

REPUBLIC OF RWANDA
**MINISTRY OF DISASTER MANAGEMENT AND
REFUGEE AFFAIRS**



**NATIONAL PREPAREDNESS AND RESPONSE
PLAN FOR THE 2015 EL NINO EFFECTS IN
RWANDA**

“Be Aware and Get Prepared”

Kigali, September 2015

Foreword

Hazards prevailing in Rwanda include droughts, floods, landslides, earthquakes various storms (i.e. windstorms, rainstorms and thunderstorms), forest fire, traffic accidents, diseases and epidemics that disrupt people's lives and livelihoods, destroy infrastructure, interrupt economic activities and retard development, (MIDIMAR, 2013). Over the last decade, the frequency, intensity and severity of natural hazards and disasters, particularly floods, landslides and droughts, have significantly increased, raising the toll of human casualties as well as economic and environmental losses (Dijkstra, 2014)

The El Nino 2015 Preparedness Plan emphasizes the readiness of the Government, communities and other different stakeholders for Disaster Risk Management activities. It aims at establishing and strengthening of coordination mechanisms, partnerships while being pro-active to contain all the effects of the El Nino 2015. The ultimate goal of this plan is to increase the resilience and preparedness level to disasters mainly floods, landslides, strong winds, thunderstorms and others. This plan presents the institutional roles, responsibilities, authorities and key processes required to achieve a coordinated, coherent and consistent management of El Nino 2015 related issues across sectors.

The elaboration of this Preparedness plan has benefited from the invaluable contribution of various experts from institutions involved in disaster risk management. It is hoped that the full implementation of this plan will contribute to the establishment of a strong system toward effective El Nino preparedness, response, recovery and reconstruction, as well as contribute the minimization of the expected losses/damages per scenarios and the mitigation measures required per hazard.

S raphine MUKANTABANA

Minister of Disaster Management and Refugee Affairs

RWANDA

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1. INTRODUCTION

El Niño (EN) refers to the periodic warming of the eastern and central equatorial Pacific Ocean. Over the years, the term “El Niño” has come to be reserved for these exceptionally strong warm intervals that not only disrupt the normal lives of the fishermen and bring heavy rains, but is a global scale phenomena that lead to occurrences of world-wide weather and climate extremes which may cause floods, droughts and other different hazards.

El Niño results from interaction between the surface layers of the ocean and the overlying atmosphere in tropical Pacific. It is the internal dynamics of the coupled ocean-atmosphere system that determine the onset and termination of El Niño events. The physical processes are complicated, but they involve unstable air-sea interaction and planetary scale atmospheric and oceanic waves (ICPAC, 2015)

El Niño events occur irregularly at intervals of 2-7 years, although the average is about once every 3-4 years. Climate change may impact on El Niño by increasing not only the severity and frequency, but also impacting on other time and space characteristics that may have far reaching impacts on a global scale. World Meteorological Organization (WMO) and other global climate centres report that a global climate phenomena known as El Niño has been evolving since late 2014 and is likely to persist to early 2016.

2. PLAN SCOPE , PURPOSE AND OBJECTIVES

The El Nino Preparedness Plan primarily addresses the Rwanda Operational Area's planned response to El Nino situation likely to affect the County. This Plan establishes procedures for readiness to respond in areas most prone to floods, landslides, thunderstorms. The purpose of this Plan is to draw out mechanisms, procedures and processes to undertake in order to minimize the loss of life and properties through an organized notification and evacuation process.

The overall objective of National El Nino Preparedness Plan is to support the timely, efficient, consistent and coordinated response to anticipate potential impacts, thus effectively reducing the impacts on human population, livelihoods, infrastructure and the environment. This will in turn help reduce the scale of humanitarian needs to the affected population.

The specific objectives of this plan are the following:

- i. To improve the management and coordination of preparedness, response and recovery arrangements in case of heavy incidents resulting from El-Nino,
- ii. To improve the provision of warning information sharing to ensure effective mitigation and response,
- iii. To ensure timely resources mobilization for response,
- iv. To reduce the risk of secondary hazards,
- v. To ascertain the sector based level of impact of El Nino,
- vi. To identify and define roles and responsibilities of all partners and stakeholders involved in emergency and disaster response,

3. EL NINO CONTEXT AND BACKGROUND

3.1. General context

September to December (SOND) constitutes an important rainfall season over the equatorial sector of the Greater Horn of Africa (GHA) region. The regional consensus climate outlook for the September to December 2015 rainfall season indicates increased likelihood of above normal to near normal rainfall over most of the equatorial parts of the GHA. Increased likelihood of near to below normal is indicated over much of the northern sector. The key factors expected to influence the evolution of the regional climate during the SOND 2015 rainfall season include the Sea Surface Temperature (SST) anomalies over the tropical Oceans and their implications on rainfall bearing mechanisms including (i) the phase and strength of Indian Ocean Dipole mode (IOD) which is currently positive; (ii) likely impacts of current El Niño event over the tropical Pacific that is expected to persist during the rest of 2015 and early months of 2016; (iii) SST anomalies over the Atlantic Ocean.

The influence of these ocean processes will be modulated by regional circulation processes, topography and large inland water bodies. The outlook is relevant for seasonal time scales and relatively large areas. Local and month-to-month variations might occur as the September to December 2015 season progresses. It is likely that episodic weather events leading to flash floods might occur in areas with increased likelihood of near normal to below normal rainfall. Also dry spells may occur in areas with increased likelihood of above normal to near normal rainfall. The Global climate centers under the coordination of WMO will continue to provide global climate including El Niño updates. ICPAC will also provide regional updates on regular basis while the National Meteorological and Hydrological Services (NMHSs) would provide detailed national and sub-national updates.

Following the phenomenon, regional and international Climate scientists involved in prediction of seasonal rainfall converged in KENYA, Nairobi at the IGAD Climate Prediction and Applications Center (ICPAC), from 17 -22 August to analyze and deliberate on the historical data of rainfall and temperature from across the ten countries (Burundi, Djibouti, Ethiopia, Kenya, Rwanda, Somalia, South Sudan, Sudan, Tanzania and Uganda). Several world research centers were represented and after deliberations the scientists came up with a consensus forecast for the IGAD region and the affiliated countries of Rwanda, Tanzania and Burundi.

In fact, the regional consensus climate outlook for the next four months shows that the rains are likely to be enhanced or reduced over most parts of the Greater Horn of Africa region.

REGIONAL RAINFALL OUTLOOK FOR SEPTEMBER TO DECEMBER 2015

The rainfall outlooks for the GHA region is given in figure

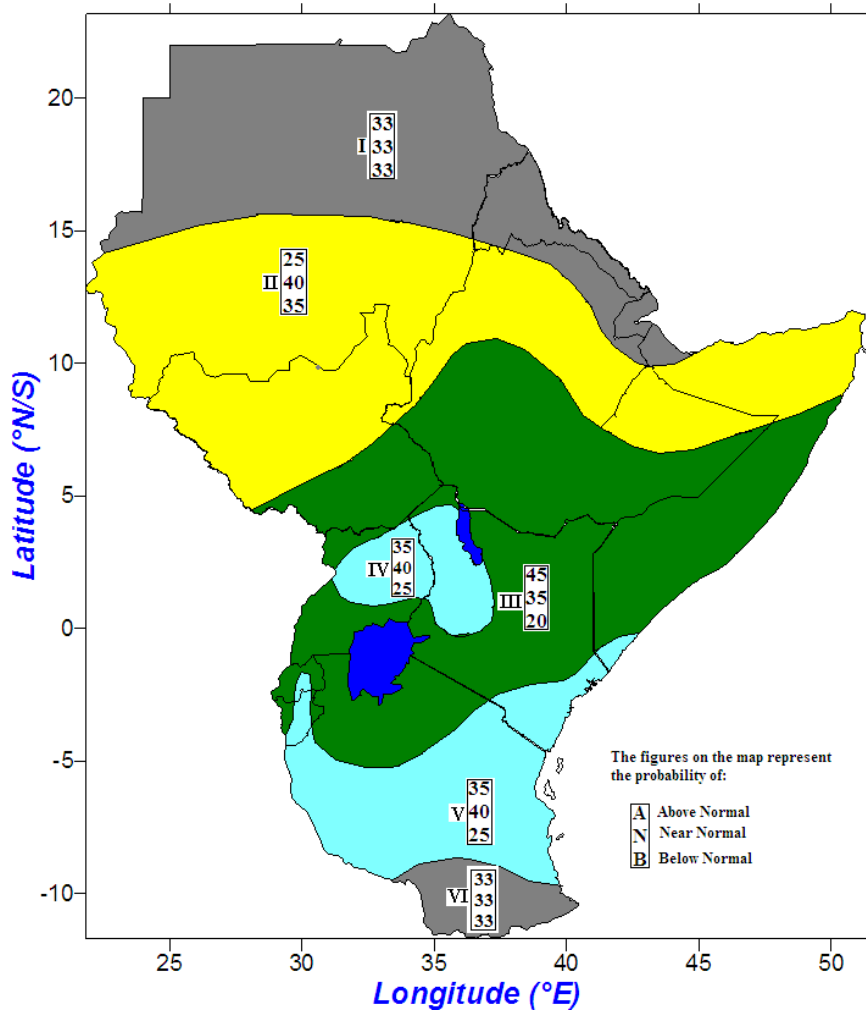


Figure 1: Greater Horn of Africa

Consensus Climate Outlook for September to December 2015 rainfall season

- **Zone I & VI:** These areas are usually dry during September to December season
- **Zone II:** Increased likelihood near normal to below normal rainfall
- **Zone III:** Increased likelihood of above normal to near normal rainfall
- **Zone IV&V:** Increased likelihood of near normal to above normal rainfall

Note: The numbers for each zone indicate the probabilities of rainfall in each of the three categories: above-, near-, and below-normal. The top number indicates the probability of rainfall occurring in the above-normal category; the middle number is for near-normal and the bottom number for below-normal category. For example, in zone III, there is 45% probability of rainfall occurring in the above-normal category; 35% probability of rainfall occurring in the near-normal category; and 20% probability of rainfall occurring in the below-normal category. It is emphasized that boundaries between zones should be considered as transition areas.

3.2. Rwanda Context

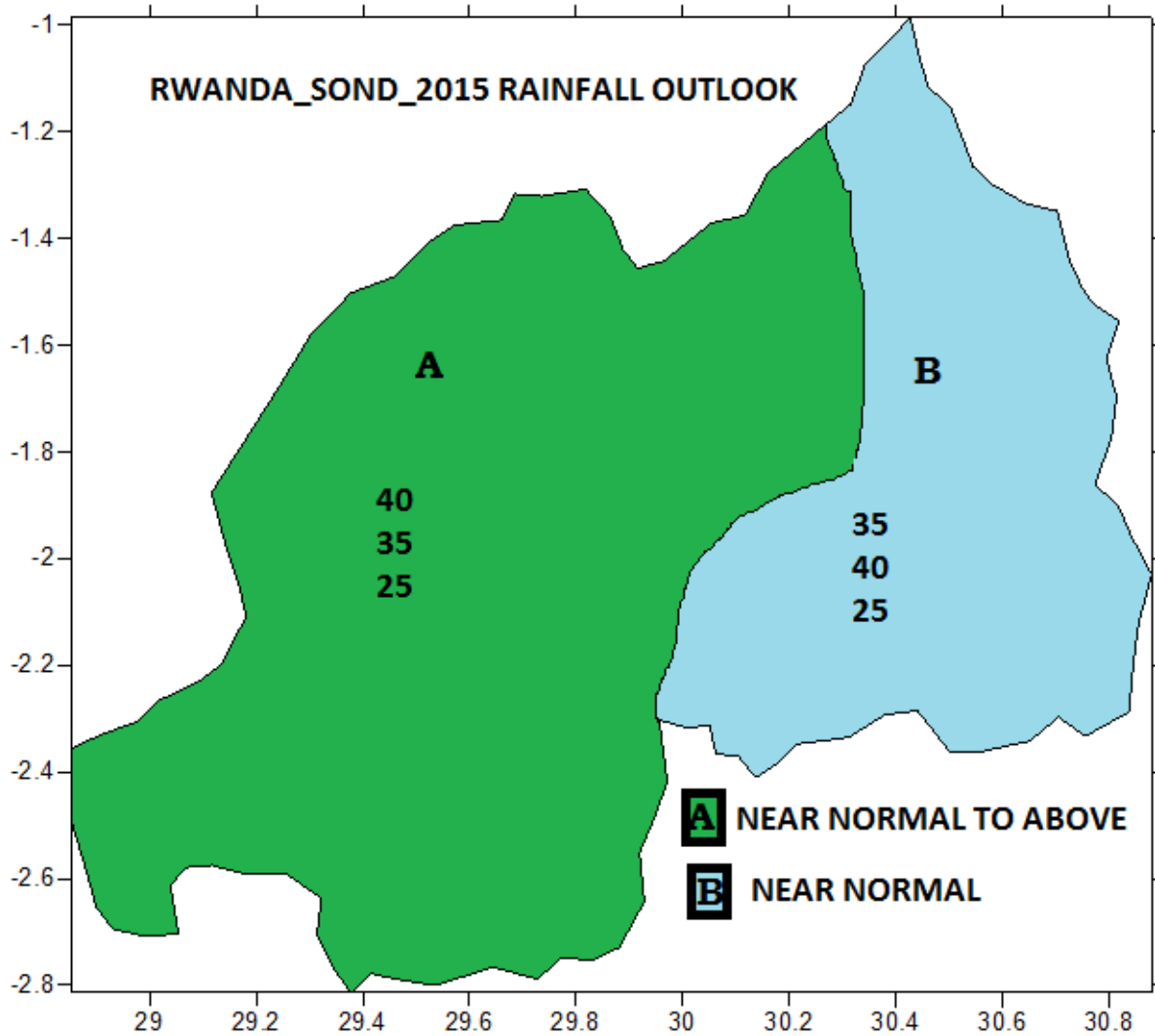
For Rwanda we used historical rainfall and temperature data for up to 45 years from different stations across the country with sea surface temperatures from global oceans (Indian, Pacific and the Atlantic). From the Statistical and Dynamical analysis done for each zone, the seasonal forecast is as follows:

- The Eastern Province (Ngoma, Gatsibo, Bugesera, Kirehe, Rwamagana, Kayonza and Nyagatare), Kigali City (Nyarugenge, Kicukiro and Gasabo) are expected to have a near normal rainfall season with tendency to above normal in many places,
- The Western Province (Rusizi, Nyamasheke, Karongi, Rubavu, Nyabihu and Ngororero), Southern Province (Kamonyi, Muhanga, Ruhango, Nyanza, Huye, Gisagara, Nyamagabe and Nyaruguru) and Northern Province (Rulindo, Musanze, Burera, Gicumbi and Gakenke) are expected to have normal to above normal rainfall.

The Rainfall distribution is divided into two categories which are: above normal and normal to above normal rainfall according to the cumulative range of rainfall amounts during September to December rainfall seasons:

- **Above Normal** = >430 mm;
- **Near Normal** = 370-430 mm.

RAINFALL OUTLOOK FOR SEPTEMBER TO DECEMBER 2015



Source (RMA, September 2015)

3.3. PAST EXPERIENCE: EL NINO 1997-1998

The RMA and forecasters worldwide have mentioned that the 2015 El Nino impact will be near the 1997-1998's.

In fact in during the mentioned ever severe El Nino, East African countries have suffered from big effects of heavy rains, floods and landslides. (IFRC)

In Rwanda the rains have started in September 1997 and continued until May 1998. After there was no rain from September 1998 to May 1999. The resulted food insecurity went through the

year 2000. The main effects were as follows:

- Damage to housing (landslides, inundation and destruction) resulting to displacement.
- Surface and ground water pollution resulting to increased risk of water borne disease.
- Damage and losses to crops. (no production for some areas and damages on seeds, fertilizers)
- Livestock deaths and disease.
- Outbreaks of disease, especially cholera, malaria and Rift Valley Fever.
- Damage to infrastructure (classrooms, health facilities, roads, bridges, electrical installations, hydropower plants,
- Water pollution resulting to increased risk of water borne disease
- Food insecurity and famine

The response and the initial recovery have costed more than 2,000,000 USD used by the government , the International Federation of Red Cross, the UN agencies and the NGOs active in humanitarian assistance

4. MITIGATION STRATEGIES

In order to be able to cope with El Nino 2015 effects, different mitigation strategies (both structural and non-structural) need to be put in place by different concerned disaster management stakeholders:

- The above highlighted outlook has to be supplemented by daily updates of different timescales (24-hours, 5-days and 10-days forecasts and regular monthly updates) and advisories by Rwanda Meteorology Agency,
- Read more from regular forecast updates that are provided by the National Meteorological Services,
- The users are therefore strongly advised to keep in contact with the National Meteorological Services for interpretation, local details, updates and guidance on this climate issue,
- Dissemination of weather forecast on a daily basis (Warning messages) to all concerned people and entities,

- Raise and enhance disaster public awareness using all possible channels (Media, radios, churches, schools, Televisions etc.)
- Organize Special community work /umuganda to clean water channels in all cells and villages of the country, along the roads, rivers and all other areas likely to be affected by floods
- To make an inventory of all households still remaining in floods and landslides prone areas and provide temporary shelters,
- To Preposition response tools,
- Get more information from experts,
- Follow the updates and be ready to take early action to minimize potential losses,
- Take advantage of the positive impacts associated with El Niño and watch out for La Niña

5. THE “EL NINO” EFFECTS ESTIMATES IN RWANDA

An El Nino event active since February 2015 will almost certainly last through 2015 and may extend into early 2016. The intensity of this event is beginning to increase with a peak expected in the last quarter of 2015. Potentially this could become one of the strongest El Nino of the last 20 years. However, favorable patterns of sea surface temperatures in the Indian Ocean could mitigate some of the negative impacts.

We have to note here that 2.8 millions of Rwandan population is prone to windstorms (heavy rains, wind, and lightning), 3.6 million are located in the areas prone to landslides and 1.6 million are prone to flush floods.

Extreme weather conditions related to the El Niño cycle correlate with heavy rains will be at the origin of floods, landslides, lightening and winds. The most probable related effects will be the following:

5.1. Houses/building collapse (residential, schools, health facilities, churches)

a) Description

As it is well known many houses and building are vulnerable to heavy rains due to the lack of water management, lack of maintenance and the weak and under standard of the building materials used. Heavy rains floods and landslides will destroy many houses especially the residential houses within the high risk zones, the areas exposed to wind and for unmaintained houses.

Classrooms will also suffer from winds as the old ones' roofs are too much vulnerable and are periodically damaged by winds and leaping water. It has to be considered that during the day, they are occupied by children, and if something happen they will not be there enough adult to rescue and protect them

Churches in the rural area are also vulnerable, as they are constructed with low quality materials and are not regularly maintained. The wind will cause collapse and it should also be considered that they are occupied up to 18 hours per day by the people who don't care enough on potential risks.

b) Consequences¹

- The 148 health facilities and 882 schools at windstorms risk will be affected
- Heavy rains, floods landslides and wind will destroy (partially and totally) up to homes of 50,000 people and 500 school rooms (for approximatively 20,000 pupils) in different districts especially in Western, northern and eastern province. More than 20,000 people will become homeless and possibly IDPs and about 5,000 pupils will not be able to attend schools. The capacity of up to 100 health facilities at risk will also be considerably decreased.
- In the affected areas 500 will lost lives and up to 2,000 will be injured
- The affected households will lose most of their home items

5.2. Destruction of roads, bridges and other infrastructure

¹ From September to December 2015

a) Description

As mentioned below, heavy rains with winds will impact on the soil characteristics; this will lead to landslides on the slopes and floods on the plains. If we consider the way different roads and bridges are vulnerable to stagnant water and to the soil slide, if we consider also that the majority of national and district roads in the northern, western and southern province are built on high slopes, we can deduce that the upcoming heavy rains will be too devastating to the road network at all levels.

b) Consequences

- The quality of roads will considerably decrease
- About 25% of national and district roads exposed to landslides (respectfully 553 km and 691 km) will collapse.
- National roads will be blocked by collapse on the vulnerable sections (especially the road from Kigali to Rubavu via Musanze, the road from Mukamira to Muhanga via Ngororero and the road from Nyamasheke to Karongi (Under construction)
- National roads will be regularly blocked by rockslides and trees
- Many district roads will be destroyed and impassable due to landslides and bridge collapse (eg roads from Gahunga to Butaro via Burera)
- Dams and other water catchment will collapse
- Electrical installations will be damaged

5.3. Increase of accidents

a) Description

The heavy rains, storm winds and thunder will increase the vulnerability of the roads and cause road accident. We can also expect many mining accident as the majority of mining sites are not set to resist to the collapse that may be caused by heavy rains and uncompacted and fragile soil. River accidents should also occur as a consequence of the rivers level increase.

b) Consequences

- Loss of lives and many injuries
- Damages on the roads quality

5.4. Damages on agriculture production

a) Description

The heavy rains will cause important damages on the “season A” crops that can’t resist to over 25mm precipitations (beans, maize, sorghum, potatoes, bananas,). In fact if the heavy rain continues along the quarter damages on seeds and fertilizers will be very important.

Floods will also damage crops especially in marshlands and plains.

b) Consequences

- Loss of up to 40% of the agricultural production in the affected areas
- Food insecurity from November 2015 to February 2016
- Famine and its social economic consequences

5.5. Increase of diseases and other health problems

a) Description

As forecasters have mentioned, the El Niño impact will increase the risk of malaria in all east Africa countries but the risk of other diseases is also considerable. We emphasize here the risk of outbreaks that may be caused by floods especially in northern and western province areas with volcanic soil. In fact in these regions the big floods contribute to merge leaping water and household waste and this can easily cause diseases like cholera.

The floods also have important impact on water sources and water quality, and a population without potable water will be exposed to a number of health issues.

The extreme weather conditions especially the low temperatures added to the stressing environment of long rains and lightning will affect the population life especially the vulnerable groups (children under 5, old people, people with reduced mobility and other disabilities)

b) Consequences

- Increase of illness especially of malaria
- Diseases in the areas with insufficient water supply
- Cholera Epidemic in the endemic zones

5.6. Increase of lightning effects

a) Description

During the normal rains of the rain seasons, the thunder kills the average of 20 people and injured more than 50 per month. With the abnormal rainfall we can expect that the lightning activity will increase. If we consider also the population vulnerability to the lightening which is very high we can deduce that lightning will be more deadly within the El Niño period.

The lightning effect should also be considered for the public spaces which still vulnerable and exposed. Markets, churches, schools, health facilities, prisons and offices represent the areas with high population density and lightning cases will increase as more than 50% of such areas are not protected.

b) Consequences

- Lightning will kill up to 100 people and injury up to 300 per month
- Lightning will create a panic environment within the population
- Some infrastructure will be also affected by lightning (electric installation, telecommunication facilities, ...)

6. PREPAREDNESS AND RESPONSE MEASURES, ROLES AND RESPONSIBILITIES

6.1. Coordination

The MIDIMAR holds the responsibility to coordinate all activities related to the preparedness and response to the disaster that may be triggered by the El Nino 2015. The MIDIMAR will work closely with the co-lead according to the disaster that has occurred. In general the MIDIMAR should work closely with The Rwanda Defence Forces, the Rwanda National Police, the Rwanda Red Cross, and the Ministries of agriculture, infrastructure, health and natural resources. The mentioned institutions will carry out the mitigation measures to minimize the damages and losses.

All the ministries will work with the districts through the Ministry of Local Government, and all interveners will be ready to report on 24/7 basis. The RMA and RNRA should keep providing information susceptible to have the incidence on preparedness and response activities.

The other members of the NPDRR (UN agencies, NGOs, private sector and civil society) will also contribute to the implementation of the Rwanda El Nino preparedness and Response Plan.

6.2. THE PROPOSED OPERATION

6.2.1. Public Awareness And Communication

Objective2: The public is provided with accurate and updated information on the hazard			
Expected result	Activities	Responsible	Resources needed²
The general public is aware on the hazard and coping mechanisms	Organize public awareness campaigns from (campaign week) from September to December 2015	MIDIMAR, MINALOC, RDF, RRC, RNP, MINIRENA, MINAGRI, RHA, Media, civil society organizations, telecom companies, NPDRR, One UN	(publicity spots on radios and tvs, social medias, radio and tv talk shows, SMS, community meetings, banners , sign post) <i>Budget estimate: 38,600,000 RWF</i>
	Provide the public with the updated and accurate information on El Nino from September to December 2015	RMA, MIDIMAR, RNRA, MINISANTE,	Information by RMA on 24/7 Provided for by Meteo
	Live forecast on RTV and public radios from 15 September 2015, Meteo to clarify the message provided	MINALOC, MIDIMAR, RMA,	Discussions with RBA to allow the live forecast as a lifesaving information

² Lead agency to mobilize funds

6.2.2. Mitigation Measures

Objective1: House/building are retrofitted and water channels cleaned			
Expected result	Activities	Responsible³	Resources needed
Houses and building are resilient	Community work to clean water channels , water harvesting, retrofitting, road repair, contact MINALOC by 9/9/15	MINALOC ,MIDIMAR, Districts, NPDRR	Umuganda, Authorities to address the population, media coverage <i>Budget estimate.: 5,000,000 Rwf</i>
	Conduct a study on lightning protection and increase the awareness on the standards on resilient construction and lightning protection (ongoing from July 2015)	MIDIMAR , MINEDUC, MININFRA , MINECOFIN, NPDRR	<i>Budgeted for by MIDIMAR</i>

6.2.3. Readiness Measures

Objective3: The country is ready to manage the El nino effects			
Expected result	Activities	Responsible	Resources needed
The country is ready to contain the El Niño effect	Validate and activate the preparedness and response plan by September 16, 2015	MIDIMAR	Meeting cost
	Initiate sector specific contingency plan October 31, 2015	MIDIMAR , MINAGRI , MINIFRA , MINIRENA , MINISANTE	TBD
	Set a multi institution coordination and management team by October 10, 2015	MIDIMAR	Stakeholders and sector leads to nominate focal persons to be involved in coordination

³ The institution in bold will lead the activity

	Prepositioning of NFIs for 50,000 people by October 31, 2015	MIDIMAR, RRC, One UN, WVI, ADRA	Budget estimate: 155,000,000
	Identification of potential food suppliers by October 15, 2015	MINAGRI, WFP	TBD
	Provide refresher training to local first responders teams	MIDIMAR, RRC, MINALOC	Budget estimates: 43,600,000

6.2.4. Evacuation, Search And Rescue

Objective 4: The safety of the population at risk is ensured			
Expected result	Activities	Responsible	Needed resources
Move the population affected/likely to be affected to safe areas	Identify all households still remaining in floods and landslides prone areas by October 31, 2015	MINALOC, RDF, RNP, RRC, RHA, RNRA, Districts, NPDRR	Field mission for verification 120 districts and national team of 8 during one week Budget estimate: 34,658,500
	Identify and map evacuation sites in case of confirmed alerts/warning/disaster by October, 15 2015	RDF, MINALOC, MIDIMAR, RRC, NPDRR, Districts, NPDRR	Districts to prepare the evacuation sites
	Rescue affected people	RDF, RNP, RRC, SAMU, MIDIMAR	Facilitate the SAR and evacuation (transport, communication)
	Provide the emergency shelter for 20,000 households	MIDIMAR, RDF, RRC, RNP, NPDRR	100 tents with 250p capacity Budget estimate: 200,000,000

6.2.5. Assistance For The Affected Community

Objective 5: Affected population smoothly assisted			
Expected result	Activities	Responsible	Needed Resources
Affected population are effectively assisted	Provide NFIs for 50,000 people	MIDIMAR , RRC, RDF, RNP, NPDRR, MINECOFIN	Transport, distribution
	Provide food for 20,000 people	MINAGRI, WFP, MINECOFIN	Beans, maize, oil, water,
	Provide WASH for 20,000 people	WASAC, RRC, RNRA, UNICEF,	1000 mobile latrines, 800 water tanks, bladders, Power generators Budget estimate: 122,800,000
	Provide the emergency medical care and first aid and provide psychosocial care to disaster victims	MoH , RDF Districts, RRC	Transport of medical personnel, drugs and other medical equipment, paying hospitals and HCs bills Budget estimate: 170,000,000

6.2.6. Initial Recovery

Objective 6: Damaged elements are rehabilitated			
Expected result	Activities	Responsible	Needed Resources
Affected population are effectively assisted to recover from the disaster impact	Conduct a comprehensive PDNA	MIDIMAR, NPDRR	Provided for by MIDIMAR
	Organize the community works for debris removal and reconstruction	MINALOC, MINEDUC, MIDIMAR, Districts	Umuganda
	Provide roofing materials	MIDIMAR, RRC, WVI	Budget estimate (650,000,000)
	Provide seeds to replant	MINAGRI, FAO	TBD
	National roads repair	MININFRA, RTDA, RDF	TBD
	District and sector roads repair	RTDA, Districts	TBD

6.3.URGENT ACTIONS AND IMPLEMENTATION ROADMAP

No	ITEM	RESPONSIBLE	TIMELINE
1	Orient the September umuganda on the El Nino preparedness by performing roof retrofitting, cleaning water channels and identify people at risk to be evacuated Awareness messages should be provided on the occasion	MINALOC	By October 15, 2015
2	To reactivate live weather forecasting on RTV and public radios as a lifesaving issue	MINALOC, RBA	From September 15, 2015
3	Share the El Nino preparedness plan with all stakeholders and invite them in sharing meeting and activate the management team for the El Nino hazard	MIDIMAR	By September 30, 2015,
4	Conduct an assessment to vulnerable road sections and bridges especially essential ones (Eg: Nyabarongo bridge to Kamonyi, Nyabugogo bridge to Gicumbi, Muhe and Rwebeya bridges to Rubavu and identify others), and draw a mitigation/ repair plan	MININFRA and RTDA	By October 31, 2015, 2015
5	Draw a plan for special surveillance on malaria and other diseases/epidemics that may be triggered by heavy rains	MINISANTE	By October 31, 2015, 2015
6	Monitor the rivers' level in prone areas and propose a plan to contain the known devastating watercourse risks (eg imyuzi in Musanze and Nyabihu, sebeya river , ...)	RNRA	By October 31, 2015, 2015
7	Identify temporary shelter areas and inventory of needed resources (staff, equipment) for search rescue and evacuation	RDF	By October 31, 2015, 2015
8	Develop a plan to mitigate food insecurity that may touch the areas at risk through awareness and small structural community works	MINAGRI	By October 31, 2015, 2015
9	Assess the situation of school at risk and take appropriate measures for the users safety	MINEDUC	By October 31, 2015, 2015
10	Ensure the awareness on increased roads accident risks and determine and share its extents as well as ensure public order after any disaster incident	RNP	From September 15, 2015
13	Consider the possibility of having IDPs and plan accordingly	MIDIMAR, RNP	By October 31, 2015, 2015
14	Follow up of the implementation of the plan and preparedness measures	MIDIMAR	From September 30, 2015

**MINUTES OF THE NATIONAL DISASTER MANAGEMENT EXECUTIVE COMMITTEE
CONVENED ON SEPTEMBER 25, 2015**

1. INTRODUCTION

On September 25, 2015, the Meeting of the National Disaster Management Executive Committee was convened at Senior Officers' Mess at the Ministry of Defense, chaired by Hon. Minister MUKANTABANA Séraphine. The objective of the Meeting was to validate the El-Nino preparedness and response plan elaborated by experts from various government institutions and stakeholders, following the weather predictions by International, regional meteorological agencies and Rwanda Meteorology Agency.

2. PARTICIPANTS

The Meeting was attended by members of the NDMEC and senior officials from line institutions as follows

Members

1. Hon. MUKANTABANA Séraphine, Minister of Disaster Management and Refugee Affairs, (Chair)
2. General KABAREBE James: Minister of Defense (Co/chair)
3. Hon. BIRUTA Vincent: MINIRENA (member)

Other participants

1. Maj Gen Frank MUSHYO KAMANZI, Chief of Army Staff/RDF
2. ACP GATARE Damas, Commissioner of Community Policing
3. Mr. RWAMUGANZA Caleb, Director General of National budget/MINECOFIN
4. Mr. HABINSHUTI Philippe: Director of Disaster Response and Recovery/MIDIMAR
5. Dr. NYAMUSORE Jose, Head of Epidemic and Infectious Diseases/MINISANTE
6. Mr. GATERA Jean d'Amour, Planning Division Manager/MININFRA
7. Mr. HAKIZIMANA Védaste, Community Development Analyst, MINALOC
8. Mr. NTAWUKURIRYAYO Frederic, Public Relation and Communication/MIDIMAR

3. PRESENTATION OF EL-NINO PREPAREDNESS PLAN

MIDIMAR presented El-Nino preparedness plan elaborated and validated at technical level by experts from line government institutions (National Disaster Management Technical Committee) and stakeholders from UN agencies and NGOs as members of the National platform for Disaster Risk Reduction (NPDRR). This plan has been developed following the warning issued out by Meteorology Agency and Meteorologists worldwide that Rwanda and the East African region would be affected by El-Nino Phenomenon.

EL-NINO means increasing of the temperatures in Pacific Ocean that causes warming in Indian Ocean that provoke heavy rains in the Eastern Africa and lack of rains on the Asian Coasts

The opposite (decreasing of temperatures) provokes La Nina and lack of rains leading to dryness in East Africa

The expected impact of that phenomenon is heavy rains with storms which may cause floods, landslides, heavy winds, and lightning and results into loss of lives, injuries, and property and infrastructure damages.

The El-Nino Phenomenon is usually followed by La Nina which is the scarcity of rain that also may push the affected regions into severe drought.

The contingency plan referred to the past events revealing that such phenomena have occurred in Rwanda between 1997 and 1998 and caused devastating effects in a period of six months including 381 deaths, 524 injuries, diseases outbreaks like Cholera and Malaria, water pollution, livestock deaths, loss of crops and infrastructure damages including housing, roads and bridges.

According to that contingency plan, the expected peak period for the heavy rain ranges between September 2015 and February 2016. The expected hazards include floods, landslides, wind and lightning. The effects prediction for Rwanda reveals that 2.8 Million people may be affected by storms (heavy winds, rain, lightning), 3.6 Million exposed to landslides while 1.6 Million people may be affected by floods.

The El-Nino preparedness plan also set activities meant to enhance Rwanda's readiness to mitigate the effect and effectively respond if disasters occur. The activities include public awareness, coordination mechanism to enhance readiness,



evacuation, search and rescue, assistance to affected communities and initial recovery.

4. KEY RECOMMENDATIONS

The members of the National Disaster Management Executive Committee approved the El Nino Preparedness and Response Plan and provided following recommendations:

Priority	Recommendations	Responsible and deadline
Awareness	1. To develop a comprehensive communication strategy with great emphasis on the key messages to be delivered to the public, the channels and tools. The message should focus on the government readiness and prevention tips for each expected hazard.	MIDIMAR 15-10-2015
	2. Enhancing Early warning by sending alerting messages via media and all possible channels	MIDIMAR/ RMA 15-10-2015 and continuous
	3. To raise awareness within government institutions and stakeholders through a multi institution simulation exercise involving all concerned government institutions and stakeholders in order to enhance institutional response capabilities	MIDIMAR MINADEF 31-10-2015
Readiness and preparedness	4. To dress a comprehensive inventory of needed equipment for search, rescue and evacuation, identify available and unavailable ones	RDF 15-10-2015
	5. To dress a comprehensive inventory of needed equipment for ensuring emergency transport in case any essential	MININFRA 15-10-2015

	infrastructure is damaged	
Mitigation	6. To Start the bridging, widening and cleaning water tunnels at the most prone roads points like Nyabugogo, Nyabarongo, MUSANZE, NYABIHU, etc.. and mitigate the effects of running water from volcano through Rwebeya and Muhe tunnels which usually cause severe damages in Musanze and Nyabihu.	MININFRA 31-10-2015
	7. To find and communicate alternative pathways to access blocked areas in cases bridges and main roads are broken.	MININFRA 15-10-2015
	8. To Spearhead the relocation of people still living in high risk zones to safer zones	MINALOC/ MININFRA 31-10-2015
Coordination	9. To set up a permanent taskforce to follow up and monitor the implementation of this plan	MIDIMAR 7-10-2015
Resource mobilization	10. To mobilize non-government actors in humanitarian and collect their commitments to support the implementation of this plan	MIDIMAR 31-10-2015
	11. MINICOFIN to provide budget for activities included in the El Nino Preparedness Plan which were not budgeted for in respective action plans of involved institutions for this fiscal year.	MINICOFIN 15-10-2015


MUKANTABANA Seraphine
 NDMEC/Chairperson

