

# DROUGHT CONDITIONS AND MANAGEMENT STRATEGIES IN RWANDA

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# Drought background in Rwanda

The rainfall patterns are characterized by four seasons, a short rainy season from September to November and a longer season between March and May. Between these seasons are two dry periods, a short one between December and February and a long one from June to August. Rainfall ranges from about 900 mm in the east and southeast to 1500 mm in the north and northwest volcanic highland areas.

# Background( cont'd)

Analysis of rainfall trends show that rainy seasons are tending to become shorter with higher intensity.

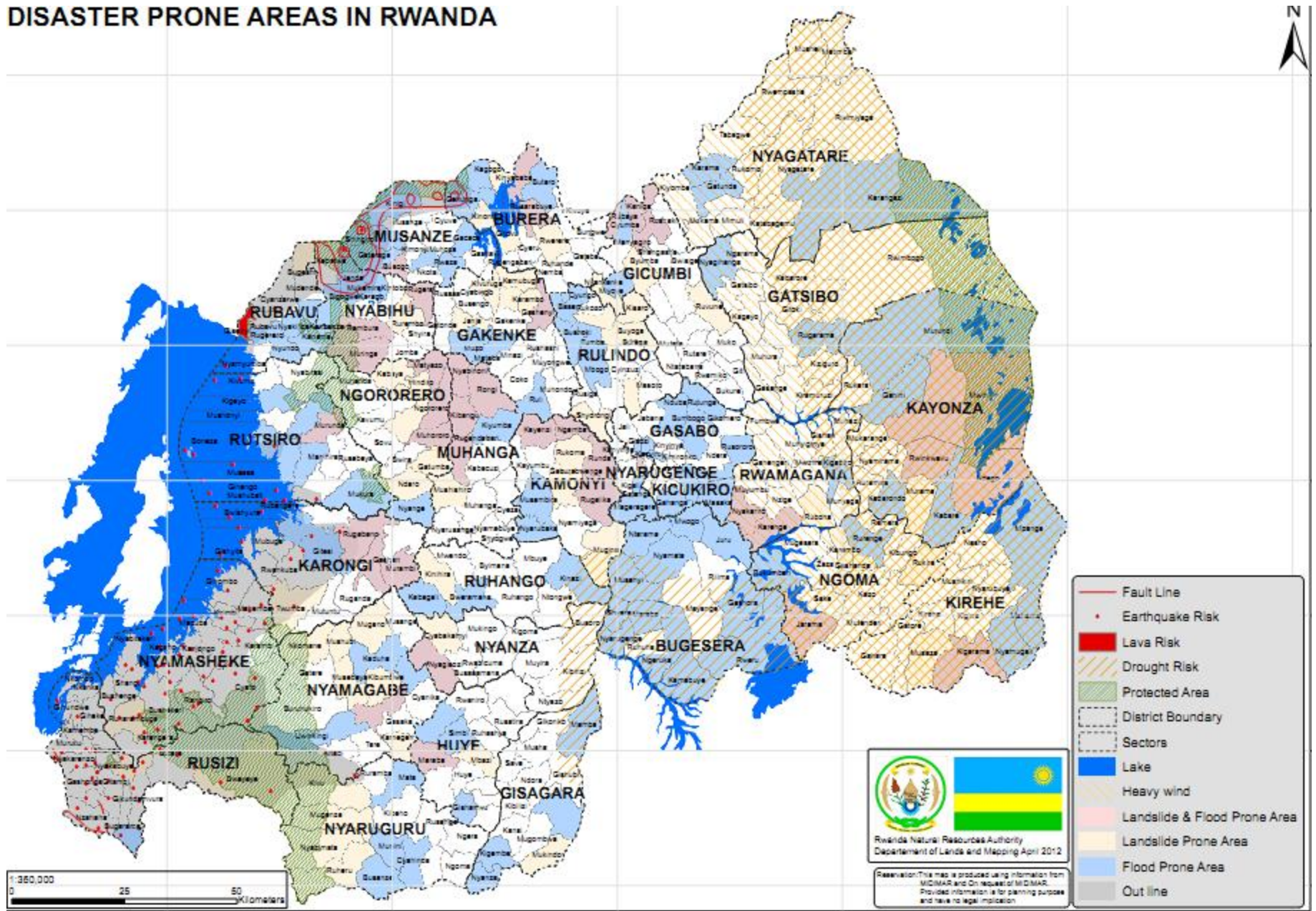
This tendency has led to decreases in agricultural production and events such as droughts in dry areas; and floods or landslides in areas experiencing heavy rains. These have resulted in soil erosion, rock falls, landslides and floods which destroy crops, houses and other infrastructure as well as loss of human and animal lives.

# Background(cont'd)

The eastern region of the country has been experiencing rainfall deficits over the last decades. Observations between 1961 and 2005 showed that the period between 1991 and 2000 has been the driest since 1961. These observations showed a marked deficit in 1992, 1993, 1996, 1999 and 2000 (MINITERE 2006).

This tendency was observed from three meteorological stations (Kigali, Kamembe (southwest) and Gisenyi (northwest)).

# DISASTER PRONE AREAS IN RWANDA



# DROUGHT MONITORING AND EARLY WARNING SYSTEMS

Rwanda has agencies, one (RMA) in charge of meteorological monitoring and another (RNRA-IWRM) in charge of hydrological monitoring. There is a national disaster policy which stipulates that it shall be the responsibility of every Ministry and Public Institutions of the Government of Rwanda to take measures necessary for prevention of disasters, mitigation, preparedness and Capacity-building for disaster related.

# Cont'd

to its mandate.

Therefore, Ministry of Agriculture is in charge of drought management while the Ministry of disaster is in charge of coordination of all disaster related activities with focus on relief.

There is no actually drought warning system except rainfall forecasts that may help in this sense.

# Vulnerability assessment

Drought has impact on farmers with crop failures while livestock lack pastures and water.

Drought prone area in Rwanda hosts a national park where in case of drought, wildlife is also threatened by pasture shortage, sometimes accompanied by bush fires



## **EMERGENCY RELIEF AND DROUGHT RESPONSE**

Rwanda has implemented many measures to be food secure country and these measures include irrigation techniques to mitigate drought and local communities are trained on low cost irrigation like rainwater harvesting, water storage , pumping from water bodies, drought resilient seeds, food stocks where community keeps the excess of their crop that can be used in case of drought.

Rwanda put much effort in afforestation of drought prone zones. In case of drought, ministry of disasters management and ministry of agriculture collaborate for mitigation.

# Practices to alleviate drought impacts

- **National Strategic Grain Reserve** : with 38,150 MT of maize and beans reserved annually out a total storage capacity of 134,110 MT





# Irrigation master plan

- ➔ National irrigation potential of 589,711 ha (IMP, 2009):
- ➔ Target for 2011-2017 : 100,000 ha area under irrigation:
  - ☞ Marshland development (65,000 ha mostly for rice cultivation)
  - ☞ Hillside Irrigation (35,000 ha for horticulture, food and cash crops various projects)





# Irrigation development

<b>Marshland development (Baseline: 25,066ha in 2012)</b>	<b>Ha</b>
Completed for the last 3 years	9,907
Planned for the last 3 years	9,287
<b>Hillside irrigation (Baseline: 1,450ha in 2012)</b>	<b>Ha</b>
Completed for the last 3 years	3,965
Planned for the last 3 years	49,540



# **Practices to alleviate drought impacts**

- Disaster management policy and disaster institutional and legal framework
- Climate Change Adaptation measures
- National adaptation program of action to climate change (NAPA)

# The need for knowledge and skills on drought management

Specific capacity needs on the drought management in Rwanda are:

- ❖ Drought resilience and mitigation capacity building at vulnerable communities
- ❖ Drought management demonstration projects
- ❖ Drought Early Warning system
- ❖ Drought management policy

THANKS