



FANRPAN

Policy Brief



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Helping farmers to better manage climate related risks to crop production in Malawi

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The effect of climate related risks on smallholder farmers' crop production

Crop production is the main stay for more than 70 percent of Malawians. Unfortunately, because of high dependence on rainfall, many farming families barely meet their daily food and nutritional requirements. Climate related risks to crop production in Malawi include the late onset of planting rains, uneven rainfall distribution, dry spells and drought, strong winds, hail storms and floods. Smallholder farmers largely depend on rainfall for their crop production. Late onset of planting and uneven distribution of rainfall affects crop growing conditions. For instance, during the 2013/2014 growing season, parts of Lilongwe experienced heavy rainfall in January/February when maize was in a vegetative stage. When most crops (such as maize) were at a very critical stage (tasseling and cob filling), there was little rainfall. This greatly affected the quantity and quality of the harvest. Uneven distribution of rains may also affect crop suitability in agro ecological zones. Crops that did very well in the past may not perform well.

Droughts affect farmers' crop production in a number of ways. Drought directly affects crop yield. The effects of drought are particularly severe when it occurs when crop needs for moisture are very high. Drought also affects water sources used for irrigation. Local water sources dry out quickly in situations of prolonged drought. With limiting residual moisture, few farmers can supplement their food requirements with dimba

(wet lands) acropping or irrigation. A country wide drought leads to widespread hunger resulting in high food prices and high foreign exchange expenditure on food imports and fuel inflation.

On the other hand, flooding submerges and/or washes away crops. Farmers may need to source new seed for replanting. Replanting may not yield good results considering that the optimum period for planting that particular crop has elapsed. Flooding also increases the risk of spreading communicable and vector borne diseases. Hail storms and strong winds severely damage crops in the field. With minimal financial capacity to source seeds, farmers usually plant alternative crops such as cassava and sweet potatoes. Unlike cereal crops, farmers cannot store root crops for long periods because they rapidly degrade after harvest.

In order to sustain their household for the year, many farmers resort to doing temporary manual work in other farmers' fields. They have less time to work their own fields. Children may be called upon to help their parents and, therefore, miss out on an education. Most of the times, farmers prepare their fields with the onset of the planting rains. With minimal inputs, their crops do not perform better. Hence the cycle of hunger and poverty is perpetuated.

The role of policy and institutional frameworks for managing climate related risks to smallholder crop production

Managing climate related risks is a crosscutting issue. It requires inter-ministerial coordination between the agricultural, water development, health, environmental, trade and industry and infrastructural development sectors. Currently, the Ministries of Agriculture and Food Security, and Environment and Natural Resources (the department of environmental affairs and the department of meteorological services and climate change) have the mandate to deal with climate change effects in Malawi. Existing strategies on managing climate related risks include promotion of crop diversification, cultivation of drought tolerant and early maturing varieties, and small scale irrigation. With a good early warning system in place, farmers could be encouraged to irrigate their crops to offset in season droughts. There is also a need to document crop varieties that are tolerant to saline water and soils. Results from such research could be incorporated into policy guidelines.

As pointed out already, dealing with climate related risks is a cross cutting issue. The government of Malawi has put in place several policies to drive various sectors. The food security policy, national environment policy, and the Malawi National Adaptation Programmes of Action (NAPA) are relevant to managing climate related risks to crop production. The government is in the process of drafting the national agricultural and the disaster management policies. The strategies highlighted in these policies are curative or response-oriented. Other strategies are the Presidential Initiatives of Legumes; the Food diversification programme and the Green Belt Initiative. There is a need for policies to be more focused on preventive, community and evidence based climate risk management.

The effectiveness of existing policy and institutional frameworks on managing climate related risks to farmers' crop production

Although the existing policies mention managing climate related risks to crop production, they are not effective in reducing the risks significantly due to several factors, including:

- Inadequate numbers of qualified climate risk managers, climate modeling experts and statisticians.
- Weak implementation capacity at all levels. This is mainly due to limited funding, lack of appropriate technologies, poor infrastructure and equipment (modern computers with advanced climate software) to develop and model climate based scenarios used in early warning systems.
- Limited policy implementation and monitoring. Implementation of some good policies may start but fail to continue due to changes in government priorities followed by change of government.
- Lack of operational guidelines to direct all stakeholders in the implementation and evaluation of a particular policy. For instance, there are many stakeholders involved in the national irrigation policy, but there are no step-by-step methodologies for implementing irrigation projects in Malawi.
- Limited local leadership and ownership. Local leaders are only engaged in identification of farmers for a particular project but they do not participate in deciding what interventions to try in their areas. Hence, many communities do not own project and cannot commit themselves for the project continuity.



Proposed ways to enhance the effectiveness of existing policy and institutional frameworks on managing climate related risks to farmers' crop production

Unless deliberate action is taken, farmers will continue to be food insecure and the national development agenda on food security will be just a dream. There is a need to:

- Incorporate strategies for managing climate related risks to crop production in the draft national agricultural and disaster management policies. This will require strong and effective advocacy, and financial resources.
- Put in place mechanisms for monitoring and evaluating policy implementation.
- Develop a step-by-step methodological approach to guide project teams in incorporating climate related risks management in their crop production and other development programs. A pilot project can be set to test the feasibility of the outlined policy strategies and guidelines. Results from this pilot will then be incorporated in the final draft that is submitted for the approval of parliament.
- Link good research findings (e.g. recent research funding on early maturing pigeon pea, witch weed resistant cowpea and salt affected soil tolerant common beans varieties) to policy formulation and implementation.
- Build and enhance human resource capacity in all key departments. Train extension personnel on climate risk management. They can undergo a month long training at a recognized and approved agricultural university.
- Enhance communication and coordination among stakeholders.



Further reading:

- AICC (2013b). Fact Sheet 4: Electronic Vouchers for the Malawi Farm Input Support Programme (FISP) – Pilot Project
- Benson, T. (1999). Area-specific fertilizer recommendations for hybrid maize grown by Malawian smallholders: A manual for field assistants. Action Group I Maize Productivity Task Force, Chitedze Research Station, Lilongwe.
- Chadza, W. and Tembo, D. (2012). Mainstreaming climate change into development policies in Malawi: A review of key issues. Policy, 8(1).
- Chadza, W., Tembo, D. and Nankhunda, J. (2011). Climate change policy and legal framework in Malawi: towards a comprehensive policy framework. Action Aid Malawi, Lilongwe 18 pages
- Chilowa, W. R. (2005). Towards Improvement of Food Security and Livelihoods in Malawi: An Assessment of Policies, Strategies and Institutional Arrangements. Chapter one. Agricultural and Rural Development in Malawi: Macro and Micro Perspectives. Africa Research Series, No. 11. <http://www.ide.go.jp/English/Publish/Download/Ars/11.html>

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The Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN) is an autonomous regional stakeholder driven policy research, analysis and implementation network that was formally established by Ministers of Agriculture from Eastern and Southern Africa in 1997. FANRPAN was borne out of the need for comprehensive policies and strategies required to resuscitate agriculture. FANRPAN is mandated to work in all African countries and currently has activities in 17 countries namely Angola, Benin, Botswana, Democratic Republic of Congo, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe.

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