

Title: Drought conditions and management strategies in Mauritania

Context:

Mauritania is one of the Sahelian countries most affected by the drought which succeeded since 1968. The ensuing desertification is even stronger than the influence of climate, combined with that of man which resulted in a direct impact on an already fragile environment, namely environmental degradation and general socio-economic conditions of the country and the progressive impoverishment of rural population to 70 percent.

Their adverse effect on agricultural productivity and yields drought has ended:

- Challenging food security and living standards of rural populations;
- Induce massive movements of population to urban centers ;
- Making difficult water supply for the needs of humans and livestock ;
- Generate significant economic losses.

Given the scale of the phenomenon, and like many other countries affected by drought and desertification, Mauritania expressed a strong political will to fight against this scourge.

It is in this context that was created the Club of Sahel and the Permanent Inter-State Committee to Fight against Drought in the Sahel (CILSS). In 1980, CILSS has developed a strategy to fight against drought in the Sahel; the two main objectives are food self-sufficiency and ecological balance.

However, the implementation of this strategy has not produced the expected results due to the complexity of the problem.

Following this failure, the Mauritanian Government has chosen to integrate the fight against drought and desertification in a broader process of sustainable development of the country including technical, socio-economic factors and legal and institutional factors.

Like most countries in the Sahel region, Mauritania has experienced a rainfall deficit in 2011 among the most important of the decade compared to the normal period 1971-2000, 60% of stations are highly deficient while the distribution of rainfall in 2011 is similar to 2002 which is classified a year of drought.

At the end of September 2011, according to the World Food Programme (WFP) more than a million people gathered in Mauritania without enough food or water. Poor families, the elderly and children were among the most affected with more than 110,000 children under five suffering from global acute malnutrition. The decrease in grazing significantly affected livestock main source of income for the majority of the rural population. Breeders have anticipated and sold off their animals in certain regions. A heavy economic loss has worsened the food situation of small farmers.

Drought monitoring and early warning systems

In recent years Mauritania has achieved considerable economic losses, related to atmospheric and oceanic recurring phenomena what prompted the Mauritanian Government in 2006 to create a public structure called National Office of Meteorology (ONM) for planning and support for decision making.

This structure together all existing weather services with the exception of service of hydrology still in the Ministry of Agriculture so far.

This structure essential to the mission of contributing to the safety of persons and property and make efficient and effective all socio- economic activities of the country through weather reports, view alerts and climate data. These objectives are listed, early warning of natural phenomena meteorological and climatic origin such as drought, the locust invasion and the necessary meteorological services to the rural world and monitoring agricultural partner with the departments concerned.

Monitoring drought in Mauritania is provided by several institutions including the O.N.M, the Ministry of Agriculture (MA) through the direction of management of the land, the Office of Food Safety (CSA) and the Ministry of the Environment and Sustainable Development (MEDD).

As of early warning drought system at national level it is the National Office of Meteorology (ONM) which develops and distributes each year seasonal climate forecasts for Mauritania in collaboration with ACMAD, AGHRYMET and global centers specializing in the field, this forecast is to predict droughts and the nature of the rainy season (Wet- Normal - Dry) during the period from July to September. Concerning monitoring and drought management are provided by the other department involved particularly the Ministry of Agriculture and Office of Food Safety and MEDD.

To better monitor and evaluate these seasonal forecasts, Office National of Meteorology has with its meteorological observation network , a station of MSG (Météosat Seconde Génération) for the reception of satellite image, observation data and forecasting products of meteorological models.

The station was completed in 2012 by the acquisition of two stations Environmental Monitoring in Africa for Sustainable Development (AMESD) allowing the ONM and the Directorate of Planning of the Ministry of Agriculture to monitor water points and the development of vegetation on the whole territory. These tools allow the ONM assess seasonal cumulative rainfall and other parameters and to develop daily, decadal weather reports and alert notification in case of need to mitigate the impact of drought.

Meteorological observation system in Mauritania

The meteorological observation began in Mauritania in 1905, with the arrival of French in Mauritania and since the activity of observing the weather and climate continues to grow through a meteorological observation network consisting of 18 synoptic stations including 04 stations of marine observations with more than 600 rainfall stations distributed over different localities and departments of the country this network is still far from meeting the needs of the country in observing and must be compacted to ensure good coverage of the country.

All meteorological parameters such as temperature, winds, evaporation, pressure, isolation and precipitation are measured, exchanged with the global meteorological community and archived at the ONM.

Mauritania has the hydrological observation stations at Rosso, Kaédi Selibaby, and Fom Gleita Lekseiba ,

This will allow the management of the land to follow the dams and rivers in the national level and the Ministry of Agriculture to better choose the actions to take in case of lack of water reserves

Emergency relief and drought response:

The Government of Mauritania and humanitarian organizations conducting reconnaissance missions in the sites after each drought, to realize the extent of phenomenon.

The Mauritanian Red Crescent and the International Federation of the Red Cross and WFP is committed to building resilience within affected families they decided in their response to drought to adopt a two-pronged approach it was to meet the immediate challenge to feed the hungry, and at the same time work with communities to reduce their vulnerability to a new drought.

The two-pronged approach (twin-track) is how to combine all phases of assistance within a certain period of time in a crisis situation, there is an emergency assistance is immediately for example malnutrition malnourished children who were in need of immediate food assistance.

At the same time the ongoing assistance we put up other activities that could prevent other children and other families living the same situation during the drought, the emergency Government efforts of the Red Cross, WFP focused on food distribution , the " money against work" program screening and identification of malnourished children the long-term projects have been designed with sustainability in mind technical advice is provided dozens of women's cooperatives seeds are distributed wells were rehabilitated and equipped with solar panels to facilitate the collection of water and goats are distributed to hundreds of families with children suffering from severe malnutrition.

Food insecurity is a recurring problem in Mauritania this is why the speaker introduces long-term solutions the long-term recovery, to be sure maybe even next year if the crisis comes communities will be able to cope

Several factors are used for the selection of target groups whose family size permanent residence and the involvement of communities in the city since the start Resident women are targeted because of their involvement in productive activities.

Practices to alleviate drought impacts:

In case the bulletin of seasonal climate forecasting scenario gives a dry (drought). Mauritanian authorities are taking strategies through the Ministry of Agriculture Livestock and food security office to minimize the impact of the phenomenon such as:

- The distribution and dissemination of seeds during cycle
- Encourage the diversification of crops (intercropping)
- Encourage the use of organic manure ;
Rapid establishment of inputs;
- Advise the use of crop varieties resistant to drought
- Focus on farming techniques promote the economy of the soil water
- Availing of cattle feed ;
- Continuation of the emergency plan EMEL (sale with very reasonable price
- Free delivery, etc.)
- Provide a wide practice of irrigated crops and decline to address the potential declines in agricultural production.

If the cumulative rainfall and other indicators such as, agricultural production, household access to essential goods and pasture conditions confirm that the year is a drought year, the Mauritanian Government launches emergency plan called <<Hope>> at a cost of 157 million US dollars.

The plan is designed to mitigate the effects of the exceptional situation on people and livestock and twofold nature to fight on the one hand against poverty through the rescue of livestock and, secondly, ensure the availability of essential commodities for the needy

1. A component which comprises human alimentation

- A component to support rural households with low earnings and sedentary farming check the availability of products food and animal feed at a subsidized price;
- A free food distribution component to households with no income and severely affected by drought
- A " boutique Solidarity" component to support the purchasing power of low-income households in rural, urban and peri-urban

2. A livestock assistance component

- A component of animal feed
- A component of animal health
- Pastoral hydraulic component
- A credit component to breeding

The need for knowledge and skills on drought management in Mauritania

Given the difficult agro- climatic and environmental conditions, Mauritania is one of the world's most vulnerable regions, structures and people responsible for monitoring and management of drought need capacity building in the following areas:

- The development and use of seasonal climate forecasting
- The skills needed to communicate the results of seasonal climate forecasts to rural users
- Training on techniques for estimating rainfall combining satellite data and data networks of ground observation
- Strengthening knowledge of diversification of livelihoods in particular the development of dry season crops
- Training on Monitoring crop conditions and the forecast of returns
- The coordination of the system in case of drought
- Knowledge of the technical mastery of water
- Integration parameters of weather and climate in decision making
- Strengthening capacity for assessing the impacts of drought
- Analysis of the vulnerability / resilience to drought
- The integration of drought risk management in national development.

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