

# THE SOCIOECONOMIC IMPACTS OF THE 2015/16 EL NIÑO INDUCED DROUGHT IN SWAZILAND<sup>1</sup>

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## Key Message

The 2015/16 El Niño drought proved to be the worst drought Swaziland has experienced since 1992. In total nominal monetary terms, the drought cost Swaziland minimally **E3.843 billion**, representing a **7.01% of Swaziland's Gross Domestic Product (GDP) in 2016** or 18.58% of government expenditure in 2016. Despite the significant drought losses, the country has on paper a solid Disaster Risk Management (DRM) Policy (2010). However, even with extensive experience from past droughts in 2009/10, 2007, 2001, and 1992, the country is still struggling to become drought proof. The reason Swaziland is so affected by drought is that the country's economic backbone rests on agriculture. The inherent vulnerability to drought is that the food production system in the country is still highly dependent on direct rainfall.

Due to chronic drought-like conditions in the Shiselweni and Lubombo regions, households in these regions are now discouraged from participating in agriculture. To illustrate, an assessment of agricultural assets in households reveals that household participation in agriculture is less than 30%, with a measly national average of 25.3%. As a result, the country is now too dependent on the international, basically South African, market for its basic food needs. The implication is that as droughts become more frequent, their impact on the country will be detrimental to the economy, particularly on rural livelihoods. The Swaziland Vulnerability Assessment Report (July 2016) indicates that more than half of the population in the country (638,251 people) requires livelihood support, mainly food support due to the drought. Hence, to adequately prepare the country for future droughts, the implementation of the DRM Policy should focus on strengthening water harvesting and storage infrastructure to increase food crop production under irrigation – targeting such investments at the household level.

## What is the issue?

Water is a lubricant of the economy and without it, droughts disrupt economic activities and sever lifelines for many rural communities in the country whose livelihoods depend on agriculture. The drought became an added pressure on government resources thus

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exacerbating endemic challenges in the country, such as food insecurity and poverty. Consequent to the drought, the Government of Swaziland and development partners had no option but to reroute resources - well over half a billion Emalangeni (E631 million) - intended to fund implementation of development projects to drought relief.

The National Emergency Response, Mitigation and Adaptation Plan (NERMAP) raised 41% (US\$39.1 million) of the required US\$96.4 million. A total of 413,553 people benefited from NERMAP against an initial target of 350,000 beneficiaries. Of these beneficiaries, 323,874 received food aid while 89,679 received cash stipends for food. A total of 369,414 people benefited through NERMAP on potable water provision, sanitation services, and hygiene promotion services. At the same time, an estimated 12.156 million litres of water were distributed to communities, schools, cattle troughs, and health facilities across the country. With all efforts directed towards attaining Vision 2022, the drought has been nothing but a damper on the development strides the country has taken since inception of the National Development Strategy (NDS) in 1997.

### **Why does a nationwide socioeconomic drought assessment matter?**

Literature on drought is very clear on the fact that droughts negatively affect agricultural production. Desai *et al.* (1979) argued that droughts lead to unstable agricultural incomes against rising food prices, which in turn intensify the incidence of poverty and vulnerability of the poor. Though impacts of drought can generally be anticipated on agriculture, the reality is that each drought presents a set of unique impacts on the economy. These can trickle down to affect livelihoods at the household level in different strains. Equally, the capacity of households and the economy at large to absorb, ease, or respond to drought impacts depends on the socioeconomic conditions of households and the existing disaster risk management structures and policies enabled in the country.

To be concise, the socioeconomic assessment of the drought is especially important for the agriculture sector because the NDS views agriculture as the economic engine that can lift many people out of poverty. Investments in this sector can also contribute towards reducing economic inequality and increase opportunities for inclusive economic growth.

On a broader perspective, the socioeconomic assessment is crucial for climate change preparedness and mitigation. Since agriculture is the backbone of Swaziland's economy, investments in climate change programming are much needed in order to shield the agriculture sector and associated livelihoods from future cataclysmic drought episodes. For instance, the International Panel on Climate Change (IPCC) cautions that droughts and floods will occur more frequently. The implication for Swaziland is that yields from rain-fed agriculture could fall by up to 50% by 2020, threatening the livelihoods of the rural poor, a majority of whom earn their living through subsistence agriculture (IPCC 2007, IPCC, 2016).

### **How was the study conducted?**

To assess the socioeconomic impacts of the 2015/16 drought in Swaziland, the National Disaster Management Agency (NDMA) conducted a Socioeconomic Drought Assessment Survey in November and December 2016. The survey sampled 2,958 households across the 55 constituencies in the country, examining a myriad of socioeconomic impact factors including household drought mitigation measures and response behaviour.

In addition to the survey, the study interviewed select government, non-governmental organisations, and businesses to examine the intensity and constraints the drought had on water dependent business activities, including implications on social welfare and developmental goals.

## **What did the study find?**

Primarily, the drought tested the country's infrastructure to harvest and store water. The drought affected water quantity and quality in the country's riverine systems (rivers, dams, and reservoirs). Cases of diarrhoea, dysentery, and other stomach ailments due to poor sanitation affected children as they consumed untreated dirty water.

Some water bodies, such as Hawane Reservoir, completely dried-up. Water provision to rural households, major towns, and agricultural estates became a critical impediment. Urban areas, particularly Mbabane, were for the first time without water. Consequently, the Swaziland Water Services Corporation (SWSC) had to execute intensive water rationing in Mbabane for four consecutive days in a week. In addition, SWSC and the government commissioned dredging up of Hawane Reservoir and also began constructing a water pipeline from Luphohlo Dam to supply water directly to the capital city at a cost of E110 million. Within the Central Business District (CBD) in Mbabane, SWSC extended the Mbabane River Water Abstraction System through construction of a treatment plant (at a cost of E10 million) to maintain water supply to the business establishments in the CBD.

Due to the extreme water shortages, many households exited agriculture, thus crippling the food production system and increasing the food insecure population in the country to 638,251 in 2016/17 from 308,059 people at the onset of the drought. Households had to seek financial assistance from their friends and families just to buy food. A substantial number of these households had no option but to resort to extreme coping strategies such as reducing the amount of food they ate each day, while others turned to less preferred and less nutritious, cheaper food to survive during the drought.

Maize production dropped by 67%, from 101,000 tonnes in 2014/15 to 33,000 tonnes in 2015/16. The National Maize Corporation (NMC), also known as the country's staple food bank, had to import 30,446 tonnes of maize from South Africa. This contributed to a hike in maize prices in Swaziland. A tonne of maize soared by 66% from E3,533 in 2015 to E5,865 at the beginning of 2016 (CBS, 2016; NMC, 2016). Likewise, food inflation shot up from 4.3% in March 2015 to 19% in December 2016, pushing a lot more households into food insecurity.

The impacts on the livestock sector were tragic. The country lost an estimated 88,000 cattle (E440 million) and approximately 14% of the national herd which died because of lack of water and pasture. At one point, the country had to import hay bales from South Africa because of the deteriorated rangelands in Swaziland. Farmers faced a difficult dilemma of either hanging on to their cattle or selling to commercial abattoirs. Those who took timely decisions to destock saved tremendously on their losses. On the other hand, farmers who held on to their cattle into the heat of the drought fetched measly prices at abattoirs, as little as E1,500 per cow with a price ceiling of E4,000. Furthermore, the Swaziland Meat Industries reported that about 33% of the beef exports to the Eurozone had to be downgraded to low quality beef, thus depriving the country of potential export earnings.

On cash crop agriculture, the sugar and cotton industries were not spared. Cotton is predominantly grown in the Lubombo and Shiselweni regions and is an income generator for many households in these poverty stricken regions. Due to the drought, cotton production dropped by nearly 90% from 873 tonnes to 100 tonnes in the 2015/16 growing season. Farmers lost an estimated E4 million in potential earnings. Ultimately, job losses could not be avoided, especially in the cotton ginnery, which was operating below 10% of its capacity. The sugar industry reported a financial loss of E120 million due to increased operational costs during the drought. This also affected wage labour for seasonal workers in the sugar industry. Sugar is a key foreign currency earner for Swaziland. For the 2015/16 growing season, sales estimates from the Southern African Customs Union (SACU) predicted a 5% drop while export sales outside the SACU region forecast a 45% plunge. Total losses to the industry due to the drought could amount to E1 billion.

The drought had serious impacts spanning beyond agriculture. The Swaziland Comprehensive Nutrition Health Survey Report (February, 2017) indicated that the most drought-related illnesses reported among households were diarrhoea (16.1%), skin diseases (15%), upper respiratory tract disease (14.6%), and eye disease (12.2%). Diarrhoea was prevalent in all the four regions of Swaziland, whilst skin diseases were most prevalent in Manzini (17.4%) and Lubombo (17.2%), and the Lubombo region reported the most cases of upper respiratory tract disease in 18.7% of the households surveyed. In terms of long-term/chronic diseases, the results of the Rapid Nutrition and Health Assessment (2016) revealed a gradual increase in the overall monthly number of cases of anaemia diagnosed in the health facilities during the drought period, including an increase in the number of clients admitted in the Food by Prescription Programme. The assessment also found that Anti-Retroviral Treatment and TB treatment defaulter rates increased during the drought.

Extensive water depletion across the country had a significant impact on school operations. Data from the Education Sector Assessment showed that 47% of schools had cases of learner absenteeism attributed to the drought. On the same note, about 10% the sampled schools experienced teacher absenteeism for reasons related to the drought. Most schools in the Mbabane-Ngwenya corridor did not have alternative WASH facilities such as ventilation improved pit latrines and water-harvesting facilities, and so experienced heightened sanitation problems. In rural areas where most households depend on subsistence agriculture for their basic food needs, food shortages from poor yields necessitated expansion and strengthening of the school-feeding programme to ensure that learning was not disrupted. The government's school-feeding programme had to be supplemented, strengthened, and extended to all schools in the country by supplying food commodities for breakfast.

Other significant impacts of the drought affected the energy sector as Swaziland uses a hydro-based power production system. Water levels in power generation dams (Maguga and Lumphohlo) fell below the minimum levels required to generate electricity. The Swaziland Electricity Company (SEC) had to shut down domestic power generation and fork out E237 million to import electricity from South Africa. Despite these challenges, water and electricity supply to the industrial hub (Matsapha) remained a top priority throughout the drought. Thus, water dependent manufacturing and industrial processes in the country's industrial hub experienced minimum disturbances during the drought.

## Recommendations

Given the findings of the 2015/16 drought assessment, the NDMA should continue implementing disaster management programmes under the guide of the Disaster Risk Management (2010) policy already in place. The policy addresses issues of food insecurity in the country and is *on par* with Swaziland's development aspirations. An area of improvement is the practical implementation of policy, which because of financial constraints, needs serious catching up. To make the DRM policy a living and actionable document, the country needs to mobilise resources and commit funds to the different programmes stipulated in the policy. Households and government have a role to play in ensuring that water and agriculture production infrastructure in the country allows for irrigation of smallholder fields and diversification of food crops. This will ensure that enough food and fibre is produced at all times, even during a drought. The presence of a drought should not ever be a deterrent to full agriculture production in the country.

Hence, the Government of Swaziland is advised to:

- Revise and integrate all aspects of disaster mitigation to all policies in Swaziland to promote coordinated planning among all stakeholders and to create a proactive disaster mitigation and response environment in the country.
- Encourage employment and income generating activities within households, that is, expand and strengthen implementation of the Poverty Reduction Strategy and Action Plan, particularly in the Lubombo and Shiselweni regions.
- Encourage commercialising and value-addition in smallholder agriculture in rural households.
- Ensure security of markets for smallholder producers.
- Deliberately target women in all agricultural and rural development programmes, especially in rural areas where women take care of children, people living with disabilities, and the elderly.
- Increasing water harvesting/storage between rivers and dams in Swaziland.
- Equip the Water Act of 2003 with legal instruments that can grant water rights as well as impose penalties on entities that misuse water, and enforce water rationing for irrigation in the event of droughts.
- Revisit all instruments meant to regulate food imports during disasters and capacitate agricultural marketing Boards on their role during *state of emergencies* in the country.
- Consider transferring disaster risk to established insurance markets. The African Union has established a company to transfer disaster risk. By 2020, the African Risk Capacity Agency (ARC) aims to reach 30 countries with nearly \$1.5bn of coverage against drought, floods, and cyclones.
- Upgrade the Meteorology Department in terms of human resources, equipment/up-to-date software, and infra- and techno-structure.
- Investigate an alternative and sustainable funding model for the NDMA to fund national disaster management programmes that will eliminate the endemic vulnerabilities to disasters such as drought.

## References

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