

# Drought in african countries: impact and solutions

[Environment](#), [Disaster](#)



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Small scale farmers are the driving force behind economies in Africa, even though their potential is not realized. The term small scale farmers is given to farmers from their lack of resources, they own small land that they use to produce crops. Which they may also trade for money. Their labor force may consist exclusively of family members. Small scale farmers are characterized by their use of outdated agricultural technology, they have small produce, with small returns, their labor loads that are changing seasonal and women play a crucial role in keeping it running. Small scale farmers are different, this is due to difference in farm sizes, distribution between in food and cash crops, off-farm activities and farm animals, in the use of external help and hired labor, the crops produced and traded and house running costs patterns. Small scale farming may be crucial for household food security, their role can be extended to rural livelihoods and food security for all in poor in the area. The productivity is quite low, which maybe the result of no interest to participate on urban population and rural household. By ensuring the productivity is increased of the small scale farmers, in long term this can ensure food security. Decline in agricultural productivity contribute to the growing poverty among Africans. Addressing issues that can positively affect

this, can help reduce poverty which affect the rural population. Which at the end they might be forced to seek livelihood in urban areas.

## **Impact of Drought in Rural African Communities**

Droughts affect communities in different ways. A community or household mainly dependent on livestock and agriculture is more vulnerable than a family or community with diverse livelihood. Meaning they are not solely dependent on water to produce. Drought is major common natural disaster in Africa. It triggers household insecurity, causes poverty and lack of food security. According to (Devereux and Maxwell 2001) the sub-Saharan Africa should account for approximately 50% the world's poor in 2015 an increase from 19% in 1990. There was a case of drought in Ethiopia, which affected over 13 million people and they were left in need of emergency assistance. This was in 2002 to 2003, there was a combination of economic shock and drought. According to (OCHA 2004) food aid was delivered. But other aspects of assistance did not get much emphasis and funding such as public health, income support to protect livelihoods and medicine both for the community and the livestock, seeds, water and sanitation needs (OCHA 2004). According to (Calow et al 2010) there is a food first approach when it comes to assistance when a community was hit by drought which does not take into consideration other factors such as nonfood assistance. Water supply is also overlooked making this not to align with livelihood realities. Malawi also suffered in prolonged drought which resulted in drying up of shallow wells resulting in severe scarcity of water. This was 1991 – 1992 in other areas however ground water was available, not accessible cited by (Calow et al 2010) from (Calow et al 1997).

Access to clean and good quality water, is important to prevent exposure to diseases. From numerous epidemiological surveys it was observed the leading cause of death in drought and famine related disasters. Are preventable diseases that are also infectious such as measles and diarrhea they are the main cause of death (Moore et al. 1993)

Childhood malnutrition lead to illness repeatedly was observed especially during drought. In small scale farming domestic water is used for irrigation and for livestock watering. It also used for food, drinking and building and building materials (e. g. brick making) (Nicol 2001; Moriarty and Butterworth 2003; Calow et al. 2002) cited by (Calow et al. 2010). The 2004 -2005 drought in the Horn of Africa has seen losses of over 70% of livestock, migration of a great number of people searching for water relief aid, jobs and food. Women and girls are affected mainly during drought as the recorded time is 5 hours to collect drinking water during dry season and drought. This also affects negatively their educational opportunities as collecting water falls within their responsibilities. Collection of drinking may also lead to injuries on young children as they carry heavy buckets and travel long distances (Calow et. al. 2010). In 2008 according to allAfrica. com, 2008b which was cited by (Binns, T., Nel, E. L., Dixon, A. 2012) Lesotho suffered three dry year. Lesotho supplies South Africa with, these dry years left people with no access to water and no food security. They were also facing the spread of diseases and death. It was determined that 30 percent of their water points ran dry according to their department of rural water supplies. Approximately 350000 people were facing food shortages for at least 6 months. Burkina Faso suffered two major droughts in the 1970s and 1980s.

The drought was experienced in parts of the country that is densely populated and high land use and with highly degraded land in need of urgent corrective actions. With more than 80 per cent living in rural areas with density of 211 per square kilometer. The agricultural sector has employed 87 percent of the labour force. Yatenga in Burkina Faso suffered quite a number of drought dating back from 1832 - 1839, 1940-1942 and 1979-1985 this is just to name a few. Rainfall dropped in the last thirty years from 720mm per annum to lower than 500mm per annum. They removed natural vegetation for agricultural purposes, which had an adverse effect on the land, as erosion occurred when there were heavy rains. In October 1984 there was a disastrous drought that affected food production and livelihoods. Their losses were estimated to be 149kg less per person of annual cereal harvest. It consist of Mossi people which make up 40 percent of the population. It also consist of Fulani people which are of a significant number 10 percent and they are mainly involved in pastoral activities. It is densely populated with 100 people per square kilometer (Ouefraogo and Kabore 1996) cited by (Binns, T. 2012). This put a lot of strain on the land and lead to poverty on the village which pushed most of the Mossi people to start looking for other forms of livelihoods. They looked for wage labour opportunities out of their region.

### **Possible Solutions in Overcoming Severe Effects of Droughts**

Apart from lacking of resources other challenges faced by rural farmers which threaten their livelihood is drought. An extensive research of drought in Africa has been done, in different perspective. This include meteorological, agricultural and food security. Water security was overlooked when these

studies were done, as ground water supply can be the main source of water in some of the rural areas. It also reduces the impact of water shortages with change in rainfall. Water and food common and it is interrelated, by building an infrastructure to make use of the ground water. Food production and consumption becomes a concern with shortages in water, and depletion of ground water is an unlikely a concern. Planning is critical and identifying areas that are likely to be affected by water shortages. Put in place ways to monitor areas that are likely be affected for early detection. Design infrastructure to supply ground water to rural area based on a sound knowledge of hydrogeological conditions, user demand and water points which are accessible conveniently. There is an increase in failure of wells, springs and boreholes during drought. This tends to be a trend, but the ground water is rarely affected this is according to Calow et al 2010) cited (Calow et al 2002). There are transactions of goods during drought, such as trading of livestock for agricultural produce. Violence can erupt fighting over water resources and land which is common. The most important recommendation was that government should give access to portable water supply and sanitations acknowledging the Ethiopians low access to potable water and sanitation (Calow et al 2010). Looking at Yatenga people of Burkina Faso, agricultural practice they adopted and self-development. They used kitchen waste as fertilizers, and farmed vegetables. They also use animal dung as fertilizers, as they allow them to graze after they harvested. Naam movement it helped with development without destroying the environment with the help of Bernard Ledea Ouedraogo. A teacher who is interested in rural development work. This movement is self-help and in

consisted of a group of young women and men. They have leaders they elected and are equal in terms of gender. They gathered in rainy season to plant and harvest using local low cost tools and materials. Six S was established by Ouedraogo to assist with financial and technical support to the Naam groups. It raised money internationally for medicine, pumps, cement and better tools. It was started in 1976 it was an umbrella organization and in 1985 the number of the Naam groups increased to 1350. This went beyond just agricultural activities, as in Somiaga village the Naam group built a pharmacy and mill came up with a solution for drinking water by digging a well and started a tree nursery. To improve food security a cereal bank was started in 1983. This help with fluctuating price when cereal is not in abundance. It is bought at low prices when it's on season and stored at the cereal bank. They also build a dam it not only became useful for irrigation and filling of local well it became a source of fish. Yatenga continued with innovative ways of overcoming challenges to survive water shortage. With projects like Projet Agro-Forestier to improve on soil by preventing soil erosion. And the conservation of water, promoting water harvesting.

According to (Lovell 2000) cited by Callow 2010 research it is crucial to invest in collector well with large diameter so they can support a wide range of uses including garden irrigation. According to (Adelana and MacDonald 2008) to improve on water security on a local level. Informative decision need to be made, useful information like hydrogeological and ground water information can be useful. This can be used to ground water development and the management of integrated water resources. Which can also help in

preparing for drought. For example in Ethiopia the UK Department of International Development is developing ways of improving rural areas water supply and to prepare for droughts. They collected such primary information and local level mapping for such development (Adelana and MacDonald 2008) cited by (Callow 2010) research.

Since progress has been made on preparing monitoring and assessment of poverty, livelihood surveys and monitoring systems are an increasing feature of development programs.

If these systems in place can be combined with information of food security known by government and donor it could help with awareness and help with response which will be effective (Buchanan-Smith and Davies 1995; Devereux and Maxwell 2001) cited by (Callow 2010) research. Even with good information from the monitoring of livelihood and all related information system it does not mean that the response will be timeously, flexible and effective. However it will make the impact of drought on water and food security, vulnerability easier to understand and foresee the extent of impact. (Buchanan-Smith and Davies 1995).

Degradation of natural resource lead to food insecurity and jeopardy of livelihoods of rural population making them more vulnerable. WFP and the organizations interested in development of countries that are vulnerable to drought, they believe if investments can be made on natural resources it can a long term solution. Compared to short term solutions of giving these countries food and money. With water security, food security and strengthening of their resilient is likely in long term. The risk of failing crops

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is reduce. Water harvesting also shown to be effective as it was reported that water from ponds pans and dams can be used for production purposes (that is farming, livestock, and building etc.), domestic purposes (cooking, cleaning etc.). Interviewed rural residents had positive feedback stating water interventions affected positive natural resources in turn resulting in improved food security. The jobs opportunities opened by the implementation of such projects also assist the rural resident with medical needs, education of their children and reinvestment on their livelihoods.

## **Conclusion**

The future does not look better with climate change effects. An increment of 5-8 per cent of Africa arid and semi-arid land is expected. Which in turn will result in maize production from southern Africa to decline, and there will be no production of wheat by 2080 in the continent (IPCC 2007) cited by (Binns, T. et. al. 2012) research. Some countries like South Africa are lucky as these arid conditions remedial action can be taken. Such as removing of alien plants and importing water from its neighbor Lesotho. With climate change it is expected that rainfall will drop and high temperatures will lead to evaporation of water. This will lead to extreme water shortages. This will affect economies for example Namibia which is very reliant on natural resources. (Reid et al. 2007) cited by (Binns, T. et al 2012). This decline in rainfall affects livestock farmers as it affects the grazing resources threatening the pastoral livelihood. This will result in pastoralist travelling long distance looking for grazing land. Also conflicts will arise amongst pastoralist and with farmers over the limited resources (Binns, T. et al. 2012).

The African countries we looked at we saw majority of their population were employed in agricultural sector, or relied on it for their livelihood. As seen most of these people live in rural areas for example Burkina Faso, Yatenga people making up 40 per cent of the population. The common thing in their situation shortages of water really affect their livelihood, food security their livestock. Which also result in migration where they need to leave their home to find paying jobs so they can take care of their families. Droughts also break up families. According to the (Overseas Development Institute 2017) water programmes they really improve and better people's food security. They improve their health as seen drought is associated also with infectious disease (e. g. Diarrhea, cholera etc.) which also result in death. According to (ODI 2017). even progress is seen as effects of long dry season and drought may be reduce not all household are entirely saved from poverty. It is a start that also increase the resilience in such areas. The Yatenga people also proved that working together as a community can change and develop a community, without any modern technology. As the resilience of a community lies on learning where they can improve next time. In Yatenga people for example the Cereal bank, in general the will to learn and improve their situation with what they have. They did more with assistance they received externally.