



RESEARCH
PROGRAM ON
Roots, Tubers
and Bananas



Workshop report: PMCA Training Workshop

Expanding utilization of RTB crops and reducing
their post-harvest losses

June 2014

A broad alliance of
research-for-development
stakeholders & partners



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I. Workshop Background

The EU funded 'Expanding utilization of RTB crops and reducing their post-harvest losses' (EU-RTB Project) is being implemented under the leadership of International Potato Center (CIP) in Uganda. The project activities that commenced in 2014 have included establishment of four RTB crop teams in March 2014. The teams have developed preliminary business cases on potential post-harvest related research options, which have been reviewed and have now advanced to the scoping level. The scoping level necessitates that more detailed information on key focus areas be collected, reviewed and incorporated in each case of interest.

As a strategy to improve and refine the proposed research options into valid business cases, using the Participatory Market Chain Approach (PMCA) is necessary at this point. The approach was first developed and applied in Latin America but has since been applied in other countries. CIP has not only spearheaded the application of the PMCA but has, in Uganda, supported the development of local capacities needed to facilitate successful innovation processes. The local practitioners have become part of an emerging network of PMCA practitioners around the world have been enriched by South-South knowledge exchange and feedback from field experiences.

For the EU-RTB Project, the PMCA is appropriate in order to characterize proposed chains, understand the gender dynamics, and select the most promising chains for further research. Through the approach it is also expected to support the teams to facilitate multi-stakeholder processes, analyze gender based constraints and develop engendered business plans that will guide rolling out economically feasible post-harvest technologies.

A four day training was conducted in Kampala from June 23-25, 2014. The main goal of this training was to introduce partners to PMCA as an engendered value chain development approach that can assist in scoping and obtaining information to strengthen their business cases to be funded under the EU-RTB Project. This training was organized by CIP and conducted with support from two resource people.

II. Objectives

- To obtain an understanding of PMCA principles and how they can be applied in various contexts
- To gain sensitivity related to key gender in value chains principles and how they can be used to mainstream gender in research activities specifically under the EU-RTB Project.

III. Workshop scope and Methodology

The workshop mainly covered the principles applied in development of value chains in the RTB crop sub sector. A number of activities were initiated by the facilitation team to provide an intensely interactive environment through which the key principles of the PMCA would be appreciated and embraced by participants.

Facilitator presentations: The facilitators of the workshop made short presentations highlighting the key principles of the PMCA.

Case story of a PMCA participant: In order to emphasize the benefits of the PMCA in building a business case, an entrepreneur shared his story and participants were allowed time to ask and discuss the business based on the key principles of the PMCA.

Participants' group work and plenary discussions: Participants were from time to time broken up into groups to discuss key aspects of the PMCA. The facilitators supported the four commodity groups



(i.e. banana, cassava, potato and sweetpotato) in line with the specific comments from review of the preliminary business cases. The banana crop group consisted of participants from Bioversity, MBADIFA and NARO, the cassava group comprised of participants from IITA, NARO and Kilimo Trust. The sweet potato group comprised of participants from CIP, Masaka District Local Government, and VEDCO while the Potato group was constituted by participants from NARO, IIRR, Makerere University and UNADA.

Fieldwork: The participants visited the field in a bid to have a hands on application of the PMCA Phase one tools. The field work enabled participants to apply the developed tools to obtain information on knowledge gaps in the particular value chains of interest. Each commodity group developed tools, depending on the identified information needs and conducted key informant interviews as well as focus group discussions. The teams also visited Mukono market where they interviewed both male and female market vendors. Consequently, the teams were able to improve their scoping plans.

Day 1

IV. Workshop Sessions

Introduction Of PMCA Within The Broad EU-RTB Project Spectrum

Sarah Mayanja gave a brief on the evolution of the project from inception to the scoping level and what is expected to be achieved after the initial activities. Existing partnerships were stated in the RTB focus area. CIP focuses on potatoes, Bioversity on banana, CIAT on cassava and beans, while IITA focuses on cassava and banana. These also work with other non-CG partners to address post-harvest challenges in RTB. She stressed the challenges faced by RTBs including their bulky yet highly perishable nature with short direct marketing channels (most are farmer-trader-consumer). Also, there is lack of appropriate handling technologies for these crops yet they are widely produced. The underdeveloped potential for value addition calls for innovations that can transform the utilization and marketing of RTB.

A short film titled PMCA in the Andes was shown to the group as a way of arousing interest in the opportunities identified in South America through this approach. The key highlights of the film were how the different actors along the potato value chain were able to work together to improve the chain which resulted into benefits for all the actors.

Sarah Mayanja also gave a presentation on agricultural innovation systems. The essence of the presentation was the importance of agricultural innovation systems and how PMCA is a key tool in the evolution thereof. The presentation highlighted the key difference between invention and innovation; an invention being a new device or process that may not be of commercial value while an innovation is a better way of doing things resulting from goal-directed behavior, aiming to improve performance and outcome. It implies a value gain for its users.



PMCA Phase 1
final.pptx



Introduction to AIS
final.ppt

Questions

1. The way the need for innovations is presented to us, the PMCA stage 1 process seems to have been surpassed, what can the groups do at this stage?



2. Looks like we are working on an assumption that these actors are already identified. However, for some of us this is not the case. So a lot depends on the context in which the actors come. Some are producers; others are in marketing with different interests.

Responses

1. The PMCA is flexible, therefore the different actors can still be identified and incorporated with aspects of Phase 1 being considered. Moreover, market studies for the different themes have to be done in order to provide necessary data that would be a basis for the business cases for each research option.
2. Knowledge gaps in the available scoping plans exist and so potential sources of this information have to be sought. But remember the project is about expanding opportunities for increased utilization of RTBs. So the question is how come some of these products are not in the market? There must be some issues to point out why the technologies have not worked in the past and what can work now.

The PMCA: theory and practice

John Jagwe made a presentation on the principles of the PMCA and how it can be applied to obtain a better understanding of commodity markets. He stated that PMCA is a systematic R&D process that aims to promote innovation and competitiveness in market chains. The PMCA is not restricted to agriculture as some would believe, but it can be applied in a number of other development sectors as well. The methodology focuses on market demand, expressed by the actors involved. It emphasizes building trust among the stakeholders involved while at the same time promoting mutual learning and collective action. In the end, key actors are empowered at all levels. The application of PMCA is in three phases, each with a specific objective to be achieved. Phase 1 is to generate interest among the different actors. The objective at this stage is to get to know the different actors in the chain and their need, interests and ideas of how the chain could be improved. In Phase 2, the objective is to analyse potential business opportunities in a participatory manner. Phase 3 focuses on activities that lead to generation of new innovations that could be either technical, commercial or institutional in nature. At the end of the PMCA process, strong networks are created that lead to better pursuit of opportunities among actors in the value chains.



Questions

1. What is the difference between PMCA and rapid market appraisal?
2. The PMCA process requires time yet the proposal is required in a very short time

Responses

1. Rapid market appraisal is a tool that can be applied within the PMCA.
2. The scoping has already commenced or being done by crop working groups, even without being aware certain aspects so it is not that the process has to start again. The idea is use the PMCA tools to collect information to fill in the gaps. As can be noted, Phase 1 is to generate interest in the focus areas. The different actors could be asked whether they would be interested to participate but also give information that is relevant to the research options in the early stages.



PMCA in Uganda-a private sector perspective; a case story of BRISK

I started the business in 2007 in second year of my degree course in Food Science and Technology. I was inspired to start because, when I looked at the lack of jobs, I thought I should find something I could do by myself and would not have to look for a job. I began work on BRISK from my uncle's garage. I used to sell the product in ice-cream cans at Mulago hospital where an Auntie worked. The patients in the hospital liked the product very much and kept on demanding for more. After this, I moved to the Makerere Food Science Department Business Incubation centre where I continued to work. Soon after that, I met the PMCA pineapple team in Uganda, which was a timely meeting; the things I thought were not necessary became important. For example, in presentation of the product, the way I was packaging needed to change because of the feedback generated from the process.

I was selected to be a lead actor in the pineapple value chain. My product was taken to another level since I became a participant in the PMCA process. Members on this platform helped advise on what would be important to help with the different aspects after making their observations. Many loopholes in the marketing of my product were highlighted during the meetings. As I addressed them, the demand for the product kept on increasing to-date. The facilitators at first were doing everything required to make the stakeholders participate until a time when they left us to take over the process. This was done gradually to be able to help us to do the issues by ourselves.

My product, BRISK, did not have a UNBS mark at the time of joining the PMCA platform. However, when I joined and started participating in the activities, I interacted with different people and found that there was a member of Uganda Industrial Research Institute and another from Uganda National Bureau of Standards. These proved to be very useful contacts that helped me to eventually get the quality mark appearing on the product. I also used a sensory panel and as such, the product has become one of the best in the market. Through the PMCA platform, I received more support with getting a new label and new bottle mould. The product is now packaged better and this has helped to increase sales since it is now more appealing to the customer.

Challenges

Dealing with government institutions and large supermarket chains is still not possible at this time because most often the money is not paid on time which would not be easy for me

Some market outlets are not stable-one day they are there operating as a supermarket. Then soon after the business has changed to a sports betting centre.

A stable supply from the farmers has been a challenge. Sometimes the pineapples are not supplied in the required quantities. Now when there is a glut of pineapples in the market, I purchase and extract the pulp which I keep in cold storage for later use.



Questions

1. How different from the others is your product?
2. Are farmers who are supplying you getting higher value-added price incentive compared to what the market offers?
3. You said networking in the beginning was complicated, why was it complicated and how did PMCA help you?
4. What was your market size then and now?

Responses

1. It is 100% natural, no preservatives; moreover marketing is on referral basis by those who have appreciated it.
2. Not really as far as price is concerned. Farmers prefer supplying me because I have assured them of the market and we have trust between us (through PMCA)
3. At first it was not easy to interact in the first meetings and find out what people were doing but eventually working in groups helped. We randomly identified the opportunities in the PMCA workshop. We were put into groups to review the opportunities and came up with seven out of about 30 opportunities from which mine got a lot of support.
4. Before I joined the PMCA platform, I was producing was 30 litres/wk. Now I produce 800-1000 litres per week

Group work

After the presentations participants broke up into groups along their crops of interest. The discussion question was “Describe the relevance of PMCA in the proposed research activities”,

Day 2

Re-cap of previous day

Sarah Mayanja gave a recap of the previous day, using a participatory method in which participants were asked to recall what they had learnt and shared about the PMCA. The different groups then presented their discussions on the relevance of PMCA in their proposed research activities, as detailed below:

Sweet potato

- PMCA will help identify other potential opportunities based on information obtained from the chain actors
- Shelf life of sweet potato needs to be extended but certain critical issues remain-i.e. the storage should be in such a way that the taste is still acceptable
- Chain actors are the ones to use the technology so important that interaction with them is on a constant basis through the PMCA
- PMCA is still relevant since there are two new products to be developed i.e. silage and cured roots.



Cassava

It is important to understand the actors because the group did not have full information at the time of presenting their preliminary business case. The group also identified a number of issues to be addressed with the aid of PMCA Phase I. For Business Case 1 (Improving Cassava Chips for Increased incomes and Postharvest loss reduction), the first issue was to explore why previous pilots with cassava processing units have not been successful. Other issues include understanding the supply deficit of raw material, technology feasibility, identifying most feasible business models. For the team business case 2 which is “Extending the shelf life of fresh cassava roots for increased incomes and postharvest loss reduction”, the main issues to be addressed include technical feasibility of storage methodologies in the Uganda context, the demand for and uptake of the innovations both in the short and long term.



Bananas

- By applying the PMCA, it will be of help in ensuring that the main actors see the benefits of the research
- Information obtained will help the group better put the case for funding from donors
- Help build trust with all people where each person sees the benefit
- Looked at potential market size to justify the intervention. PMCA will help in obtaining this information
- The team is to apply the PMCA Phase 1 principles to identify the chain actors and find out their interests and issues on the technologies that are to be promoted

Potato

- Best tools to use will be identified
- Information on actors and the challenges they face shall be collected
- Plan to use rapid market appraisal, focus group discussions
- Strengthen ability to provide required leadership and backstopping by identifying and working with existing actors
- Will be a platform to have the voices of actors heard

Reactions

- With the help of the PMCA, the groups have found useful tools to quantify demand and supply as well as assess acceptability
- There is need to invite actors to a meeting to highlight their interests and get ideas from the different players then incorporate their ideas into the research agenda.

Mainstreaming gender in research activities

A presentation was made by Jacqueline Terrillon on the value of gender mainstreaming in value chain development. This was preceded by a skit which enabled to participants to reflect on the dynamism of gender roles in society. Arguments for mainstreaming gender were considered and different tools used in gender analysis in the PMCA were discussed. Specific emphasis was placed on the social construction of identity as male or female, assigning of roles according to cultural norms and traditions and perpetuated by institutions as well as stereotypes and presumptions about what men and women can and should do. Implications of gender roles on distribution of labour, access to and control over material and non-material resources and ownership and decision-making power dynamics were stressed. The concept of gender main streaming, understood as the integration of a gender perspective into all stages of design, implementation and monitoring & evaluation of a program was discussed. Participants were then taken through key tools that could be used to mainstream gender in the PMCA. The gender sensitive value chain mapping tool is used to make visible actors by gender along each node of the value chain and to identify constraints and opportunities offered by the chain supporters, as well as the overall environment. The tool to identify and analyse gender based constraints and plan for corrective actions was then introduced. These tools can help understand better the context in which business innovations will be implemented in



terms of gender inequalities and ensure the development of gender responsive business plans.

Gender mainstreaming
in PMCA RTB post har



Group work

Different group activities were conducted for participants to have chance to apply their understanding of gender mainstreaming to in value chain development. Each group was tasked to develop a gender sensitive chain map of a simple value chain of a commodity of their choice. One group developed a chain map for honey, another developed one for cassava, while two others developed one for



Preparation for field visits

As part of the training, participants were expected to conduct a field visit to collect information for inclusion in their scoping plans and activities. Participants worked in their groups to prepare for the field visits including the information gaps, tools to use to collect the information as well as assign roles to each other. Participants were also given a list of tips to carry-out gender responsive research.



Analysis and Utilisation of field data

The Facilitators guided the teams through ways in which information collected could be analysed to get a broader picture of the particular chain of interest. John Jagwe mentioned that some information may not be readily available from secondary sources yet it is important to have. He gave an example of how quantities of fresh cassava sold in a particular market could be estimated. First, one would need to establish the size of the unit measure used to deliver in the market (usually a bag for RTB). Then, the team should get information on what type of trucks usually deliver to the market and how many bags does each carry. Finally, the number of such trucks delivering the commodity to that market on a daily basis is established. Similarly, information for other channels such as schools and institutions can be empirically obtained. Traders could be asked to estimate how much of the commodity they supply to the institutions in a given period. Sarah Mayanja emphasized the importance of disaggregating information by gender using the tools introduced to participants in the presentations and discussions in Day 2.

Day 3

Field visits

Three commodity groups (i.e. banana, cassava and sweet potato) visited various locations within Mukono district where they were able to interact with farmers and other actors of interest. Based on guidance from the PMCA presentations, participants collect relevant information to guide them in developing scoping plans. The key tools used were Rapid market appraisal, key informant interviews, focus group discussions as well as individual interviews. Participants paid special attention to consult both male and female respondents, with an aim of understanding their roles, interests, needs and challenges. After the visits to individuals and focus discussion groups, each team moved to the main market in Mukono Town where they interacted with traders of their commodity of interest. The groups then compiled the information the rest of the day and prepared key highlights of their findings

Day 4

Presentation of field reports

Based on their experiences from the field visit, each working group presented their findings and the key highlights on the market chains of their commodity of interest. Details for each group are included in Section V below. However, from the presentations, the following are the key issues noted by each commodity group.

Banana group

This group visited a banana tissue culture hardening facility in Goma Subcounty, a farmer group in Nakisunga Sub-county where they held parallel focus group discussions for men and women members as well as a joint one to clarify on issues raised separately. The group also met vendors in Mukono main market. Based on their experience, the group was of the view that;

- There is interest in the opportunities presented by banana as a crop by all chain actors visited- this is a probable indicator for acceptability of project activities by the actors
- Shared interests by all chain actors can be harnessed to promote collaboration as far as banana utilisation is concerned



- All actors sell matoke in bunches or fingers. When the idea of selling by weight was discussed, many expressed willingness to deal by weight but only if it is profitable
- The group was able to identify possible collaborators- sources of information during scoping activity
- Women were most constrained by the heavy workload as they have to care for children in addition to attending to work in banana plantations. They were also constrained by land ownership-most do not own land and since plantations have to be looked after for many years, they feel they do not have complete control of ownership.
- The use of income is most of the time determined by the husband. Also, purchase of inputs is mainly done by the men as they are the ones who usually go to the town.

Cassava group

The cassava group was mainly concerned about finding out useful information on both the fresh and dry cassava chains. They visited wholesalers and retailers of fresh cassava as well as cassava chips in Mukono. In addition, they also visited and interviewed a cassava flour miller. The group observed that;

- For fresh cassava, due to close proximity to farmers, traders leave storage issues to farmers and they are not so much concerned with deterioration. Between harvest and consumption is 12 to 14 hrs and not much post harvest losses in the market
- For dry cassava, there is poor quality especially the sand and taste. Consumers are willing to pay more for good quality if it is available
- Opportunities exist in providing good quality of dry cassava include higher returns on sales and lower costs on production and also increased turn over and demand.
- Chipping technology for cleaner cassava seems to have potential and should be explored more during the scoping

Potato group

This group together with the sweet potato group conducted a focus group discussion in Nakisunga Subcounty before moving to the market. The group visited wholesalers and retailers of potato in Mukono market. The key issues were regarding price movements as well as supply and demand for potato. Also discussed was the suitability of different potato types for the common uses. The group noted that;

- An improved way of marketing potatoes based on a kg units is desired by traders in the local market instead of heaps
- Traders are interested in ware potato trading if opportunities exist
- Traders would like to have an improved ability to stock more potatoes to avoid the routine work of looking for supplies
- Kabale potatoes are generally good for ordinary cooking, but not for making chips while the Kenya type is good for making chips and crisps
- No other institution or facilitator has ever mobilized potato traders in Mukono Market to consider working together on issues of minimizing post-harvest losses through better storage. This creates an opportunity to have a breakthrough this time round in terms of meaningful engagements and effective collaboration.

Sweet potato group highlights

The group visited farmers in Ntove village in Nakisunga subcounty. They held a focus group discussion with Nezikokolima Farmers Group. They also interacted with sweet potato traders in Mukono market and pork outlets. The group focused on the relevance of sweet potato as a food security crop as well as utilization of vines as animal feed. They noted that;



- Indeed sweet potato is grown for food security and income
- Sweet potato can be stored for up to 2 weeks in a cool place if harvested with no injuries
- The market does not discriminate stored SP and it is still tasty if stored well
- Traders prefer NASPOT 1, and all varieties of orange fleshed sweet potatoes
- All 10 women farmers in the group have 2-4 pigs, which they feed on SP vines, roots, cassava peels, banana peels, maize bran, indicating potential for enterprise integration
- The limitation to increasing piggery size is shortage of feeds- composite feeds are very expensive
- Silage making from sweet potato products as a possibility for animal feed is very welcome since the crop is available all year round, cheap, and moreover it is almost available in all households
- Gender roles in piggery management exist; women do the feeding (100 %) men treat for worms and buy supplements like vitamins

Reactions to the presentations

Generally, applying the PMCA in project activities is crucial. Involving stakeholders would not only generate interest but also enable important information on uptake of the technologies by the various chain actors.

Way forward and workshop closure

The different teams planned to use PMCA principles in the scoping activities with the aim of enriching their business cases with the relevant data as noted from the reviews. Sarah Mayanja emphasized the importance of having gender responsive data since it was a major highlight of the reviews done for all the teams. Participants then took time to discuss and highlighted areas to integrate gender response in upcoming scoping activities. Elizabeth Khakasa gave remarks on behalf of the participants, thanking the Facilitators for the great work done in helping to improve the competitiveness of their proposals. John Jagwe made concluding remarks on behalf of the Facilitator team, pledging availability to be of help anytime assistance on application of PMCA principles during the project process.

V. Working Group Outputs

Each working group availed outputs from their group work and field visit and this section is a compilation of the same.

Banana team

The banana team visited the field to obtain information on the crop and varietal preferences, possible areas for collaboration, challenges faced by the different actors as well as get a firsthand experience of banana post-harvest losses. Based on the PMCA principles learnt, the group also developed gender sensitive value chain map for cooking bananas.



Cassava team

1. Getting to know the various actors in the chain

The group first set out to get to know the various actors in the fresh and dry chips cassava chains. The fresh cassava chain comprises of Traders (retailers in small shops and wholesalers); supermarkets and wholesaler/transporter. The dry cassava chips chain comprises of consumers, retailers (small shops and supermarkets), wholesaler for flour, millers, wholesalers for chips, farmer/chips processor.



2. Understanding the circumstances and practices of chain actors

Consumers of fresh cassava: These are concerned with taste cassava but not particular about variety as long as it is not bitter or woody. They only buy what is going to be eaten that day. The quality of cassava is judged based on appearance. Quantity is a key concern but not price. Institutional consumers (mainly schools) buy directly from farmers. The frequency of consumption depends on price and availability of fresh cassava. The institution visited currently consumes about 800 kg per week. If they are to increase consumption they would need to diversify into fried cassava chips which is done once in a while. Due to close proximity to farmers, they leave storage issues to farmers; not so much concerned with deterioration as it is handled within a day.

Fresh retailer practices: Fresh cassava is sold in heaps which vary in size and the number of tubers. The price of the heaps varies according to the availability of tubers in the market. Demand and consumption of cassava depends on the availability of other foods in the market. However, between October and June of the following year, consumption tends to increase. The practice to avoid spoilage is for tubers to be placed in water for about 3-5 days. However, this lowers the quality and in most cases such cassava is sold to those who make Katogo in the market at a loss of almost 50% of the value.

Wholesaler/farmer practices: The wholesaler visited reported that he negotiates directly with the farmers to buy cassava from the field. The arrangement is such that he pays for the labour to harvest and not the farmer. Whatever is harvested is then measured in bags which he pays for. Currently due to the scarcity of supply, he buys one truck of two tones at a time. He transports the cassava to the market and by 8.00am, he has finished selling to retailers mainly from Seeta, Kireka and Nakawa markets. He estimates that traders from about 10 Kampala markets might be buying from their market. The cassava sold in this market is mainly from Hoima, Luwero, Masindi, Bugerere, Busoga, Mukono. Generally, the demand for fresh cassava is still higher than the supply.

Dry chips Chain:

Consumers: Cassava is eaten may be once a week in combination with other food items. The biggest challenge is the poor quality especially presence of sand although sometimes the taste is also not good. They are willing to pay more for good quality if it is available in the market. Presently, the price is 1,500 per kg of cassava flour but they are willing to pay even Ushs 2,000 per kg if the flour quality is good. Also, there is a lot of inconsistency in quality. For example, from same shop, one can get good cassava but the next time they try to buy from the same place, it is bad.

Retailer of cassava flour: One sack of 100 kg lasts a month, people are extremely quality conscious. The key quality attributes are consistency of cassava flour, colour and odour. Many people do not check the quality of the flour before buying; you might get one out of ten people doing this. The bad quality attributes are mainly blamed on wholesalers who store for long, making the cassava develop moulds. Out of 10 while sampling; many people do not check much.

Wholesaler for cassava flour: He buys from industrial area but also buys from other far sources. He stocks two grades of flour; the first is discoloured and this he sells to other traders. The better quality grade is what he keeps and retails himself as he is sure people will buy it.

Miller: He mills about 10 tonnes per month as an individual. However in the whole town, he estimates a collective total of may be 10 trucks per month of 10 tonnes each. Cassava chips are brought in various sizes but usually the smaller the size, the better the quality. He has two grades-regular and star quality. The price for regular is Ushs 65,000/= per bag while the star grade is Ushs75,000/= per bag. Of all he sells, 70-80% is regular. The main market channel for the regular grade is the local brew (*Kwete*) makers. The main customers for the star grade are the makers of pan cakes (*Kabalaga*). Of all the sources of cassava flour, Busoga brings in the poorest quality while Pallisa is the best source for good quality. He benefits more if chips are of good quality; milling poor quality is more expensive in terms of labour and energy. He saves almost 50% of costs if cassava is clean. For example, it takes a whole day to mill a truck of poor quality cassava chips but if it is good it could take 6 hrs. For a truck of 10 tonnes usually Ushs 200,000 goes for power and Ushs100,000/= for labourers. He remains with a balance of about Ushs 100,000/=.



3. Bottlenecks and opportunities associated with various links or nodes in the chain i.e. production, commercialization, processing, use and consumption.

The quality of cassava chips is generally poor leading to increased costs of processing as well as low consumption levels. Opportunities from increased quality include higher returns on sales and lower costs on production and also increased turn over and demand. Chipping technology for cleaner cassava would be a boost. There is also low supply of fresh cassava that could be chipped and dried. An opportunity for the miller could be directly getting the fresh roots which he could chip and mill instead of waiting for the dried chips. Generally if quality improved, there is a possibility that the demand could increase; the miller estimated that better quality cassava would increase the demand to more than 15 trucks as opposed to the current 10 supply this market alone. For the super market the main bottleneck is the lack of cold storage for fresh cassava. Also, there is low awareness among consumers about other forms of fresh cassava such as frozen cassava. Therefore there is need to invest in awareness and promotion of other forms fresh cassava preservation. For cassava flour- there is need for good packaging.

Potato group

The potato group first took part in a focus group discussion with the sweet potato team before they moved into the market where they interviewed potato traders. The market visit sought to get information on the demand, supply as well as price and quality aspects of potato in Mukono. The team established that the most traded potato types are Kabale and Kenya types with market demand being highest for the medium sized bright coloured Kabale potato. The Kabale type is good for steaming/boiling while the Kenyan type is good for chips. The traders proposed another option in marketing potatoes that would be based on weight as opposed to heaps, basins and tins. They also expressed willingness to trade in ware potato if supply to the market is steady. They also would like to have better capacity to stock and bulk potatoes as looking for supplies after short periods is difficult. Moses Kasirye who is one of the retailers interviewed asked the team whether they were able to supply him 40 bags of potatoes. He reported existing demand from schools; he supplies them two to three bags every weekend. Potato prices fluctuate depending on the season. The group was able to establish the prices for potato at peak and lean production times. At the time of the visit which was deemed to be in the peak season, the team established prices of the different quantities of potato sold in the market. A few gaps on out of season prices exist as most of the traders could not tell as the prices vary a lot.

Potato prices in season and out of season

Particulars	In season (too much supply)	Out season (limited supply)
Price of 1 bag	75,000 to 100,000	150,000
Farm gate potato price (UGX)	40,000	100,000
Market price (UGX) in Mbale town	50,000	150,000
Buying price (UGX) from big traders– Mukono market	65,000	80,000 - 85,000
Selling price by retailer- Mukono market	125,000 to 130,000	150,000
Price of 1 Kg of potatoes	1,200	



Price of 1 biggest basin	45,000	
Price of 1 big basin	40,000	
Price of 1 medium basin	35,000	
Price of 1 smallest basin	15,000	

a. Key interests with regards to upgrading the chain(s)

Prolonging shelf life of ware potato through improved storage facilities is seen as a good innovation that provides opportunities of minimizing post-harvest losses and wastages during times when ware potato is in the market. Innovations in making sufficient ware potato purchases at relatively low prices for sale at a higher price when potato is no longer in season are anticipated. Another interest is keeping ware potato price relatively constant (limit price fluctuations) through the maintenance of quantities supplied to the market.

b. Likely engagement of traders with the potato research option

No other institution or facilitator has ever mobilized potato traders in Mukono Market to consider working together on issues of minimizing post-harvest losses through better storage. This creates an opportunity to have a breakthrough this time round in terms of meaningful engagements and effective collaboration. The potato team should work hard to prove to all market actors that they are serious with this kind of innovation and intervention to improve ware potato storage and shelf-life.

c. Potato traders' challenges

Although potato traders have interest in engaging in joint efforts to improve storage and prolong shelf life for potatoes, they are constrained by limited capital. There are times when effects of seasonality are so grave that there is literally no potato supply in the market. Also, losses and wastages due to poor handling during transport limit their profitability from the business. Foreigners are only interested in buying potatoes based on weight. This is a challenge, given that it can often lead to losses on their sides when they compare selling by weight with selling by means of containers or heaps.

Sweet potato group

The sweet potato group first took part in a focus group discussion with the potato team before they moved into the market where they interviewed sweet potato traders. The focus group discussion was held with Nezikokolima Farmers' Group in Ntove village, Nakisunga Parish, Nakisunga subcounty in Mukono District. According to the group, sweet potato is grown by 70% of households in the area and of these, 70% are women. The main varieties grown include NASPO 8, 9, and 10, Ejumula, Kakamega (orange fleshed), NASPOT 1, Kyebandula, Mwora nfuzi, Kawogo, Bitambi, Bijodoro and Matu ga kibe (white/cream fleshed). They grow sweet potato for food security as well as income. Traders prefer NASPOT 1 and the orange fleshed sweet potato varieties.

According to the farmers' group, sweet potato can be stored for up to two weeks in a cool place if harvested with no injuries. It can also be stored in a pit covered with polythene. The market does not discriminate between stored and the freshly harvested sweet potato because, according to the farmers, it is still tasty. All the 10 women farmers rear two to four pigs, which they feed on sweet potato vines, roots, cassava peels, banana peels and maize bran. They affirmed that piggy is a



profitable venture with one pig going for 220,000-600,000/= depending on size and age. The limitation to increasing herd size is shortage of feeds- composite feeds are very expensive. Silage making from sweet potato vines was welcomed by the group saying that sweet potato is available all year round, cheap and grown by almost all households in the area. In terms of gender roles, women do the feeding (100 %) men treat for worms and buy supplements like vitamins. The main challenges to sweet potato production are weevil infestation, transport to the market and marketing. Women specifically reported being constrained by the high initial capital investment required to multiply vines as well as inability to have adequate access to markets.



Value chain map for sweet potatoes

Actors by value chain nodes	Description of activities under each node of MC	Responsibilities/ roles and level of implication by gender		What constraints are faced that limit access and control of resources for the activity carried out by gender	
		Male	Female	Female	Male
Input supply					
Vine multipliers Vita, Kabode, Ejumula, NASPOT 1	Obtain seed Multiply Sell to farmers	Looking for market Delivery of product	Multiplying seed	High capital investment Inability to access market	
Fellow farmers	Selling seed to farmers		Freely give vines		
Farmer group	Provision of Credit		Freely share vines		
VEDCO	Provision of clean seed Provision of trainings on Agronomy, Marketing, Processing				
Production					
Sweet potato farmers	Land preparation Heaping Planting Weeding Harvesting Marketing	Bush clearing/ slashing 1 st ploughing Heaping (sometimes)	1 st ploughing Heaping (mostly) Planting Weeding Harvesting Selling	Transport to the market Marketing Weevil infestation during drought	
Marketing Traders market vendors	Purchase from farmers Transport to the market Sell to vendors Store properly Sell to consumers		Store properly to keep product fresh Sell to consumers		



V. Workshop Evaluation

Participants were asked to state whether the training was of benefit to them and what could be done to improve. The following were the comments:

- We now appreciate what the PMCA tool is about
- We can now do value chain mapping and more
- We are now able to incorporate gender in scoping activities
- It is a very useful approach in terms of focus, data needs and process
- Promote the PMCA tool more
- The tool clearly helps to bring out the market networks of a commodity
- It is now easy to collect information that is gender based
- Appropriateness of technology demand by gender needs to be incorporated
- The facilitators were very good and knowledgeable
- Next time include data analysis and interpretation.
- Was able to identify constraints and opportunities by gender for the increasing shelf life of commodities
- Time management was good
- The workshop program was well managed



ANNEXES

Annex 1. Workshop Program

Monday 23 June, 2014

Time	Topic	Responsible
08.00-08.30 a.m	Registration	Richard
08.30-09.00 a.m	Introductions and objectives of the workshop	Sarah
09.00-09.30 a.m	Introduction to the PMCA within the broad spectrum of the project	Sarah
09.30-09.45 a.m	Film-PMCA in the Andes	
09.45-10.00 a.m	Q &A	John and Sarah
10.00 – 10.30 a.m	Health break	Hotel
10.30-11.45 a.m	The PMCA: Theory and Practice	Hotel
11.45-12.15 a.m	Tailoring PMCA to project needs	John
12.15-13.00 p.m	Buzz groups	Sarah
13.00-14.00 p.m	Lunch	Hotel
14.00-14.30 p.m	PMCA in Uganda-A private sector perspective	BRISK
14.30-15.00 p.m	Q & A	BRISK
15.00-15.30 p.m	PMCA –Phase 1	Sarah
15.30-16.00 p.m	Tea	Hotel
16.00-16.20 p.m	Group work-Relevance of PMCA in proposed research activities	Group members
16.20-17.00 p.m	Feedback session and discussions	John



Tuesday 24 June, 2014

Time	Topic	Responsible
08.30-08.45 a.m	Recap and review of Day 2 activities	Participants
08.45-09.15 a.m	Mainstreaming gender in research activities Gender skit/definitions	Jacqueline
09.15-10.00 a.m	Rationale for mainstreaming gender	Jacqueline
10.00-10.30 a.m	Health break	Hotel
10.30-11.30 a.m	Gender mainstreaming in PMCA Phase 1	Jacqueline
11.30-12.30 p.m	How to mainstream gender in Phase 1 tools:-RMA Focus group research, KII Gender sensitive mapping tool Gender based constraints analysis tool	Jacqueline
12.30-13.00 p.m	Q & A	Participants
13.00-14.00 p.m	Lunch	Hotel
14.00-14.30 p.m	Information on field visit	Sarah
14.30-16.00 p.m	Preparations for field visits-objectives, tools, assign roles e.t.c.	Participants (in groups)
16.00-16.30 p.m	Presentations of field plans	Participants
16.30-17.00 p.m	Tea and close of day	Hotel

Wednesday 24 June, 2014

Time	Topic	Responsible
08.30-08.45 a.m	Brief about field visit	Sarah
09.00-15.00 p.m	Field visit (farmer group, fresh produce markets, other markets)	Sarah and John
15.30-16.00 p.m	Tea	Hotel
16.00-17.30 p.m	Preparation of field reports	Participants



Thursday 25 June, 2014

Time	Topic	Responsible
09.00-10.00 a.m	Presentation of field reports	Participants
10.00-10.30 a.m	Plenary discussion	Sarah and John
10.30-11.00 a.m	Tea	Hotel
11.00-11.15 a.m	Feedback no data analysis and presentation	John and Sarah
11.15-12.30 p.m	Integration of gender responsive tools in scoping plans	Participants
12.30-13.00 p.m	Feedback, workshop evaluation and closure	Participants
13.00-14.00 p.m	Lunch and departure	



Annex 2. List of Participants

No.	Participant	Institution	E-mail address
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