

Climate change and smallholder farmers in Malawi

Understanding poor people's experiences in climate change adaptation



Marion Khamis/ActionAid

Introduction

Southern Africa is one of the regions estimated to be most at risk from climate change. While policy responses to global warming have been mainly driven by debates among scientists, the insights of poor people living on the frontline have been largely neglected. This study seeks to understand what is happening from poor people's perspectives. A field study was conducted using Participatory Vulnerability Analysis (PVA)¹ in two districts of Malawi, Salima in the central region and Nsanje in the south. We selected two villages (Mphunga and Mulembe respectively) that face both droughts and floods.

Background

Malawi is an already severely poor country facing an AIDS pandemic, chronic malnutrition, declining soil fertility, shortages of land and inadequate agricultural policies. About 6.3 million Malawians live below the poverty line, the majority in rural areas, with more than 90% relying on rain-fed subsistence farming to survive. Evidence strongly suggests that increased droughts and floods may be exacerbating poverty levels, leaving many rural farmers trapped in a cycle of poverty and vulnerability.²

The situation in Malawi illustrates the drastic increases in hunger and food insecurity being caused by global warming worldwide. UN scientists warned in 2005 that one in six countries are facing food shortages because of severe droughts that could become semi-permanent.³

Disaster trends in Malawi as experienced by smallholder farmers

Chipika Kalemba, 84, has lived through several droughts and floods. He remembers the worst in 1999. *“Water flooded the school, the maize mill and all the houses and the entire village took refuge in church. My house and 15 chickens were washed away. Afterwards, I relocated to a neighbouring village where I constructed a temporary shelter using reed.”*



1. PVA is a tool developed by ActionAid over the past five years. It is a systematic process that involves communities and other stakeholders in an in-depth examination of their vulnerability and at the same time empowers or motivates them to take appropriate action. The overall aim of PVA is to link disaster-preparedness and response to long-term development. The message at the heart of PVA is that communities know their situation best and so any analysis should be built on their knowledge of local conditions.
2. Phiri, M G, Ibrahim and Saka, R Alex, 2005, *The impact of changing environmental conditions on vulnerable communities of the Shire valley, southern Malawi*. Lilongwe, Malawi.
3. Vidal, J and Radford, T, Thursday June 30, 2005, *One in six countries facing food shortage*, the Guardian. <http://www.guardian.co.uk/international/story/0,,1517746,00.html>

Malawi's experiences with disaster are often traced back to the 1991/92 southern Africa drought that caused suffering to over 6.1 million people. Disasters have continued to escalate, with the 2002 drought and flood causing a landmark food crisis that will never be forgotten in Malawian history. Since then, the country has been undergoing food crises caused by erratic rains and regular floods.

Figure 1 summarises the statistical evidence on the increasing frequency of droughts and floods. From 1970-2006 Malawi experienced 40 weather-related disasters, but 16 of these occurred after 1990.⁴

Figure 1

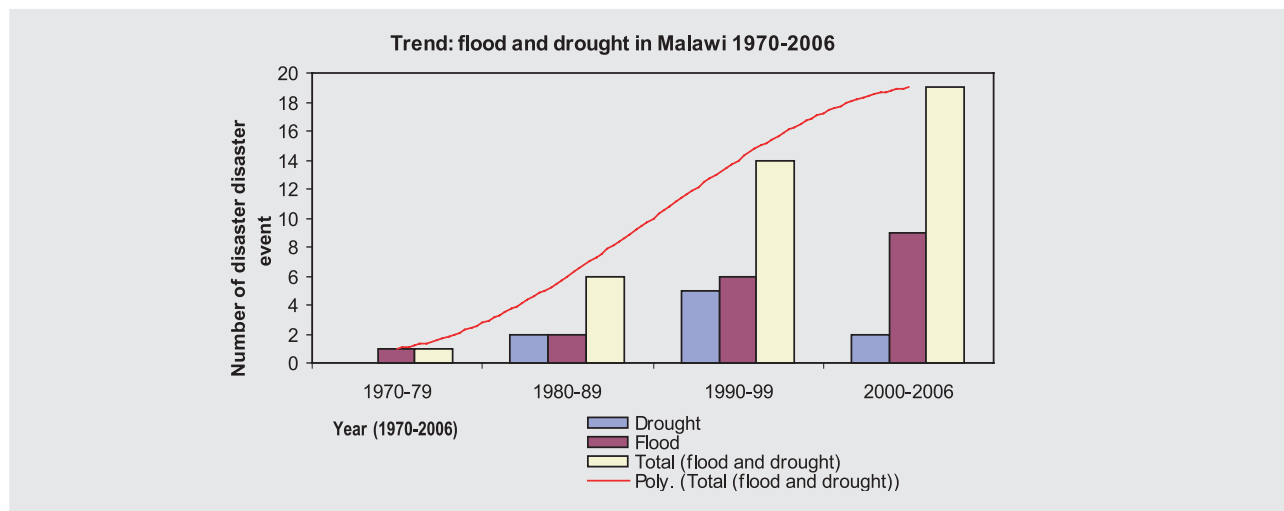
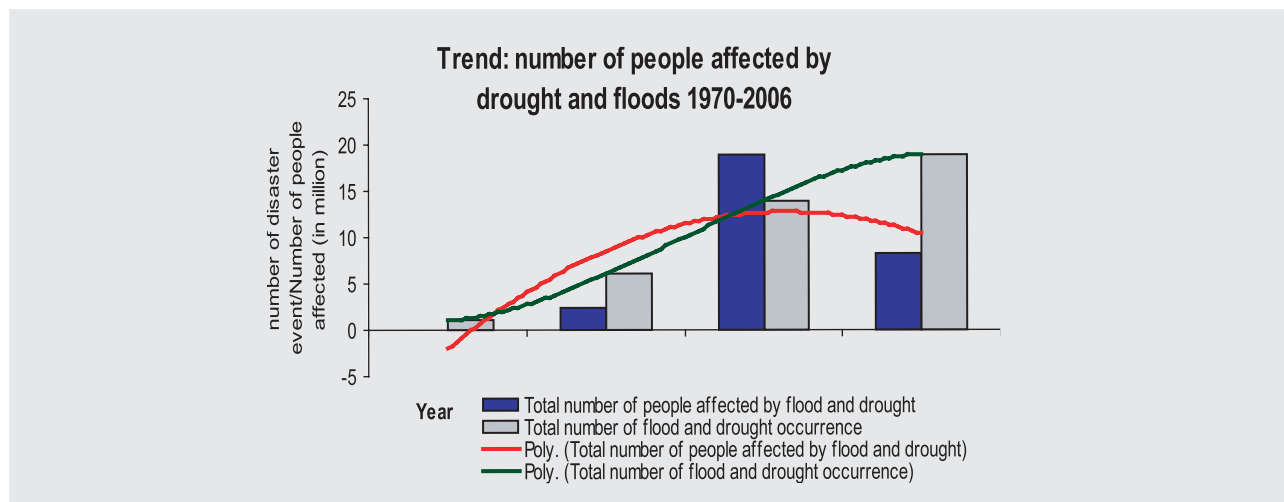


Figure 2



Data Source: "EM-DAT: The OFDA/CRED International Disaster Database
www.em-dat.net - Université Catholique de Louvain - Brussels - Belgium"

The number of people affected has also increased sharply since 1990, as shown in Figure 2. Before 2001 only nine districts in Malawi were classified as flood-prone. In 2001, 16 were affected, and a further 14 in 2002. By the end of January 2003, there was localised flooding in 22 districts, causing eight deaths and damaging homes and crops.

4. A 30-year timeline is often used to understand disaster trends. This study uses people's experiences supported by a systematic record of data.

Climate change and adaptation challenges

Through extensive discussions during this study, smallholder farmers explained how changes in weather patterns were affecting their livelihoods. Their insights can be summarised in five key messages.

Key message 1: Smallholder farmers experience changes in the climate which is reducing productivity

Changing rainfall patterns and higher temperatures have forced farmers to shorten the growing season and switch to more expensive hybrid crops. Frequent droughts and floods are eroding assets and knowledge, leaving people more vulnerable to disaster. An upsurge in malaria and cholera requires women to spend more time tending to the sick and less time working their fields.

Farmers are increasingly concerned about the impact of climate change on agriculture and food security. As expressed by one farmer in Salima district, *“Food availability has been an issue over the years since the disasters began. Much as we have experienced floods in those days, the impact was somehow not as severe. As time went by, there has been a drop in crop production due to frequent flooding and droughts.”*

An increased frequency of floods and droughts

Lemisoni Ambulesi, 70, had a close encounter with death in the floods of January 2006. *“The floods of over knee height carried me for about 900 metres. I am lucky to be alive and can say that the floods in recent years have increased in frequency and intensity as compared to when I was still a young man.”* Lemisoni speaks on behalf of many farmers in Nsanje district whose livelihoods have been affected due to floods that are now considered an annual event.

It is widely understood that floods and droughts destroy and erode assets which are the very means for adaptation. When their frequency and intensity increases, farmers are left with no time to recover from previous impacts through either asset accumulation or acquiring the skills and knowledge necessary for adapting to future climate changes. Consequently, farmers are being subjected to continuous hunger and deeper cycles of poverty and vulnerability.

Changes in rainfall patterns

“Previously rains used to start in October. We used to regard this as the rain that makes mangoes ripen or puts off bush fires. The pattern started changing in the 1970s when we started getting these rains in November. These days we get planting rains in December.” Kabota Kanyara, 63 years, Salima district.

Changes in rainfall have resulted in changes in the growing seasons as well as in crops grown. For example, maize used to be grown in November, but it is now being grown in December. One farmer explained: *“In the past we used to plant our crops after the first rains, but since we started experiencing frequent droughts and floods we are planting our crops much earlier. This is to allow the crops to meet the first rains with the hope that they will mature before the end of the rainy season and to prevent the crops from being washed away by the floods. Instead of planting a local variety of maize, we have opted for hybrid maize that takes a shorter period to mature.”*

Clearly, farmers are now uncertain of when to plant. Farmers now opt for short-season hybrid maize varieties because the growing season is shorter. Rainfall patterns have hindered the growing of long-season local indigenous maize varieties.

There has also been a noticeable increase in diseases such as malaria, cholera and dysentery associated with changes in rainfall patterns, and this has created health challenges that are particularly affecting women. One female farmer described the workload that comes with caring for the sick and maintaining household hygiene. *“We now travel longer distances to fetch water and spend most of the time in health centres instead of working in our fields.”*

Increase in temperature

Farmers noted that summer periods used to run August to December, but now run from October to January, and they confirmed that temperatures have been increasing over the years. Phiri et al also observed that mean temperatures in the lower Shire had increased by 2.3%, while mean maximum temperatures increased by 2% between 1970 and 2002.

Key message 2: Inappropriate government policies have undermined attempts to diversify

Food security in Malawi is largely defined by the availability of maize or '*nsima*' – the staple food. Although this has been influenced by climate change, it has also been encouraged through government policies to intensify maize production. Hybrid maize for example, has been promoted in Malawi since the early 1970s, supported through a credit scheme that offered subsidised inputs to farmers. When this collapsed in 1994, the share of land allocated to maize fell from 30% to 18%.⁵ Maize production has continued to fluctuate due to the removal of subsidies and the privatisation of seed companies, causing an escalation in prices beyond the reach of smallholder farmers.

However, farmers say that short-season hybrid maize is an option for them to adapt to climate change, and the yields are higher than indigenous maize varieties. *"Drought resistant local varieties have become unavailable,"* they pointed out. Hybrid maize also produces more calories per unit area of land than all the other food crops. However, it is very costly to produce and fertiliser is expensive. Hence, farming has become less viable because hybrid maize is capital intensive. In the long run, *"only commercial farms will be able to survive as a result of climate change and government policy on seed,"* the participants argued.

In a recent fact-finding visit to Malawi, human rights groups including FIAN⁶ criticised the government for promoting policies that perpetuate over-dependence on maize and imported inputs such as chemical fertilisers, while also withdrawing programmes and resources from agricultural development and extension services.⁷ It was suggested that these policies are contributing to hunger and undermining food security, a point that was emphatically echoed by smallholder farmers who participated in the PVA exercise.

Key message 3: Development factors exacerbate climate change impacts

The degradation of the environment through poor land use and deforestation is a serious concern for people in Salima and Nsanje. Farmers know that these activities result in more floods and droughts but have failed to stop as there are few alternatives. They lament the role played by tobacco estates. Chipiza Kalemba, 84, explained, *"I suggest that the village headmen should approach traditional authority Dindi and urge him to develop laws that will regulate the cutting down of trees by tobacco estates that are situated in the upland areas from the source of the river. The laws should include enforcement of planting trees by estate owners as well as communities. Communities should also stop the practice of carelessly cutting down reeds that are growing along river banks. There were efforts by the local forestry assistant but people showed no interest to his messages."*

According to the Forestry District Officer in Salima, the existing forestry laws require tobacco estates to have a woodlot that is meant to be used for reforestation but this is not being enforced. *"Monitoring and evaluation of tobacco estates is a challenge for district staff because of lack of financial resources."* Smallholder farmers are aware of the factors that contribute to climate change, but are not empowered to speak out to the tobacco estates, and also lack government support in terms of enforcing the laws that protect their forests.

Key message 4: Climate change exposes the underlying causes of food insecurity

Droughts and floods are exposing the crisis in livelihoods of smallholder farmers in Malawi. In the past, nearby small-scale sugar and tea plantations were sources of employment for most people in Nsanje. However, farmers

5. Simtowe, F and Zeller, M, 2006, *The impact of access to credit on the adoption of hybrid maize in Malawi: an empirical test of an agricultural household model under credit market failure*. <http://mpira.ub.uni-muenchen.de/45/>

6. FoodFirst Information and Action Network.

7. FIAN, April 2006, *The human right to food in Malawi*. http://www.fian.org/fian/index.php?option=com_doclight&task=details&Itemid=100&dl_docID=69

say that flood-induced migration means that there are now many more people seeking work on the plantations than there are jobs available. They also believe that the limited income opportunities in the face of increased floods and droughts have forced women to engage in unsafe sex practices, exposing them to greater risk of HIV. They say that girls as young as 13 are being forced into early marriage due to hunger, thus aggravating the impact of HIV and AIDS. In addition, the destruction of property and infrastructure places a huge burden on already strained health care systems. *"I am very worried about the future of the AIDS orphans that I am looking after and my family which depends on me. I am asking if ActionAid could help me purchase a garden of my own so that I can maintain and provide a better future for my family,"* said Selimani Zaina, 79 years old victim of the 2005 drought.

Key message 5: Existing local government capacity cannot support the challenges smallholder farmers face in adapting to climate change

"Lack of knowledge of disaster and environmental management policies, limitations on funding and damaged equipment within the district is weakening support towards community adaptation. For example, the District Disaster Preparedness committee has not been functioning efficiently due to lack of resources." These were sentiments expressed by a member of the District Assembly in Salima. The current limitations to adaptation are poor formulation of policies, lack of knowledge of policies, and their lack of implementation at the district level.

The National Adaptation Programme of Action (NAPA) for Malawi, drafted by the Environmental Affairs Department, is the key guide to adaptation priorities. As it stands, there are concerns that NAPA exists in isolation of other key sectors, for example, the document currently addresses issues of agriculture and environment, but health and gender are ignored. District staff in both Nsanje and Salima were ignorant of its existence, a situation that confirms that not all sectors were involved in drafting the document. This has far reaching consequences for its implementation.

An element of concern in Malawi is the lack of intersectoral coordination that currently affects implementation of climate-related activities. The planning and management of climate change and disaster management is currently carried out on a sectoral basis and the involvement of local communities is limited. The absence of an overall planning and management strategy, developed with the participation of community users, hampers successful adaptation. There are also currently limited skills and resources at the local level to implement new policies.

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Conclusions

Smallholder farmers in Malawi have been exposed to increased droughts and floods, tremendously affecting food security. Several adaptation strategies, including changes in crops grown and changes in growing patterns, have been undertaken in response. However, smallholder farmers have faced limitations in adapting to climate change because they lack capacity including knowledge, skills and money. Current government policies on hybrid maize and privatisation of seed companies have made agriculture unprofitable for smallholder farmers. Moreover, implementation of NAPA faces capacity constraints at the district levels and lack of coordination among various sectors. The overarching problem is the fact that NAPA seems to exist in isolation of other sector policies. In addressing adaptation challenges, it is imperative that a multisectoral approach is taken, beginning at the community level with the smallholder farmers who are directly affected by climate change. These farmers need skills, knowledge and access to credit for addressing short and long-term needs of diversifying from maize into other crops. The Hyogo Framework for Action, adopted at the World Conference on Disaster Reduction in Japan 2005, offers comprehensive disaster reduction policies, that should be implemented at local and national levels as an urgent adaptation measure.

Failure to take decisive action to protect Africa's poor farmers from destruction of livelihoods arising from climate change can be considered a violation of the right to food. Under international human rights law, the obligation to act rests both with African governments, and with the carbon emitting nations.



ActionAid International is a unique partnership working with poor and excluded people to eradicate poverty and injustice.

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