

## Introduction

The rainfall forecast released by the Eswatini Meteorological Services for the 2021/22 rain season (October to March) indicates a generally increased chance of Normal-to-Above-Normal for December to March period over the entire country. Substantial rainfall above long-term-mean (LTM) was received in October and November in most areas of the sugar industry (Figure 3). The rains received during the Oc-

## Flooding

The Normal-to-Above-Normal forecasted rainfall for the December to March period may be associated with flooding, and the major dams might overflow. Thus, growers are advised to take warnings from weather experts seriously, and where necessary they can promptly remove movable irrigation equipment to safety to minimise losses. To prevent or minimise negative effects of floods inside and outside fields,

growers are encouraged to keep water ways and drains free of debris or any hindrances that may limit free flow of water. Water ways must be sufficiently grassed and where necessary appropriate structures be built to minimise soil losses as a result of run-off.

## Over-irrigation

Over irrigation during the rainy period should be avoided to minimize run-off water. Proper irrigation

scheduling is the best approach to avoid over irrigation. Appropriately scheduling irrigation does not only help avoid over application of water but also helps save on pumping costs. Growers are advised, with or without heavy rains, to use water judiciously to save for the unknown future.

For further details about the rainfall forecast and updates, growers can contact Eswatini Meteorological Services at 2404 8859 / 2404 6274.

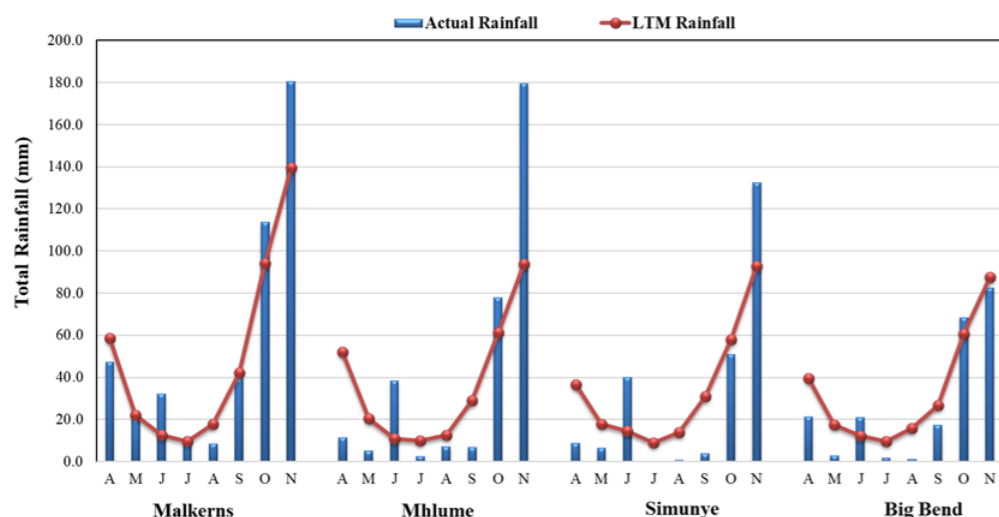


Figure 3: 2021/22 season rainfall received

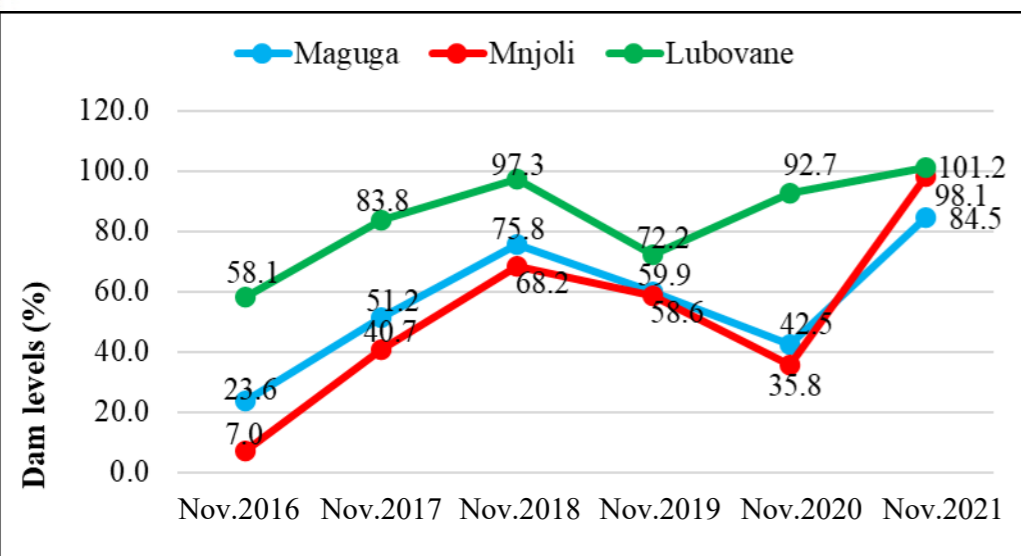


Figure 4: Five-year period dam levels during November months

tober – November period increased water levels in the three major dams used by the industry to a five-year high (Figure 4).



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## HALT SOIL SALINIZATION

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### Soil salinization

The presence of high salt concentrations in the soil severely affects cane growth due to induced water stress

### Sustainability certification

Customers continue to show intent to switch to certified sugar in the next two to three years

### Cyclone Eloise

Growers should rely on industry sources of information instead of any other source

### Rainfall outlook

The rainfall forecast indicates a generally increased chance of Normal-to-Above-Normal for the December to March period

### Introduction

On the 05 December 2021, the world celebrated World Soil Day under the theme “halt soil salinization and boost productivity”. The purpose of this campaign was to “raise awareness on the importance of maintaining healthy ecosystems and human well-being by addressing the growing challenges in soil management, fighting soil salinization, increasing soil awareness and encouraging societies to improve soil health”. Soil salinization and sodification are recognised as major soil degradation processes threatening ecosystems and as being among the most important problems at a global level for agricultural production, food security and sustainability in arid and semi-arid regions.

### Soil salinization

Soil salinization is the accumulation of soluble salts in the soil, while sodification is the increase in adsorbed sodium ions in the soil relative to the other exchangeable cations (calcium, magnesium and potassium). The presence of high salt concentrations in the soil severely affects cane growth due to induced water stress. The ability of plant roots to absorb water from the soil is retarded, and the plants may show water stress even when there is adequate soil water.

### Symptoms

Typical symptoms of salt induced water stress on cane are curling of the youngest leaves which can advance to being scorched with restricted growth as evidenced by shorter internodes and

in severe cases death of the plants particularly where upper threshold level is reached. Salinity affected sugarcane crops have reduced tillering, leaf number, leaf area, stem height and stem weight.

### Causes

Saline soils arise from soluble salts released from parent material, irrigating with water containing high salt concentrations, increase in water table due to poor drainage and seepage from unlined water conveyance systems. To assess if soils have salinity or sodicity problems, growers are advised to take samples for laboratory. The sampling should be done at three depths (0 – 30, 30 – 60 and 60 – 90 cm) using a graduated Dutch auger. If irrigation water is suspected to be saline or sodic, it is recommended that samples be taken to the laboratory for analysis as well. To interpret laboratory results, growers can enlist assistance of Extension Officers.

### Prevention

To avoid build up of soils in agricultural soils, growers are encouraged to install subsurface drainage systems where natural drainage is inadequate, avoid over irrigation by properly scheduling irrigation events and avoid irrigating with poor quality (saline) water.



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## TOWARDS INDUSTRY SUSTAINABILITY CERTIFICATION

### Introduction

The Eswatini Sugar industry continues to strive towards ensuring its sustainability amidst tremendous challenges. Customers are increasingly demanding sustainably produced products and sustainability has become an important theme in most industries including our own. Customers continue to show intent to switch to certified sugar in the next two to three years and it is therefore important to seriously consider the issue of sustainability certification as an industry.

sumers, sustainably produced and certified sugar is more desirable.

### Certification standards

In order to meaningfully add to the sustainability discussion, gap analysis on some of the more demanding certification standards is ongoing along with a review of other certifications. Aspects of certifications that are being considered are the long-term effects of sustainability, costs, compliance and complexity of the standards to small, medium, large growers and millers. Other considerations include whether or not a single or a combination of certifi-

**CERTIFIED**



### Industry Certification

There are several sustainability certifications that are available for sugarcane growing and sugar production businesses. These include Bonsucro, Proterra, FSA.20, VIVE and many others. These have the advantage of presenting continuous improvement aspects and are recognized by sugar customers. Although there is no consensus on sugar customers on which is a preferred certification but what they do agree on is that certification will be a requirement for their businesses in the future. In order to future proof the Eswatini Sugar industry against loss of customers because of lack of sustainability certification, there is an ongoing discussion on which certification(s) the industry should consider. In a world of complex supply chains and highly selective con-

certifications would be sufficiently beneficial to the industry.

### Conclusion

Sustainability is an important part of the Eswatini Sugar industry and considers how business can go on into the future, profitable, secure and compliant to standards that make our sugar and its by-products attractive to our customers. The discussion on sustainability certification is an important step towards a brighter future for the industry.



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## ANY LEARNINGS FROM CYCLONE ELOISE, A CASE OF THE SOUTH?

### Background

The dates of 24 to 26 January 2021 brought about an unprecedented experience to the growers of the Big Bend mill group area. During these days, torrential rainfall which was termed cyclone Eloise hit the area. Although there were warnings prior to its arrival from the meteorological experts, no body was ready enough to prepare for such a huge impact. The growers undertook quite a number of unbudgeted activities with associated costs and losses in yields due to waterlogged fields and delays in resumption of irrigation events as a result of damaged equipment and infrastructure.

However, for the Nsoko growers, it was a blessing in disguise as the Ngwavuma River started flowing again. The growers were able to replenish their storage dams.

### Warning of the storm and the impact

The Eswatini Meteorological Services department and the Eswatini Sugar Association's Technical Services continuously warned about the imminent coming of the cyclone. The two parties also gave progress in terms of the position of the cyclone and its intensity.

Growers who are abstracting water directly from the Usuthu River were advised to remove their pumps and motors from the pump stations that are at close proximity with the river. Some growers heeded the call and removed these expensive equipment from the pump stations, however others did not. The disregard of the advice to remove the pumps and mo-

tors was due to misleading information from unreliable sources that the cyclone would not pass through the country. For unknown reasons, some growers believed this information. Unfortunately, cyclone Eloise did hit the country causing serious damages in those pump stations which had expensive equipment not removed (**Figure 1**). As a result, the grow-



**Figure 2:** Breakdown of total costs incurred by small growers in the Big Bend area as a result of cyclone Eloise



**Figure 1:** A submerged pump house at Mashobashoba in the Lunkuntu Area next to Usuthu River

ers incurred very high repairing costs which were not budgeted for (**Figure 2**). In addition, the growers suffered losses in yield due to delayed recommencement of irrigation pending finalization of the repairing and maintenance work. It took about 2 months for some of the areas to come back into full operation. The total area affected in the Big Bend area was 3 692 ha.

### Recommendation

- It is recommended that growers should rely on industry sources of information instead of any other source on climatic and other issues.
- Where possible, growers should consider insuring their sugarcane crop and irrigation equipment (motors and pumps) against such natural disasters.



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