

Drought conditions and management strategies in Namibia.

I.N. Kapolo, Namibia Meteorological Services, Windhoek, Namibia. kapolo_i@yahoo.com

1. Background

Namibia's climate is distinctly arid in the greater parts of the country except in the north and north-eastern areas. The rainfall season runs from October/November of one year to March/April of the succeeding year. Annual rainfall varies from 650 mm in the northeast to less than 50mm along the coastal areas. In the Namib Desert, it hardly rains. Rainfall in Namibia is also highly variable in time, the inter-annual variability ranges from 30% in the relatively wetter northeaster parts to 100% in the south and western parts (Namibia Meteorological Service, 2013, p2). Given these characteristics of Namibia rainfall climate, it goes to say that drought is an inherent and frequently observed phenomenon in Namibia. It is one of the two distinct extremes of Namibia's rainfall climatology, the other being floods.

During the last 10 years, the country have experienced on average wetter rainfall seasons with an exception of two seasons, namely 2006/07 and 2012/13. The 2012/13 rainy season was the driest in the last 30 years, had the most devastating impact and affected all of the 13 regions of the country hence discussion in this report will be on the 2012/13 drought season. The 2012/13 rainfall season was characterized by prolonged consecutive dry spells that started from mid-December 2012 to March 2013 when rainfall ended (Namibia Meteorological Service, 2014, p1). In the western and southern parts of the country the rainfall season has practically failed. Because of this widespread drought and its severe impact on food security, the President of Namibia declared a national state of emergency on the 17 May 2013 (Government of Namibia, 2014, p3).

The most impact was on crops, pasture and water availability. The drought have affected all regions of the country including, 6 regions where a large proportion of households depends on livestock production and 6 regions where a large proportion of the population depends on rain-fed crop production. There was a severe impact on the market due to the absence of the staple food commodity. Out of the population of 2.1 million, 778 504 people were affected, of which 463 581 people were food insecure and 314 923 people were moderately food insecure. 109 000 children under the age 5 years were at risk of malnutrition, 60 000 children between 5-16 years were at risk of malnutrition and 23 180 pregnant mothers were at risk of malnutrition (Government of Namibia, 2014, p3).

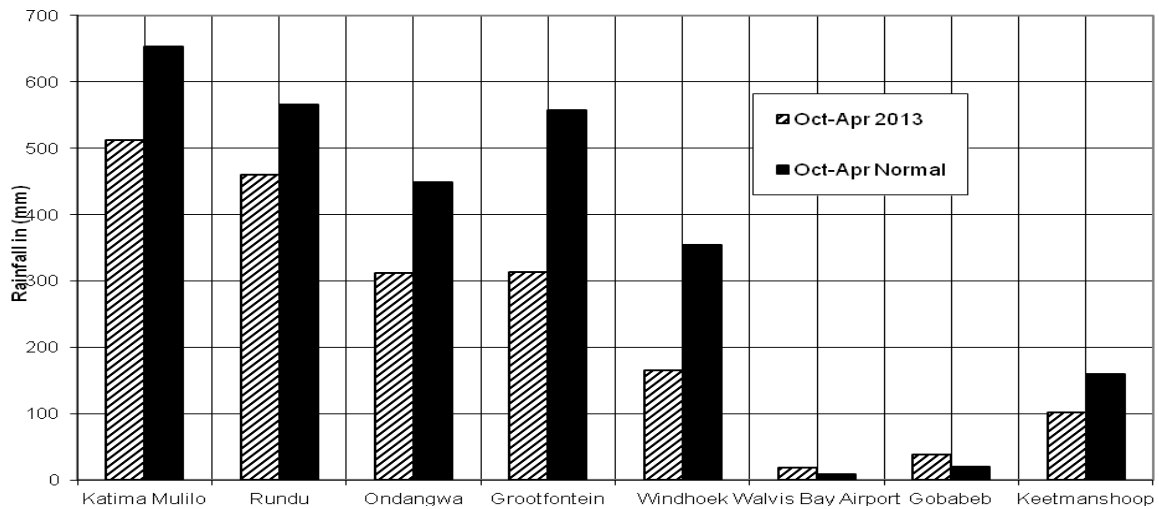


Fig1. Rainfall Relative Performance Chart- 2012/13 Season (Cumulative). Source: NMS¹

2. Drought Monitoring and Early Warning Systems.

There is no single institution that provides early warning information. Early warning is a coordinated task by different institutions depending on the nature of the impending disaster. The Ministry of Agriculture Water and Forestry (MAWF) takes the largest share of the early warning and drought monitoring activities. It houses the Early Warning and Food Information Unit. Thrice every year the government dispatches an early warning team on crop and household food security assessment to the major crop growing regions of the country. The team that is composed of officers from the Ministry of Agriculture Water and Forestry, Namibia Meteorological Services and the Directorate of Disaster Risk Management assesses and reports on agronomic anomalies, livestock and pasture conditions, household food security, water availability, geographic areas affected by drought and other related events.

The meteorological service provides weather forecast as well as seasonal rainfall outlook. It monitors and reports on the performance and progression of rainfall and other weather phenomena throughout.

¹ Namibia Meteorological Services.

The Ministry of Health takes the responsibility for early warning and response on the outbreak of human epidemics and in the context of drought monitoring it is responsible for nutritional surveillance. Nutritional surveillance gives indications and extent of drought impact. Changes in the number of children with low weight or diseases triggered by macro-nutrient deficiencies gives an indication of food insecurity and water scarcity.

The Directorate of Disaster Risk Management (DDRM) in the Office of the Prime Minister has the overall mandate as per cabinet resolution 15.02.94/006 to co-ordinate disaster risk management in Namibia (Government of Namibia, 2008, p25). It combines the activities of assessment, monitoring and response. The DDRM also hosts the Namibia Vulnerability Assessment Committee (NAMVAC) whose mandate among others is to:

- a) Collect vulnerability information including information on prevailing food security status and tracking indicators in order to inform early warning on pending disasters;
- b) Assess disaster risk indicators to assess factors that influence vulnerability such as livelihoods and means of survival for communities;
- c) Monitor early warning information and
- d) Compile regular vulnerability assessment reports and submit it to cabinet through the National Disaster Risk Management Committee (Government of Namibia, 2012, p17).

NAMVAC is unique in that it provides the first stage of response planning when any disaster such as drought has occurred.

3. Vulnerability Assessments.

Agricultural Sector: The large proportion of the Namibian population depends either on subsistence farming, crop and livestock production all of which highly depends on rainfall. When the rain fails, the most devastating and visible impact are manifested on the agricultural sector. Lack or insufficient rainfall results in failed or poor harvest on one hand and poor pasture on the other leading to loss of livestock or leaving farmers with emaciated animals that they are not able to sell. When households cannot produce enough food to sustain them into the next harvest or can't get proceeds from both livestock and crop produce, then they will need food from an external source.

Water Sector: Namibia being an arid country, the water sector is therefore one of the most vulnerable to drought. Water for household, industrial and agricultural use is sourced from underground aquifers, dams and the three perennial rivers. During drought years availability of water decrease substantially as there is no inflows in the dams and much of the water evaporates. In remote areas where there are no portable water and communities relies on

earth dams and wells, the water table recedes forcing people to dig deeper or travel long distances in search of water. The situation leads people to prioritise water usage where water is first used for cooking, drinking and animals. Washing become the least of priorities, a situation that compromises on good hygiene and sanitation standards leading to outbreak of diseases such as the cholera outbreak that occurred in Kunene Region from December 2013 into January 2014, a region that was hard hit by the 2013 drought.

Women: The most vulnerable groups to drought are the people in the agricultural sector, more specifically subsistence agriculture, where availability of food depends on good rainfall performance. However, among this population the burden of food production is left to women because most men leave to work in urban areas and other industries such as mining and fishing. Women are left to tend the fields, look after family livestock and tend to the elderly, sick and children. During the drought, women have to trek long distances in search of water for household use and livestock, giving them less time to look after their families and most important themselves.

Children, Expecting Mothers and the Aged: They are most vulnerable because of decreased feeding making them more susceptible to malnutrition. In pastoral community in the Kunene region, children often have to drop out of school when the family move in search of pasture and water.

4. Emergency Relief and drought response.

The following are the various drought relief programmes available to the affected population in times of drought.

a) Food-for-work

The food for work is given to able-bodied men and women from households that have lost income because of drought, low income families and casual workers made redundant by drought or any other disaster.

b) Free Food Distribution (Vulnerable group feeding).

Free food is given to children under 6 years from vulnerable groups and households affected by drought, pregnant and lactating women from households affected by drought, any person who is seriously affected by malnutrition and cannot be involved in the food-for-work programme, the elderly, mentally and physically disabled persons and orphans affected by drought.

c) Livestock subsidy

Livestock subsidy include market incentives to encourage de-stocking, subsidy for transporting livestock to better pasture and lease of grazing land.

d) Emergency Water Supply

This consists of supply of water tankers, drilling and rehabilitation of boreholes in communities critically affected by water scarcity.

The following were the emergency drought relief response from various sectors during the 2013 drought.

(Government of Namibia, 1998, p4-7).

Agriculture Sector Response:

Project: Livestock farmers support to destock through market incentives, subsidy for leasing grazing land and transportation of livestock to areas with adequate grazing.

Objectives: To reduce livestock density in drought affected regions by promoting destocking.

Beneficiaries: Livestock farmers in all 13 regions of Namibia. A total of 11 957 farmers benefited.

Partners: Ministry of Agriculture, Water and Forestry (MAWF), Namibia Red Cross Society (NRCS), UNICEF, Community leaders and Churches.

Project: Provision of certified seeds at the onset of the 2013/14 rainfall season and promotion of high value drought resistant crop varieties. 200 MT of maize seed bought by MAWF, 66 MT of maize seed and 48 MT of cow peas donated by FAO.

Objectives: To promote food security resilience through provision of agricultural inputs for drought affected farmers in crop growing regions.

Beneficiaries: Crop producing communities of Omusati, Oshana, Ohangwena, Oshikoto, Kavango and Zambezi regions.

Partners: MAWF and FAO.

Food Security Sector Response:

Project: 2013 Drought emergency food assistance in Namibia

Objectives: To provide immediate life-saving food assistance to the food insecure population.

Beneficiaries: 755 000 food insecure people in rural areas in the 13 regions of Namibia.

Partners: Office of the Prime Minister (OPM), MAWF, NRCS, Community leaders, Ministry of Health and Social Services, Ministry of Works and Transport (MWT), Ministry of Defence (MoD).

Additionally, 314 wild animals (game) were put down and distributed to food insecure communities in Omaheke, Ohangwena and Kunene regions. N\$ 5 000 000.00 was availed to all regions to carry out food-for-work and cash-for-work programs in respective regions.

Project: Extension of the school feeding programme

Objectives: Strengthening and expansion of safety net programmes.

Beneficiaries: 320 000 school children in rural areas of the 13 regions in Namibia.

Partners: Ministry of Education, OPM, NRCS, Faith-based organisations, MWT, MoD, WFP, UNICEF.

Project: Soup Kitchens

Objectives: Provide hot meals for most vulnerable people.

Beneficiaries: 164 630 (under five children, pregnant and lactating mothers and elderly) in rural areas of the 13 regions of Namibia.

Partners: OPM, NRCS, Faith-based organisations, WFP, UNICEF.

Water, Sanitation and Hygiene (WASH) Sector Response:

Project: Improving water supply to affected regions. A total of 302 boreholes drilled, 21 pipelines extended and six water tankers bought.

Objectives: Increase number of boreholes, pipeline extension, rehabilitation of boreholes and earth dams.

Beneficiaries: Affected population in 13 regions of Namibia.

Partners: MAWF and contractors.

(Government of Namibia, 2014, p 16-26).

The total budget on the government for providing food, logistics, water, seeds and drought marketing incentive scheme was N\$ 550, 3 millions. Additionally, a total of N\$ 8 424 584.00 was received as cash donation and food to the value of N\$ 27 627 309 was donated. (Office of the Prime Minister, 2014).

5. Practises to alleviate drought impacts.

Recognising the recurrence nature of drought in Namibia and its impact on the livelihood of the people and the economy at large, the government hence recognised the need to develop strategies aimed at reducing vulnerability to drought, managing and helping recovery from drought. These strategies aimed at promoting sustainable rural live hoods and built resilience of communities and individuals to drought. While aimed at mitigating drought, these programmes also ensure sustainable use of natural resources, poverty reduction and ensure food security. Some of the practises or initiatives aim at mitigating drought impacts are:

1. Diversification of income sources.

In order to reduce dependence on rain fed agriculture, government is supporting communities and individuals to move into enterprises that are not depended on rainfall such as communal wild-life conservancies (wildlife management), tourism, aqua-culture and small-scale irrigation schemes in areas with permanent water sources.

2. On-farm risk minimization

Promoting on-farm practices that minimises loss during drought. These include use of early maturing and high value seeds and use of fertilizers, these are provided to farmers at subsidized value every year, promoting the use of indigenous or livestock adapted to arid land, promoting cultivation practices that maximises the use of soil moisture and sustainable rangeland management.

3. Poverty Reduction

All though poverty remains a challenge, the government in conjunction with development partners have undertaken many activities aimed at reducing poverty among the rural communities. Poverty alleviation will ensure that people are food secure even in times of drought.

(Government of Namibia, 1997).

In addition there are social safety net programmes in place that ensures that the most vulnerable are food secure, such are:

- a) A monthly grant for senior citizens (60 years and above);
- b) A monthly grant for orphans and vulnerable children;
- c) A monthly grant for people with disabilities;
- d) Special programme for historically marginalised communities (San, Ovatie and Ovatombo).

6. The need for knowledge and skills on drought management.

The need for knowledge and skills in drought management is informed by challenges encountered and lessons learned mostly during drought response planning and implementation.

Firstly, drought management is guided by the National Drought Policy and Strategy of 1997. However this document needs to be review, a process that has been ongoing for years, clearly there is a shortfall in the redevelopment of the policy document.

There is a need to enhance the national capacity in the area of early warning especially in the highly technical field of meteorology which faces a critical shortage of skilled and experienced staffs. The other areas that also require more capacity are logistics, information management and water provision.

7. References.

Hannock K, Stephen Turner. 2012. Namibia Vulnerability Assessment Committee Strategic Plan 2012-2017. P12.

Government of Namibia. 1997. National Drought Policy and Strategy. Retrieved from <http://www.mawf.gov.na/Documents/app.htm>

Government of Namibia. 1998. Drought Relief Programme Manual of Procedures: Screening, Registration, Monitoring and Evaluation. p4-7.

Government of Namibia. 2008. National Disaster Risk Management Policy. P25.

Government of Namibia. 2012. Government Gazette: Disaster Risk Management Act, 2012. No.228. p17.

Government of Namibia. 2013. Namibia Drought Relief Response Plan. p3, 16-26.

Office of the Prime Minister, 2014, Drought Relief Program Report 2013/14. P 11 – 19.

Meteorological Service Division. 2013. An overview of Rainfall Performance and Drought occurrences in Namibia. p2.