

# Using the Participatory Market Chain Approach (PMCA) to Generate Pro-Poor Innovations in the Sweet Potato Sector in Uganda

**B. Akello<sup>1</sup>, I. Mugisa<sup>2</sup>, W. Nakyagaba<sup>3</sup>, M. Nampeera<sup>4</sup>  
P. Lusembo<sup>5</sup> and D. Magala<sup>6</sup>**

**Keywords:** farmers, traders, consumers, competitiveness, research, development

## Abstract

Rural farmers are constrained by their inability to access sustainable markets for their products. This challenge is experienced more by women, who in the African context are more involved in production, but less involved than men in marketing agricultural produce. Rural farmers are becoming more marginalized as urban markets demand better quality, quantity and sustainable production of agricultural commodities. Limited access to market information jeopardizes small-scale producers in the marketplace. Promoting collaboration between farmers and other market-chain actors enhances their competitiveness. In 2005–2007, Mukono Zonal Agricultural Research and Development Institute (ZARDI) co-ordinated a multiinstitutional, multidisciplinary and multi-stakeholder project piloting the Participatory Market Chain Approach (PMCA) on the sweet-potato sector in Uganda. The PMCA is a participatory action-research approach for identifying business opportunities in market chains that are important to small-scale farmers, and then carrying out research and development activities to exploit the opportunities. The project covered five districts representing two production agroecologies and one commercial centre. Challenges were identified by each group of market-chain actors. Farmers reported such things as limited access to good-quality planting material, low seasonal prices, and limited demand for orange-fleshed varieties. Traders noted difficulties associated with inconsistent and scattered production, while consumers noted inconsistent supplies, frequently poor quality of roots, and mixed varieties. At the end of the project, new joint commercial, technological and institutional innovations generated were launched at an event in September 2007. Innovations included new sweet-potato commercial products, marketing of new varieties and formation of new market-chain actors' associations and platforms. The success generated by using the PMCA in Uganda indicates that it is a methodology with great potential for generating pro-poor innovations along commodity market chains.

---

<sup>1-6</sup> Mukono Zonal Agricultural Research and Development Institute (ZARDI), PO Box 164, Mukono, Uganda.

## **INTRODUCTION**

Rural farmers are constrained by lack of access to sustainable markets for their products. This challenge is experienced more by women, who in the African context are more involved in production, but less involved than men in marketing agricultural produce. One of the major challenges for rural farmers is low linkage to markets in urban cities due to poor infrastructure and poor links with related product and service markets (KIT and IIRR, 2008).

Addressing these problems requires new ways of carrying out agricultural research and development (R&D), that is, not only generating and transferring technologies to increase production, but also making sure farmers can access markets for their commodities. Furthermore, an ongoing process of innovation is needed along the market chain, to enable those involved to continually identify and take advantage of new market opportunities, thus positively affecting rural producers. Shepherd (2007) reports that the Food and Agricultural Organization of the UN (FAO) has for many years advocated that extension officers should work with farmers to link them more effectively to local traders.

The Participatory Market Chain Approach (PMCA) offers promise to fill a methodological gap to address the challenges of understanding market forces and enhancing productive participation by all market-chain actors in the production–marketing–consumption continuum. It is an instrument that intervenes in market chains that lack co-ordination, it creates an environment that fosters interaction among marketchain actors and generates shared innovations based on learning and mutual trust. The methodology was developed and used in Latin America (Bernet et al., 2006). The pilot applications of PMCA in Uganda were on sweet potato, *Solanum tuberosum* and vegetables (hot pepper and tomato). Sweet potato is one of the major food crops in Uganda that is also rapidly growing as a source of income for the rural poor in the major production districts. Recent emphasis has been on production of orange-fleshed sweet potato (OFSP) varieties as a cheap source of Vitamin A. There has been a noticeable increase in production of sweet potato in eastern and northern Uganda since 2004, but producers expressed limited market access as one of their biggest challenges. This paper reports the application of the PMCA process on sweet potato in Uganda to help producers to access markets, and highlights the potential of the method to facilitate the generation of pro-poor innovations.

commodities. Furthermore, an ongoing process of innovation is needed along the market chain, to enable those involved to continually identify and take advantage of new market opportunities, thus positively affecting rural producers. Shepherd (2007) reports that the Food and Agricultural Organization of the UN (FAO) has for many years advocated that extension officers should work with farmers to link them more effectively to local traders. The Participatory Market Chain Approach (PMCA) offers promise to fill a methodological gap to address the challenges of understanding market forces and enhancing productive participation by all market-chain actors in the production–marketing–consumption continuum. It is an instrument that intervenes in market chains that lack co-ordination, it creates an environment that fosters interaction among marketchain

■ **Using the Participatory Market Chain Approach (PMCA) to Generate Pro-Poor Innovations in the Sweet Potato Sector in Uganda**  
*B. Akello, I. Mugisa, W. Nakyagaba, M. Nampeera, P. Lusembo and D. Magala*

actors and generates shared innovations based on learning and mutual trust. The methodology was developed and used in Latin America (Bernet et al., 2006).

The pilot applications of PMCA in Uganda were on sweet potato, *Solanum* potato and vegetables (hot pepper and tomato). Sweet potato is one of the major food crops in Uganda that is also rapidly growing as a source of income for the rural poor in the major production districts. Recent emphasis has been on production of orange-fleshed sweet potato (OFSP) varieties as a cheap source of Vitamin A. There has been a noticeable increase in production of sweet potato in eastern and northern Uganda since 2004, but producers expressed limited market access as one of their biggest challenges. This paper reports the application of the PMCA process on sweet potato in Uganda to help producers to access markets, and highlights the potential of the method to facilitate the generation of pro-poor innovations.

### **Project Objectives**

The overall objective of the project was to improve market access for the farmers, while engaging all market-chain actors. The specific objectives were: (i) to identify and understand the different sweet-potato market-chain actors, their interests, activities, challenges and opportunities; (ii) to provide platforms for generating interest, trust and collaboration among market sweet-potato market-chain actors; (iii) to facilitate market-chain actors to generate joint market innovations, i.e. new products, technologies and institutions; and (iv) to enable market-chain actors to lobby and advocate for favourable market policies.

## **METHODOLOGY**

### **The Implementation (Core) Team**

Mukono ZARDI co-ordinated the PMCA process, which was implemented by a team of 10 R&D actors referred to as the 'core team'. These actors were drawn from the National Agricultural Research Organisation's (NARO) Namulonge, Kawanda and Mukono research institutes, International Potato Center (CIP-Uganda) and Makerere University after the first PMCA training workshop in Uganda. The team members were selected on the basis of their interest in sweet-potato production and marketing. Six of the team members also participated in a second PMCA workshop in the Andes (Peru and Bolivia), after which the team submitted a proposal for implementation of PMCA Phase I.

### **Implementation Process**

**1. Phase I.** The objective of Phase I was to enable the R&D implementation team to become familiar with market-chain actors, their activities, challenges and market opportunities. A market-chain survey was conducted in September–October 2005 to obtain (mainly qualitative) information concerning the sweet-potato market chain. Interviews were conducted using a checklist administered to market-chain actors. Fifty-five sweet-potato market-chain actors were interviewed. Phase I was concluded with a workshop in November 2005, in which 83 actors participated. Participants were those interviewed in the survey and R&D actors in the sweet-potato sector. During the workshop, two thematic groups—Orange-Fleshed Sweet Potato (OFSP) Processing Group and Fresh Roots Sweet Potato Group were formed.

**2. PMCA Phase II.** The objective of PMCA Phase II was to discuss and analyse, in each thematic group, business opportunities that could be jointly implemented in Phase III. Each thematic group held five

■ **Using the Participatory Market Chain Approach (PMCA) to Generate Pro-Poor Innovations in the Sweet Potato Sector in Uganda**  
*B. Akello, I. Mugisa, W. Nakyagaba, M. Nampeera, P. Lusembo and D. Magala*

meetings between April and August 2006. In addition to the meetings, market-chain actors were facilitated to visit sweet-potato production areas as well as processing and marketing centres. The tools used in Phase II included SWOT (strengths, weaknesses, opportunities and threats) analysis of potential innovations and rapid market appraisals to evaluate potential business opportunities. During this phase, a work-plan for implementation in Phase III was generated by the thematic groups. Phase II was concluded in a workshop in August 2007, in which 54 actors (24 women and 32 men) participated.

**3. PMCA Phase III.** The objective of Phase III was to implement the activities in the work-plan (generated in Phase II) to make the proposed market opportunities a commercial reality. As in Phase II, a total of five meetings was held for each thematic group. During this phase, small working groups worked around each market innovation. The main tool used was focus-group discussions with consumers, which provided information for development of the marketing concepts for various market innovations. Phase III was concluded with a gathering of PMCA project market-chain actors, the supporting R&D actors, government leaders and the press. In the Final Event, sweetpotato innovations, alongside Solanum-potato, tomato and hot-pepper innovations, were launched to the public. More than 250 people participated in this event.

**4. Backstopping support after PMCA Phase III.** Following the launch of the PMCA sweet-potato innovations, Mukono ZARDI maintained its support to participating marketchain actors. The major activities included: (i) monitoring of commercial innovations to ensure that the new products are adequately refined and moved into commercial production; (ii) facilitating multi-stakeholder platforms for R&D actors and existing farmers' groups, processors and traders that can support continued future innovations; and (iii) undertaking farmer-participatory and market-oriented research.

## **RESULTS**

### **Technological, Commercial and Institutional Innovations**

Innovations launched during the PMCA Final Event included a new snack food product made from OFSP. After the event, the processor (TomCris) received many requests for the product. Efforts are now geared towards supporting sustainable and consistent supply of fresh sweet potatoes for processing. A 'new' variety of sweet potato, 'Naspot 1', that had been in production for some time was introduced and marketed in Kampala's largest supermarket, Uchumi, for the first time during the PMCA project. Since then, the supplying firm (SULMA Foods) has contracted more farmers and introduced the variety to several groceries. Composite flours containing OFSP have been developed and pilot-marketed by two Ugandan processing firms, USPPA and Kasawo Millers. A kiosk for marketing clean, sorted and graded sweet potatoes and processed sweet-potato products was constructed and used for the first time at the Final Event of the PMCA (2007). It was later relocated to a local market, where farmers are now marketing OFSP.

One of the most successful outcomes is Bagyabasaaga women-farmers' group in Luwero district in central Uganda, specializing in OFSP. The group's initial objective was to promote the production and consumption of OFSP rich in beta-carotene (a precursor of Vitamin A) in order to improve the health of the communities, especially children and women. Before involvement in the PMCA, the group found it difficult to sell the extra OFSP they produced. Through the PMCA process, the group linked up with two processors, which purchased the extra OFSP they produced. The first outlet was a flour processor that uses dry OFSP

■ **Using the Participatory Market Chain Approach (PMCA) to Generate Pro-Poor Innovations in the Sweet Potato Sector in Uganda**  
*B. Akello, I. Mugisa, W. Nakyagaba, M. Nampeera, P. Lusembo and D. Magala*

chips, and the second was a major snack processor, which started to produce a fried snack from OFSP. They have subsequently built business relationships that have increased sales and competitiveness of sweet potato, in turn improving their incomes.

### **Contributions to Knowledge, Skills and Attitudes**

As a result of participating in the PMCA project, R&D actors reported many changes in knowledge, attitudes and skills. At Mukono ZARDI, the staff appreciated PMCA as a more effective approach for linking farmers to markets and for fostering market-driven innovation than other approaches they were familiar with. They also appreciated the concepts and tools associated with the PMCA, for example, facilitation skills, rapid market appraisals, key-informant interviewing, and focus-group research.

Beyond the core team, participating extension workers, farmers, traders and exporting firms in general reported that they had gained useful information and personal knowledge on a range of topics, for example, about Ugandan R&D organizations, the commodities they were working on, production and post-harvest technologies, market concepts, and innovation processes.

Farmers in particular obtained useful information from other producers or R&D workers for dealing with production or marketing problems—not only on sweet potato, but also for other crops and livestock activities. It was frequently noted that farmers and small-scale traders and processors had gained self-confidence and became more assertive during the process. At the outset, they couldn't imagine sitting at a table with researchers or important market agents, discussing their ideas or concerns, and having their views respected. By the end of the process, many of these individuals had developed a voice and expected to be heard.

## **DISCUSSION AND CONCLUSIONS**

The use of PMCA in Uganda demonstrated that the process can generate innovations quickly. Capacity has also been built for future innovation processes. All the innovations created more market opportunities for rural farmers, especially women, to supply the sweet potato demanded by the processing and fresh-roots markets.

The process demonstrated a departure from the way R&D is usually carried out, that is, a change not only in knowledge and skills, but also in assumptions and attitudes. Learning in detail how commodities were produced, traded, processed and sold to final consumers, and being challenged to devise means of improving the livelihoods of market-chain actors was a new experience. Such personal changes in R&D actors could not have

been achieved from reading a book or participating in a workshop. This usually requires some sort of 'eye-opening' experience (Mezirow, 1991, 2000). This was achieved through partners visiting the Andes to meet with those who had developed the PMCA and to see the results firsthand. Also, arranging for farmers and other market-chain actors to visit other segments of the market chain, like processing facilities, wholesale markets and supermarkets, enabled them to receive new insights and perspectives on their own roles in the market chain.

■ **Using the Participatory Market Chain Approach (PMCA) to Generate Pro-Poor Innovations in the Sweet Potato Sector in Uganda**  
*B. Akello, I. Mugisa, W. Nakyagaba, M. Nampeera, P. Lusembo and D. Magala*

The PMCA in Uganda has great prospects for use with other commodities both within and outside Uganda in facilitating pro-poor market innovation. Horton (2008) assessed the PMCA applications in Uganda and concluded that other countries in Sub-Saharan Africa could benefit from the PMCA in the same way that Uganda is benefiting. However, the most critical factor is the presence of an R&D organization that is committed to leading the PMCA process and having the resources needed to do so.

### **Acknowledgements**

Funding for this work was provided by the Department for International Development (DFID, UK), International Potato Center (CIP), the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) and the National Agricultural Research Organisation (NARO).

### **Literature Cited**

- Bernet, T., Thiele, G. and Zschocke, T. 2006.* Participatory Market Chain Approach (PMCA) User Guide. International Potato Center (CIP), Lima, Peru.
- Horton, D. 2008.* Facilitating Pro-poor Market Innovation: An Assessment of the Participatory Market Chain Approach in Uganda. International Potato Center (CIP), Lima, Peru.
- KIT and IIRR 2008.* Trading Up: Building Cooperation Between Farmers and Traders in Africa. Royal Tropical Institute, Amsterdam, and International Institute of Rural Reconstruction, Nairobi.
- Mezirow, J. 1991.* Transformative Dimensions of Adult Learning. Jossey-Bass Publications, San Francisco.
- Mezirow, J. 2000.* Learning as Transformation: Critical Perspectives on a Theory in Progress. Jossey Bass, San Francisco.
- Shepherd, A. 2007.* Approaches to linking producers to markets. Agricultural Management, Marketing and Finance Occasional Paper 13. Food and Agricultural Organization of the United Nations, Rome, Italy.