

RIU

New market chain approach gives fast results

Validated RNRRS Output.

The Participatory Market Chain Approach (PMCA) stimulates networking, links small farmers to markets and fosters productive partnerships based on trust and knowledge sharing. Active participation—or a lack of it—by the many actors along the food chain can make or break the system. PMCA systematically involves people in identifying and assessing market opportunities and identifying commercial, technical and institutional innovations. A poverty filter helps identify the greatest probabilities of pro-poor impact. In just three to six months, partners are typically able to get new market products and innovations into use. PMCA is currently being applied in Bolivia, Ecuador, Peru and Nicaragua, in Latin America, as well as in Laos, Syria and Uganda. Extensive testing has led to the publication of a PMCA User Guide.

Project Ref: **CPH01:**

Topic: **5. Rural Development Boosters: Improved Marketing, Processing & Storage**

Lead Organisation: **International Potato Centre (CIP), Peru**

Source: **Crop Post Harvest Programme**

Document Contents:

[Description](#), [Validation](#), [Current Situation](#), [Current Promotion](#), [Impacts on Poverty](#), [Environmental Impact](#),

Description

Research into Use

NR International
Park House
Bradbourne Lane
Aylesford
Kent
ME20 6SN
UK

Geographical regions included:

[Bolivia](#), [Ecuador](#), [Lao PDR](#), [Nicaragua](#), [Peru](#), [Uganda](#),

Target Audiences for this content:

[Processors](#), [Traders](#),

CPH01**A. Description of the research output(s)****1. Working title of output or cluster of outputs.**

In addition, you are free to suggest a shorter more imaginative working title/acronym of 20 words or less.

Participatory Market Chain Approach (PMCA)

2. Name of relevant RNRRS Programme(s) commissioning supporting research and also indicate other funding sources, if applicable.

Early work with the PMCA was supported by the Swiss Agency for Development and Cooperation (SDC) in Peru. The Crop Protection Programme, Crop Post Harvest Programme, the Livestock Production Programme and DFID's Rural Livelihood Department (Bolivia Initiative) commissioned research on the PMCA in Bolivia and the CPHP funded research to introduce and validate the method in Uganda.

3. Provide relevant R numbers (and/or programme development/dissemination reference numbers covering supporting research) along with the institutional partners (with individual contact persons (if appropriate)) involved in the project activities. As with the question above, this is primarily to allow for the legacy of the RNRRS to be acknowledged during the RIUP activities.

R8182 Partners Antonio Gandarillas, Foundation for the Promotion and Research of Andean Products (PROINPA), Bolivia; Gustavo Pereyra, Centre for Research in Tropical; Agriculture (CIAT), Bolivia and **R8418** Berga Lemaga, Prapace Network.

4. Describe the RNRRS output or cluster of outputs being proposed and when was it produced? (max. 400 words). This requires a clear and concise description of the output(s) and the problem the output(s) aimed to address. Please incorporate and highlight (in bold) key words that would/could be used to select your output when held in a database.

The PMCA is a R&D approach for fostering pro-poor, market-led innovation in commodity chains, through active participation of private and public market chain actors. CIP's Papa Andina Initiative (<http://papandina.cip.cgiar.org>) and partners began to develop PMCA in 2001 as a means to reduce rural poverty in the Andes by linking small farmers to new market opportunities. The PMCA built on the "Rapid Appraisal of Agricultural Knowledge Systems" which stimulates networking for innovation (Engel and Salomon, 2003). Since 2005, the PMCA has been introduced and tested in several other settings and with other commodity chains. Extensive testing has led to the publication of a PMCA User Guide (<http://papandina.cip.cgiar.org/fileadmin/PMCA/User-Guide.pdf>).

The PMCA systematically engages market actors in identifying and assessing market opportunities and in developing commercial, technical and institutional innovations. A R&D organization initially selects the market chain, identifies potential partners and carries out exploratory market research. PMCA in the prioritised chain is implemented in 3 phases. During *Phase 1* diagnostic research is carried out to get to know the key market actors and understand their interests, problems and ideas. A poverty filter helps identify market segments with the

greatest probability of pro-poor impact. This phase generally takes two – three months. This phase ends with a public event in which participants discuss results of the market study and consider future activities. A key goal of this phase is to motivate market actors to work together in market chain innovation.

In Phase 2, the R&D organization facilitates meetings that foster mutual trust and knowledge sharing. Groups analyze potential business opportunities. Groups may commission complementary technical studies, for example focus group research on new products. At a final event, the market opportunities are discussed with a wider audience and new members with complementary knowledge and experience are encouraged to join.

In Phase 3, the market chain actors collaborate in getting new market products and other innovations into use, with the R&D organization playing a progressively declining role. The time required varies depending upon the complexity of the innovation and the capacity of the group, but three – six months is typical. Phase 3 closes with a large event which brings the market chain actors together with key decision makers in the policy environment, donor representatives and members of the press, to launch the innovations publicly. Market actors are empowered to take the innovations forward and the lead R&D organization assumes a backstopping role.

5. What is the type of output(s) being described here?

Please tick one or more of the following options.

Product	Technology	Service	Process or Methodology	Policy	Other Please specify
			X		

6. What is the main commodity (ies) upon which the output(s) focussed? Could this output be applied to other commodities, if so, please comment

In Peru and Bolivia, the PMCA was originally applied by partners of the Papa Andina regional initiative with potatoes (particularly with native varieties grown by small farmers at high elevation). Subsequently, in Peru the Intermediate Technology Development Group and its partners have applied the approach with several other crops and handicrafts. In Uganda, the PMCA has been applied with potatoes, sweet potatoes and vegetables (hot pepper and tomato). In Syria, the approach has been applied with capers. A first PMCA capacity building workshop has been conducted in Laos, where the method is being applied with the rice commodity chain. A training workshop is planned for later this year in Nicaragua, where there is interest to use the PMCA in the commodity chains for coffee, beans, and livestock.

The approach has already shown its potential for a wide range of agricultural market chains. It could also be used for other types of market chain, for example, tourism, where effective collaboration among private and public actors is essential to develop market opportunities.

7. What production system(s) does/could the output(s) focus upon?

Please tick one or more of the following options. Leave blank if not applicable

While the PMCA has most extensively tested in hillside production systems, it can be applied in any production system which involves marketing.

Semi-Arid	High potential	Hillsides	Forest-Agriculture	Peri-urban	Land water	Tropical moist forest	Cross-cutting

8. What farming system(s) does the output(s) focus upon?

Please tick one or more of the following options (see Annex B for definitions).

Leave blank if not applicable

The PMCA can be applied in any farming system where market opportunities can be identified.

Smallholder rainfed humid	Irrigated	Wetland rice based	Smallholder rainfed highland	Smallholder rainfed dry/cold	Dualistic	Coastal artisanal fishing

9. How could value be added to the output or additional constraints faced by poor people addressed by clustering this output with research outputs from other sources (RNRRS and non RNRRS)? (max. 300 words).

Please specify what other outputs your output(s) could be clustered. At this point you should make reference to the circulated list of RNRRS outputs for which proformas are currently being prepared.

The PMCA is a valuable stand-alone output that generates human and social capital essential for effective pro-poor innovation processes. It could be clustered with other outputs of the CPHP, such as those concerned with “Farmer Access to Markets” (R8275, R7515, R8274, R8498) and “Market Information Tools (R8250). The PMCA could be usefully combined with outputs aimed at improving agricultural production or post-harvest technology, since market innovation stimulates technological innovations in production and post harvest operations. Use of the PMCA may also complement work aimed at institutional reforms in R&D organizations by promoting a shift in thinking to an innovation systems approach, enhancing “demand pull” in organizations which have been dominated by “supply side” thinking and establishing much broader partnerships including the private sector for diffusion of R&D results.

Validation

B. Validation of the research output(s)

10. How was the PMCA validated and by whom? (max. 500 words)

PMCA has been validated at least 5 times through implementations in different contexts. In the Andes, two complete cycles were implemented both in Peru and Bolivia, and the method was shared with other organizations in these countries, which led to further testing. In Peru, an NGO has picked up the method and is using it in the

cheese, coffee and cacao sector. Based on successful application of the approach in the Andes, beginning in 2005, the PMCA has been introduced and tested in Uganda in the potato, sweet potato and vegetable commodity chains.

In the method's first application in Peru, in 2003, twenty PMCA participants (market chain actors¹ and staff from supporting R&D organizations) assessed its merits via a survey which focused on knowledge sharing and trust building – two key factors that influence innovation. Results indicated that active participation in the PMCA stimulated gains in knowledge and trust.

When the first PMCA application in Peru was completed, the method was validated in a workshop. Using Papa Andina's "Horizontal Evaluation" method, internal and external teams evaluated the PMCA, the two assessments were confronted, and general conclusions were drawn. Both teams agreed that the PMCA was effective in involving the private sector in market-oriented R&D processes, with a pro-poor orientation. Because of the sharing of experiences in this workshop the PMCA was applied in Bolivia, allowing the method to be further developed and validated in a new context.

In 2005, the Bolivia PMCA experience was also analyzed as part of a project to introduce and test the PMCA in Uganda. This work was financed by DFID via the CPHP. Fourteen Ugandans from different R&D organizations assessed this experience as part of their training in PMCA. To date, 96 market chain actors and 34 professionals representing 16 R&D organizations have participated in meetings organized in Uganda to exchange information on market chains and to identify and analyze potential business opportunities.

In Uganda, when PMCA Phase 1 was completed, the Horizontal Evaluation method was used to assess more systematically PMCA's development potential in Uganda. Both the internal group (consisting of those using PMCA in Uganda) and the external group (consisting of R&D actors from Kenya, Tanzania, Holland, Bolivia and Peru) confirmed the method's potential to generate positive results in these market chains, empower small-scale producers and stimulate positive effects on gender.

Early 2006, at the request of the Swiss NGO Helvetas, an initial PMCA workshop was held in Lao PDR to assess PMCA's potential to make Lao's rice sector more competitive, and thus to generate pro-poor impact for thousands of small scale farmers. Participants, from government and market chain actors, agreed that the method was very promising to bring private and public actors together in this situation of transition, and take advantage of existing opportunities for exotic and organic rice.

¹ In this document, the term "market chain actors" refers to all actors that participate with own activities in the value addition process linked to a specific crop or product, including farmers.

11. *Where and when has the PMCA been validated? (max 300 words)*

In the first two years of the development of PMCA, in 2003 and 2004 validation of the method has taken place through multiple applications with the potato sector in Peru and Bolivia. Since 2005, the method's validation has broadened to other agricultural market chains. So far, the potential of the PMCA outside of agriculture has not been evaluated. But it seems to be promising in such areas as tourism, where diverse private and public actors need to come together to develop market opportunities. Details of validations of the PMCA follow:

Peru, 2003. The first PMCA application in Peru's potato sector with native potatoes rapidly led to new market products and other innovations. Participants in the PMCA confirmed the method's potential to stimulate learning and mutual trust, a key requirement of innovation. Papa Andina's partners in Peru, Bolivia, and Ecuador assessed the outcomes of this first application and PMCA's potential in a regional workshop and agreed that it was a valuable approach leading to positive results in potato market chains.

Peru, 2005. Papa Andina stakeholders and innovation specialist Paul Engel (from The European Centre for Development Policy Management, ECDPM) assessed the strengths and weaknesses of the PMCA.

Uganda, 2005. The horizontal evaluation approach was used to assess results of Phase 1, as well as the development potential of the PMCA in Uganda.

Current Situation

C. *Current situation*

12. *How and by whom is the PMCA currently being used? (max. 250 words)*

Peru. CIP's INCOPA project facilitated two PMCA applications in 2003 – 2004. The outcomes from these PMCA applications are now being consolidated as commercial, technological, and institutional innovations. It is planned to use the PMCA in Peru in the near future to stimulate innovations in the potato seed area and link with these innovations (seed has become a bottleneck as demand for native potato varieties has been created). In 2006, the Intermediate Technology Development Group (ITDG) started to use PMCA in its projects in the Andes, to improve local cheese making, and in the Amazon Basin, to improve market linkages and production quality of small-scale coffee and cacao producers.

Bolivia. Since 2005, PROINPA has used PMCA to strengthen its market orientation, targeting the Bolivian potato sector. It has been applied to innovate products to respond to the market demand for fresh and selected native potatoes and for dehydrated potatoes “chuño” and “tunta”.

Uganda. The PMCA is being used in the potato, sweet potato, tomato, and hot pepper market chains. The applications are led by three “commodity groups” each of which has participants from 3 to 5 R&D organizations. The applications have reached the end of Phase 2.

Ecuador. The potato program of INIAP, Fortipapa, is currently using PMCA to develop new products and increase market demand for native potatoes.

Lao PDR. After a training workshop early 2006, PMCA application is about to begin in the rice sector. The application, instigated by Helvetas, is led by a consultancy firm, with experience in agricultural marketing and participatory methods.

Nicaragua. The FUNICA foundation has requested a PMCA training workshop in November 2006 to apply this method with different market chains in this country.

13. **Where is the PMCA currently being used? (max. 250 words)**

Peru. The PMCA has been applied by CIP, INCOPA and local partners in the rain-fed Andean highland farming systems, with special emphasis on native potatoes grown by small farmers above 3000 m.a.s.l. ITDG has applied the PMCA on cheese making in the Northern Andes, Cajamarca region, related to rain-fed highland farming system, and coffee and cacao in the Amazon Basin, in the context of smallholder rain-fed humid farming systems.

Bolivia. The PMCA has been applied in the rain-fed highland potato sector, with special emphasis on developing market opportunities for native potatoes grown by small-scale highland producers.

Uganda. The PMCA has been applied in the potato, sweet potato, tomato, and hot pepper market chains. These crops are grown mainly by small producers mainly in rainfed smallholder farming systems.

Ecuador. The PMCA has been applied in rain-fed highland areas with native potatoes produced by small Andean farmers mainly for self-consumption in rotation with cereals.

Lao PDR. The PMCA application targets the rice market chain. Rice is the most important commodity in Lao and is grown by thousands of poor small farmers in wetland rice-based farming systems and in smallholder rainfed highland farming systems.

Nicaragua. PMCA applications will be determined during the first training workshop. In keeping with FUNICA's pro-poor mission, the market chains selected will be among those of relevance to small farmers in smallholder rain-fed production systems where beans, maize, and livestock predominate.

14. **What is the scale of current use of the PMCA? (max 250 words)**

The PMCA is not a production technology but a R&D approach. In Bolivia, Ecuador and Peru, it is being used by Papa Andina and its R&D partner organizations. ITDG is also applying the PMCA in Peru, independently from Papa Andina. In Uganda, the PRAPACE regional network is leading an application of the PMCA in Uganda, together with several NGOs, research organizations and market chain actors concerned with potatoes, sweet potatoes, tomato and hot pepper.

In Syria, ICARDA has used the PMCA to bring market chain actors together from the caper sector as a means to stimulate innovation among them (see http://www.lbl.ch/internat/services/publ/bn/2006/01/reorganizing_the_market.pdf).

In Laos, a recently initiated PMCA application aims to enhance the competitiveness of the Lao rice sector, by promoting the production and marketing of organic rice.

In Nicaragua, a first PMCA training workshop will be held in November 2006, and PMCA applications are

expected to begin in early 2007 with trained local R&D organizations working in at least three market chains.

In most of the cases to date, the PMCA has been used on a pilot scale. Several economically viable innovations have been generated that have impacted positively on the livelihoods of poor farmers and market agents. However, much work remains to be done to scale up and institutionalize use of the PMCA in innovation systems.

15. What programmes, platforms, policies, and institutional structures have assisted with the promotion and/or adoption of the PMCA? (max 350 words)

Introduction of the PMCA requires a capacity development effort. Papa Andina has provided a broad platform for capacity development and knowledge sharing. In Bolivia, the Innova Project financed by DFID and PROINPA served as an institutional platform for developing and applying the PMCA. In Peru and Ecuador, the INCOPA and FORTIPAPA projects have played similar roles. In Uganda, the PRAPACE regional network has served as the institutional base for introducing the PMCA and for capacity development. In Laos and Nicaragua, interested R&D organizations have contracted a former CIP staff member to provide support. In Laos, application of the PMCA is coordinated by Helvetas, a Swiss NGO, and the national communist party. In Nicaragua, the PMCA is promoted by the FUNICA Foundation. In Syria, the PMCA was applied by ICARDA staff members who have been in close contact with this same PMCA expert.

In Bolivia, Peru and Ecuador, PMCA was complemented with another approach promoted by Papa Andina: the construction of the multi-stakeholder platforms that provide a space for potato producers, service providers and market chain actors to come together, share their knowledge and points of view, negotiate, and carry out joint activities. Different groups may be involved in different innovation processes. For example, commercial innovation may involve farmers' organizations, supermarkets and agro-processing firms. Promoting technical innovation in production may involve farmers' organizations, local NGOs, a national research organization and a research division of CIP. Stakeholder platforms close to small producers help ensure that they have the organizational capacity, appropriate technology and service provision to meet quality, quantity and timeliness requirements and profit from the new market opportunities created.

Key factors of success?

Since the PMCA is a new R&D approach, the most crucial success factor is the involvement of a local R&D organization with the commitment to provide leadership in the PMCA process.

An institutional strategy is also needed to introduce and scale up the PMCA (See response to point 18 below.)

Current Promotion

D. Current promotion/uptake pathways

16. Where is promotion currently taking place? (max 200 words)

The recent publication of the PMCA User Guide has been an important step in the method's diffusion (see <http://papandina.cip.cgiar.org/fileadmin/PMCA/User-Guide.pdf>). A website is being designed which will the User Guide and other training resources to be downloaded.

Based on requests from interested R&D organizations, the PMCA has been promoted through training workshops conducted by PMCA specialists from Peru and Bolivia. In these events, theory and practical experiences are presented and participants are invited to assess the approach's potential use in their own countries and contexts. More than 25 staff from different R&D organizations were trained in a PMCA training workshop in Bolivia in 2005. Other workshops have been conducted in Uganda, and the Peoples Democratic Republic of Lao. In November 2006, a capacity building workshop will be conducted in Nicaragua. The Swiss Agency for Development and Cooperation (SDC) has expressed interest to introducing the PMCA to activities it supports in Pakistan and Cuba.

Building on the experience of INNOVA and the FOCAM project and FIT Programme, DFID is funding the INIS project (National Agricultural Innovation Systems that Work for the Poor) implemented through CIAT and CIP in Bolivia, Peru, Ecuador and Colombia. INIS will promote the institutionalization of the PMCA and other participatory methods in the four countries, measure the impact of the methods and influence policy, through evidence based information, to promote broader incorporation of participatory approaches and tools in national innovation systems

To consolidate promotion efforts and broaden the team of potential PMCA trainers, Papa Andina together with CIP's Impact Enhancement Division and its Training Department are preparing training modules for "PMCA Facilitators". CIP's Impact Enhancement Division is working with Papa Andina in promoting the PMCA in other contexts, especially in Sub Saharan Africa and Southeast Asia.

17. What are the current barriers preventing or slowing the adoption of the PMCA? (max 200 words)

The main barriers to wide-spread use of the PMCA are the following:

- Tradition and culture of many R&D organizations, to focus on production and supply rather than on demand and the market (i.e., resistance to change in the R&D paradigm).
- Rigid project and budget design – sometimes forced by donor agencies – which hamper flexible spending of funds according to the needs that emerge along the participatory R&D process.
- Lack of capacity to facilitate participatory processes with a clear focus on demand and market opportunities – processes involving not only farmers but other market chain actors.
- Not enough documentation and capacity development until recently (i.e., before the PMCA User Guide was published and training modules were development), available for PMCA facilitators.

18. What changes are needed to remove/reduce these barriers to adoption? (max 200 words).

Government institutions and organizations at different levels, R&D organizations and donors need to institutionalize the approach and move away from rigid, traditional project frameworks and support innovation processes that not only target producers but other market chain actors as well

CIP and Papa Andina have outlined a strategy for introducing the PMCA and overcoming local barriers to change. The strategy includes the following main components:

- Interacting with senior decision makers in the lead R&D organizations to gain strong management support for the implementing teams.
- Fostering “transformational learning” through exposing local teams implementing the PMCA to new situations and ways of doing things (for example, cross-site visits, visits to Bolivia and Peru (where the PMCA has been developed and applied), visits by farmers to supermarkets and other facilities in market chains that they did not previously know).
- Sharing “explicit knowledge” through user-targeted publications and training materials, including materials for self-directed learning.
- Sharing “implicit knowledge” and facilitating experiential learning through training workshops.
- Learning-by-doing-right through practical application of the PMCA, supported with coaching and mentoring.
- Facilitating systematic sharing of knowledge among implementing teams.
- Provide evidence of impact to promote the PMCA’s wider use and catalyse policy change.

19. What lessons have you learnt about the best ways to get the PMCA used by the largest number of poor people? (max 300 words).

The PMCA is not something that is “adopted” or “used” directly by poor people. It is a R&D approach that involves them along with other market chain actors and researchers and development workers. Hence, the lessons presented here relate to how to ensure that the PMCA **benefits** the largest number of poor people:

Lesson 1. Market innovations can be important drivers for technical and institutional innovations that benefit poor people.

Lesson 2. The PMCA is, at heart, an exercise in collective action with good potential to generate tangible direct and indirect benefits for the poor.

Lesson 3. For the PMCA to benefit the poor, it is important to target market chains for commodities produced by the poor, and involve them from the outset.

Lesson 4. It is also crucial to involve private-sector actors early on, to ensure an adequate “real-world” assessment of potential market chain innovations and to marshal resources for sustaining future R&D efforts.

Lesson 5. To scale up application of the PMCA, NGOs and CSOs that have substantial reach in the country must play key roles in the process.

Lesson 6. For the PMCA to be successfully applied, and benefit the poor, facilitation of group decision-making processes are crucial.

Lesson 7. To produce significant and sustained benefits for the poor, collective action is needed at different

levels, ranging from local farmer organizations to regional market-chain platforms to national associations and international fora for information and knowledge sharing. Such actions need to continue after the PMCA exercise has been completed.

Lesson 8. Market chain development cannot focus exclusively on reducing poverty among producers. For market innovation to occur, there must be benefits for all those along the market chain.

Impacts on Poverty

E. Impacts on poverty to date

20. Where have impact studies been conducted on poverty in relation to the PMCA? (list studies)

The development of the method started in 2002 and only in 2006 studies were initiated to assess impact pathways and analyze the PMCA's impact on poverty reduction.

A study was carried out in Bolivia with PROINPA: CIP/Papa Andina – Proinpa. **2006**. Estudio de impacto de la metodología EPCP. FIT9 Project, Proinpa, Cochabamba, Bolivia. 37. p.

A consultant was also hired to work in collaboration with CIP and national partners to look at broader impacts: Bucheli Brenda. 2006. Informe del diagnostico rápido del sistema de seguimiento y evaluación de Papa Andina y pautas para su ajuste. CIP/Papa Andina, Lima Peru. 48pp.

21. Based on the evidence in the studies listed above, for each country detail how the poor have benefited from the application and/or adoption of the PMCA (max. 500 words)

PMCA is a relatively “young” method that has only recently been documented. The method's direct results are commercial, technological, and institutional innovations that impact on poverty indirectly and over time. Initial results show that PMCA can lead to substantial improvements in farmers' income. In Colomi, Bolivia the impact study showed that new buyers (agroindustry, supermarkets), engaged through PMCA, demand a product that is washed, selected and packed. This, in turn, meant **better prices** (an increase from a mean price of 0.55 to 2.38 bolivianos per kg) for member farmers, increasing their income, according to the farmers, by about \$US400-600 per harvest season.

Experiences to date indicate the following patterns of impacts from use of the PMCA:

- Valuable human and social capital has been developed among participants, enhancing fruitful collaboration even beyond the activities PMCA is targeting.
- Impacts of the PMCA on poverty depend very much on what commodities are targeted. For this reason, it is important to prioritize commodities produced by poor farmers, such as native potatoes in the Andes, sweet potatoes and vegetables in Uganda and rice in Lao PDR.

- Working on market chains for what are generally thought of as traditional or marginal commodities (for example, native potatoes in the Andes) has in some cases positively influenced the perceived value of these crops and raised the self esteem of those who produce them.
- Information and contacts obtained through the PMCA (for example, contacts with other market chain actors, R&D organizations and the mass media), have small farmers and others to make their products more visible, stimulating demand and new market opportunities.

Environmental Impact

H. *Environmental impact*

24. *What direct and indirect environmental benefits are related to the PMCA? (max 300 words)*

It is not anticipated that PMCA has environmental benefits per se. Environmental benefits could be achieved where organic products are promoted through PMCA.

25. *Are there any adverse environmental impacts related to the PMCA? (max 100 words)*

The intensification of production associated with the PMCA could have some adverse environmental impacts through more input use or more intensive land use. The multi-stakeholder platforms on the supply side that complement the PMCA can provide a space for technology innovation and capacity development to mitigate this risk. In Ecuador, training in health aspects of potato production has been carried out with Farmer Field Schools to ensure that intensification does not occur at the expense of farmers' health through more pesticide use.

26. *Does the PMCA increase the capacity of poor people to cope with the effects of climate change, reduce the risks of natural disasters and increase their resilience? (max 200 words)*

By contributing to the entrepreneurial capacity of poor farmers and market agents, the PMCA will potentially increase their capacity to adapt to adverse economic effects of climactic changes by modifying their production practices.

By fostering the establishment of multi-stakeholder platforms for market innovation, the PMCA will potentially increase the capacity of the market system as a whole, to adapt to economic changes brought on by climate change.
