

Building capacity for market-chain innovation in Uganda

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Through South-South collaboration, the Participatory Market Chain Approach (PMCA) was introduced and applied in the potato, sweet potato and vegetable market chains in Uganda in 2005-2007. Eight women from different Ugandan Research and Development (R&D) organizations led and facilitated application of the PMCA. Training, coaching and backstopping were provided by PMCA specialists from the International Potato Center (CIP) in Lima, Peru. Studies in 2007 and 2011 indicate that involvement in the PMCA helped R&D professionals and market chain actors to identify areas for improving market chains and work together to develop new products, processes, and institutional arrangements. Participation also strengthened inter-personal networks across the public and private sectors. As a result, the capacity for innovation in agricultural market chains was enhanced. The PMCA triggered commercial, technological and institutional innovation processes that continue until the present. While some early innovations have disappeared, others continue to be used, and several second or third generation innovations have improved on the original ones. Women farmers, processors, and market agents have increased their incomes and acquired productive assets, including land. The PMCA facilitators upgraded their communication and facilitation skills and learned a new R&D approach, which many have put to use in their professional lives. Several individuals and organizations have incorporated the PMCA into their activities. The authors suggest three ways to improve future applications of the PMCA: (1) provide business development services to entrepreneurs after completing the PMCA; (2) provide support for smallholder farmers to improve their capacity to respond to changing market demands; and (3) develop more adequate and sustainable funding and institutional arrangements for innovation facilitators.



◆ Ugandan context

In Uganda, agricultural development is taking place in the context of rapid urbanization and market integration. The livelihoods of small farmers are increasingly influenced by the demands of urban consumers, market intermediaries, and food industries. Agriculture accounts for over 20% of Uganda's GDP and employs nearly 75% of the work force. Smallholders have limited knowledge of consumers' needs and demands, and limited capacity to negotiate with larger and better-informed market intermediaries. Processors and traders are often frustrated by the irregular and poor-quality supplies of produce from small farmers and by high transaction costs. These conditions limit the participation of small farmers in high-value markets and the benefits they derive from marketing.

Potatoes, sweet potatoes, and vegetables are important crops for smallholder farmers, in both nutritional and economic terms. Uganda is the world's second



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largest producer of sweet potatoes. Potatoes and vegetables are increasingly important income earners, especially for women who grow these crops on small plots. However, these crops received little attention in agricultural and rural development initiatives, and the market chains were riddled with inefficiencies.

In this context, the PMCA brought new hope for market development that would benefit producers, market agents, and consumers.

Motivated by promising results with the PMCA in the Andes, the now-ended Crop Post-Harvest Programme funded by the Department for International Development of the United Kingdom (DFID), offered to fund Phase 1 of the PMCA in Uganda's sweet

potato market chain. Earlier DFID-supported R&D efforts had been stymied by marketing problems. In 2005, Papa Andina partnered with the Regional Potato and Sweet Potato Improvement Network in Eastern and Central Africa (PRAPACE) and with several local R&D organizations to introduce the PMCA. At the request of the Ugandan partners, the scope of the exercise was broadened beyond sweet potato to include potato, tomato and hot pepper. When the DFID funding ran out at the end of Phase 1, CIP and the local PMCA team had to acquire funding support for Phases 2 and 3. Funding was obtained from CIP, Papa Andina and the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) through a United States Agency for International Development (USAID) project.

◆ Capacity-development strategy

Introduction of the PMCA into Uganda involved knowledge sharing between individuals who had developed and worked with the PMCA in Peru and Bolivia and individuals who wanted to try out this new approach in Uganda. The capacity-development strategy had the following components:

- An initial institutional survey, to identify and engage relevant local R&D actors in the PMCA process
- Participatory planning and decision making
- A study visit for a group of Ugandans to Peru and Bolivia
- Adaptation of the *PMCA User Guide* to Ugandan context
- Action-oriented PMCA training workshops involving visits to markets and processing facilities
- Establishment of three commodity groups that learned by working with the PMCA in the potato, sweet potato, and

vegetable market chains

- Knowledge sharing among the three commodity teams
- Backstopping and coaching provided by PMCA specialists based at CIP in Peru
- Learning-oriented evaluations to improve the work, document results, and draw lessons for improving future applications of the PMCA

PMCA specialists based in Lima, Peru working with Papa Andina and CIP, led the capacity development process and provided training, coaching, and backstopping throughout the process¹.

1 One key individual, Thomas Bennett, who had led the development of the PMCA in Peru, traveled to Uganda five times for training and coaching, and responded to queries from the PMCA facilitators via Internet.

◆ Key actors

Five main groups of actors were involved in the PMCA introduction processes. The *first group* included the eight local facilitators of the PMCA process, who were based in different R&D organizations. These facilitators – all women – played the role of “innovation brokers” in articulating potential demands for innovations, facilitating linkages among relevant actors, and managing innovation processes. The *second group* included the market chain actors who participated in the commodity group meetings and related activities. Each commodity group included of 20 to 40 market chain actors (farmers, processors, traders) and other interested stakeholders in the commodity chain. In total, more than 100 market chain actors – including representatives of farmers' groups, local market agents, processors, managers of urban markets, and exporters – participated in the commodity group meetings. Some of those who were active early in the process dropped out later; whereas others joined or became active later on. Relatively few market agents participated throughout the entire process, and those who did gained considerable influence in their group. The *third group* was

made up of service providers – such as university-based researchers and specialists in processing, packaging, and product standardizing – who were brought in, to support the commodity groups develop new products or improve existing ones. The *fourth group* included the PMCA specialists from Papa Andina and CIP who provided training and coaching and backstopped the process. Finally, the *fifth group* was composed by key individuals who played the role of “champions,” including: key donors who took the lead in introducing and supporting the PMCA in Uganda (especially the leaders of the DFID Crop Post-Harvest Programme); *managers* who took the risk to try out the PMCA in their organizations and encourage its use (such as Peter Lusembo of National Agricultural Research Institute); *facilitators* who worked long hours with little remuneration, remained loyal to the PMCA when no funding was available, and continued to support innovation processes after completion of the PMCA exercise; and market-chain actors, such as those at TomCris and Sulma Foods who were among the earliest and most aggressive innovators, both during and after the PMCA exercise.

◆ Timeline

Implementing the PMCA

Phase 1. Work with the PMCA began in 2005 when the PRAPACE coordinator explored the interest of Ugandan R&D organizations to work with the PMCA and assessed their capacity to do so effectively. This was followed by a study visit to Peru and Bolivia for 17 Ugandans, many of who later served as facilitators in the PMCA exercise. Upon return to Uganda, three commodity groups were formed to carry out a diagnostic study of the market chains for potatoes, sweet potatoes, and vegetables. Study results were shared among the participating R&D organizations and market chain actors at a workshop, designed to draw lessons from the process. This officially ended Phase 1 and paved the way for Phase 2. One issue that needed resolution was the lack of resources, as DFID support was only for Phase 1.

Phase 2. Work commenced in 2006 after CIP and Papa Andina agreed to provide the needed funding. The focus was on identifying and analyzing potential market opportunities that the commodity groups could develop jointly. Facilitated group meetings improved relationships and trust among the market chain actors, allowing them to work together. Promising business opportunities were

presented to stakeholders and potential supporters at public events in August 2008.

Phase 3. After completion of Phase 2, there was a six-month break in activities, due to lack of funding. After ASARECA agreed to provide funding, Phase 3 began in February 2007. The market opportunities for each commodity were re-assessed based on results from rapid market studies and focus groups. Small groups were formed to work on various aspects of business planning, which reported back to the larger commodity group. As innovations started taking shape, subject matter specialists were invited to provide advice related to food technology, labeling, packaging, and other product improvement related subjects. Product shelf life was studied as well as consumer tastes and preferences and product acceptability. After seven months, a number of innovations were ready to be presented as prototypes for commercial products. A large public event was held for the three commodity groups to officially launch their innovations. This final event marked the formal end of this initial PMCA application in Uganda.

“While I am myself a biological scientist, I have come to realize that all our work must be driven by the market. If the farmer cannot sell what we help him produce, we haven’t really helped him.”

Peter Lusembo, Director, Mukono Zonal Agricultural R&D Institute

Follow-up after the PMCA

The innovation processes triggered by the PMCA have continued up to the present. Processors have continued to improve their products and to develop new ones. They have also explored new arrangements for acquiring needed supplies of agricultural commodities and for marketing their products. Several of the

facilitators have supported these innovators by providing, or arranging access to, technical support and other resources for product improvement, training potential PMCA facilitators, and development of funding proposals for R&D organizations that needed external resources to apply the PMCA.

◆ Results

Changes in knowledge, attitudes, and skills

The PMCA exercise contributed to increase participants’ knowledge, skills, and social networks, and stimulated a number of commercial, technological and institutional innovations. The market chain actors appreciated gaining access to R&D professionals and the information they can provide. Farmers appreciated quick responses to their queries, businessmen valued interacting with policy makers,

and people generally considered it fulfilling to jointly develop business opportunities in market chains. Knowledge obtained from the PMCA process has been treasured and continues to be used by many of those involved. Sulma foods, for example, values the feedback it obtained from customers and now endeavors to obtain consumer views before launching new products, labels or

“Whenever I came to these meetings, I got new ideas, knowledge, and approaches, and when I went to the field, people wondered where I got them. They thought I’d been abroad!”

Sylvester Nganda, Uganda National Farmers Federation

packaging. Actors representing different links in the market chain, now have a better understanding of the other actors involved in the chain, and of their needs, interests, and challenges. These new understandings have helped change peoples’ perceptions of one another, reducing the mistrust that is endemic in these market chains, and paving the way for joint problem solving. Many of the relationships developed during the initial PMCA exercise continue to provide a base for collective action and innovation.

Commercial, institutional, and technological innovations

The innovations triggered by the PMCA are presented in Table 1. Packaging, labeling and branding were improved for potato crisps, orange-fleshed sweet potato (OFSP) flour and tomato sauce. New products were developed, including OFSP crisps, a

hot pepper appetizer and a pickle. A new sweet potato variety was positioned in a large supermarket, and a portable kiosk was used to promote and market OFSP products. Contractual relationships were developed between smallholder potato farmers and urban processors. Some of the original innovations, including OFSP crisps and one brand of OFSP flour, did not prove to be commercially viable. On the other hand, some others are still in use (for example, a second brand of OFSP flour) and others have evolved over time to better match changing market conditions. For example, different brands of potato crisps have been developed for different market segments. Some of the original innovations have motivated entrepreneurs to develop entirely new products, such as sliced and dried hot peppers, which are now being exported.

Table 1. Innovations in the potato, sweet potato, and vegetable market chains, Uganda

Innovation	Type	Status in 2007	Status in 2011
Innovations in the potato market chain			
Improved packaging and branding of a Ugandan potato crisp product (“TomCris”)	Commercial	In local market	In local & export market
Sealing machine for packaging	Technological	In use	In use
Contract arrangements between TomCris and farmers group	Institutional	Being introduced	Worked for some time, but discontinued
Sorting & grading of potatoes for crisp production	Technological	Being introduced	In use
Innovations in the sweetpotato market chain			
New OFSP crisp (“TomCris”)	Commercial	In market	No longer in market
New variety (Naspot1) marketed in Uchumi supermarket and exported	Commercial	In market	In market, volumes increasing
Marketing concept for composite flour with OFSP: Two brands (SOSPPA and Kasawo)	Commercial	Being introduced	SOSPPA in market, Kasawo not in market
Improved packaging for OFSP composite flour	Commercial	In use for both brands	In use for SOSPPA brand
Marketing kiosk for selling clean, sorted, and graded sweet potatoes	Commercial	Used in Kalerwe market	Now used in Matugga market
Innovations in the vegetable market chain			
Contract farming of hot pepper	Institutional	In use	Still in use
Tomato chilli appetizer	Commercial	Prototype	In market
Hot pepper paste	Commercial	Prototype	In market
Sliced and dried hot pepper	Commercial	Not yet developed	Being exported
Branded high-quality fresh hot pepper	Commercial	Not yet developed	In local market

Inclusion, empowerment, and wellbeing

The increasing ability of women to enter into new markets – previously considered largely the domain of men – has been an important result of the PMCA for many women. Women who began to sell their OFSP vines, roots and processed products to institutional and peri-urban markets have increased their incomes and status as contributors to family income and resources. The PMCA facilitators gained valuable communication and leadership

skills, acquired new contacts, and developed new professional networks. They learned to apply the PMCA and to function as “innovation brokers”, stimulating multi-stakeholder processes that generated commercial, institutional and technical innovations. These new assets have allowed several of them to upgrade their professional activities and positions.

“The PMCA has demonstrated that with a small amount of money, you can get many people along the market chain to work together to generate ideas that will benefit all.”

James Ssemwanga, Ssemwanga Group

◆ Continuing relevance and use of the PMCA

The PMCA facilitators have formed an informal ‘community of practice’ for exchanging experiences, providing mutual support, and promoting the PMCA in Uganda and in neighboring countries. They are always on the lookout for opportunities and have developed successful proposals for PMCA capacity building and use in several commodity chains. The Africa 2000 Network in Uganda² employed the PMCA in a cassava value chain project in Eastern Uganda. The Mukono Zonal Agricultural Research and Development Institute³ (MUZARDI) used the PMCA in a pineapple project in Central, Eastern and Western Uganda. A USAID-supported collaborative horticulture research project led by MUZARDI is applying the PMCA in Central Uganda and plans to expand work to the Democratic Republic of Congo. The Participatory Ecological Land Use Management organization (Pelum)⁴ has provided PMCA training for R&D professionals in Uganda, Kenya, Tanzania and Rwanda. The Food and Agriculture Organization of the United Nations (FAO) has provided

PMCA training for Farmer Field School facilitators. In Uganda and Kenya, Pelum members have applied Phase 1 of the PMCA in the grain amaranth and maize commodity chains. Uganda has completed Phase 2, but work in Kenya was truncated by the lack of resources. The relatively greater success in Uganda is probably because of easier access to PMCA trainers/facilitators, who have helped the process and provided support from time to time, pro bono. CIP, through an ASARECA-funded project is currently supporting use of PMCA in market chains for orange-fleshed sweetpotatoes in Kenya, Uganda and Tanzania.

2. www.a2n.org.ug.

3. www.naro.go.ug/Institute/Mukono/home.html.

4. [http://aros.trustafrica.org/index.php/Participatory_Ecological_Land_Use_Management_\(PELUM\)](http://aros.trustafrica.org/index.php/Participatory_Ecological_Land_Use_Management_(PELUM)).

“We’ve been telling government that we need R&D to work together with the private sector. Thanks to the PMCA, we’ve built a platform for R&D where we can get answers to our questions and needs. I always tell my colleagues that when they have a problem they should tell me, and I know where to go for the solution – to the PMCA fraternity.”

John Kavuma, President Federation of Associations of Ugandan Exporters

◆ Conclusions and areas for improvement

Results of the effort to introduce the PMCA and develop capacity for market chain innovation in Uganda have far surpassed the initial expectations. The PMCA has triggered commercial, institutional, and technical innovation processes that continue until the present. Commercial innovations include a number of new products that are sold in small food stores or supermarkets in Uganda and abroad. Amongst the market chain actors, the ability to innovate and change their products in line with the dynamic market conditions warrants special mention. The actors have testified that such skills are invaluable, as innovations are constantly called for if one is to survive in the market. The experiences of R&D institutions that have continued to work with the PMCA should help to refine and adapt the approach to local contexts. In addition, a cadre of facilitators is slowly being built in these institutions by the initial PMCA facilitators who are now viewed as ‘experts’ of the process. Gradually, capacity is being built up to expand use of the PMCA in Uganda and neighboring countries, where it should play an expanding role in the development of market chains for the betterment of smallholder farmers and the agricultural economy as a whole. Experience with the PMCA in Uganda indicates that the approach could be improved by:



- providing business development services for a period, after completion of Phase 3 of the PMCA, when innovators are grappling with the challenges of translating promising new ideas and prototypes into commercial practice at scale;
- arranging support for smallholders so they can develop the capacity to respond effectively to changing consumer and market demands;
- making “seed money” available for the implementation of promising innovations that require substantial investment; and
- supporting institutionalization of ‘Innovation Brokers’ in appropriate R&D organizations.

◆ Further reading

This Innovation Brief is based on Mayanja, S., B. Akello, D. Horton, D. Kisauzi, and D. Magala, 2012. Value chain development in Uganda: Lessons learned from the Participatory Market Chain Approach. Banwa 9 (1&2).

Other related publications include the following:

Devaux, A., J. Andrade-Piedra, D. Horton, M. Ordinola, G. Thiele, A. Thomann, and C. Velasco, 2010. Brokering Innovation for Sustainable Development: The Papa Andina Case. ILAC Working Paper 12. Rome: Institutional Learning and Change Initiative.

Horton, D., 2008. Facilitating pro-poor market chain innovation: an assessment of the participatory market chain approach in Uganda. CIP Social Sciences Working Paper N°. 2008-1. Lima: International Potato Center (CIP).

Horton, D., Akello, B., Aliguma, L. Bernet, T., Devaux, A., Lemaga, B., Magala, D., Mayanja, S., Sekitto, I., Thiele, G., and Velasco, C., 2010. Developing Capacity for Agricultural Market Chain Innovation: Experience with the ‘PMCA’ in Uganda. *Journal of International Development*. 22, 367–389.

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