



NEWSLETTER

Eswatini's Disaster Risk Reduction News



ESWATINI
NATIONAL MANAGEMENT AGENCY

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Ecological Systems Based on Disaster Risk Reduction



Pelle Bagesund: Climate Change Officer - Ecosystem Based Disaster Risk Reduction making a presentation.

NDMA collaborated with the International Union for the Conservation of Nature (IUCN) in hosting a National Level Workshop on the Integration of Ecosystems based Disaster Risk Reduction. Stakeholders from Government, Private Sector, NGO Sector, Municipalities and the Environment Management sector took part in this important workshop. The aim of the workshop was to inform national policy on integrating nature based solutions to reduce disaster risk. The key output-that is envisaged will be to develop a National Action Plan on Ecosystems Disaster Risk Reduction. Government

agencies, including NDMA have since realised that environmental and eco systems protection and sustainable natural resource management are integral objectives of sustainable development, linking ecology, climate change and disaster risk reduction. Eco Systems Disaster Risk Reduction is based on the premise that maintaining ecosystems is one of the best ways of reducing and mitigating the impact of disasters related to natural hazards, such as drought, floods, extreme climate events, earthquakes, volcanic eruptions, tsunamis and considerable evidence demonstrates that this is the case.

Numerous Eco-systems management approaches have been proposed concerning the integration of ecosystems services into livelihoods programmes, a means to mitigate climate related risks and impacts. These approaches have been identified to be suitable for adaptation in the Eswatini context. These include, integrated flood management, integrated fire management, integrated water resource management, integrated protected area management as well as sustainable land management which is an equivalent to eco-systems restoration.

These Eco-systems management approaches have been tested and proven to be working in many countries, and can be implemented in Eswatini as the vital elements in reducing disaster risk by mitigating hazards and by increasing livelihood resilience. The Government of Eswatini through its Agency for Disaster Risk Management NDMA is exploring all avenues to strengthen the national capacity to reduce disaster risks, particularly, during a period where the frequency and intensity of disasters emanating from climate related risks, induced by the climate change phenomenon is increasingly high.



Joint team from different stakeholders attended the workshop on Ecological Systems Based Disaster Risk Reduction

The expected outcomes of the workshop included;

Sustainable management of ecosystems main streamed into national disaster risk management policy, strategy, plans and programmes in the Kingdom of Eswatini; strengthened technical and institutional capacity for integrating ecosystems disaster risk reduction into national development practice to ensure environmental sustainability and disaster resilience.

Eswatini Drought Monitor Workshop

Recognizing the need to change the way eSwatini manages droughts, NDMA with financial support from the World Bank and the European Union, hosted a workshop on drought monitoring. The aim of the workshop was to share information on the country's drought preparedness programme including feedback on a recent drought capacity and needs

assessment, demonstrate the utility of a prototype composite drought index developed in partnership with the National Drought Mitigation Centre, demonstrate the cross-sectoral and multi-disciplinary nature of drought mitigation and planning and create a platform for collaboration for drought stakeholders and scientists to work together to develop national capacity

for the sustainability of a drought monitoring and early warning system in eSwatini.

The expected outcome of the workshop is improved inter-linkages amongst relevant sectors and stakeholders for drought early warning preparedness and long-term resilience building.



Drought monitor workshop in Eswatini



Part of the volunteers who attended the Fire Damage Rapid Assessment Workshop.

Volunteer Training on Fire Damage Rapid Assessment

The outbreak of fires during the winter season that caused extensive damage to infrastructure, property and even loss of lives, NDMA in collaboration with fire sensitive sectors of the economy, recommended a Fire Rapid Damage Assessment to ascertain the extent of the fire impact in all four regions of Eswatini. The Assessment was carried out by NDMA volunteers who were trained on collecting data on fire damage. Two volunteers were allocated per Inkhundla out of the fifty-nine.

Stakeholders recommended that the assessment should be carried out between April - July 2019. The scope of the assessment included: Fire loss experience; Fire hazards; Fire prevention; particular aspects of fire safety, amongst others. The overall aim of the assessment was to evaluate the extent of fire damage, account for significant losses and damages to lives, livelihoods, property and livestock particularly in the winter season. Accounting for disaster losses is a first step towards taking

responsibility for, and assessing, disaster risk. Damage Assessment is an integral part of facilitating effective and efficient response by government agencies and other organizations.

A preliminary onsite evaluation of damage or loss caused by an accident or natural event. Damage assessments record the extent of damage, what can be replaced, restored or salvaged. It may also estimate the time required for repair, replacement and recovery. As a country, we are conscious of the ongoing fire destruction and the fact that something must be done before things get worse. Failure to control fires in Eswatini will cripple the economy and will also have a negative effect on the ecological balance in the environment. Scourge of wild fires has continued to cost the Kingdom of Eswatini millions. The problem of Fire seems not to have attracted the kind of serious response that it requires. There have been constant meetings with stakeholders and a synopsis of the fire situation in the country was provided.

1. Lubombo - 6 households 41 people affected in June and July only.
2. Hhohho - 6 households and 14 people affected in June and July only. SNFES attended 463 grass fires in 2018 and 874 in 2019, numbers have escalated tremendously.
3. Commercial forest fires, worth millions burnt. One sugarcane field fire and Mlilwane wildlife sanctuary burnt at about 90% of the area

The Rapid Assessment will allow NDMA to document the trends and aggregate statistics which can inform local, national and international disaster risk reduction programmes. Further it will help capacitate our volunteers in identifying what they need to do to prevent fire and keep people safe. Conducting Rapid Damage Assessments and impact due to fire disasters is very important in that countries are able to attribute losses. The assessment will enable the country to understand the risks it faces and the magnitude hence informing preparedness and prevention initiatives.

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“Wild Fires have continued to cost the Kingdom millions. Emaswati continue to lose their lives with property worth thousand of Emalangeni going up in smoke.”



ACCOUNTING FOR
DISASTER LOSSES
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DISASTER RISK.



NDMA CEO, Russell Dlamini and The Matsapha Municipal CEO, Lucky Sukati Signing the MoU.

NDMA and Matsapha Town Council sign MoU

National Disaster Management Agency (NDMA) and Matsapha Municipality, have signed a Memorandum of Understanding. The purpose of the Memorandum is to establish a framework between the Municipality and NDMA on Disaster Risk Management in Matsapha to protect and save lives, protect property, protect the economic hub of the country, and further preserve the environment.

The two entities have been working together since the inception of NDMA in 2015 when the Kingdom of Eswatini was experiencing El Nino induced drought, and when Matsapha was facing a serious shortage of water. NDMA CEO, Russell Dlamini said the signing of the partnership agreement between the two entities is a sign that they will be better prepared when disaster strikes in the future.

He further added that it is expected of Eswatini to ensure that all of its Municipalities have a Disaster Risk Management Plan in place, which is Target E of the Sendai Framework which the Kingdom of Eswatini is party of. Matsapha has a varied and high risk due to its location and the types of businesses that are operating within the Municipality. The Disaster Risk Management Plan that will be developed with Matsapha is going to be a model for other municipalities.

Matsapha Municipal CEO, Lucky Sukati said he was honoured to

partner with NDMA for the disaster management planning initiatives and interventions in the town. “It has been a while since we started collaborating with NDMA, today we are happy that we are formalising the agreement with them to specifically formulate a plan for the Matsapha Disaster Risk Assessment and the Disaster Risk Management Plan.”

The NDMA and the Matsapha Municipality will facilitate Disaster Management and Capacity building programmes aimed at decreasing vulnerability and increasing preparedness and mitigation capacity.

“Our top priority of signing this partnership agreement is to formulate a Disaster Risk Management Plan, and build the capacity of NDMA, the Municipalities staff, as well as staff for other Municipalities in Eswatini.”

NDMA AT THE TRADE FAIR

2019

ΣITF
ESWATINI INTERNATIONAL TRADE FAIR
30th Aug - 09th Sept 2019



His Majesty king Mswati III visited NDMA stand at the Mavuso Trade Exhibition Centre. NDMA got an opportunity to explain to His Majesty about the NDMA's mandate, what we do, and that we have embraced the use of technology in Disaster Risk Reduction by using Drones. NDMA aims to build, sustain and improve the capacity to prepare for, protect against, respond to, recover from and mitigate all disaster events through the use of drones. Drones are one of the new technologies contributing to this effort. The view from above is key for humanitarian

response, which explains why satellite imagery has played a pivotal role in relief operations.

Drones are already making their presence felt in the humanitarian sector, given their ability to provide a safe platform to collect real-time observations and actionable data and flexibility in reaching inaccessible or unsafe areas.

We engaged over 200 Emaswati who were keen on finding out what exactly NDMA does, the nature of response we provide as well as the criteria used to select beneficiaries of food aid and those we construct houses for.



Drones are used for:

Aerial photography for journalism and film, Gathering information or supplying essentials for disaster management, Thermal sensor drones for search and rescue operations and etc.

DRONES TECHNOLOGY

Drones have been around for more than two decades, but their roots date back to World War I when both the U.S. and France worked on developing automatic, unmanned airplanes. But the last few years have been significant in terms of drone adoption, usage expansion across industries, and global awareness. Individuals, commercial entities, and governments have come to realize that drones have multiple uses. NDMA has embarked on this kind of technology.



MANZINI REGION

FIRE CAMPAIGN

NDMA in collaboration with Disaster Risk Management stakeholders in the Hhohho, Shiselweni and Manzini regions initiated a series of campaigns in May with an objective to raise awareness and to sensitize communities exposed to risks of fire induced disasters. The aim is to build a risk and impact mitigation capacity of communities; especially in two of the regions whose main source of income is the forestry industry.

The event was held at the Kukhanyeni Inkhundla, Manzini region under the theme “Umlilo uyashisa ungalokotsi udlale ngawo”. The event was part of fulfilling NDMA’s mandate to coordinate all disaster risk management initiatives at all levels in Eswatini. Disasters such as fires are causing economic losses and damages of epic proportions and this is weakening the capacity of government and the private sector to provide basic services and to reduce the level of unemployment. The impacts of fires are multi-faceted and are a threat to the bio-physical, social and economic environment because of their trail of destruction and they directly impact all sectors of the economy. NDMA CEO, Russell Dlamini thanked the

collaboration between stakeholders and NDMA. He said it was time Emaswati change their mindset and behavior about fire. He stated that the situation is so bad that it is one of the major challenges being faced by the Kingdom of Eswatini. “Fire also plays an important positive role in many Eswatini ecosystems. Wild Fires account for significant losses and damages to lives, livelihoods, property and livestock every year particularly in the winter season.” He further stated that it was time to revisit all relevant legislation that could be used to minimize veld fires. “We need to mobilize for harsher sentences on perpetrators” Kufuna sibe nemtsetfo locinile lonjenga lowe SODV, so that Emaswati can realize the seriousness of the impact of veld fires.

He also mentioned that there was a serious need to engage overseers of communities, particularly chiefs and inner councils who need to impose some stiff sanctions to perpetrators. Other stakeholders who also delivered speeches on fire prevention were Mbongeni Matimela from Luve Integrated Fire Management Veld fires said forest fires have continuously affected the economy, as the number of

fires increases each year.

“It is high time we take the issue of forest fires seriously because it will cripple the economy and cause unemployment.” Tamati Mamba from Eswatini Fire and Emergency Services said they had noted with concern that the number of affected households due to fires was on the rise. He stated that wild fires have continued to cost the Kingdom of Eswatini millions. Emaswati continue to lose their lives and property worth thousands of Emalangenis going up in smoke. Representative from Eswatini Environmental Authority warned that veld fires are a major cause of degradation and erosion.

Veld fires lead to severe environmental degradation. “Veld fires reduce land cover thus exposing the land to agents of accelerated soil erosion, long-term effects of uncontrolled veld fires are a reduction of bio-diversity through destruction of flora and fauna, reduction of soil fertility, an increased erosion rate and decreased infiltration, which lead to less water for livestock, irrigation, fish, wildlife and people.



INTERNATIONAL VISITOR LEADERSHIP PROGRAM



NDMA CEO, Russell Dlamini and Director Early Warning and Research, Eric Seyama attended the International Visitor Leadership Program in the United States from June 11-26, 2019. The purpose of the visit was to expose participants to best practices in the area of Water Resources Management and Drought Resilience. The objective was for the participants to gain technical, management and leadership expertise in the relevant area of focus. Professional networks were also established that will in future benefit the Kingdom of Eswatini and United States of America institutions. The program focused on Water Resources Management and Drought Resilience and was organized for Botswana and Eswatini participants by the USA government in collaboration with the World Bank. The learning excursion precedes the implementation of a Water Resources Management and Drought Resilience Program funded by the World Bank for the Government of Eswatini.

Four States were visited namely: Nebraska, Colorado, California and Washington DC. Key government institutions related to Water and Sanitation and Drought Management were also visited in each State. The following lessons were derived from the visits:

Nebraska, 13 - 14 June 2019

The USA Drought Management Centre (DMC) located within the University of Nebraska Lincoln designed the Drought Monitor. The Drought Monitor is a tool used to monitor drought and to alert farmers and businesses likely to be significantly affected by drought. The Drought Monitor has been so successful that it is now used as a basis for key business decisions such as insurance. The Drought Monitor was also recognised almost in all institutions visited including the National Oceanic and Atmospheric Administration (NOAA) and the National Centre for Atmospheric Research (NCAR).

There are two approaches to developing the drought monitor: one that is based on satellite data and the other on locally collected data. The satellite based monitor will ensure that the Eswatini Drought Monitor is completed quicker while we develop reliable data. Eventually Eswatini would like to develop a hybrid of the Drought Monitor combining the two versions to eliminate the weaknesses of using satellite data only.



Early Warning Director, Eric Seyama and CEO Russell Dlamini at the U.S Department of Commerce.

Denver Colorado, 15-19 June 2019

The National Centre for Atmospheric Research (NCAR), the National Oceanic and Atmospheric Administration (NOAA) were visited in Colorado. These research institutions all recognise the importance of the drought monitor and how it was relevant to their work. A strong relationship was established with NCAR and NOAA. NCAR will collaborate with NDMA in developing a hydrological model that will help Eswatini NDMA develop its own Early Warning System for flooding. NOAA will help build NDMA capacity in interpreting maps and seasonal forecast so that communication is enhanced. The recent interpretation of the Elnino event which resulted in drought was also discussed at length.



File photo taken during the visit from Washington DC, 2019

Los Angeles California, 19-22 June 2019

The Kern Water Bank Authority, West basin Municipal Water District, Orange water County District, and the Metropolitan Water District of Southern California were visited. California is a water stressed State but has high agricultural activity and fosters a lifestyle that consumes a lot of water. Relevant to Eswatini, lessons were learnt from the Kern Water Bank and the Orange County Water District. The Water Bank uses natural infiltration to recharge aquifers and store water underground during periods of plenty and pump the water out during periods of lack.

The Orange County Water District recycles water for ground water recharge and also pumps water from the ground for distribution to the city. The recycled water is potable by all standards but USA laws do not allow direct usage of recycled water for domestic purposes, the recycled potable water is used to recharge the underground storage or aquifers. It takes about 20 years for the recycled water to be used again after it has

been purified by natural processes. This was a major learning lesson for the team. The boreholes used to draw water from the ground are deeper than most boreholes in Eswatini. 100 metres is considered shallow in USA whereas in Eswatini that is considered deep. The aquifer is managed in a complicated and advanced system to prevent depletion.

The recycling facility is one of the best in the world. This was application of science at its best to benefit the society. The overreliance on underground water is not recommended for Eswatini. It causes problems that are costly to correct such as the contamination of underground water by sea water, and subsidence which is the sinking of the ground due to depletion of underground water. It also requires advanced management which can be expensive to maintain for Eswatini.

The Metropolitan Water District of Southern California serves as the overall management of the water resource. Planning, collaboration and oversight was demonstrated. This District uses incentives to promote water conservation in Southern California, a major take home for the team.

Washington DC, 22-25 June 2019

The USA Army Corps of Engineers and the World Bank Head Offices were visited. The Army Corps is already working in partnership with Eswatini on hydrology which will benefit the government of Eswatini and NDMA. The World Bank presented on technology and studies that Eswatini can utilise to further NDMA's Mandate especially on Disaster Risk Transfer. Strong professional network was established between NDMA and the Army Corps as well as with the World Bank. Eswatini has already been included in a study on Agricultural Risk Transfer which is in line with Eswatini's drive to develop a Strategy on Risk Financing. The World Bank has also committed to assist Eswatini with developing a robust drought management program under the Water and Sanitation Program.



DISASTER PREPAREDNESS AND BUILDING RESILIENCE OUR BEST DEFENSE AGAINST THE INCREASING IMPACTS OF DISASTERS



BY NOBUHLE
MBONANE

Disasters are increasingly impeding development and crippling countries' hard fought development gains. They present a broad spectrum of human, economic, financial, social, environmental impacts with potential long-lasting and multi-generational effects. Such devastating effects are mostly felt by developing countries due to limited resources and lack of disaster risk reduction strategies amongst others. Globally, countries have experienced massive losses on their GDP due to natural hazards leading to disasters such as; tropical cyclones, droughts, storms, earthquakes, floods and pandemics. Economic losses from disasters are now reaching an average of US\$250 billion to US\$300 billion each year for all hazards. Unfortunately, the situation is going to worsen as disasters are predicted to increase in frequency and intensity with future losses expected to rise with the effects of climate change. This increase has already been experienced in some countries more than in others. For example the recent cyclone Idai that hit and devastated Mozambique, Zimbabwe and Malawi has been rendered one of the worst tropical cyclones to hit Southern Africa in nearly two decades. It has left more than 700 people dead and more than 3 million people in need of urgent humanitarian assistance. Sadly, our neighbour Mozambique is the most affected country with 1.85 million people including 1 million children in urgent need of humanitarian assistance.

This is devastating considering the fact that the country was still recovering from previous disasters and this will have major drawbacks on the country's economy. With Eswatini

being closer to Mozambique thank God the country was spared from this devastating cyclone. However, this shows that in the near future we may be affected. Therefore, as a country we need to take disaster risk reduction very seriously.

What is Disaster Risk Reduction (DRR)?

Disaster risk reduction is the concept and practice of reducing disaster risks through systematic efforts to analyse and reduce the causal factors of disasters. Reducing exposure to hazards, lessening vulnerability of people and property, wise management of land and the environment, and improving preparedness and early warning for adverse events are all part of disaster risk reduction. Disaster risk reduction is not just response to a disaster but entails more investment on pre-disaster activities and building resilience.

Why Eswatini needs to take DRR more seriously?

Eswatini's risk profile is characterised by the frequent occurrence of extreme weather events such as droughts, storms, fires, heat waves among others. These events are a major threat to the development of the country by destroying infrastructure, crops, injuring and killing people, affecting the livelihoods of the already vulnerable communities. Sadly, with the effects of climate change disaster risk tends to magnify and increase the frequency and intensity of natural hazards at the same time decreasing the resilience of households and communities. Therefore, Eswatini

needs to be vigilant and realise that times have changed, hence the need to be cognisant of climate change and take serious actions.

What needs to be done?

We need to realise that climate change is not just a phenomenon but a sad reality. We need to take DRR and climate change action very seriously. Therefore, preparedness should start now. The government of Eswatini and the private sector need to invest more in DRR.

Minimizing the effects of disasters requires investment in disaster risk prevention, preparedness, mitigation, response and recovery. This includes; building community resilience which is essential to ensure that shocks and stresses do not lead to a long-term downturn in development progress. Strengthening early warning and coordination, supporting safety nets, social protection and building capacities of the most vulnerable communities is imperative for our country. We also need to put food security in the centre of our development pathway.

Eswatini needs to ensure that the people are financially protected in the event of a disaster, making disaster risk financing imperative for the country. When considering the high economic costs incurred by the country due to disasters, coupled with the significant growing risk exposure due to the impacts of climate change; disaster risk financing can strengthen the country's financial resilience to disasters.

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“Prevention is better than cure. Well, this is indeed true according to a study done by UNISDR which found that investing in prevention is at least seven times cheaper than investing in response. As a country we need to action now and be advocates for change.”

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Commemoration of International Day for Disaster Reduction



BY LINDOKUHLE
THWALA

National Disaster Management Agency (NDMA) in collaboration with Disaster Risk Management stakeholders commemorated the International Day for Disaster Reduction, (IDDR) 2019, that is held every 13 October to promote a global culture of risk-awareness and disaster reduction.

The 2019 edition continues as part of the “Sendai Seven” campaign, this year the focus was on Target (D) of the Sendai Framework, “reduce disaster damage to critical infrastructure and disruption of basic services”. The aim is to substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and education facilities, through developing their resilience by 2030. This year’s theme for IDDRR for 2019 was “built to last”. There were panel discussions that touched on a number of topics which included, The Importance of Building Standards



and Regulation in preventing disaster damages to critical infrastructure; Experiences with disaster to critical infrastructure and the costs of rehabilitation and reconstruction; Legislative, Policy and Regulatory Mechanisms for improving the quality of infrastructure in Eswatini; The Capacity of Municipalities to enforce building codes and regulations; Disaster damages implications to critical infrastructure and implications to the Health Care System; Disaster damages implications to Teaching and Learning and quality of Education System.



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