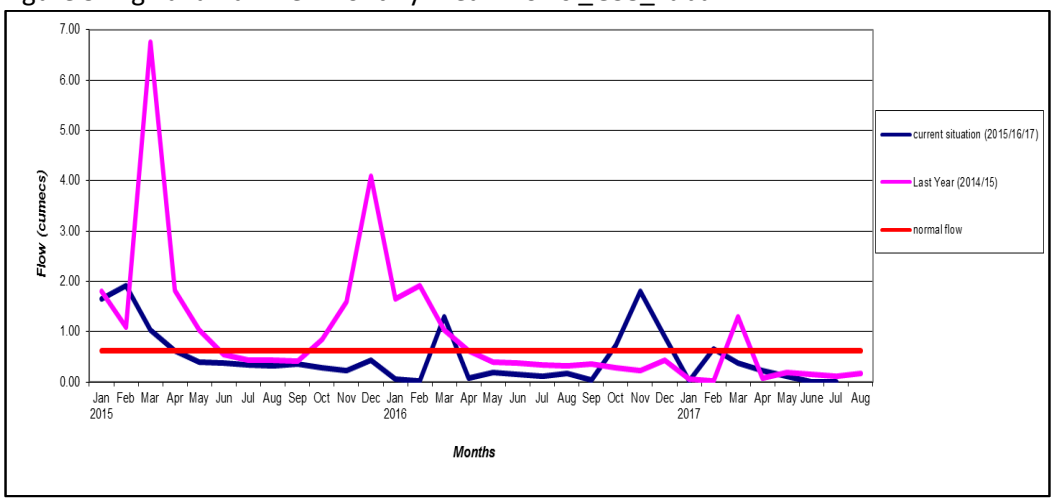
Source: Ministry of Natural Resources and Energy, 2017

Figure 8: Usuthu river Mean Monthly Flow_GS6_Siphofaneni



Source: Ministry of Natural Resources and Energy, 2017

Figure 9: Ngwavuma River Monthly Mean Flows _GS8_Lubuli



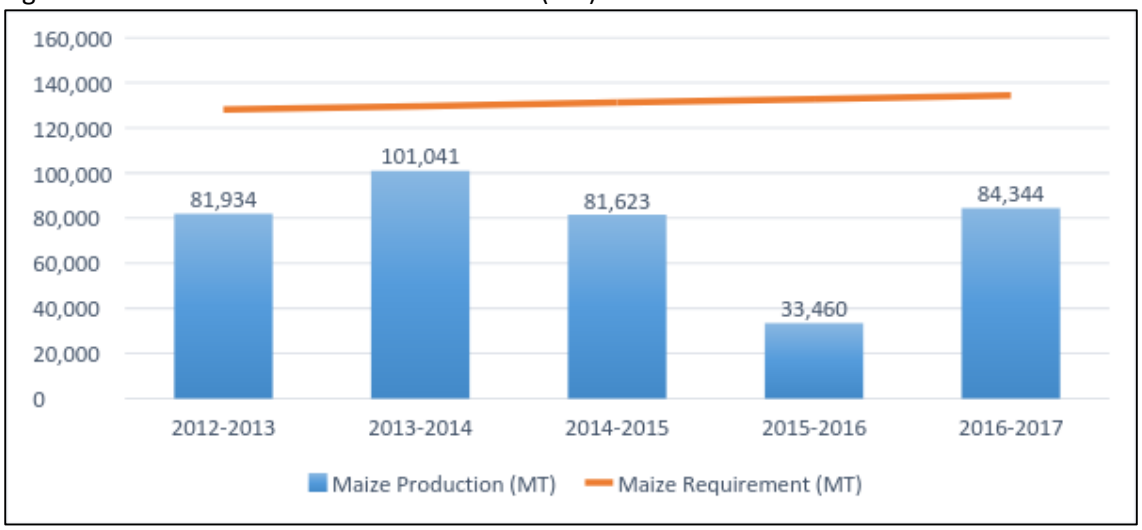
Source: Ministry of Natural Resources and Energy, 2017

3.3 Agriculture performance

3.3.1 National Maize Production

The 2016/17 production season improved from 33, 460 MT to 84, 344 MT and an increase of 10% when equated to five years average production (Figure 10). The rainfall performance contributed positively to this improvement in maize production.

Figure 10: National Maize Production Trends (MT) 2013-2017



Source: CSO/MET/MoA

For the past decade, the country had been struggling to meet its average national maize requirement of 120,000.00 MT. Last season was the worst ever recorded maize production of 33,460.00 MT (60% decrease), which was mainly attributed to the last season El Niño resulting into crop failure. This season was mainly characterised by normal to above normal rainfalls. This phenomenon resulted in conditions getting back to normal with maize production at 84,344.00 MT. The current maize production is 30% less than the average national requirement, which is not that much of a huge gap for a population of 1,145,976 people [3], and can be meet through imports.

The improved conditions are attributed to the good rainfalls the country received during the last planting season. There were cases of localised dry spells during the planting season but due to the presence of Cyclone Dineo the situation improved. The Fall Army Worm (FAW) also was a threat to maize production but its damage was minimised by the rainfalls which reduced its impact and the damaged plants recovered.

[3] Swaziland Population Projections 2007-2030 Report

3.3.2 National Food Balance Sheet

The overall country's domestic availability stands at 107,360.00 MT (maize, wheat, rice) for this year, which is 55% greater than last seasons. The gross domestic requirement for all cereals is at 213,860.00 MT. This will result in a domestic shortfall of 106,500 MT and this gap will be meet by imports which will be conjoined by the commercial sector and humanitarian sector.

Table 3: National Food Balance Sheet for 2017/18 consumption year

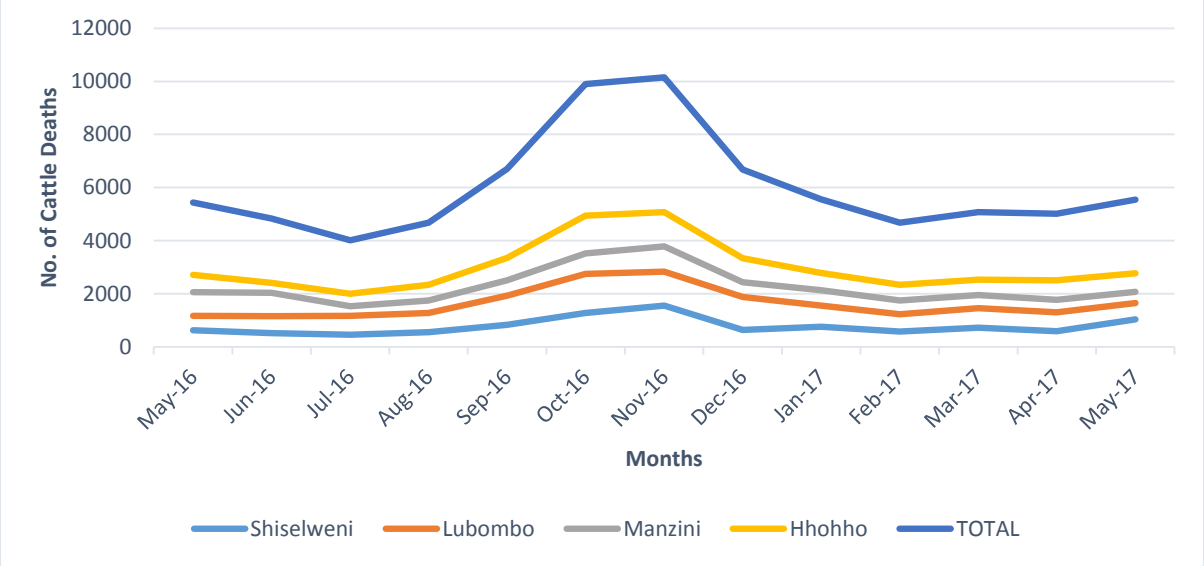
Figures in '000 Metric Tonnes				
	Maize	Wheat	Rice	All
A. Domestic Availability	98.22	0	9.14	107.36
B. Gross Domestic Requirement	135.00	44.98	33.88	213.86
C. Domestic Shortfall/ Surplus	-36.78	-44.98	-24.74	-106.50
D. Planned Imports	31.52	40.25	40.65	112.42
Commercial	21.54	35.05	30.32	86.91
Food Aid	9.98	5.2	10.33	25.51
Uncovered Gap/Unallocated Surplus	-5.26	-4.73	15.91	5.92

Source: Ministry of Agriculture

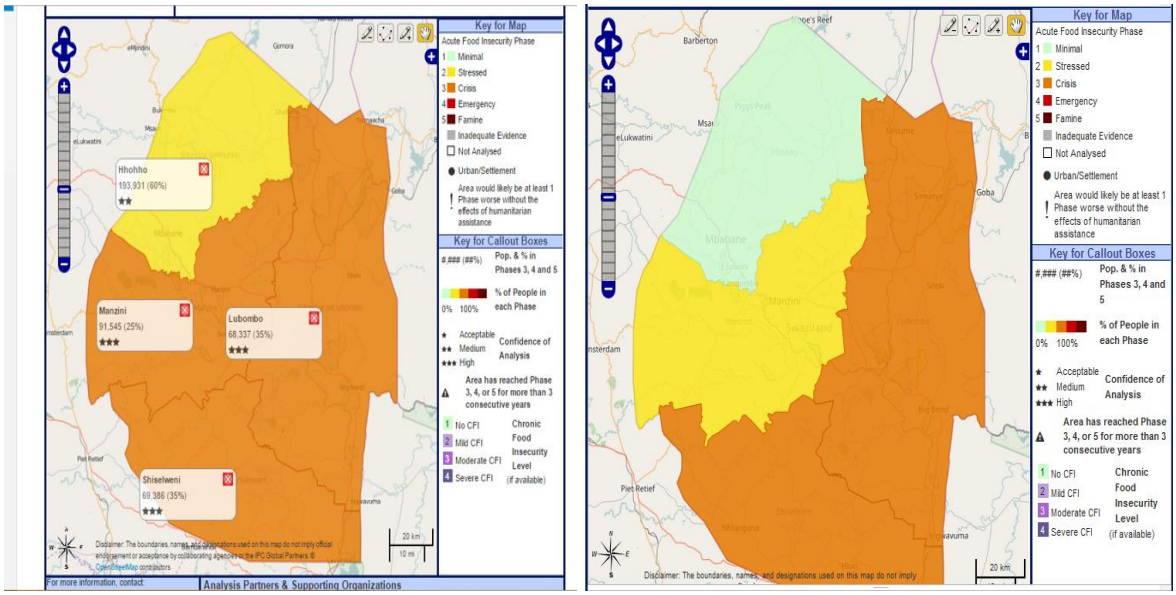
3.3.3 Cattle Deaths and Major Causes

Cattle deaths were not that significant this year when compared to last season, the drought year. This can be attributed to the good rangeland conditions that resulted from the significant rainfall received. Deaths in the Hhohho region were the highest during the past year followed by the Manzini region. While the deaths are back to pre-drought levels farmers that lost cattle during the drought have not recovered their most important livelihood and income source. Movement from the severely affected areas (Hluthi, Lavumisa, Mliba) to better grazing lands whilst still in bad body condition has kept the deaths higher than would be expected or preferred. Figure 11 presents cattle deaths in the last 12 months by region.

Figure 11: Cattle Deaths by Region



Access to food is relatively adequate in the country. However, accessibility challenges still exist in some parts in the rural areas. IPC findings for 2015/16 classified the Hhohho region into Phase 2 (Stressed) while the three other regions (Manzini, Shiselweni and Lubombo) were in phase 3 (Crisis). Findings for this year shows improvements from the situation last year. Hhohho region is in Phase 1 (None), Manzini in Phase 2 (Stressed), and Shiselweni and Lubombo they both in Phase 3 (Crisis) (Map 3). This translate that the two regions (Shiselweni and Lubombo) will require food and livelihood support towards the next planting season.



Map 3: 2015/2016 and 2016/17 IPC Analysis Outcomes

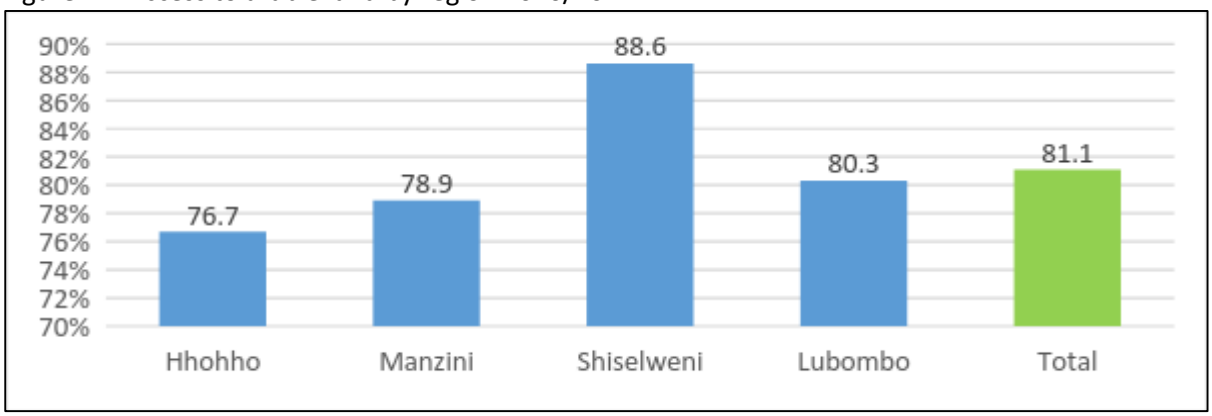
4.0 KEY FINDINGS

This section focusses on the analysis outcomes of the 2017 assessment in relation to the indicators that formed part of the data collection tool.

4.1 Access to Arable Land and Cultivation

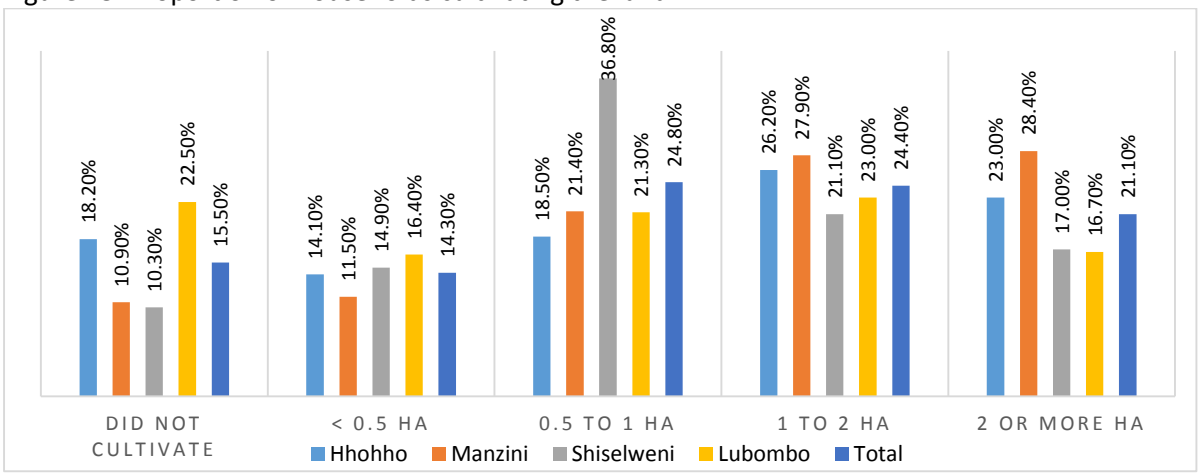
The 2016/17 rainfall season performance expressively improved compared to 2015/16 though coupled with localised dry spells, however, overall crop production and livestock improved significantly.

Figure 12: Access to arable land by region 2016/2017



The findings show that 81.1 % of households have access to arable land (Figure 12). However, 15.5 % did not cultivate and 84.5 % committed their resources to ploughing. On overage, about 40 % cultivated more land, 44.3% cultivated same hectares, while 15% reported to have cultivated less hectares compared to 2015/16 season (Figure 13). Lack of draught power, illness in the household, lack of farm inputs, weather related causes and access to land were some of the limiting factors resulting to households cultivating less hectares.

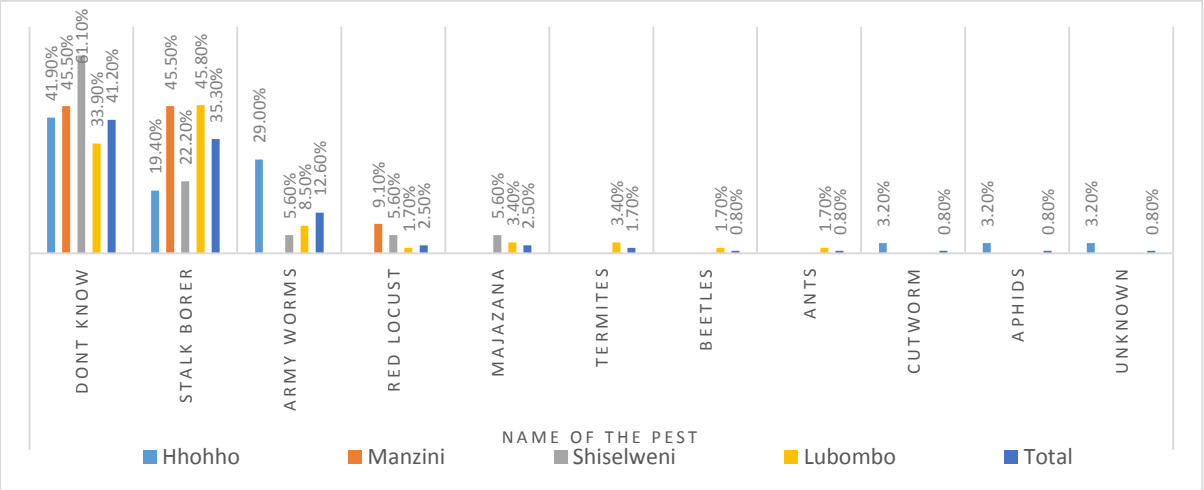
Figure 13: Proportion of households cultivating the land



4.2 Agricultural Shocks

The main agricultural shocks reported by farmers included; pest infection, localized dry spells, heat waves, hailstorms. The localised dry spells were experienced in November and December 2016 affecting the three regions (Manzini, Lubombo and Shiselweni). Pest were also found to have affected farmers during the season. Major pest reported includes: Stalk borer, fall army worm, red locust, and majazane. Termites, beetles, ants, aphids were of minor concern (Figure 14).

Figure 14: Major pest affecting farmers (2017)

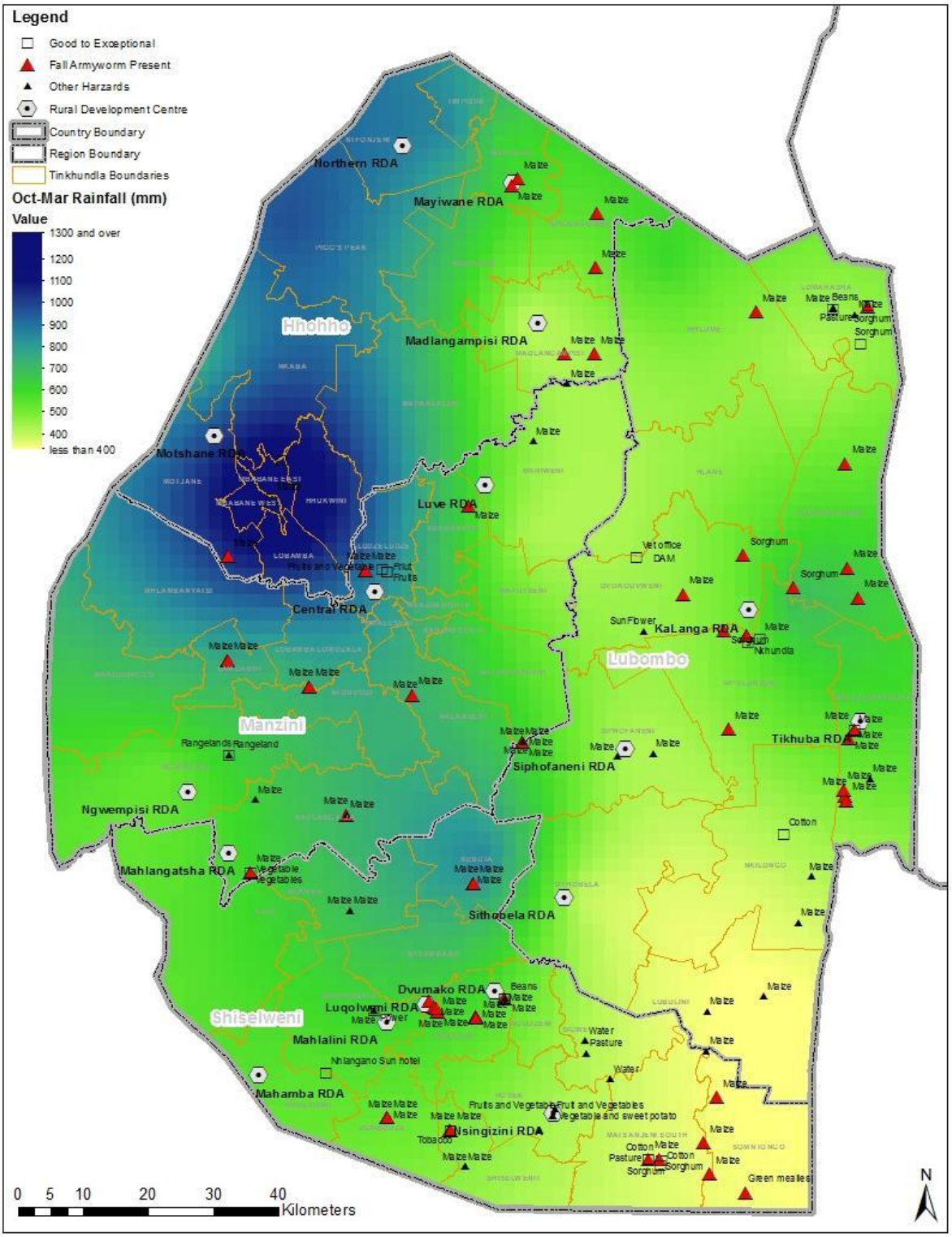


4.2.1 Fall Army Worm (FAW)

The Fall Army Worm (FAW) proved to be a major threat to food security. The pest was confirmed in February 2017 by the Ministry of Agriculture in a sorghum field in the Lubombo region. However, data from the Swazi VAC assessment and the rapid assessment conducted in March 2017 found that the pest was spread in the four agro-ecological zones of the country. The pest proved to be polysaccharide, feeding on the following crops and in different growth stages namely; maize, sorghum and legumes.[4] Farmers has a challenge in identifying the pest as was mistaken to stalk borer, which proved to be challenge for its control. Also as this is an endemic pest in the country and the SADC region, required chemicals to control were not available. 56 percent of households confirmed the presence of the pest based on the photograph on display.

The outbreak of the pest (FAW) was found in all the Agro-ecological zones as depicted in the map below. It's only the Highveld part which was not affected. The impact was supressed by the presence of the impact the low-pressure systems as a result of Cyclone Dineo.

[4] Agricultural Rapid Assessment 2017 Report.



Map 4: Sites where fall army worm spotted during rapid assessment overlaid with season rainfall distributions.
Source: Agricultural Rapid Assessment, 2017

4.3 Cattle Deaths and Pasture Conditions

About 16% of households reported to have experience cattle deaths over the past 12 months. The Lubombo region had the highest proportion of households that experienced cattle deaths (18 %), followed by Manzini region (15 %). The Shiselweni region had the lowest proportion of households that experienced cattle deaths (Figure 15). The major causes of cattle deaths identified by households were: lack of food, weather related conditions, accidents and old age. Diseases (44 %) were found to be the leading cause of cattle death as shown in Figure 16 below. Average to poor pasture conditions have been reported in areas under the Lowveld and dry Middleveld and this was evident in the reduced vegetation cover (Figure 17).

Figure 15: Proportion of Households reporting cattle deaths

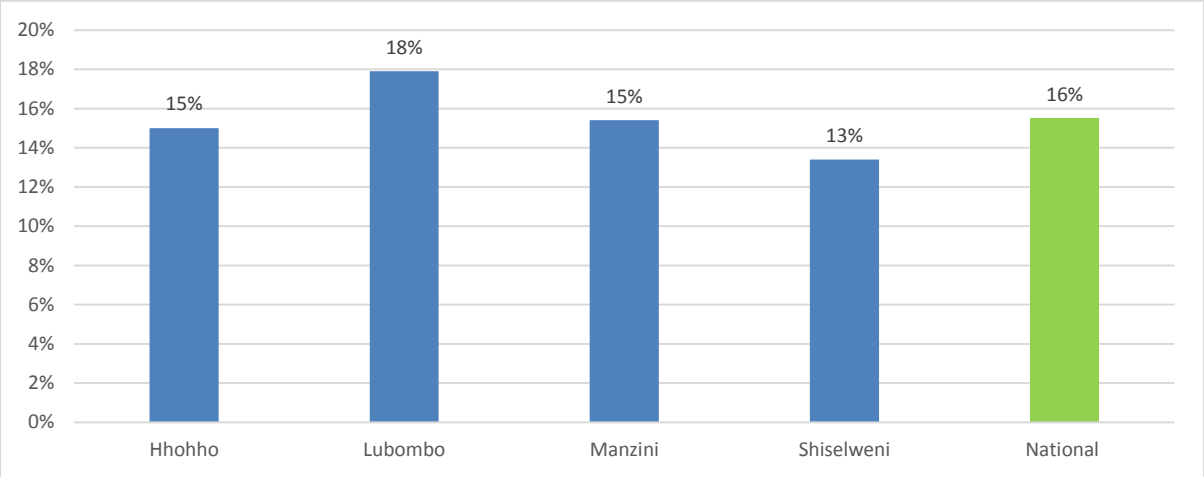


Figure 16: Cattle deaths causes reported by households

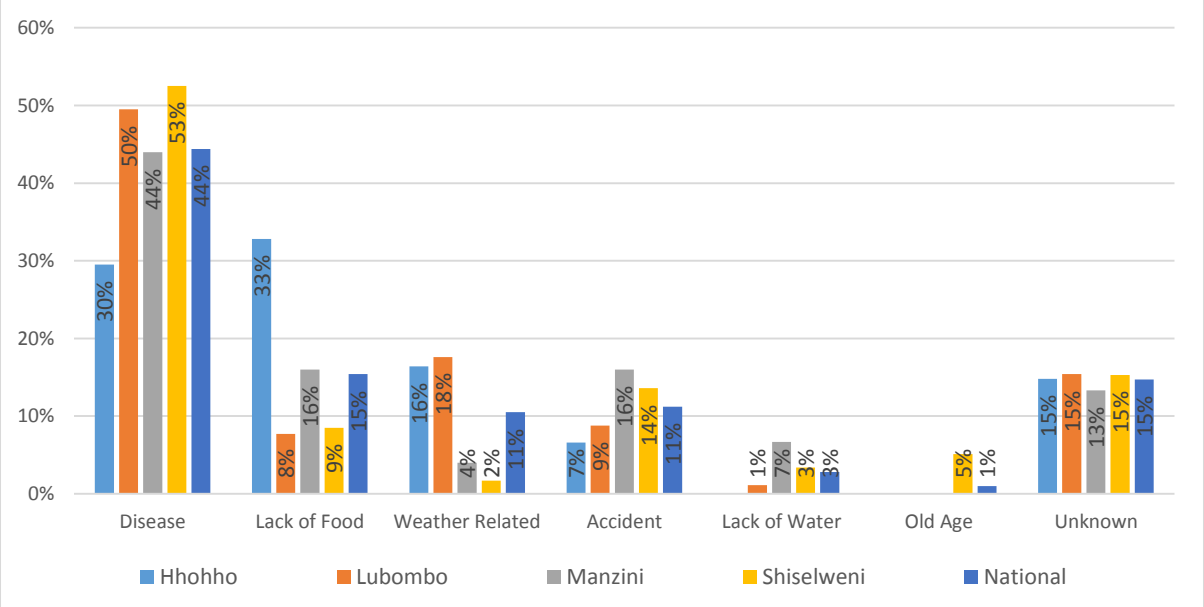
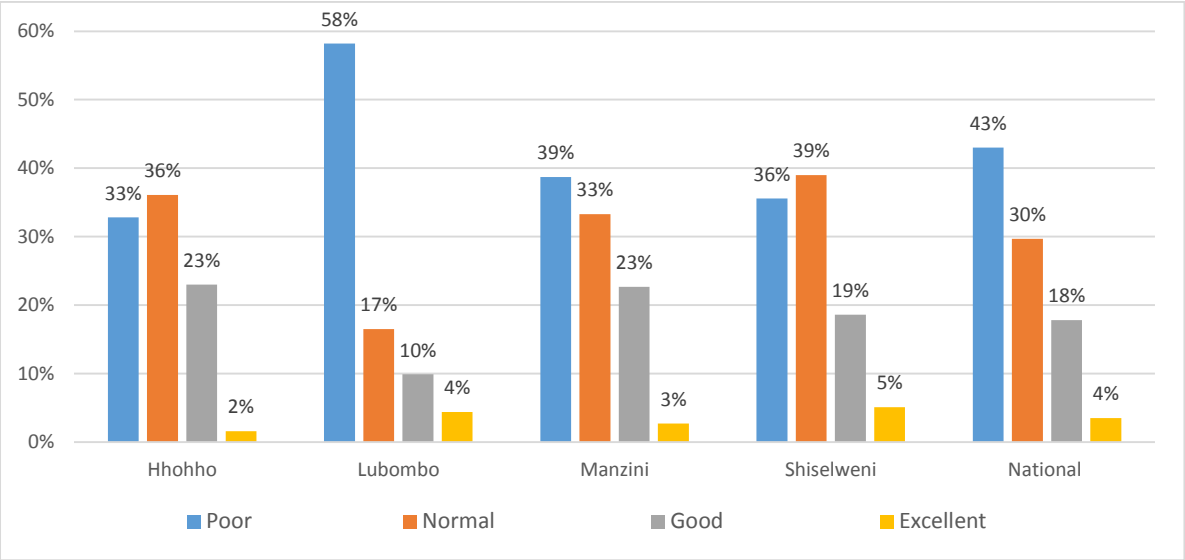


Figure 17: Pasture conditions by regions



4.4 Food Security Indicators

4.4.1 Food Consumption Score

Food Consumption Score (FCS), which is used as a proxy for household food security is a measure of dietary diversity, food frequency and the relative nutritional importance of the food items consumed by household members over a recall period of seven days. A high FCS increases the probability that a household's nutrient intake is adequate. The FCS is used to classify households into three groups: poor, borderline or acceptable food consumption, by aggregating households that have similar dietary patterns and access to food. The food consumption score for Swaziland is reported based on the standard thresholds: Poor food consumption (0—21), Borderline food consumption (21.5—35), Acceptable food consumption (> 35).

The overall consumption levels have improved this year when compared to the previous year. The proportion of rural households nationally that had acceptable food consumption levels was at 84 percent compared to 73 percent observed in 2016 (Figure 18). Regionally food consumption levels have also shown improvements as the proportion of households with poor and borderline consumption levels has reduced in 2017 compared to 2016. Lubombo region (21 %) had the highest proportion of vulnerable population, while Hhohho region (11%) had the lowest proportion of households with FCS ≤=2.

Figure 18: Food Consumption Score 2016 – 2017 by region

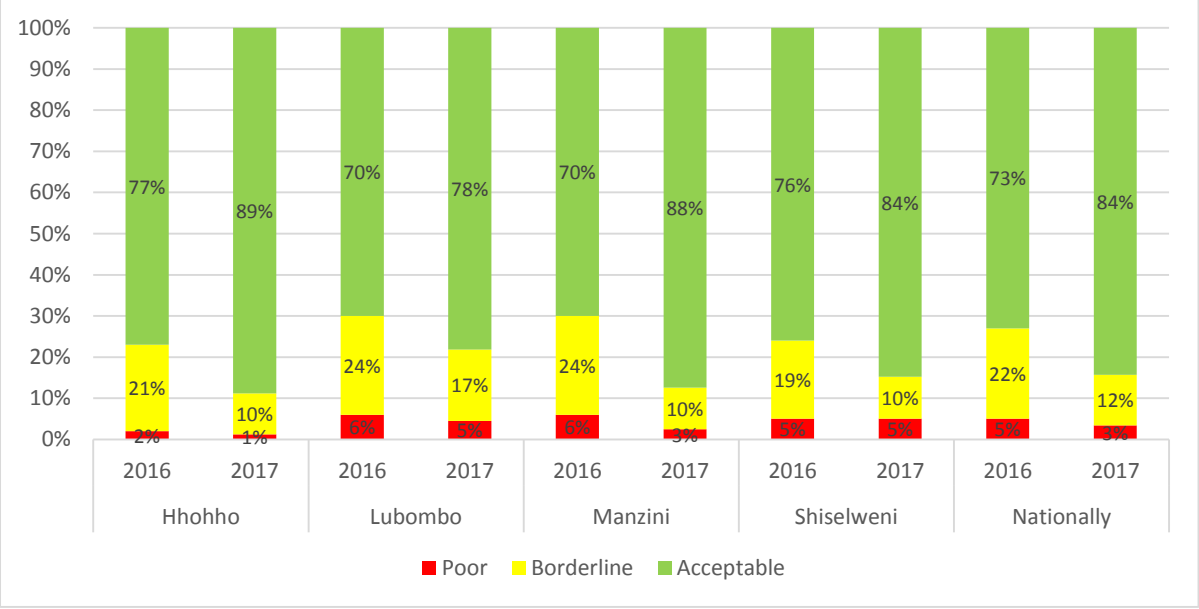
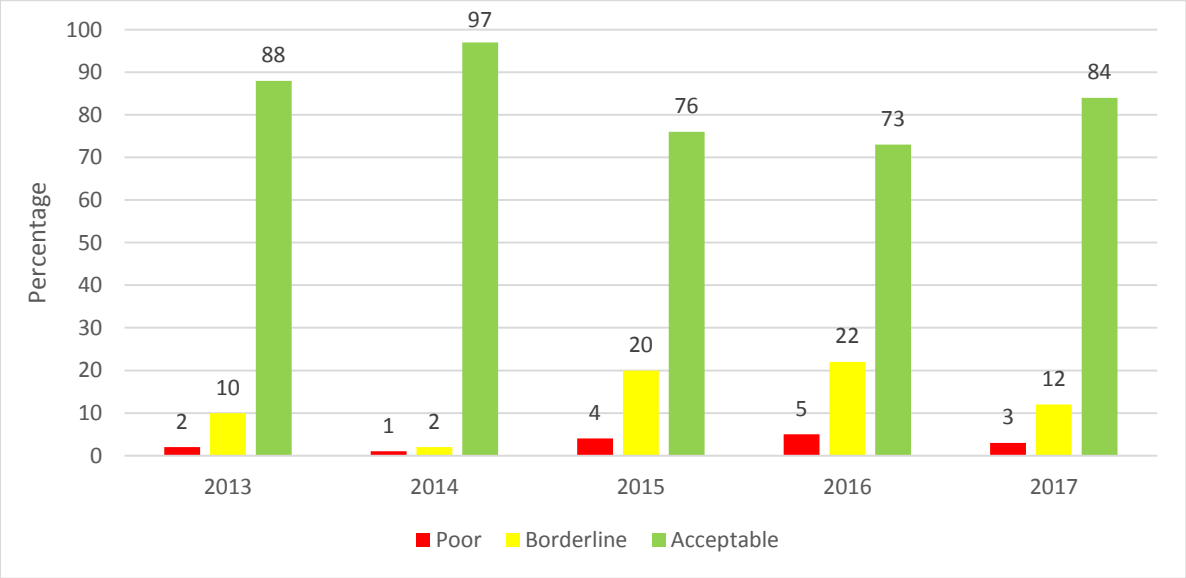


Figure 19 presents the 5-year (2013 – 2017) trend of the Food Consumption Score. There is a slight improvement in the 2017 consumption levels when compared with the past 2 year (2015 – 2016), with 2016 (drought year) being the worse. Increased production and other interventions by government

and partners had a significant impact in improving the consumptions. About 15 % of the population had poor or borderline consumption levels which was less than the 27% observed in 2016 (drought year).

Figure 19: 5-year (2013 – 2017) trend of the Food Consumption Score



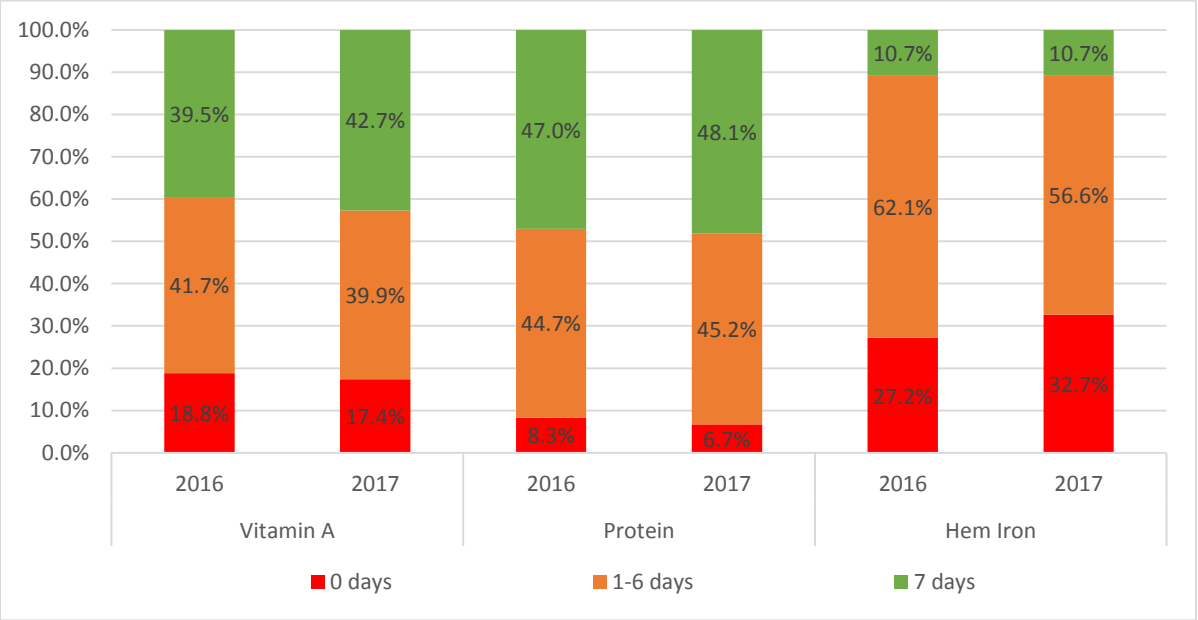
4.4.2 Food Consumption Score - Nutrition

The food consumption score nutrition quality analysis (FCS-N) analyses consumption of three key nutrients derived from the FCS data aimed to improve an understanding on household intake of key nutrient-rich foods. Results from the FCS-N can act as a catalyst towards improved nutrition-sensitive programming through highlighting nutrient inadequacies in households. It can also have an indirect impact on the lives of many more people by advocating for comprehensive solutions and supporting governments to develop strategies to overcome under and over-nutrition challenges. The three key nutrients analysed in this assessment are proteins, iron and Vitamin A.

Macronutrients are of significance to the well-being and health of a person, protein which plays a key role in growth, is crucial for the prevention of wasting and stunting. Understanding protein intake at household level through data collected on household food consumption gives an indication of consumption of protein rich foods for individual household members. This tool focuses on two of the main micronutrients, Vitamin A and Iron, which because of widespread deficiencies, causes death and disease in developing countries. Deficiencies in micronutrients, such as vitamin A and iron, over a long period, can lead to chronic under-nutrition. Iron deficiency may lead to anaemia and Vitamin A deficiency may lead to blindness and interferes with the normal functioning of the immune system, growth and development as well as reproduction.

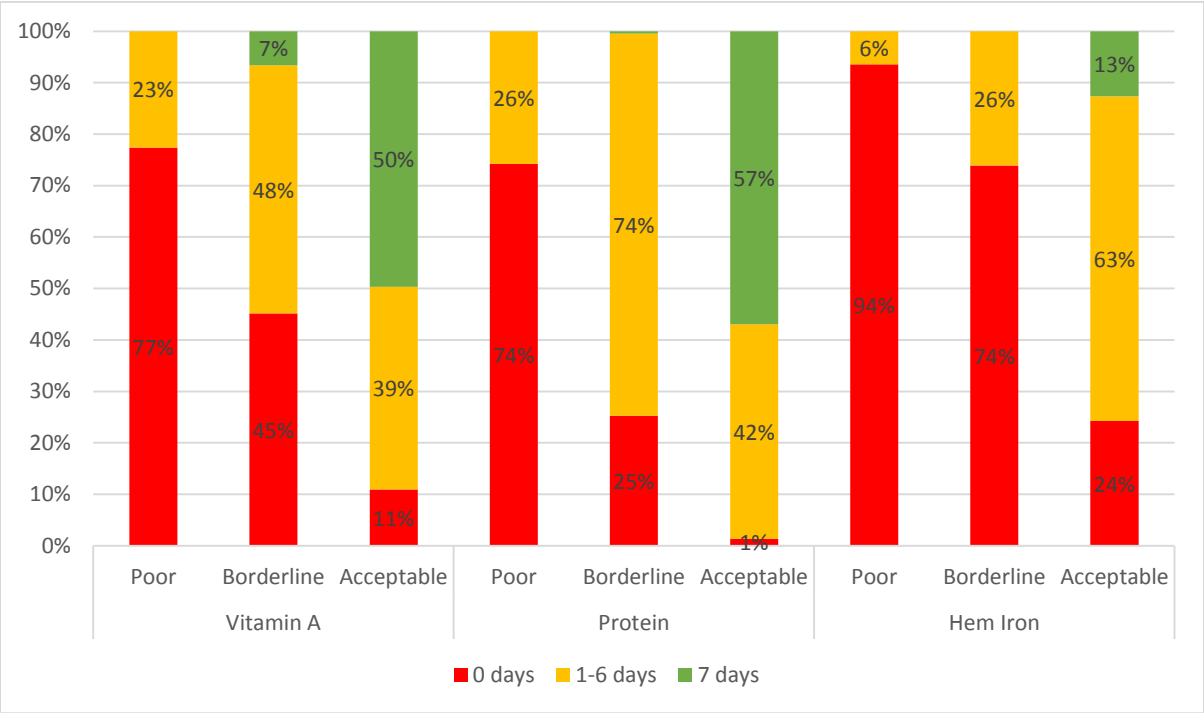
The consumption of nutrient rich food is relatively low in the country as presented in the figure 20 below. About 17% of households are not consuming Vitamin A rich foods in the past 7 days, predisposing them to vitamin A deficiencies. The Consumption of iron rich food was also poor as 33% reported not to have consumed any iron rich food in the past 7 days. The 2017 results also depict an increase in the proportion of households not consuming iron rich foods when compared to last year 2016 which was at 27%. The consumption of protein rich foods was relatively high (48%) when compared to the other nutrients. Compared to last year (2016), the consumption of protein rich foods has improved, indicating improvement in the access to nutritious food by households. It should be noted that even though the food consumption score has improved, consumption of nutrient rich food has not significantly improved in the country.

Figure 20; Food Consumption Score - Nutrition 2016 - 2017



The data also shows that high proportion of households with poor or borderline food consumption (food insecure) have limited consumption of all nutrients rich foods, where consumption of protein rich food was poor as 74% of households with poor consumption reported no access to protein rich foods in the past 7 days (Figure 21). The poor consumption of poor nutrient rich foods by the poor and borderline consumption groups increases the risk of irreversible chronic nutrition deficiencies.

Figure 21: FCS-N by Food Consumption Groups (Poor, Borderline and Acceptable)



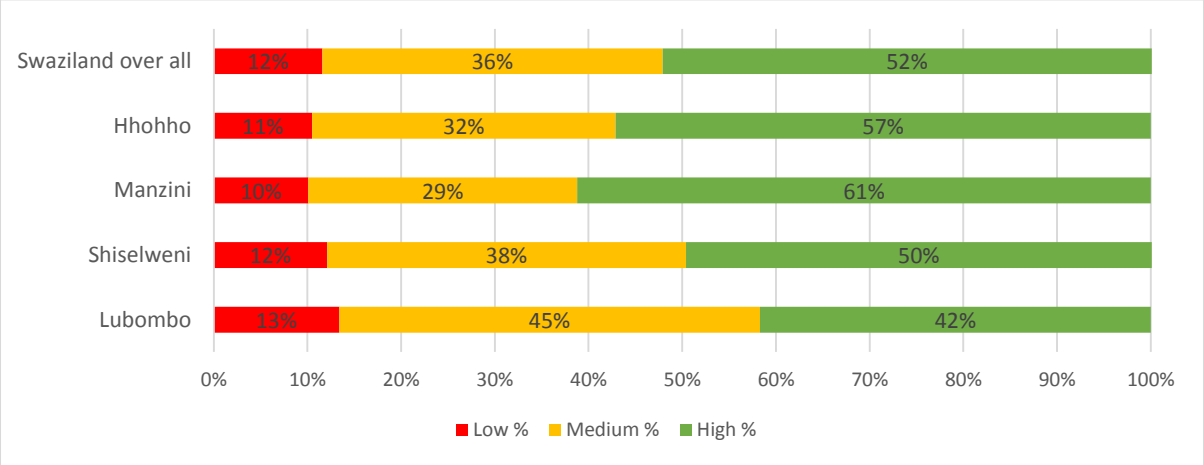
4.5 Household Dietary Diversity

Dietary diversity is a qualitative measure of food consumption that reflects households' access to a variety of foods. It measures the number of different food groups consumed over a given period, providing an estimation of the quality of a diet. Dietary diversity can be measured both at the household and individual levels. It is a good complement to FCS since it provides a complete picture of the household diet. DDS is very sensitive to any changes in diets, which it why it works well for monitoring changes as it reflects in a snapshot form, the economic ability of a household to access a variety of foods. The HDDS is meant to provide an indication of household economic access to food, thus items that require household resources to obtain, such as condiments, sugar and sugary foods, and beverages, are included in the score. It represents the number of food groups consumed over a given period. It targets individuals, households and women. The International Food Policy Research Institute (IFPRI) thresholds for Household Dietary Diversity Score (DDS) are used in this report: ≥6 = good dietary diversity, 3–6 = medium dietary diversity, ≤3 = low dietary diversity.

Based on the thresholds, 12% of the households (low score) were consuming less than 3 food groups, 36% had a medium, indicating that households were consuming 3 – 6 different food groups, while 52% with high score consuming more than 6 food groups (Figure 22). Regionally,

Lubombo region (13%) and Shiselweni region (12%) had the highest proportion of households with low and medium dietary diversity scores. These are the regions that are faced with high food insecurity levels, thus households have poor access to a variety of food groups to meet their dietary needs. It should be noted though that proportion of households with low and medium dietary scores has reduced when compared to levels observed in 2016. This is an indication of the improvement in access to food at household level when compared to the previous year which was a drought year.

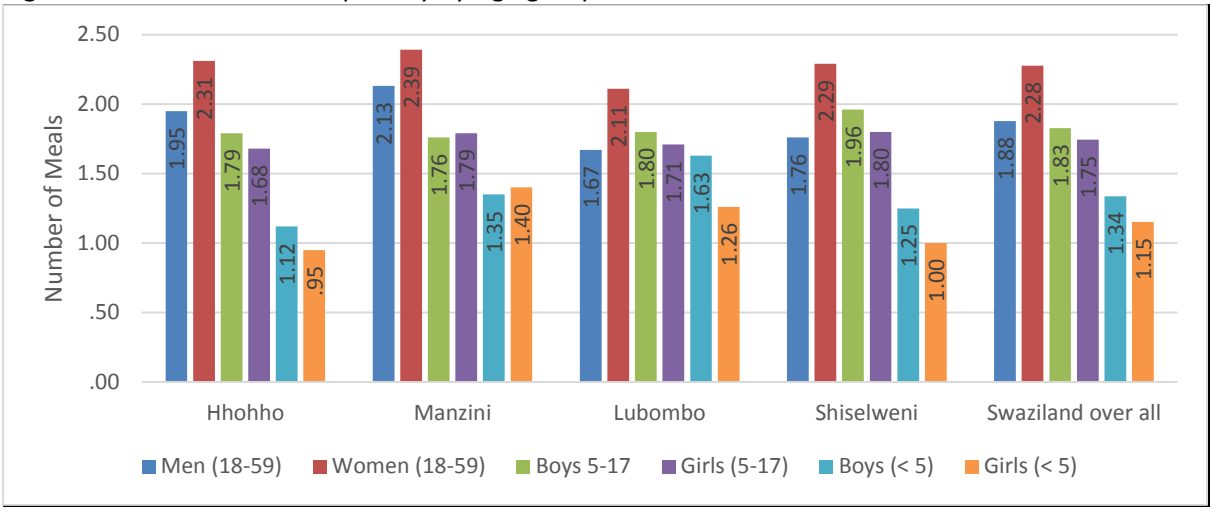
Figure 22: Household Dietary Diversity Groups



4.6 Meals per day

This indicator is a proxy for adequacy of caloric intake by household members. Figure 23 presents average number of meals consumed by age group and gender. On average the number of meals consumed at within households averaged at 1.88 meals per day for male adults (18 – 59 years), 2.28 meals per day for adult women (18 – 59 years). The results also show that children (<5 years) are less eating less meals per day when compared to adults as they had the lowest meal times per day when compared to the other age groups (Figure 16). Overall the results also show a decrease in the number of meals consumed at household levels for all age groups when compared to last year (2016), which averaged at 2.5 for adults (18-59) and 3.5 for children (<5). This can be attributed to the fact that households might still be implementing some coping strategies with regards to food shortages within households.

Figure 23: Number of Meals per day by Age groups



4.7 Shock and Coping Strategies

The Coping Strategy Index (CSI) measures behaviour, the strategies that people or households employ when they cannot access enough food. These coping strategies are easy to observe. An increased CSI indicates a worsening food security condition.

The national average CSI for the country was at 19.94, with Lubombo region (Figure 24) having the highest mean coping strategy index 30.04. Shiselweni region had 19.64 while Hhohho region (13.48) had the lowest. The results show increased use of coping strategies by households compared too last year. This means households have been faced increased food insecurity shocks thus engaging increased coping strategies to cope with the shock faced by households. It should be noted that due to the drought, households were under severe pressure to meet their food requirements thus a number had engaged in risky coping strategies while some depleted the common strategies thus failing to recover this season. This increased CSI was also evident when looking at the past 5 years where the current levels higher than the 2 previous years (Figure 25).

Figure 24: Mean Coping Strategy Index by regions

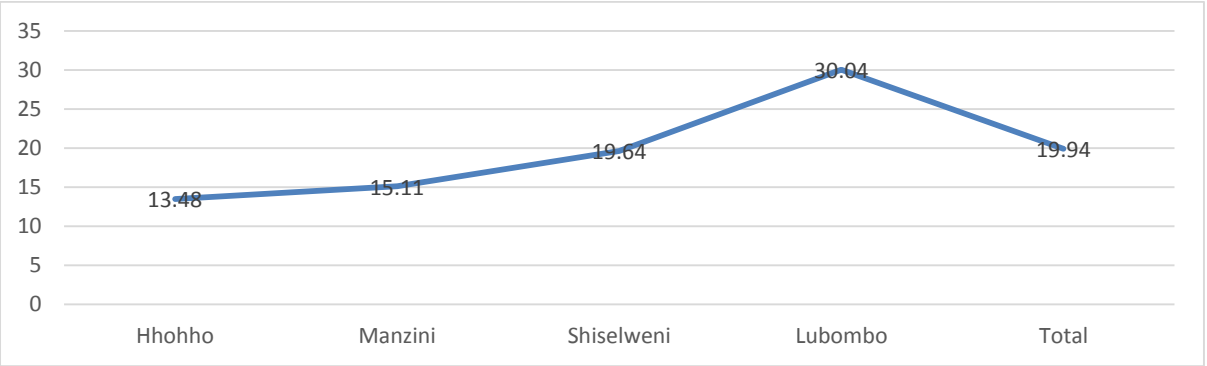
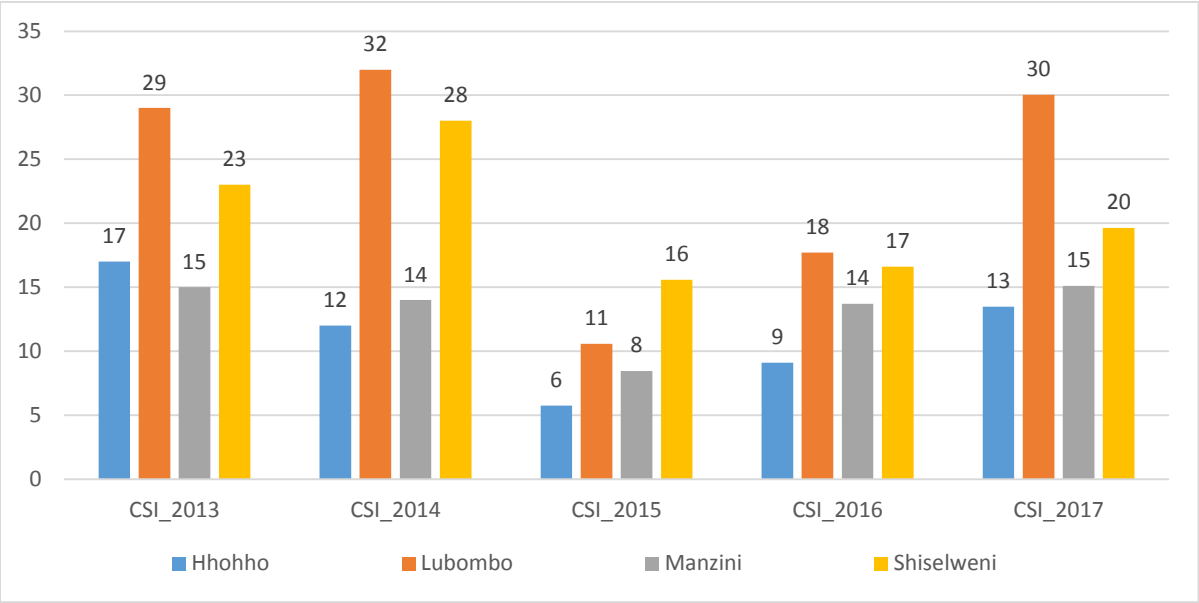


Figure 25: 5 year CSI trends by region

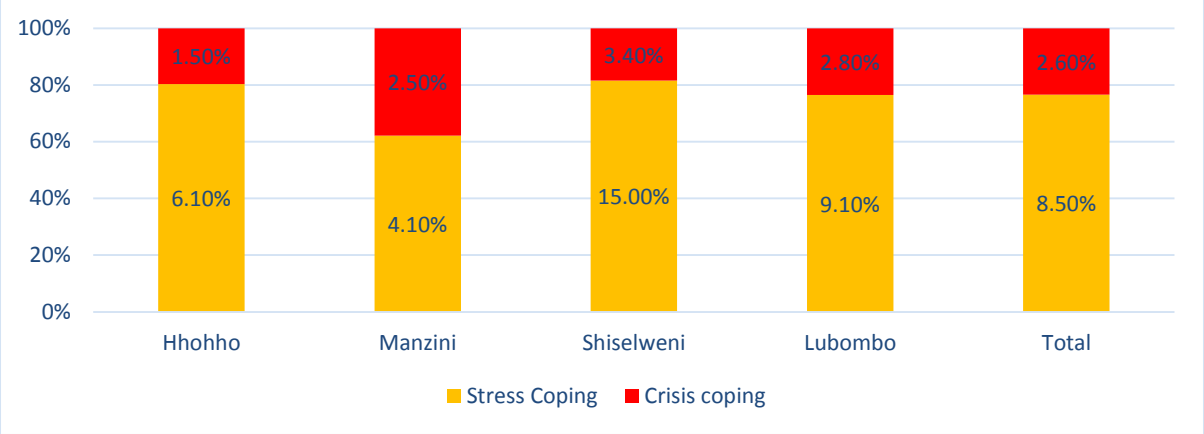


4.8 Livelihood Coping Strategies

The livelihood coping strategies are used to better understand longer-term coping capacity of households and are divided into 3 categories i.e. Stress, Crisis and Emergency. Responses are used to understand the stress and insecurity faced by households and describes their capacity regarding future productivity. Unlike the consumption based coping strategies, the recall period is 30 days instead of 7, and it does not capture the number of times each strategy was undertaken.

The use of crisis coping strategies nationally has been 2.6% while 8.5% of households have reported to be engaged in stress coping strategies (Figure 26). The Shiselweni (3.4%) and Lubombo (2.8%) regions had higher proportions of households that were engaged in crisis coping strategies, indicative of the increased food insecurity levels existing in the regions. This includes strategies such as selling productive assets which directly reduce future productivity capabilities. The regions also had a higher proportion of households that were engaged in stress coping strategies which included spending savings and selling of assets.

Figure 26: Livelihood coping strategies by region



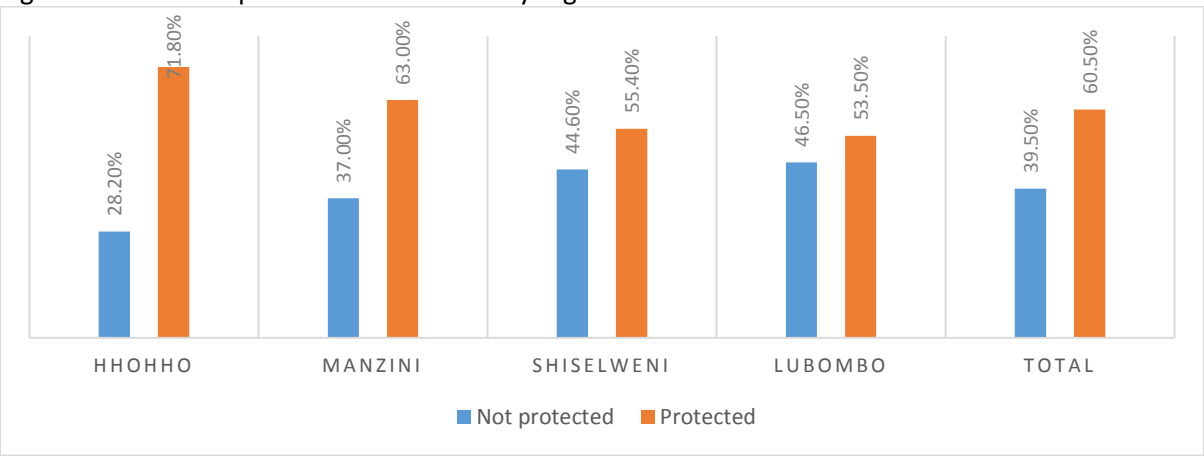
4.9 Water and Sanitation

This section focuses on the use of improved water sources, unimproved water sources, improved sanitation facilities and unimproved facilities.

4.9.1 Use of improved water source

The distribution of the population by main source of drinking water is shown in figure 27. The population using improved sources of drinking water are those using any of the following types of supply: piped water (into dwelling, compound, yard or plot, to neighbour, public tap/standpipe), tube well/borehole, protected well, protected spring, and rainwater collection.

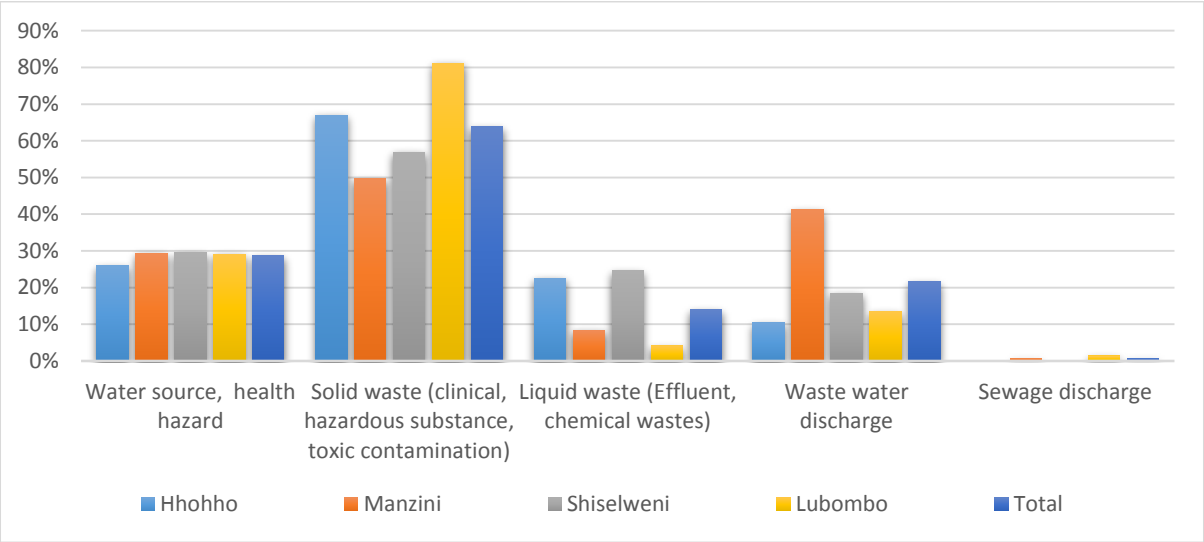
Figure 27: Use of improved water sources by region



Overall, 60.5% of the population uses an improved source of drinking water, with 39.5% use unimproved water sources. The situation in Lubombo region is considerably worse than in other regions; only 53.5% of the population in this region gets its drinking water from an improved source while 46.5% reported to be using unprotected water sources. The source of drinking water for the population varies strongly by region. In Manzini region, 63% of the population uses drinking water that is protected. In Hhohho and Shiselweni regions, 72% and 55.4%, respectively use drinking water

that safe. In contrast, only about 53.5% of those residing in the Lubombo region use water that is protected.

Figure 28: Health hazards near water source



Health hazards near water sources indicates a likelihood of unsafe water for consumption. About 30 percent of households in Manzini and Shiselweni regions indicated hazard near water sources respectively which includes liquid waste, water waste and sewage discharges. Solid waste was the major hazard identified by households, where 81% of households in the Lubombo region indicated the presence of such (Figure 28).

4.9.2 Household Water Availability, Distance and Use

The amount of time it takes to obtain water during the rainy season is presented in figure 29 and during dry season in figure 30. The results refer to one return trip from home to drinking water source. Information on the number of trips made in one day was not collected. Overall 18.5% of the household uses drinking water source within their premises. The availability of water on premises is associated with greater use, better family hygiene and better health outcomes.

Figure 29: Time taken to water source during rainy season

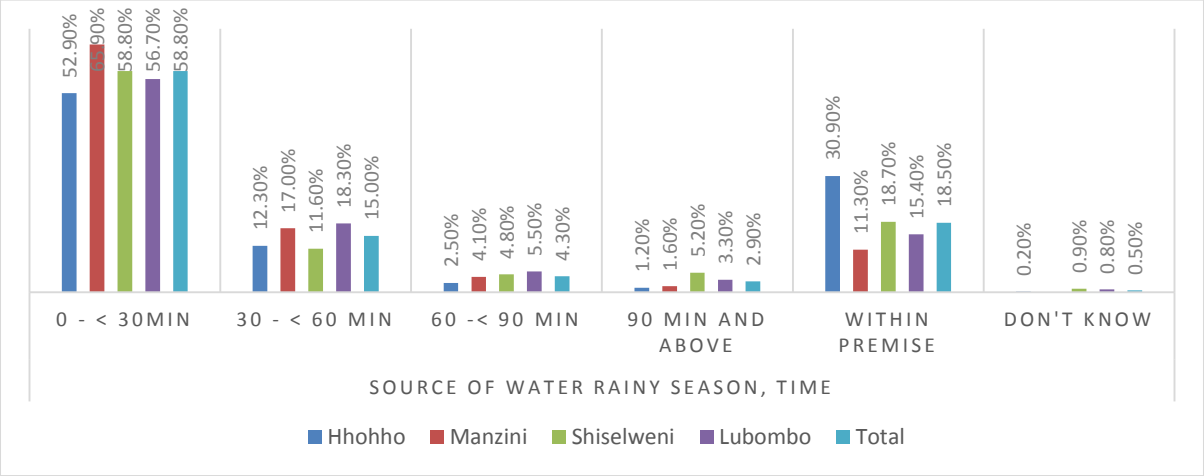
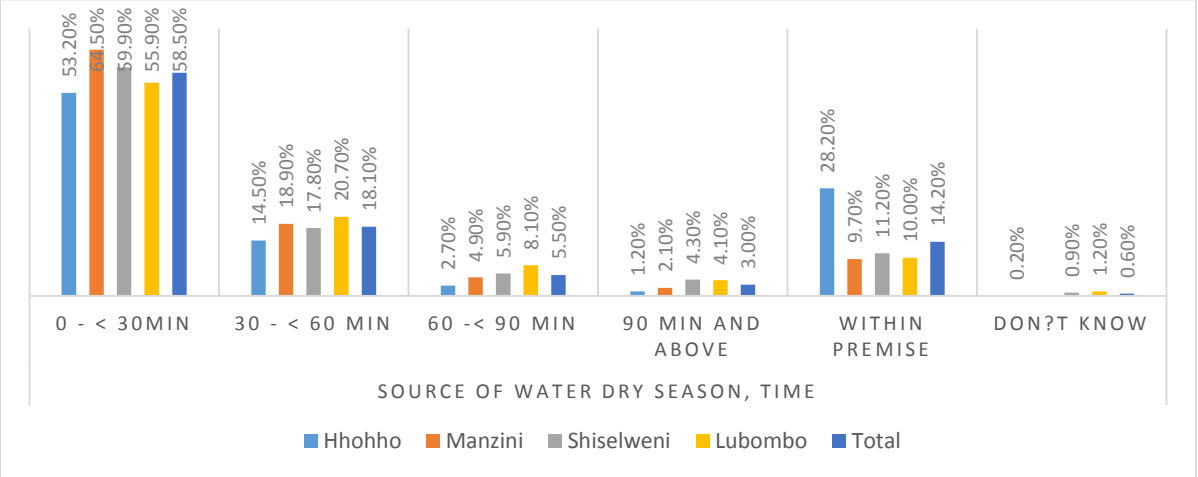


Figure 30: Time taken to water source during dry season



4.9.3 Use of improved sanitation

Inadequate disposal of human excreta and personal hygiene are associated with a range of diseases including diarrhoeal diseases and polio and are important determinants of stunting. Improved sanitation can reduce diarrhoeal disease by more than a third[5], and can substantially lessen the adverse health impacts of other disorders among millions of children in many countries. An improved sanitation facility is defined as one that hygienically separates human excreta from human contact. Improved sanitation facilities for excreta disposal include flush or pour flush to a piped sewer system, septic tank, or pit latrine; ventilated improved pit latrine, pit latrine with slab, and use of a composting toilet.

[5] Cairncross, S. 2010. *Water, sanitation and hygiene for the prevention of diarrhoea*. Int. J. Epidemiology 39: i193-i205.

Overall, 68.3% of households reported having access to improved toilet facilities (Figure 31). There was remarkable variation across regions in terms of access to improved toilet facilities; the highest was reported in Manzini at 88%, followed by Shiselweni at 65.7%, Lubombo at 58.6%) and the lowest number of households accessing such facilities being Hhohho at 57.8%.

Figure 31: Access to improved sanitation facilities by region

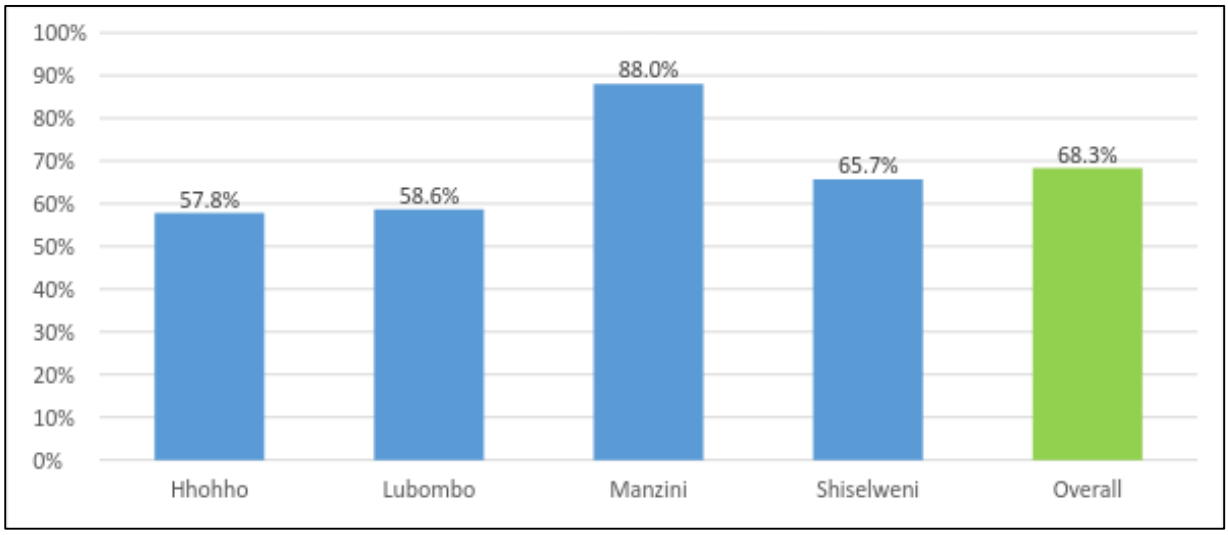


Figure 32 shows that most households reported having washed their hands with soap or ash at critical times, after easing oneself, before and after serving and eating meals at 72.4%. The highest was Manzini at 86% followed by Lubombo at 76%. The lowest was reported at 51%, Shiselweni. Surprisingly, there are still individuals who believe there is no need to wash hands at any given time.

Figure 32: Hand washing by households

5.0 ANALYSIS OF ACUTE FOOD INSECURITY SITUATION

During the period under review, the Swazi VAC continued to use the Integrated Food Security Phase Classification (IPC) to classify the nature and severity of food insecurity in the country. The acute food insecurity areas were classified into five Phases: Phase 1 (Minimal), Phase 2 (Stressed), Phase 3(Crisis), Phase 4 (Emergency) and Phase 5 (Famine). Each of these Phases had different implications for response objectives. Two-time periods were taken into consideration including the current situation and future projected time period which provided an early warning statement for proactive decision-making. Through the use of the IPC protocols, comparability was enabled in the analysis by making the classification with direct reference to actual or inferred outcomes, including primary outcomes (food consumption score and livelihood change) and secondary outcomes (nutritional status and mortality rates).

Table 4: Vulnerable Population classified by Regions for current projected period (July – October 2017)

Region	Rural Population	Phase 1	Phase 2	Phase 3	Phase 4
Hhohho	249,000	224,100 (90%)	12,450 (5%)	12,450 (5%)	
Lubombo	197, 000	108,350 (55%)	39,400 (20%)	39,400 (20%)	9,850 (5%)
Manzini	246,000	198,000 (75%)	34,320 (13%)	26,400 (10%)	5,280 (2%)
Shiselweni	200, 000	116,000 (58%)	40,000 (20%)	40,000 (20%)	4,000 (2%)
Average		**646,450 (71%)**	**126,170 (14%)**	**118,250 (13%)**	**19,130 (2%)**

The current projection indicates that 16% of the population was classified as IPC phase 3 or worse phase. This implies that over 137,380 rural population will require urgent assistance between July and October 2017 with Lubombo recording the highest accounting for 49,250 people in phase 3 or worse, followed by Shiselweni accounting for 44,000 people while Manzini and Hhohho registered the least accounting for 31,680 and 12, 450 respectively.

Table 5: Vulnerable Population classified by Regions for projected period (October 2017 – February 2018)

Region	Rural Population	Phase 1	Phase 2	Phase 3	Phase 4
Hhohho	249,000	199,200 (80%)	37,350 (15%)	12,450 (5%)	
Lubombo	197, 000	78,800 (40%)	49,250 (25%)	59,100 (30%)	9,850 (5%)
Manzini	246,000	184,800 (70%)	39,600 (15%)	34,320 (13%)	5,280 (2%)
Shiselweni	200, 000	94,000 (47%)	50,000 (25%)	55,000 (25%)	6,000 (3%)
Average		**556,800 (61.2%)**	**176,200 (19.4%)**	**155,870 (17.1%)**	**21130 (2.3%)**

In the projected period, food insecurity situation is expected to worsen until February 2018, increasing up to over 19% (177,000) of rural households in need of urgent humanitarian support to protect and save their livelihoods depicting that they are classified as IPC phase 3 or worse. The Lubombo and Shiselweni regions continued to record the highest numbers of vulnerable population as affected by the effects of the prolong dry spells.

6.0 CONCLUSION AND RECOMMENDATIONS

- There is need to for productive multi – sectoral stakeholder resilience building interventions to ensure that vulnerable communities meet their daily food and non-food requirements before they venture into negative coping strategies that may eventually lead to loss of productive assets
- Food assistance programmes should be targeted to those households that have been found to be food insecure so they can be able to meet their food needs.
- In view of the communities limited capacity to recover from disasters and emergencies such as the cyclical drought which has been experienced for the past decade, Government and development partners should consider improving the social protection and resilience building programmes to enhance recovery from emergencies
- Awareness raising campaigns should be vigorously conducted on the invasion of the fall army worms that affected the four regions of the country.
- Considering 2014 as a reference year, an increase in the fraction of people consuming poor diet has been noted accounting for 3%. Greater emphasis should be placed on broadening national agricultural programmes through diversification of crops and livestock production.
- There is a need also to consider a comprehensive micro-nutrient nutrient survey to understand and identify the key challenges with regards to consumption of nutrient rich food as it is still low in the country.
- Areas with potential for irrigation should be supported with the required input and services.
- Swazi VAC should regular ensure monitoring of the food security situation as consumption period progress taking advantage on the use of new technological developments.