PROCEEDINGS OF THE MALAWI POLICY DIALOGUE ON CLIMATE-RELATED RISKS TO CROP PRODUCTION AND POST HARVEST LOSS MANAGEMENT

HELD ON

20th-21st October, 2015

AT CROSSROADS HOTEL, LILONGWE, MALAWI.

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22nd October 2014
1.0 INTRODUCTION
The Malawi National Policy Dialogue on Climate-Related Risks to Crop Production and Post-Harvest Loss Management was held on from 20th to 21st October 2015. The Meeting was convened by Food and Agriculture and Natural Resources Policy Analysis Network (FANRPAN) in collaboration with Food and Agriculture Organization of the United Nations (FAO), Platform for African-European Partnership in Agricultural Research for Development (PAEPARD), Civil Society Agriculture Network (CISANET) and National Smallholder Farmers Association of Malawi (NASFAM).

Several stakeholders involved in both Climate Change and Post Harvest Loss Management (PHLM) issues were invited to attend this National Policy Dialogue. List of participants to this workshop are attached to these workshop proceedings as Annex 1.0.

2.0 OBJECTIVES OF THE NATIONAL DIALOGUE
The main objectives for the National Dialogue were to:

• Provide Regional Perspectives of the Climate Risks to crop production and post-harvest loss management.
• Provide a status update on the on-going FANRPAN projects focusing on PHLM with a specific focus on the Groundnut Value Chain and aflatoxin contamination.
• Chart a way forward for developing synergies among stakeholders and sectors with the aim of maintaining continuous dialogue on climate risks to crop production and post-harvest loss management including aflatoxin.
• Deliberate on means to facilitate community-driven information and knowledge sharing platforms for risk management.
• Identify priority CSA and PHM policies and technologies relevant to the country
• Solicit policy recommendations from stakeholders.

3.0 EXPECTED OUTCOMES OF THE NATIONAL DIALOGUE

• Improved understanding of the climate risks to crop production and post-harvest handling including aflatoxin issues
• Policy options, innovative approaches and technologies discussed and documented
• Resolutions for inclusion in the proceedings and National Synthesis Report

4.0 PROCEEDINGS FOR THE NATIONAL DIALOGUE
The meeting started with welcome remarks by CISANET Board Chairman, Mr. Rex Chapota who is also the National Coordinator of Farm Radio Trust. In his brief remarks, he welcomed participants to the dialogue and thanked CISANET, NASFAM AND FANRPAN for organizing the workshop. He noted
that it was high time discussions in such fora are translated to action and challenged the participants to reflect on the following questions:

- Why are we here?
- What will I do differently to ensure that the resolutions from the meeting become a reality?

4.1 ABOUT FANRPAN  Presented by Dr. Bellah Mpofu

(a) FANRPAN Origins

The formation of FANRPAN was initiated following the call by Ministers from member states in countries from South, East and West Africa in 1994. FANRPAN was therefore created in 1997 and registered in 2003. Initially it was based in Zimbabwe but later relocated to South Africa in 2005.

The Mandate for FANRPAN received a mandate to go Africa-wide in 2010. Its Vision is ‘A food secure Africa free from hunger and poverty’ and its Mission is to ‘To promote effective Food, Agriculture and Natural Resources (FANR) policies’.

(b) Stakeholder Categories and Membership

Seventeen African National Nodes are affiliated to FANRPAN which are Angola, Benin, Botswana, DRC, Kenya, Lesotho, Namibia, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Uganda, Zambia, and Zimbabwe. FANRPAN stakeholder categories include farmers, government, researchers, private sector, media, development partners, and the youth.

(c) FANRPAN Thematic Thrusts include;
- Food Systems which includes Nutrition
- Agricultural Productivity and markets
- Natural Resources and Environment, Social Protection and Livelihoods
- Institutional strengthening

(d) Agricultural Productivity and Market Thrust;

Value Chain Pre-harvest Challenges and risks
There are challenges faced by farmers before harvesting. The major ones include: availability of land, availability and access to quality inputs, extension services, labour, pest control and timely harvesting. Farmers also face climate related risks including drought, floods, hail and early frost. Other risks are related to pest control and management.
(a) Food Value Chain and Post Harvest Losses

Post-Harvest losses in the value chain take place at all stages from pre-processing, transport, storage, processing and storage up to marketing due to heat, rain, humidity and contamination.

To Support Small Holder Farmers to Better Manage Climate Related Risks to Crop production and Post-harvest Handling is a project jointly funded by the European Union and the FAO, which spans from 2013 to 2015 and is being implemented in Madagascar, Malawi, South Africa and Zimbabwe. The project has 6 implementing partners including, Food and Agriculture Organisation (FAO), University of Pretoria (UP) University of Zimbabwe (UZ), WUR, NRI SOFECSA, FANRPAN.

The role of FANRPAN in the projects is as follows

- Innovative institutional arrangements for managing risk for crop production and post-harvest handling in climate disaster prone areas identified.
- Analyse institutional arrangement and the policy environment for managing risk for crop production and post-harvest handling.
- Suggest modifications for institutional arrangement and policies that address food insecurity and poverty in rural areas
- Amplify stakeholders VOICE in policy debates

In all four focus countries of Malawi, Madagascar, Zimbabwe and South Africa, FANRPAN leads in policy research and advocacy. These activities are conducted through the national nodes. CISANET is national node for Malawi. Some of the activities FANRPAN conducted are as follows.

- In 2013, FANRPAN participated through its node in the profiling of farmers
- In 2014, FANRPAN contracted a team led by Ms. Trust Donga from Lilongwe University of Agriculture and Natural Resources to conduct a national scoping study on analysis of existing policies and institutions relevant to the management of climate-related hazards and risks.
- On 22nd July 2014, a National Study Validation Workshop was conducted in Lilongwe. Policy Briefs were developed from the validated study.
- In August 2014, FANRPAN contracted a regional consultant to synthesize the four national scoping studies and a Regional Synthesis Report on Managing Climate Risks to Crop Production and Post-harvest Handling in disaster prone areas was produced
- In October 2014, FANRPAN convened a regional Policy Dialogue in Antananarivo whose theme was Policies for Climate Smart Agriculture on Family Farming in Africa. A parallel meeting was convened in October 2014 where the regional synthesis report was shared and regional recommendations from stakeholders were solicited.
4.2 About PAEPARD

a) Objectives of PAEPARD
The Platform for European Partnership in Agricultural Research for Development (PAEPARD) overall objective is to build joint African contributing factors in Agricultural Research and Development contributing to the achievement of MDGs. Specifically PAEPARD seeks for enhanced, more equitable, more demand driven; and mutually beneficial collaboration of Africa and Europe on ARD with the aim of attaining the MDGs.

b) Origin of PARPARD II
Problems were identified during implementation of PAEPARD II which included declining European African Agriculture Research and Development collaboration, projects concentrated in few African countries, Research-research collaboration without involvement of other stakeholders, it was driven by research interest of European partners with African research stakeholders following a supply approach and it was dominated by European research organizations.

PAEPARD two was formulated to bring solutions which include, Increased number of European-African partnerships, projects spread over more African countries, inclusive partnership with non-research stakeholders including Farmer Organisations, private sector, NGO’s leading those partnerships; research driven by demand of end users and balanced partnerships, led by African non-research stakeholders.

c) Major Recommendation of MTR
Third Phase of MTR to focus on Implementation of the best models, form multi-stakeholder partnerships and include funds to support up to 5 full proposals.

d) Specific Objectives of CRF-IF
Strengthen the capacity of the most promising consortia created by PAEPARD to improve and implement impact oriented demand driven agricultural research for development projects.

e) What CRF & IF sub-components are
The First components is CRF competitive fund which Support of 4 projects selected among the [19+5] have a Maximum of 3 years of activities’ implementation avec maximum of 250,000€. Experiences/processes are to be systematically documented to serve in advocacy for multi-stakeholder partnerships funding. It is a kind of seed money to search for more funding.

The Second component is IF incentive funds which funds Studies, Workshop for refining the research question, Write-shops and Exchange visits. It has Maximum of 40,000€ for each IF.

f) Invitations for proposal submissions
Internal invitation to 19 consortia & 5 ULPs were launched in March 2014 for 2 month. Only 11 Proposals submitted were submitted from which 4 were selected by the IPRC. A sub-grant of 250,000€ was given. All the four projects are running from 30/09/2014 to 29/08/2017. Malawi is participating with Zambia in a project titles Stemming Aflatoxin pre-harvest waste in the groundnut value chain (GnVc) in Malawi and Zambia to improve food and nutrition security in the Smallholder faring families

g) Way Forward

• Generate result and test the hypothesis of the model of multi-stakeholder innovation partnerships in ARD between European and Africans. Hence the involvement of Europeans
• Document the whole process
• Responding to calls for more funding to support small farmers on the continent
• Ensure the visibility of the projects

4.3 Presentation on Managing aflatoxin in Groundnut Value Chain by Wycliffe M. Kumwenda from NASFAM

a) Drivers of aflatoxin contamination in Malawi Poor seed quality, moisture stress due to dry spells and droughts, limited access to appropriate and affordable equipment for testing aflatoxin contamination, high cost of relevant equipment for aflatoxin management (driers, moisture meters, Shellers, gravity separators e.t.c), lack of access to extension, high cost of testing for aflatoxin as each sample would cost up to US$10 and early entry to market.

b) Points of control for aflatoxin
Aflatoxin is supposed be controlled at pre-harvesting, at harvesting and after harvesting

At Pre-harvesting control of aflatoxin
Good Agricultural Practices (GAP) is key to controlling aflatoxin at pre-harvesting stage. These activities include;

• Use of improved varieties Early planting to avoid early season dry spell
• Correct ridge and plant spacing to give good canopy
• Selection of proper soils as nutrient imbalance may accelerate multiplication of fungi; avoid virgin land as they promote prevalence of fungi
• Poor tillage practices also promote multiplication of the fungi
• Proper water management like construction of box ridges which which conserve moisture and fungus are less mobile in wet conditions
• Weed Management; fields with weeds have high development of fungi and crop in weedy field is weak and highly susceptible to attack
• Pest and disease management: Birds and rodents damage may act as entry points for fundi into the pods. Diseased pods are weak hence more susceptible

Conducting aflatoxin awareness meeting is also key to controlling aflatoxin at pre-harvest stage

i. Aflatoxin control at harvesting
   • Harvesting should be done when the Crop is matures. Early harvesting before the crop matures result in shrivels while late harvesting result in mould growth on the pods
   • Never damage the crop at harvesting
   • Use proper drying mechanics such as Mandela Cork

ii. Aflatoxin management after harvesting
   • Use transports that will not contaminate the crop. It should be dry transport facility
   • Storage facility should be well ventilated to allow complete drying. The crop should not be put on bare ground and follow good warehouse management practices
   • Do not sprinkle water on groundnuts when shelling
   • Use machine when shelling though this is a challenge due to high cost of machines, lack of capacity to run machine and set machine to proper setting and availability of the machines.
   • Casual labour should be properly supervised

c) Some of NASFAMs best practices in Aflatoxin Management in g/nuts value chain
   i. At shelling level NASFAM has moved from hand shelling to machine shelling
   ii. At buying level buyers are trained in required standards, moisture meter and traceability cards are used to check quality and buying in shells is promoted
   iii. At sorting level, NASFAM has set standards/grades, trains personnel, rotten and shriveled discoloured, blemished and foreign bodies are removed. NASFAM has set put in place a quality control team. Sorting is also done with use of machinery to reduce the aflatoxin contamination
   iv. NASFAM has increased aflatoxin testing capacity and has introduced in country certified aflatoxin testing thereby reducing time and costs of external approval
   v. At packaging, ensures packaging material is dry and clean.
d) Important lessons from NASFAM
   i. Producers cannot handle the aflatoxin problem alone; there is need for close collaboration between government research institutions and development partners.
   ii. Producers should be on the front in the fight against aflatoxin.
   iii. Good aflatoxin management can lead to economic development at individual, organization and national levels.

4.4 Progress of project Implementation at Regional level of Supporting Smallholder Farmers to Better Manage Climate Related Risks to Crop-production and Post-harvest Handling Project. Presentation by FAO

a) Background
Climate change is forecasted to increase the occurrence and magnitude of extreme climatic events. Southern Africa is already experiencing some of these events including droughts, floods and tropical cyclones, often with negative impact on people’s socio-wellbeing, health, agriculture, food and nutrition security, infrastructure etc. The impact of climatic shocks on the livelihoods and food and nutrition security of the region’s rural people (estimated at 75% of the region’s population) has an exacerbating effect on the already existing vulnerabilities in the region.

b) Need for action
With the link between smallholder food production and post-harvest handling systems and food and nutrition security at household level, it is imperative to ensure that the capacity of production systems to withstand, absorb and or to recover (resilience) from climate related shocks is strengthened through better management of the associated risks;

In order to contribute knowledge to the above perspective, FAO in partnership with 6 centres of excellence namely; Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN), Natural Resources Institute, United Kingdom (NRI), Soil Fertility Consortium for Southern Africa (SOFECSA), Wageningen University, Netherlands (WUR), the University of Pretoria (UP) and the University of Zimbabwe (UZ) developed joint project which became operational in 2012.

c) Objectives
The overall objective of the action is to contribute to improved and sustained household and national food security in southern Africa through better management of climatic risks by smallholder farmers.
Specific objectives are:

i. To develop and promote smallholder farmer innovative techniques, methods and approaches to managing risks to crop production and post-harvest handling associated with drought, floods and cyclones.

ii. To strengthen regional knowledge and institutional arrangements on risk management for crop production and post-harvest handling in areas prone to climatic hazards.

d) Project Countries

i. Malawi - Lower Shire

ii. Madagascar - Farafangana District and Taihombe District

iii. Zimbabwe - Hwedza District and Mbire District

iv. South Africa (Limpopo province and Kwazul-Natal)

e) Work Packages

The action is organized into seven work packages (WP):

• WP1: Management and Monitoring and Evaluation of Action Outputs

• WP2: Participatory community profiles of climatic hazards and coping mechanisms on crop production and post-harvesting handling in climate disaster-prone areas of southern Africa

• WP3: Innovative risk management options for crop production and post-harvest handling in climate disaster-prone areas of the action countries developed

• WP4: Innovative risk management options for crop production and post-harvest handling in climate disaster-prone areas evaluated with 3,000 smallholder farmers

• WP5: Innovative institutional arrangements for managing risk for crop production and post-harvest handling in the climate disaster-prone areas are identified

• WP6: Information and knowledge on risk management in crop production and post-harvest handling shared with relevant local and regional stakeholders

• WP7: Communication and visibility

f) Expected results

i. Participatory community profiles of climatic hazards and coping mechanisms on crop production and post-harvest handling in climate disaster-prone areas of southern Africa produced

ii. Innovative risk management options for crop production and post-harvest handling in climate disaster-prone areas identified with 400 farmers

iii. Scaling-up of identified risk management options to 4,000 smallholder farmers
iv. Innovative institutional arrangements for managing risk to crop production and post-harvest handling in climate disaster-prone areas identified

v. Information and knowledge on innovative risk management and institutional arrangements in crop production and post-harvest handling shared with local and regional stakeholders

g) Achievement to date

i. WP1: Management and Monitoring and Evaluation of Action Outputs

- Project support mechanisms are operational
- One regional project review and planning meeting held in Johannesburg, South Africa
- Three project coordination meetings for partner team leaders held via electronic mediums
- Project communication and visibility plan developed and some elements of the plan implemented

ii. WP2: Participatory community profiles of climatic hazards and coping mechanisms on crop production and post-harvesting handling in climate disaster-prone areas of southern Africa

- Stakeholder inception workshops were held
- Communities and stakeholders at project sites were sensitized, mobilized and engaged through the profiling survey to define and characterize climatic hazards and risks, and coping mechanisms associated with crop production and post-harvest handling;
- Community climatic risk profiling data collection and analysis was completed in 2014.
- Existing community mechanisms to manage the risks have been identified for each site through profiling data analysis and synthesis and reports have been written:

iii. WP3: Innovative risk management options for crop production and post-harvest handling in climate disaster-prone areas of the action countries developed;
• Two multi-stakeholder postharvest learning centres were established in Shire Valley, Malawi in Chikwawa and Thyolo districts (first sampling was done in December 2014);
• 14 new Learning centres were established in Hwedza and 6 in Mbire, Zimbabwe. This is in addition to six that were established in the previous reporting period;
• 50 learning centres for agronomic trials were established in Lower Shire;
• Four multi-stakeholder postharvest learning centres were established in Zimbabwe, two in Hwedza district and two in Mbire district;
• 20 farmer field plots were selected and verified and two experimental ‘mother-sites’ were chosen and prepared to double as learning centres;
• Trials were set in South Africa in Giyani and Ntambanana
• 115 farmers and partners (Ntambanana 41 and Giyani 74) were trained on the technologies to be tested under WP3, presented in three different experiments;
• 15 (6 post-harvest and 8 production) postgraduate students continue to undertake studies with support from the project.

iv. WP4: Innovative risk management options for crop production and post-harvest handling in climate disaster-prone areas evaluated with 3,000 smallholder farmers
• The evaluation by smallholder farmers of selected technological options will commence this coming season.
• WP5: Innovative institutional arrangements for managing risk for crop production and post-harvest handling in the climate disaster-prone areas have been identified
• Four study reports (one per country) from the analysis of existing policies and institutions relevant to the management of climate-related hazards and risks produced;
• Four national validation workshops for country reports;

• Five policy briefs - one each from Madagascar, South Africa and Zimbabwe and two from Malawi.
• Synthesis report on institutional arrangements and policy environment for managing climatic risk for crop production and post-harvest handling in climate disaster prone areas.
• Proceedings of FANRPAAN Annual High Level Food and Nutrition Security Multi-Stakeholder Policy Dialogue produced
• Report on the post-harvest loss management policies and way forward workshop.
- Madagascar Regional Dialogue newsletter published in October 2014. 
  List of preliminary recommendations for improvements in policies and institutions for effectiveness and efficiency.

v. **WP6: Information and knowledge on risk management in crop production and post-harvest handling shared with relevant local and regional stakeholders**
- Two publications
- More publications are anticipated

vi. **WP7: Communication and visibility**
- The project stakeholders ensured that project banners with partner and EU logos were displayed at all major meetings that were held in the four countries.
- Country specific T-shirts were printed and distributed during learning events in Zimbabwe
- TV features
- Over 150 people visited the SOFECSA-UZ Research Group stand at the 2014 Edition of the Research and Intellectual Expo Science and Technology Innovation (RIE-SET)

e) **Opportunities and Challenges**
   i. There was a delay in starting the project and this created a carryover effect, however the project has been granted a 6 months no cost extension.
   ii. Crop related experiments/trials were badly affected by the drought conditions that affected the region

4.5 **Supporting smallholder farmers in Southern Africa to better manage climate risks to crop production and postharvest handling (A presentation SOFECSA Malawi Team)**
   a) Background
   The project was contracted by the EU for a 3 year period starting in December 2012 led by the FAO in partnership with FANRPAN, SOFECSA, University of Zimbabwe, University of Pretoria, NRI and Wageningen University.
   The Project aims to;
   a) develop and promote innovative techniques, methods and approaches to managing risks to crop production and postharvest handling associated with drought, floods and cyclones, and
   b) strengthen regional knowledge and institutional arrangement on risk management for crop production and postharvest handling in climate disaster prone areas.
b) **During the project, an activity was done with the focal communities in order to collectively explore the following:**

- Key stakeholders’ understanding and activities regarding climate risks;
- History, leadership structures and development activities;
- Weather forecasting systems they rely on;
- Drivers of change influencing their livelihoods,
- Perceived vulnerability to climate risks, coping and adaptation strategies
- Linkages and nature of relationships with other players in the innovation system;
- Exploration of future scenarios in relation to agriculture and climate;
- Potential multi-stakeholder action-learning themes consistent with the project’s objectives.

c) **Methodology**

The following methodology was used in this project:

i. **Sampling**

- Multi-stage cluster sampling technique to select 10 villages (clusters) (5 Villages in Thyolo and Chikhwawa respectively) to participate in the household and group survey
- Targeted 100 households each from the upstream villages (Thyolo) and 100 from downstream villages (Chikwawa),
- Qualitative data was collected from seven Focus Group Discussions (FGDs), four from Thyolo side (1 women only, 1 men only and 2 combined women and men) and 3 from Chikwawa side (1 women only, 1 men only and 1 combined).
- Other qualitative data was collected from 16 district stakeholders (groups and individuals), nine were from Chikwawa district and seven from Thyolo district. Seventeen community key informants (10 from Chikwawa and 7 from Thyolo) were also interviewed.
- Interviews also conducted with a meteorologist as a focal point for climatic issues under Lower Shire Valley.
- The tools used were those developed and adapted from Wedza district, Zimbabwe in December 2013.
- Stakeholder and Key Informant Interviews were done with stakeholders at both community level and district level were interviewed in Chikwawa and Thyolo

d) **Results**

i. **Indicators of Climate Change**
The indicators of Climate change revealed that there is change in rainfall pattern from receiving rains in Oct 30 years ago, to December. There is variability in temperatures reached as high as 48.6 C which couldn’t reach 44C two decades ago and even cold seasons are now getting warmer than before it. There is also increased frequency of floods and erratic rainfall

ii. Effects of Climate Change
- Infestation of plant pests and human diseases like malaria and cholera which come with flooding are now affecting new areas
- More degraded lands and increased number of farmers cultivating on those areas, which leads to some farmers going into protected areas and cultivating (e.g. along river banks and encroachments)
- Dwindling crop yields due to cutting of trees and increased soil erosion in upland areas leading to soil fertility loss in combination with scanty rains
- Frequent and prolonged dry spells (soon after the floods it typically dries for a long period)
- Increased malnutrition cases due to low food produced that finishes as early as July, August
- Overdependence on relief programs, NGOs and government in food supply.
- Reduced food production due to prolonged dry spells.

iii. Common Sources of Livelihood
The common sources for livelihood are Mat-making, casual labour, Charcoal burning and selling firewood.

iv. Livelihood Changes due to Climate Change
- In Thyolo, banana used to be the main cash crop here; however farmers now have to find an alternative livelihood due to disease attack. Extension advice is to eliminate affected bananas
- Farmers could grow pigeon pea for 2 years as an alternative cash crop, but that is being attacked by elegant grasshoppers in some areas and involves replanting and clearing the soil every two years.
- Cassava – even the clean planting materials that were brought in were affected with CMV.
- Local maize production has been reduced due to farmers growing short season hybrid varieties.
- Postharvest changes – Storage of dried cassava is getting harder due to storage insect pests (same types that attack maize e.g. weevils and LGB).
• Crops – growing more early maturing maize varieties particularly the drought tolerant hybrids. For millet they choose the more early maturing varieties. There will be an increase in millet and sorghum production to ensure farmer have food.
• Livestock – policy change to promote hybrid goats and cattle for increased meat and milk production, but these hybrids are not as hardy as local breeds.

v. Community Crop Adaptive Measures to respond to Climate Change

• In maize, Farmers are now opting for pit planting, use of 1:1 spacing (sasakawa) and reducing Maize production for more adaptable crops like millet and sorghum.
• In Cotton production farmers prefer Makoka 200 a more adaptable variety to Chikwawa
• Sweet potato has increased in production as a coping mechanism, but farmers don’t know how to store it well.

vi. Farm-Level Adaptation Strategies Employed by Farmers

The major means of adaptation to climatic changes by the focal communities are irrigated cropping, crop diversification, relay cropping: and rearing of livestock. Conservation agriculture and growing of short duration varieties

vii. Priority multi-stakeholder Research and Capacity Building Options for Malawi

• **Climate change knowledge**: Increasing understanding of the reasons for climate change, the current and likely impacts, and potential adaptation options. Use of seasonal forecast information from Met Department to plan their farming seasons.
• **New varieties**: Participatory multi-stakeholder testing of new varieties e.g. short maturing maize, sorghum, millet and Sweet potato varieties. Research questions include how can farmers increase access to improved planting materials of sweet potato, maize, cassava, beans, and pigeon peas to adapt to climate change effects?
• **Cash crop recovery**: Bananas were the main cash crop in much of Thyolo district and have been decimated by bunchy top virus disease. Research could look at fruit production for Thyolo and rice and cotton for Chikwawa using improved materials
• **Soil and water conservation**: To focus on increasing understanding and skills in improving the soil quality (structure, fertility and water holding capacity etc.), in addition to reducing soil erosion (and subsequent siltation and flooding of downstream areas). Research questions can include how can better co-management approaches lead to strategic catchment management and resource conservation?
• **Small livestock management**: Research questions can include how can livestock play a role in reducing the effects of climate change risk in Chikwawa district?
• **Farmer exchange and cross-learning visits**: Given the large number of projects which have now focused on enhancing community resilience to climatic changes in Lower Shire, there are opportunities for multi-stakeholder learning groups.

viii. **Average yields and farmers choices**

<table>
<thead>
<tr>
<th>EPA</th>
<th>Rate/YIELD</th>
<th>Sc403</th>
<th>ZM 309</th>
<th>ZM523</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitole</td>
<td>Rate</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Sc 403 and ZM 309 were preferred due to early maturity and big cob size</td>
</tr>
<tr>
<td></td>
<td>Avg. Yields in kg per ha</td>
<td>2930</td>
<td>3490</td>
<td>3858</td>
<td></td>
</tr>
<tr>
<td>Mbewe</td>
<td>Rate</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>ZM 523 was preferred due to good tip cover, big cobs and poundability.</td>
</tr>
<tr>
<td></td>
<td>Avg. Yields in kg per ha</td>
<td>4088</td>
<td>3046</td>
<td>3991</td>
<td></td>
</tr>
<tr>
<td>Livunzu</td>
<td>Rate</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>ZM 309 chosen due to big cobs</td>
</tr>
<tr>
<td></td>
<td>Avg. Yields in kg per ha</td>
<td>2769</td>
<td>2917</td>
<td>3094</td>
<td></td>
</tr>
</tbody>
</table>

e) **Observations made during implementation**

- The Learning Centers were very much affected by floods
- There were some livestock damage
- There was too much leaching
- Some field were in water for some days
- Yellowing of the crop due to too much water
- Farmers comments and preferences were not correlated
- Yields and preferences are not correlated

4.6 **Helping farmers to better manage climate related risks to crop production in Malawi by Fumuzose Lungu**

a) Effects of Climate Related Risks on Farmers’ Postharvest Handling
• Climate related risks to farmers’ postharvest handling include cloudy skies, drought, floods, strong winds and pest infestations.
• Policies to deal with PHL are largely concerned with the political economy.
• There are a wide range of initiatives aimed at reducing aflatoxin contamination in groundnuts to meet international market demands

b) Ways of improving Postharvest Handling
• Arrangements for institutional grain marketing e.g. ACE, NASFAM, AHCX
• Promoting use of airtight grain storage systems, like silos and triple plastic bags
• use of synthetic grain protectants, such as Actellic, for grain storage at household level
• One Village One Product (OVOP) initiative

c) Policies and Institutional Frameworks Affecting Postharvest Handling in Malawi
• Vision 2020, sets to reduce postharvest losses to less than 5%
• Food Security Policy (2006) states the need for pest infestation management
• Malawi has a liberal trade policy which affect the regulatory powers of the Government on cereal grain trade

d) Recommendations for improving post-harvest handling in Malawi
a. The Ministry of Agriculture should develop guidelines on good postharvest handling practices for all major crops grown in the country.
b. 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
c. 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
d. Research should be carried out for effective shelling and small scale food processing equipment
e. Postharvest handling should be integrated into agricultural policies.
f. Postharvest handling capacities of service providers and agricultural extension department should be strengthened.

4.7 Policy Brief Presentation on helping farmers better manage climate related risks to crop production in Malawi: Presented by Fumuzose Lungu
The policy brief was on “Helping farmers to better manage climate related risks to crop production in Malawi”. The scope of the presentation was on how climate related risks affect smallholder farmers’ crop production. The role of policy and institutional frameworks for managing climate related risks to smallholder crop production, the effectiveness of existing policy and institutional frameworks on managing climate related risks to farmers’ crop production and proposed ways to enhance the effectiveness of existing policy and institutional frameworks on managing climate related risks to farmers’ crop production.

First, the presentation looked at how climate related risks affect smallholder farmers’ crop production. It was stated that climate related risks affecting farmers included late onset of rains, uneven rainfall distribution, dry spells and drought, strong winds, hail storms and floods.

Second, the presentation focused on the role of policy and institutional frameworks for managing climate related risks to smallholder crop production. The presentation identified institutions mandated to deal with climate change effects in Malawi as The Ministries of Agriculture and Food Security, Department of environmental affairs and natural resources, the Department of meteorological services and climate change. The existing strategies in these institutions included promotion of crop diversification, cultivation of drought tolerant and early maturing varieties, small scale irrigation, presidential initiatives of legumes and green belt initiative. It was indicated that there is need for policies to be more focused on preventive, community and evidence based climate risk management.

Third, the effectiveness of existing policy and institutional frameworks on managing climate related risks to farmers’ crop production. It was observed that existing policies are not effective in reducing climate related risks significantly due to inadequate numbers of qualified climate risk experts, weak implementation capacity at all levels, poor policy implementation and monitoring, lack of operational guidelines to direct all stakeholders in the implementation and evaluation of a particular policy and limited local leadership and ownership.

Finally, proposed ways to enhance the effectiveness of existing policy and institutional frameworks on managing climate related risks to farmers’ crop production. It was suggested that there has to be building and enhancing of human resource capacity in all key departments, enhancing communication and coordination among stakeholders, linking good research findings to policy formulation and implementation, developing a step-by-step methodological approach to guide project teams in incorporating climate related risks management in their crop production and other development programs and
incorporating of strategies for managing climate related risks to crop production in the draft national agricultural and disaster management policies.

4.8 Group Discussions:

a) Answering question 1; When we need to start, where and guidelines on proposed course of action

i. When do we need start?

- Interventions should start at Seed selection and should continue in all stages including management if the field, transportation and storage

ii. Guidelines/proposed course of action

- Research should consider aflatoxin resistance in developing new breeds of legumes and grains
- Integrate messages on aflatoxin in extension services
- Develop Regulation frameworks/policies for management so that livestock is not left unattended to forcing farmers to harvest early before crops are fully dried.
- Develop policies/ by-laws to regulate time of entry into the market and ensure that minimum moisture standards are adhered to. The policies should be harmonised regionally (both local and international)

b) Answering question 3: What is the message to the policy makers/government/responsible authorities? What is currently happening?

iii. What is currently going on?

- Research
  This is being done by government and also other international research organisations i.e ICRISAT, IITA and (Peanut Mycotoxin Innovation Lab)
- Extension Services
  The level of collaboration is not good and efforts are being made
- Capacity building and training
  Institutions such as LUANAR, EX-Agris, *MBS (Malawi Bureau of Standards)
- Awareness
  Nasfam, farm radio, CISANET, S-Agris, ATWG, DARS, RLEEP
  MBS (Malawi Bureau of Standards)
- National coordination mechanism
  -MAPAC
iv. The message to Policy makers

Policy makers need to be told the problems which are

- The extent of the problem
  - there is need to communicate the extent of the problem
- Facts
  - We need evidence in terms of (a) occurrences
  - (b) effects - trade, health, food security and nutrition

v. What can be the solutions?

- There is need for awareness and communication
- Training (farmers, traders and organizations)
- Capacity building
  - Laboratory
  - Food safety control system
  - Farmers, traders, processors, policy makers
- There is need for national coordination

5. Resolution/ Recommendations for the Dialogue Meeting

From the presentations and discussions the following were the recommendations for the dialogue:

- There should be an integrated system of agro-ecology to manage the natural resource base.
- There is need for improved linkage between line policies in ministry to improve on service delivery.
- Increase on civic education and awareness on climate change and aflatoxin issues.
- Advocating on implementation strategy to be clarified. Defining who is responsible for doing what by defining the role of each stakeholder in the strategy.
- The progress of the workshop will be communicated to government for policy considerations
- There is need to advocate for the food safety policy and the next Policy Dialogue by FANRPAN should be on safety.
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### Post Harvest Loss Management Dialogue

**Crossroads Hotel,**

**20th October 2015**

**Registration Sheet**

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# POST HARVEST LOSS MANAGEMENT DIALOGUE

**CROSSROADS HOTEL,**

**20th OCTOBER 2015**

**REGISTRATION SHEET**

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## POST HARVEST LOSS MANAGEMENT DIALOGUE

**CROSSROADS HOTEL,**

**24th OCTOBER 2015**

**REGISTRATION SHEET**

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### POST HARVEST LOSS MANAGEMENT DIALOGUE

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**21st OCTOBER 2015**  
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## POST HARVEST LOSS MANAGEMENT DIALOGUE

### CROSSROADS HOTEL,

**20th OCTOBER 2015**

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