



# FANRPAN

## Policy Brief



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### Helping farmers to better manage climate related risks to Post-harvest Handling in Malawi

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#### Recommendations for improving post-harvest handling in Malawi

The following recommendations are made in order to improve postharvest handling in Malawi:

- The Ministry of Agriculture should develop guidelines on good postharvest handling practices for all major crops grown in the country.
- Aflatoxin certification and food quality testing laboratories should be established in the three regions of the country. Currently there is only one certification unit located in Lilongwe.
- Need to enhanced human resource capacity in various aspects of pest management (entomologists, pathologists, food quality, bioinformatics and food microbiology) of the Ministry of Agriculture and Food Security should be trained in
- Research should be carried out for effective shelling and small scale food processing equipment.
- Postharvest handling should be integrated into agricultural policies.
- Postharvest handling capacities of service providers and agricultural extension department should be strengthened.

#### Status of Post-harvest Handling in Malawi

Agriculture is the main source of livelihood for more than 70 percent of the population of Malawi. Common beans, groundnuts and maize are widely grown in the country. One of the goals of the Food Security Policy (2006) for Malawi is to increase agricultural production as a major way of combating food insecurity and poverty in Malawi. The policy also recognized the role that post-harvest handling (PHH) plays in causing postharvest food losses (PHL).

Postharvest losses (PHL) present a big challenge to food security efforts. Estimates by the African Postharvest Losses Information System (APHLIS) indicate that crop losses in Southern Africa amount to US\$1.6 billion per year or about 13.5 percent of the total value of the region's annual grain production (US\$11 billion). The postharvest losses for Malawi for 2012 for the Central, Northern and Southern provinces are estimated at 260,817 tons, 93,704 tons and 244,718 tons, respectively.



## Effects of Climate Related Risks on Farmers' Postharvest Handling

For cereals, farmers usually wait for the crop to attain a certain degree of drying in the field before harvesting. After the crop is removed from the field, dehusking takes place. Further drying is allowed before shelling. The grain is then sieved, all debris removed and re-sundried. When the farmer is satisfied that the grain has attained the desired moisture content, he/she admixes the grain with grain protectants before storage in woven sacs. Non-grain crops, such as cassava and sweet potatoes, are harvested as the need arises.

The World Bank et al. (2011) report, entitled *Missing Food, the Case of Post Harvest Grain Losses in Sub Saharan Africa* confirmed that PHL in staple food grain in Sub-Saharan Africa (SSA) were mainly caused by poor postharvest handling practices throughout the value chain. For instance, late harvesting may result in 30% of groundnut loss to rodents and termites (Odogola, 1994). There is little value addition and processing at smallholder farmer level in Malawi.

Climate related risks to farmers' postharvest handling include cloudy skies extending the sun drying periods required to dry their crops, floods, strong winds and pest infestations. Drought affects crop development resulting in poor quality grain due to poor grain filling and contamination by fungi and insect pests. Strong winds may uproot outside storage structures. Changes in temperature and moisture may lead to high pest pressure in storage.

To escape high pest infestation in storage, farmers usually sell their crops soon after harvest. Towards the later part of the year especially during the months of January-March, their households are food insecure and miss out on higher prices for produce offered at the end of the year. In addition, poor PHH may lead to poor quality and insufficient quantities of food available for agro-based industries. Policies are not responsive to PHL. While PHL may largely be caused by biological factors and farmer post-harvest handling, policies in relation to PHL are largely concerned with the political economy.

The Government of Malawi recognizes the impact that poor PHH has on the food security situation. However, the efforts aimed at improving farmers' post-harvest handling activities are largely export market oriented. This is especially true for groundnuts. Aflatoxin contamination has become a major issue in international trade. Malawi, once a large exporter of groundnuts to the United Kingdom, is no longer able to exports much of this

produce because of high levels of Aflatoxin contamination. Currently, there are a wide range of initiatives aimed at reducing aflatoxin contamination in groundnuts to meet international market demands.

## Ways of improving Postharvest Handling

The current focus to help farmers better manage climate related risks to PHH is on improving grain management throughout the value chain, pest management and storage systems. There are some arrangements for institutional grain marketing. Good examples include agricultural commodity exchange (ACE), National Association of Smallholder Farmers of Malawi (NASFAM), Auction Holdings Agricultural Commodity Exchange (AHCX) and registered farmer cooperatives. Farmers in Malawi predominantly store their produce in woven sacs and some in outside traditional granaries. However, these two storage systems are not effective in reducing pest infestation. The government has been promoting modified traditional granaries with rat guards. Airtight grain storage systems, such as silos and triple plastic bags, are also being promoted.

The Guide to Agricultural Production (GAP) recommends the use of synthetic grain protectants, such as Actellic, for grain storage at household level. However, although synthetic insecticides are effective and easy to use; they are expensive, toxic to humans and harmful to non-target species (López *et al.*, 2005). There is also ongoing research on optimizing the efficiency and safe utilization of botanical pesticides in Malawi. Botanical pesticides are safer than synthetic insecticides, locally available and relative cheap (Belmain et al., 2012; Isman, 2008). However, issues of formulation and toxicity have to be researched thoroughly.

The Government of Malawi has been promoting value addition at community and commodity level as a way of minimizing postharvest losses. At commodity level, success has been reported for coffee, honey mostly through the One Village One Product (OVOP) initiative. These initiatives have not been very effective mostly because farmers lack the capacity to purchase food processing equipment. Establishing small scale processing units in all districts of the country will be helpful. The processing unit can be leased to local private traders at a cost that will cover the cost of maintenance. Farmers from surrounding areas can participate in learning opportunities at the centre, e.g. on processing technologies, packaging, quality assurance and branding.

## Policies and Institutional Frameworks Affecting Postharvest Handling in Malawi

The country's long term development plan, *Vision 2020*, sets to reduce PHL to less than 5% by developing a policy and programmes on postharvest technology (GoM, 2000). The Plan seeks to support research in low cost postharvest technology with financial and human resources. It also seeks to train personnel in postharvest handling, processing, preservation and storage of food crops. It promotes the establishment of village or community storage facilities to realize economies of scale. *Vision 2020*, however, fails to recognize the impact of climate related risks on PHH. It lacks details on how for instance, research findings will be incorporated in crop management guidelines and how the results will influence agricultural policies.

Climate related risks affect farmers' postharvest handling but policies also affect how farmers are affected by such risks. The Food Security Policy (2006) and the national environmental policy (2004) mandate the Ministry of Agriculture and Food Security (through

the department of agricultural research and crop storage section) and the Ministry of Environment and Natural Resources Management (through the department of climate change and meteorological services, and environmental affairs department) to consider issues of climate and crop management. The Food Security Policy, however, lacks information on the implementation of the climate and crop management mandates and it only states the need for pest infestation management (GoM, 2006).

Malawi has a liberal trade policy. As Chinsinga (2012) points out, the liberalized trade policy has affected the regulatory powers of the Government on cereal grain trade. Farmers are not motivated to engage in good postharvest handling practices since they sell their produce to grain vendors soon after harvest. Prices are often very low and farmers barely break even. Also the minimum prices are announced and published in newspapers close to or during harvesting period. If prices were set before planting, farmers would be able to make better informed decisions on which crops would be more profitable to grow. Although the Government dictates minimum prices for specific grains, monitoring to see whether or not such guidelines are implemented is minimal.



### Further reading:

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