



FANRPAN

Policy Brief



PHLM in Mozambique

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Towards a Specific Post-harvest Loss Management Policy and Strategy for Mozambique

*Produced by FANRPAN as an output of the PHM policy evaluation study and national policy dialogue in Mozambique
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Recommendations

- The production of improved small silos (metal and plastic silos), which are suitable for the small-scale farmers, should be promoted. The Government could stimulate the production of small silos by introducing special tax exemptions or tax incentives for silo manufacturers.
- Create a National Post-Harvest Steering Committee with active participation of farmers. The roles of individual actors in the Committee should be well identified. The National Agriculture Extension Directorate (DNEA) could lead the Steering Committee. The following actors could be included: (i) The Agricultural Promotion Centre (CEPAGRI). The Institute for the Promotion of Small and Medium Enterprises (IPEME) can play a role in the promotion of construction of silos. (ii) The Mozambique Agriculture Research Institute (IIAM) and Eduardo Mondlane University can contribute to assessments of what will be required to improve PHM and transfer technology to the small-scale enterprises and farmers. (iii) The Technical Secretariat for Food and Nutrition Security (SETSAN) could be responsible for evaluation of the state of food security and nutrition among the farmers. (iv) The National Farmers Union (UNAC) could contribute to assessments of the effectiveness of the PHM programmes.
- Develop a Stand Alone National PHM Policy that will strongly address the reduction of PHL at the small-scale farmer level. The policy could be developed in collaboration with the above-mentioned actors, and ensure coordination and harmonisation of PHM related activities.



PREAMBLE

FANRPAN commissioned a study to consider ways in which the capacity of smallholder farmers to engage in post-harvest management policy making processes in Mozambique could be strengthened. The study showed that the specific theme of the post-harvest management (PHM) has been minimized in the national reference documents. The policies and strategies approved by the Government of Mozambique for the agricultural, industry, science and technology sectors refer to the importance of reducing post-harvest losses (PHL), as one of the major strategies for poverty alleviation, improved food and nutrition security and increased export of food products. However, there is no specific policy and strategy for post-harvest management (PHM) in Mozambique. The study identified several factors that undermine effective PHM in Mozambique, such as (i) infrastructural and institutional challenges; (ii) lack of relevant and accessible technology, especially for women and the youth; (iii) lack of coordination, harmonisation or continuity of activities aimed at improving PHM; and (iv) a lack of effective linkages between researchers-extension-farmers and policy makers, which discourages the adoption of technology. The study made a number of crucial recommendations aimed at improving PHM in Mozambique.

1. Introduction

The Agriculture Sector in Sub-Saharan Africa (SSA) is characterized by poor post-harvest practices. Post-harvest losses (PHL) in SSA are the highest in the world (PHL) amounting to between 26% and 36%. This corresponds to 120-170kg/capita year of production losses of edible parts of the food¹. Poor post-harvest practices are related to financial, technical and managerial limitations of farmers, who mainly consist of poor smallholders. PHL contribute significantly to food insecurity in rural and urban areas in most of SSA countries. The post-harvest losses in Mozambique are estimated to be over 30%². This partly explains the high levels of food insecurity in the country.

The majority of smallholder farmers grow and store their food products at the households (Figure 1). However, due to poor post-harvest handling (PHH) practices and unsuitable storage conditions, the food products only last for three months, after which they are lost through deterioration. The poor storage conditions force farmers to sell their surplus during the harvesting period at low prices, resulting in lower income for farmers. This in turn means they will not be able to purchase processed foods in lean season, which increases their food insecurity. Therefore, there is need to develop strategies that can be used to secure food throughout the year in rural communities.



¹FAO (2011). Global food losses and food waste. Dusseldorf, Germany.

²Mozambique Ministry of Agriculture (2011). Plano Estratégico para o Desenvolvimento do Sector Agrário (PEDSA) para 2011-2020



Figure 1: Handling and storage of food products in rural areas.

GTZ (today GIZ; 1992-2002), the Food and Agriculture Organisation (FAO; 2001-2004) and Helvetas (from 2005) have implemented PHM development programme initiatives in Mozambique. Most of the initiatives have focused on promoting improved small grain storage silos at the small-scale farmer level (see Figure 2).



Figure 2 Type of improved silos (Gorongosa type), that were promoted at Sofala province, Mozambique



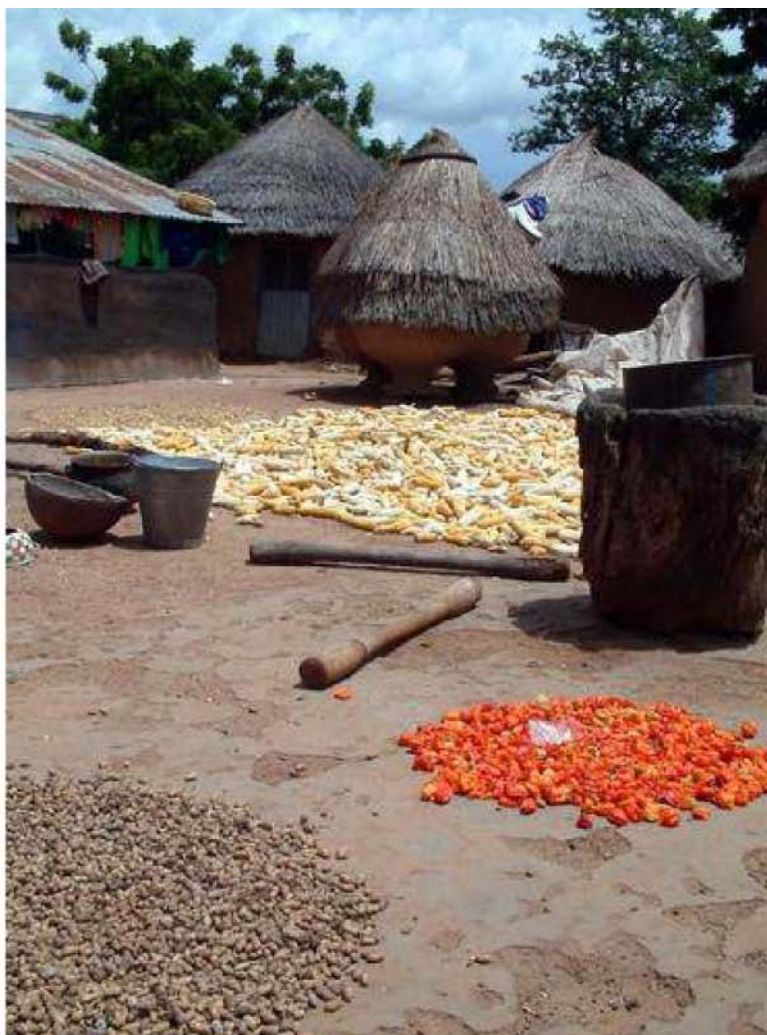
Figure 3: Drying of maize.

Unfortunately, it has been difficult to sustain most of the programmes and projects beyond the project funding periods. Due to several factors, such as low capacity of smallholder farmers, lack of funds, and a lack of farmers' advisory services, most of the development initiatives have failed to continue³ beyond the donor support. Documentation reviewed and information collected from the stakeholders indicated that no relevant national research initiative on PHM has taken place in Mozambique. Most of PHM research programmes are linked to post-graduate student thesis.

The Government of Mozambique is currently reviving the state-owned, Mozambique Cereal Institute (ICM), which is a parastatal that was responsible for collecting the cereals produced in rural areas before 1994 (Mozambique Ministry of Industry and Commerce, 2006). The ICM has the largest warehouses in the country and they are located in the three main regions of Mozambique (North, Centre and South). However due to a shortage of funding, the parastatal had to stop buying cereals and grains from the farmers. ICM falls under the Ministry of Industry and Commerce (MIC). The MIC is the main institution responsible for the regulation and promotion of agriculture and marketing of agricultural products. It, to a limited extent, is dealing with post-harvest practices in the rural areas.

In 2012, the Government of Mozambique, through the MIC, created the agriculture product stock exchange. In April 2014, the MIC received funds from Danish Government to deal with the poor flow of agriculture products between farmers and markets. However, there has been limited coordination with the Ministry of Agriculture which has been mandated to implement programmes and projects aimed at reducing PHL. The lack of a detailed, stand-alone policy and strategy related specifically to PHM weakens collaboration between the various institutions dealing with PHL.

To reverse this situation, there is need for interventions by public, civil society and private sector actors to facilitate the development of specific policies and sector strategies for improving PHM, especially for small-scale farmers and on basic commodities. This Policy Brief will aim to highlight the gaps in PHL management in Mozambique. The next section will highlight current policies in Mozambique, which address PHL experienced by smallholder farmers. Section three will focus on the policy gaps. Section four will provide recommendations for policy makers in Mozambique with regard to the management of PHL.



³Coulter, J. and Schneider, K (2004). "Feasibility study of postharvest project in Mozambique and Tanzania." Swiss Agency for Development and Cooperation

2. PHM considerations in Mozambique: agriculture sector policies and strategies

The Agrarian Policy and Implementation Strategy (PAEI)

The PAEI was approved in 1995. It is the main guide for the formulation of agriculture development programmes. It highlights the need for the establishment of rural public, private and NGO partnerships for the promotion of post-harvest (PH) best practices and the establishment of agro-processing units in rural areas, as strategies to increase the marketing and export of agricultural surpluses⁴. The majority of the programmes and strategies for agricultural development in Mozambique have been guided by the PAEI and periodical government action plans for poverty alleviation.

All programs and strategies are consistent in stating that rural development is crucial for poverty alleviation in Mozambique. Poverty alleviation can only be achieved by the transformation from subsistence agriculture to sustainable commercial agriculture and solid national self-sufficient food production. However, at the outset, these guiding instruments were more geared towards increasing food crop production and productivity without placing sufficient emphasis on post-harvest activities. Nevertheless, recent instruments, such as the Strategy and Action Plan for Food and Nutrition Security (ESAN) of 2007 and the Strategic Plan for the Development of the Agricultural Sector (PEDSA) of 2011, are increasingly giving greater importance to PHM and the need for reducing PHL.



⁴Government of Mozambique (1996). "Política Agrária e Estratégia de Implementação." Government Official Bulletin on 28 February 1996. See section 24 (ii), Section 24 iv-a, d), Section 27 (ii) and Section 35

Industrial Policy of Mozambique of 2007

This policy supports the promotion of post-harvest activities. The Industrial Policy advocates for the promotion of good post-harvest practices as a key strategy for attaining food security⁵. As a result, the Ministry of Industry and Trade of Mozambique adopted the Agricultural Marketing Strategy. It is in attempt to align the national food industry with agriculture development programmes such as ProAgri. The Agricultural Marketing Strategy inter alia seeks to improve the systems of agricultural food products storage and access to national and international market. The Strategy identifies, as priority actions, the construction, rehabilitation and maintenance of warehouses, including silos, and the restructuring and revitalization of the Mozambique Cereals Institute (ICM). The ICM is an institution that was formerly responsible for the purchase of cereal grain from all smallholder farmers and supplying them to the milling industry. These actions were aimed at reducing PHL experienced by farmers and ensuring the sufficiency of physical reserve of cereals for food security. However, the Strategy has not had the desired positive impact at the small-farmers level. This can be attributed to many factors, such as the limited number of qualified advisors and technicians on PHM targeting the rural areas, weak marketing channels and slow revitalization of the food industry.

The Science and Technology Policy of 2003

The Policy has agriculture as one of its priority areas and its implementation strategy. It was approved in 2006. It identifies the improvement of PHM as one of intervention areas for transfers in research, innovation and technology⁶. However, the Policy has not had attain its goals due to the limited research infrastructure, lack of funds and limited number of qualified researchers.

⁵Government of Mozambique (2007). Política e estratégia Industrial Industrial. Government Official Bulletin on August 19th, 2007

⁶Government of Mozambique (2003). Política de Ciência e Tecnologia

Deficiencies in Post-Harvest Management Policy

While several agricultural policies, strategies and action plans make reference to the need for improving post-harvest technologies, there are no specific, stand-alone policy and strategy for PHM in Mozambique. However, in the Mozambique Strategic Plan for Agriculture Development Sector⁷, PHM is listed as a sub-program of the food production promotion program (PAPA).

The Action Plan for Food Production (PAPA) was created in 2008 (Mozambique Ministry of Agriculture, 2008). It was supposed to be implemented for a period for three years with the aim of decreasing food imports by increasing the national production of food. However, the implementation of PAPA has been slow due weak coordination between different actors, lack of clarity regarding the roles of individual actors, and limited funding. The programme partially depended on funding from the donors. In 2011, PAPA was integrated into the PEDSA. PAPA viewed PHM as being part of agriculture marketing, which only focused on agriculture surpluses. PAPA recognized the need for the reduction of PHL.⁸ However there was no clear strategy for the reduction of PHL, especially at the household level where large PHL occur. The budget planned for in PAPA on areas related to PHM went towards the construction of large warehouses and silos targeting only surplus produce. The Policy did not promote the use of small improved silos, nor proper action and funding to improve the storage of food at the household level. This limited the relevance of policy in addressing the needs of smallholder farmers.

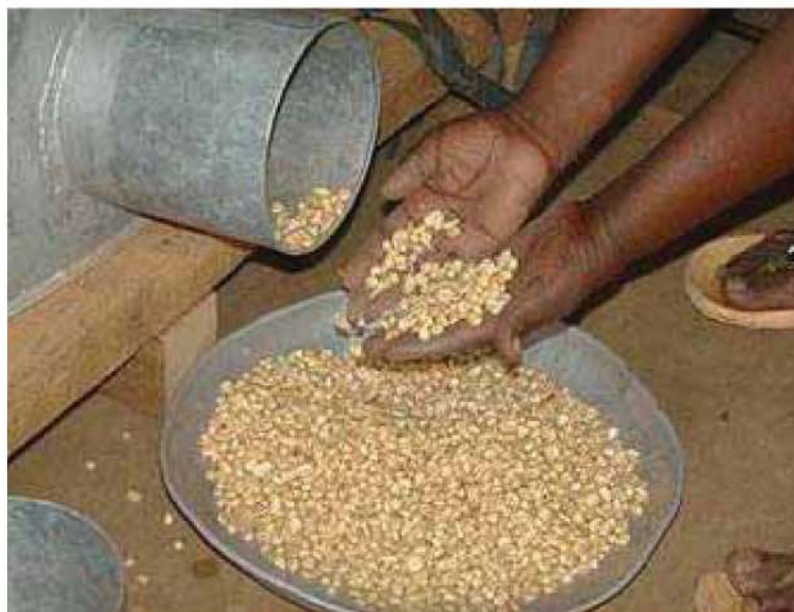
In order to finance the implementation of PEDSA, the Government launched the National Agricultural Sector Investment Plan (PNISA) in April 2013 (Mozambique Ministry of Agriculture, 2013). The PNISA is expected to be implemented during the period 2013-2017. PNISA still lacks an action and funding plan for the reduction of PHL at the farmers' level. Funding is directed towards the construction of large silos and warehouses as a strategy to improve marketing of agriculture products. The PHM is neither well planned nor budgeted for in the PNISA. The PHM is mentioned in different PEDSA pillars and priority programmes as well as in the PNISA main components. This might be the reason for weak harmonization of actions to improve the PHM. It is, therefore, suggested that a specific policy and strategy for PHM be created in an effort to improve planning, budgeting and coordination of activities.



Relation of agricultural policies and strategies of Mozambique with other national, regional and international organizations regarding PHM

The agricultural policies, strategies and programmes of Mozambique are aligned with other national multi-sectorial programs, plans and strategies, such as the Action Plan for Absolute Poverty Alleviation (PARPA) and Action Plan for Poverty Alleviation (PARP). The Government further has attempted to align its agricultural policies to international, continental and regional goals, such as the Millennium Development Goals (MDGs), the Comprehensive Africa Agriculture Development Program (CAADP) and the SADC Agriculture Policy.

The PEDSA is drawn partially from the CAADP. Mozambique has signed the CAADP Compact.⁹ In relation to PHM, CAADP^{10 11}, recognizes that improved PHM could contribute significantly to poverty alleviation, improve food security and nutrition, enhance access by farmers to national and international markets and agro-industries, and promote sustainable economic development. In CAADP Pillar 4 (2011), research is identified as a key strategy for improving technology in the agriculture sector in SSA. Research is also key to improving PHM. Factors that could facilitate the adoption of certain post-harvest technologies have to be identified and evaluated. The impact of newly adopted technologies on poverty alleviation efforts also has to be evaluated. However, CAADP lacks detailed implementation strategies for PHM activities targeting the small farmers especially on the reduction of PHL. As a result, there is a gap between policy design and policy implementation. The lack of a detailed implementation plan will make it difficult for Mozambique to achieve CAADP goals.



⁹PACTO (2011). Para o desenvolvimento do sector agrário em Moçambique no contexto do CAADP

¹⁰CAADP (2009). Pillar 2: Framework for Improving Rural Infrastructure and Trade Related Capacities for Market Access,

¹¹CAADP (2009). Pillar 3: Framework for African Food Security

3. Post-harvest management policy and research gaps

The Study identified the following gaps in policy and research which need to be addressed:

- a) Mozambique lacks a specific policy or strategy for the development of PHM initiatives. At the national level, the PHM is neither institutionalized nor mainstreamed in national development programmes.
- b) There is a lack of institutions that train PHM service providers. The public sector has not put in place any strict quality control measures for grains entering the formal and informal markets. The lack of capacity by farmers to access finance, poor accessibility of construction materials, poor road infrastructures, and weak marketing channels undermine PHM in Mozambique.
- c) There is limited research on PHM and a limited number of qualified personnel to conduct the research.
- d) Generally, agricultural research has limited impact on the production sector. Research activities are mainly funded by donors and carried out by isolated individual researchers or researcher groups with little links to farmers. In addition, there is a weak link between university research programmes and the public /private /NGOs / Farmers development programmes resulting in slow uptake of new technologies by small-scale farmers.
- e) Poor extension services make it difficult to follow up and evaluate the implementation and usefulness of new technologies.
- f) Smallholder farmers have limited knowledge of quality standards, such as the Mycotoxin limit in cereals, which is set by the Mozambique National Institute for Standards and Quality (INNOQ). Mycotoxin limit is the maximum allowed concentration of toxic substances synthesized by mould, however these standards are only known by commercial farmers and industry.
- g) Strategies for the dissemination of best practices for PHM among small-scale farmers are missing. Enforcement of quality controls by the public sector of grains in the informal and formal markets may mitigate the risk for public health exposure and promote good postharvest practices by all stakeholders. Procedures of best practices that have to be applied along the postharvest chain to reduce PHL, as recommended by international organizations, are missing at the small-scale farmer level.



References

- CAADP (2009). Pillar 2: Framework for Improving Rural Infrastructure and Trade Related Capacities for Market Access.
- CAADP (2009). Pillar 3: Framework for African Food Security.
- CAADP (2011). PILLAR 4: Transforming African Agriculture through Research, Advisor Services, Education and Training.
- Coulter, J. and Schneider, K (2004). Feasibility study of postharvest project in Mozambique and Tanzania. Swiss Agency for Development and Cooperation
- FANR-SADC (2013). Regional Agriculture Policy. Food Agriculture and Natural Resource, SADC.
- FAO (2011). Global food losses and food waste. Study conducted for the international Congress “Save Food”. Dusseldorf, Germany.
- Government of Mozambique (1996). Política Agrária e Estratégia de Implementação. Government Official Bulletin on 28 February 1996.
- Government of Mozambique (2003). Política de Ciência e Tecnologia.
- Government of Mozambique (2007). Política e estratégia Industrial. Government Official Bulletin on August 19th, 2007
- Helvet-Mozambique (2012). Annual Report 2012 Summary. Helvetas Swiss Intercooperation.
- Mozambique Ministry of Agriculture (2011). Plano Estratégico para o Desenvolvimento do Sector Agrário (PEDSA) para 2011-2020.
- Mozambique Ministry of Agriculture (2008). Plano de acção para produção de alimentos (PAPA), 2008-2011
- Mozambique Ministry of Agriculture (2013). Plano Nacional de Investimento do Sector Agrário 2013-2017.
- Mozambique Ministry of Industry and Commerce (2006). Estratégia de Comercialização agrária (2006-2009).
- PACTO (2011). Para o desenvolvimento do sector agrário em Moçambique no contexto do CAADP.
- SETSAN (2007). Plano estratégico e de acção para a segurança alimentar e nutricional. 2008-2015. SETSAN.



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