Postharvest Management (PHM) and Climate Smart Agriculture (CSA) Policy Studies

Validation workshop

May 19-21, 2014 Maputo, Mozambique

by

Dr Helder Zavale
Executive Summary

Through the Postharvest Management in Sub-Saharan Africa (PHM-SSA) project, FANRPAN has commissioned two studies in Mozambique: one on postharvest management (PHM) and another on Climate Smart Agriculture (CSA). A two-day PHM and CSA study validation workshop took place in Maputo from May 20-21, 2014. The validation workshop has four key purposes: (1) to share and validate the draft PHM policy study evaluation report with FANRPAN, AFAAS, HSI and relevant in country stakeholders; (2) to share and validate the draft CSA scoping study report with local stakeholders; (3) to incorporate inputs from stakeholders including FANRPAN, AFAAS and HSI; and (4) to identify key themes, gaps and recommendations for PHM and CSA policies. Authors of PHM and CSA studies made presentations about their respective studies. These presentations were complimented with group and plenary discussions on both topics. The following main lessons and recommendations emerged from the workshop:

- The need to create a national PHM working group with representation from various institutions, but with leadership from the National Directorate of Agricultural Extension (DNEA) under the Ministry of Agriculture. Active participation of members was stressed as one of the key ingredients for effectiveness of the working group;
- Mozambique needs to design standalone strategic policy documents that deal separately with issues related to PHM and CSA;
- National strategic policy documents designed by individual ministries should be aligned with one another and with regional policy recommendations;
- The role of gender in both PHM and CSA should be given more attention;
- There is a need for increased participation of smallholder farmers in PHM and CSA studies;
1. Background

In partnership with the African Forum for Agricultural Advisory Services (AFAAS) and Developing Agriculture and Rural Areas (AGRIDEA), the Food, Agriculture and Natural Resources Policy Analysis Network (FANRNAP) is implementing a Postharvest Management in Sub-Saharan Africa (PHM-SSA) project. This project is coordinated by HELVETAS Swiss inter-cooperation. The main objective of the PHM-SSA project is to contribute to reduction in food insecurity in Sub-Saharan Africa (SSA) by reducing postharvest losses of food crops – mainly grains and pulses – at farm and community levels.

Under the PHM-SSA project, FANRPAN commissioned two studies on postharvest management policies in two African countries (Benin and Mozambique). The two studies were undertaken by national consultants and the main objective was to review the literature on PHM with focus on national, regional and global levels. The terms of reference for the studies on PHM include:

- To review the state of knowledge on policies and strategies for PHM in the agricultural sector;
- To conduct interviews with a minimum of 10 relevant in-country PHM stakeholders;
- To identify national PHM development and research program initiatives;
- To provide synthesis of:
  - Key research gaps – what knowledge we are lacking on PHM in the agricultural sector in the region;
  - Key policy gaps – what is missing with regard to PHM in national policy frameworks
  - Key research-policy gaps – what are the identified challenges to uptake and integration of research findings in policies (PHM, agriculture sector);
  - What are the options and possible policy ‘spaces’ or opportunities for improved uptake of research findings;
- To review key barriers to:
  - Uptake of research evidence for policy formulation and implementation;
  - Successful policy implementation in the agricultural sector;
- To identify national PHM institutional arrangements and key stakeholders;
- To review identified or inferred ‘missing voices’ in research and policy debates – e.g. gender bias, particular groups of farmers that are overlooked in documents.

In addition to the studies on PHM, FANRPAN has commissioned studies aimed at reviewing national policy responses to address issues related to climate change and Climate Smart Agriculture (CSA). The CSA studies were undertaken in 16 African countries including Mozambique. It was expected that the studies would point out existing policy gaps and make policy recommendations.

A two-day PHM and CSA study validation workshop took place in Maputo from May 20-21, 2014. The validation workshop has four key purposes: (1) to share and validate the draft PHM policy study evaluation report with FANRPAN, AFAAS, HSI and relevant in country stakeholders; (2) to share and validate the draft CSA scoping study report with local stakeholders; (3) to incorporate inputs from stakeholders including FANRPAN, AFAAS and HSI; and (4) to identify key themes, gaps and recommendations for PHM and CSA policies. Professor Firmino Mucavele, head of the FANRPAN Mozambique node, welcomed the delegates, and provided an historical background on how FANRPAN was established. Professor Mucavele also discussed various initiatives with which the FANRPAN Mozambique node has been involved and then summarized various outcomes that emerged from those initiatives. A presentation by Dr Bellah Mpofu of FANRPAN, PHM program manager, provided the participants with background information on the FANRPAN origins, vision, mission and structure. She closed her presentation by describing the PHM project and the objectives of the PHM and CSA validation
workshop. Remarks from the Permanent Secretary of the Mozambique Ministry of Agriculture, Mr Daniel Antonio Clemente, stressed the importance of reducing postharvest losses in the fight against poverty through increased agricultural production and productivity.

2. Postharvest management: policy review in Mozambique

Two presentations were made on this topic: the first one on May 20 and the second one on May 21. Both presentations were made by Dr Lucas Tivana, the team leader of the group of consultants who carried out the study on this topic. The methodological approach used by this group consisted in reviewing various national and regional policies documents dealing with issues related to PHM and interviewed PHM stakeholders. The main policy documents reviewed by the group of consultants are the Comprehensive Africa Agriculture Development Program (CAADP) of the New Partnership for Africa’s Development (NEPAD) and Strategic Program for Agricultural Sector Development (PEDSA) of the Mozambique Ministry of Agriculture. Key findings and lessons that emerged from the two presentations include:

- PHM is mentioned in various strategic policy documents, but there does not exist a specific national PHM policy;
- Estimates indicated that postharvest losses are substantial, evaluated at about 30%;
- Reduction in postharvest losses are recognized in various policy documents as an important vehicle through which food and nutritional security and poverty reduction could be achieved;
- PHM is not yet institutionalized in Mozambique despite the government’s recognition of the key role played by PHM. Mozambique lacks an institution responsible for designing strategic PHM policy recommendations and PHM research programs;

3. Climate smart agriculture policies in Mozambique

A presentation of the CSA scoping study report by Professor Firmino Mucavele emphasized that Mozambique is lacking a national policy addressing specifically issues related to climate change. This presentation also stressed that various strategic policy documents are not harmonized because different ministries work independently, while issues related to climate change are part of mandates of various ministries. After reviewing several policy documents and interviewing various stakeholders, the following recommendations were advanced by Professor Mucavele:

- Improve vulnerability assessments to provide early warning on food security;
- Enhance food security and develop community-based seed and food storage systems;
- Improve crop and livestock production through the use of appropriate technologies, use of improved crop varieties and livestock breeds that are tolerant to drought, and developing/implementing strategies for drought preparedness;
- Increase resilience of food production systems to erratic rains by promoting sustainable agricultural production of maize and vegetables in wetlands and along river valleys;
- Develop a framework to ensure that all agriculture projects and programs undertaken in the sector have had environmental impact.
4. Group discussions

After presentations of the PHM and CSA studies in the morning of the first day, the afternoon was devoted to group discussions and presentations. The participants were divided into three groups consisting of about seven members each:

- Group one: discussion on CSA study
- Group two: discussion on PHM study
- Group three: discussion on CSA studies

The following questions guided group discussions on the two studies:

1) Looking at the study (PHM or CSA) and your own experience, what is new?
2) Based on your experiences, what else could be included and be highlighted in the study (PHM or CSA)?
3) What are some of the critical gender issues in the area of PHM or CSA and policies that needs attention?
4) How does the Strategic Plan for the Agricultural Sector Development (PEDSA) address the issues of PHM or CSA?
5) Are there PHM or CSA champions (individual or organisations) that you are aware of in Mozambique (either at national or local levels, either “known” or “unknown”)?
6) What are the three to five key emerging policy recommendations?

Group one presentation could be summarized as follows:

- The following aspects of the CSA study were mentioned as being innovative:
  - Adjustment of cropping calendar and farm management practices by smallholder farmers to deal with climate change;
  - Direct involvement of smallholder farmers in the study;
- The group felt that the CSA study could have be improved by
  - Looking whether national policies addressing CSA-related issues are aligned with regional and international policies;
  - Incorporating CSA experiences (policies and strategies) from other countries and then outlining how Mozambique could benefit from those experiences;
- Gender issues and women empowerment need special attention when implementing strategies to mitigate the negative effects of climate change;
- Issues related to CSA are addressed in the third pillar of PEDSA. This pillar deals with sustainable use of natural resources and calls for
  - Strengthening of the Ministry of Agriculture (MINAG) and other stakeholders’ capacity to respond to climate change;
  - Building capacity (MINAG and other government ministries) to formulate and analyze policies and programs associated with climate change;
- CSA champions include:
  - Organizations: FANRPAN; HELVETAS; Agricultural Research Institute of Mozambique (IIAM); International Institute of Tropical Agriculture (IITA); IKURU (a
farmer owned company with headquarters in Nampula city); and ENVIROTRADE (a Mauritius-based company with projects in Mozambique);

- **Individuals:** Professor Firmino Mucavele;

- The following recommendations were advanced:
  - CSA initiatives undertaken by various stakeholders should be aligned to take advantage of synergies and complementarities among them, avoiding duplication of effort;
  - Undertaking of three studies:
    - The first one on the effects of greenhouse gas emission by developed countries on the climate change in developing countries;
    - The second on the role that developed countries can play to strengthen adoption of CSA in developing countries;
    - The last study on the identification of new pests and diseases resulting from climate change and how those pests and diseases could be effectively and efficiently eliminated to improve productivity at farm level;

Group two presentation suggested that:

- Innovative aspects brought about by the PHM study include calling our attention to
  - The urgent need to design a standalone national PHM policy;
  - Designing domestic PHM policies that are aligned with regional initiatives;
  - The need to put in place management practices to reduce postharvest losses at farm level;

- Detailed analysis of trends on agriculture public expenditures that were direct or indirectly allocated to PHM is among the additional aspects that could have been considered to improve the PHM study;

- Gender issues should be given more attention specially when selecting participants to attend training sessions on PHM;

- PEDSA does not contain a specific section that addresses issues related to PHM, but some subsections of PEDSA deals with PHM-related issues. However, aspects that are lacking include:
  - Neglecting the value chain segment from harvest to storage and other important issues related to PHM such as PHM research and agro-processing. PEDSA puts emphasis on the segment from storage to the final consumer;

- PHM champions include:
  - HELVETAS;
  - Aga Khan Foundation;
  - United Nations’ Food and Agriculture Organization (FAO);
  - GTZ;
  - Mozambique’s Cereals Institute (ICM);
  - Mozambique’s agricultural commodity Exchange;

- The following recommendations were made:
  - There is a need for a national PHM policy;
  - PHM initiatives undertaken by MINAG and other stakeholders – including other government ministries – should be aligned to avoid duplication of effort;
  - A national PHM working group should be initiated;
In addition to giving farmers advice on how to build granaries, extension agents should engage farmers to adopt complementary PHM practices aimed at reducing postharvest losses;

Group three comprised of smallholder farmers only, while the other two groups (one and two) were made up by remaining participants. Farmers who participated in the workshop voiced the following aspects:

- Many farmers are not aware of many policies outlined in the CSA study;
- Policymakers should engage smallholder farmers when designing and revising CSA and PHM policies;
- Competitive markets are not beneficial to smallholder farmers. This is because farmers feel that prices paid to them by traders are lower than farmers’ expectations;
- There is a need to promote CSA technologies that are accessible to many vulnerable farmers groups (women, youngsters, and seniors);
- Practices used by smallholder farmers to respond to climate changes include
  - Use of short-cycle improved seeds;
  - Increasing the number of cultivated plots;
  - Having two planting seasons during each cropping season;
  - Planting and harvesting at the right time;
  - Intercropping and conservation agriculture;
  - Making uninformed farmers aware of the negative effects of uncontrolled burning;
  - Planting trees around plots where food crops are grown;

5. Recommendations from plenary discussions

The second day of the workshop started with introductory remarks by Professor Frimino Mucavele – head of FANRPAN Mozambique node – who provided an historical background of FARNPAN Mozambique node and outlined various policy-relevant research initiatives on which the FARNPAN Mozambique node has worked to bring about empirical evidence to influence the police dialogue in Mozambique. Professor Mucavele also thanked various individuals and institutions for their participation in the workshop and for their effort to make the workshop possible. Professor Mucavele presentation was followed by presentations given by representatives of AFAAS (Max Olupot), HELVETAS (Mauricio Armando) and AGRIDEA (Juergen Roth). These three representatives briefly described their respective organizations and talked about various initiatives with which their respective organizations are involved with emphasis on PHM and CSA. They also stressed the importance of the workshop and thanked participants for their active participation in the workshop.

After the introductory remarks by Professor Mucavele, Dr Bellah Mpofu – FANRPAN PHM program manager – took the stage starting by describing FANRPAN vision and mission. She acknowledged the fruitful collaboration between FANRPAN and the Mozambique Ministry of Agriculture (MINAG) over the years. She also expressed her gratitude to various individuals and institutions for the key role they played in the successful organization of the workshop and for their energetic participation in the workshop. Then, Professor Tomas Chiconela – the dean of the Faculty of Agronomy and Forestry
Engineering (FAEF) from Eduardo Mondlane University – provided background information about FAEF and stressed the significant contribution that FANRPAN has had to FAEF research and outreach initiatives. Mr Daniel Antonio Clemente – the Permanent Secretary of MINAG – closed the first session of day two by talking about the importance of reducing postharvest losses and boosting agricultural productivity as key avenues through which food and nutritional security and poverty reduction could be achieved.

After a presentation by Dr Lucas Tivana on whether PEDSA and CAADP are aligned with one another with respect to PHM (see section two for key messages learned from review of both policy documents), there were plenary discussions about PHM and CSA studies. Lessons and recommendations that came up from the plenary discussions (on day two) and group presentations (on day one) include:

- The need to create a national PHM working group with representation from various institutions, but with leadership from the National Directorate of Agricultural Extension (DNEA) under the Ministry of Agriculture. Active participation of members was stressed as one of the key ingredients for effectiveness of the working group;
- Mozambique needs to design standalone strategic policy documents that deal separately with issues related to PHM and CSA;
  - These policy documents should take into consideration community-based approaches to reduce postharvest losses and to mitigate the negative effects of climate change;
  - Mozambique needs to learn from other countries’ experiences when designing its own policies;
- National strategic policy documents designed by individual ministries should be aligned with one another and with regional policy recommendations;
- Participants pointed out that factors that drive adoption of PHM technologies are not well understood;
  - This suggests that studies on this area should be undertaken to draw evidence-based strategies to improve adoption of PHM technologies;
- Participants indicated that there are conflicting estimates of the level of postharvest losses;
  - Participants questioned the methodological approaches used to come up with the estimates and called for development of a consistent methodological approach to measure postharvest loss in the country;
- The role of gender in both PHM and CSA should be given more attention;
- Researchers studying issues related to PHM and CSA should increase the involvement of smallholder farmers in their research;
- Participants called for a more detailed analysis of government spending on PHM;
  - This would allow that resources are directed to activities with higher returns: prioritization of activities;
  - This would also provide some indication of government commitment to reducing postharvest losses;
- The following PHM champions were identified: Helvetas, Aga Khan, FAO, GTZ, Instituto de Cereais de Moçambique (ICM), Bolsa de mercadorias de produtos agrícolas, Uniao Nacional dos Camponeses (UNAC);
The following CSA champions were identified: *Associacao das mulheres rurais, grupo temático de recursos naturais e ambiente* (AMA), *Associacao do meio ambiente*, *Parque nacional das Quirimbas*, *Gestao comunitaria de recursos naturais* (GECORENA), Professor Firmino Mucavele, Jorge Tembe, *Uniao Nacional dos Camponeses* (UNAC), *Uniao provincial dos camponeses* (UPC);

These champions (PHM and CSA) need to share their experiences to take advantage of synergies, harmonizing and coordinating their individual efforts (the whole is greater than the sum of parts);

6. Workshop evaluation

Participants were asked for their feedback on various aspects of the validation workshop. The findings emerging from participants’ assessment of the validation workshop are summarized on Figures 1 through 4. These figures illustrate that overall participants were satisfied with various aspects of the validation workshop. Figure 1 shows that more than 65% of the participants ranked the level and amount of learning achieved as either good or excellent. Figure 1 also shows that similar ranking were given to the aspects of the workshop: network opportunities during the workshop, and acquisition and usefulness of new information during the workshop. Figure 2 illustrates that more than 70% of the participants were satisfied with time management (time allocated to presentations, discussions and breaks). It is worth mentioning that some participants pointed out that some issues related to logistics could be improved (these participants were not specific about which aspect of logistics did not go well).

**Figure 1 Participants perceptions about workshop objectives and received information**
Figure 2 Participants rating of the workshop

![Bar chart showing participants rating of the workshop with categories: Workshop organization, Workshop Venue, Relevance of issues discussed, Workshop spirit and mood.]

Figure 3 Participants perceptions about time management

![Bar chart showing participants perceptions about time management with categories: Presentation, Discussion, Time allocated to breaks.]
Figure 4 Participants perceptions about communication
7. List of participants

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