

# Native potato market chain and poverty reduction: Innovation around Corporate Social Responsibility

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Thomann A<sup>1</sup>, Devaux A<sup>1</sup>, Ordinola M<sup>1</sup>, Cuentas M<sup>2</sup>, Urday P<sup>2</sup>, Sevilla M<sup>3</sup>, Andrade-Piedra J<sup>4</sup>

<sup>1</sup>International Potato Center (CIP), Lima, Peru - [a.thomann@cgiar.org](mailto:a.thomann@cgiar.org) (corresponding author),  
[a.devaux@cgiar.org](mailto:a.devaux@cgiar.org), [cip-incopa@cgiar.org](mailto:cip-incopa@cgiar.org)

<sup>2</sup>FOVIDA, Lima, Peru - [mcuentas@fovida.org.pe](mailto:mcuentas@fovida.org.pe), [purday@fovida.org.pe](mailto:purday@fovida.org.pe)

<sup>3</sup>CAPAC, Lima, Peru - [m.sevilla@capacperu.org](mailto:m.sevilla@capacperu.org)

<sup>4</sup>International Potato Center (CIP), Quito, Ecuador - [j.andrade@cgiar.org](mailto:j.andrade@cgiar.org)

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## Abstract

Over the past years, new market opportunities have been developed for native potatoes in Peru. Pilot products have enabled small-scale Andean farmers to get formal access to dynamic markets and increase their income, despite the high transaction costs generated by their traditional production and marketing systems. Yet demand and competition are increasing rapidly in the native potato market chain therefore challenging small farmers to turn their initial comparative advantage (native potatoes inherited from past generations) into a sustainable competitive advantage. This challenge is shared by research and development (R&D) institutions that foster innovation to develop inclusive and competitive market chains by taking advantage of potato biodiversity. This article describes the innovation process conducted by the Papa Andina Partnership Program of the International Potato Center (CIP) and its partners CIP-INCOPIA, FOVIDA and CAPAC PERU to integrate Corporate Social Responsibility (CSR) into the native potato market chain, and harness private sector strengths to reduce poverty.

Outcomes include a tripartite partnership between the transnational company PepsiCo Foods, R&D institutions and farmer organizations that is generating substantial increase in income, yields, capacities for organization and production, safety and empowerment for farmers. It is also triggering a dialogue on the private sector's role in supporting specific research to improve the quality of smallholders' production. Further outcomes are public-private innovations, such as a social marketing initiative and a certification label for native potato trade with CSR. By involving final consumers, both these mechanisms are starting to create incentives for market chain actors to develop current socially and environmentally-responsible pilot practices into standard practices, turning native potato trade into a sustainable vehicle for poverty reduction.

**Keywords:** Market Chain, Corporate Social Responsibility, Native Potato, Poverty Reduction.

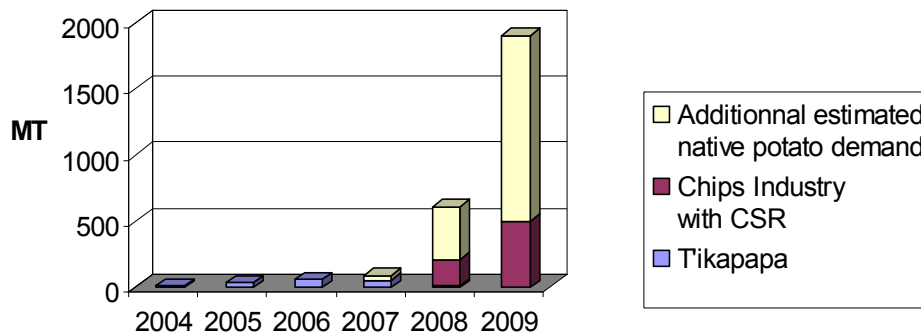
## Background

All over the world, urban markets are evolving rapidly. Demand for quality and processed foods is growing and health, environmental and social concerns are gaining weight in consumers' buying decisions. These trends have created new opportunities for agricultural products from small-scale farmers. Native potatoes (landraces) are one example. With their amazing diversity in colors and shapes (more than 3000 varieties are cultivated in the High Andes), their cooking versatility and high nutritional profile (higher content of dry matter, C vitamin and natural anti-oxidants like carotenoids, flavonoids y antocianins than improved varieties), and their traditional production practices (small-scale farming with low inputs), native potatoes fit perfectly into these new consumption patterns. Domesticated 8000 years ago by High Andean populations, these potatoes produce the highest yields in farming systems located at high altitudes (between 3000 and 4200 masl). They therefore constitute a comparative advantage for small-scale farmers who live in these remote and marginalized areas of the Andes, that today concentrate the highest levels of extreme poverty. However, until 2002, native potato growers were not fully taking advantage of their crop: it was largely destined for self-consumption or for the local markets, and was not considered a valuable source of income. As a result, native potatoes were largely unknown in domestic urban market (Lopez *et al.*, 2002).

In order to unleash the potential of native potatoes for poverty reduction, CIP-Papa Andina started focusing its efforts on promoting commercial innovation. From 2003 on, thanks to participatory innovation processes facilitated in Peru by CIP-INCOPIA, pilot products were launched in high-value domestic niche markets (Ordinola

*et al.*, 2007). The most successful examples were the “T’ikapapa” fresh selected and bagged native potatoes — which marketing concept was awarded several international prizes (Ordinola *et al.*, 2008) — and the naturally colored native potato chips (Bernet and Amoros, 2004). Processed by small agro-enterprises and distributed through the most exclusive channels (supermarkets, airport duty free shops), these products have made it possible to cut down intermediaries and secure high prices, providing resource-poor farming families with access to new, high-value market channels and therefore with increased income. The intervention of research and development (R&D) actors in the process (CIP, NGOs) contributed to improve the competitiveness of farmers’ traditional production and marketing system by increasing trust among market chain actors, and strengthening capacities for quality and productivity in farmer organizations.

By 2007, the success of these pilot experiences had started to interest both consumers and larger food industries.



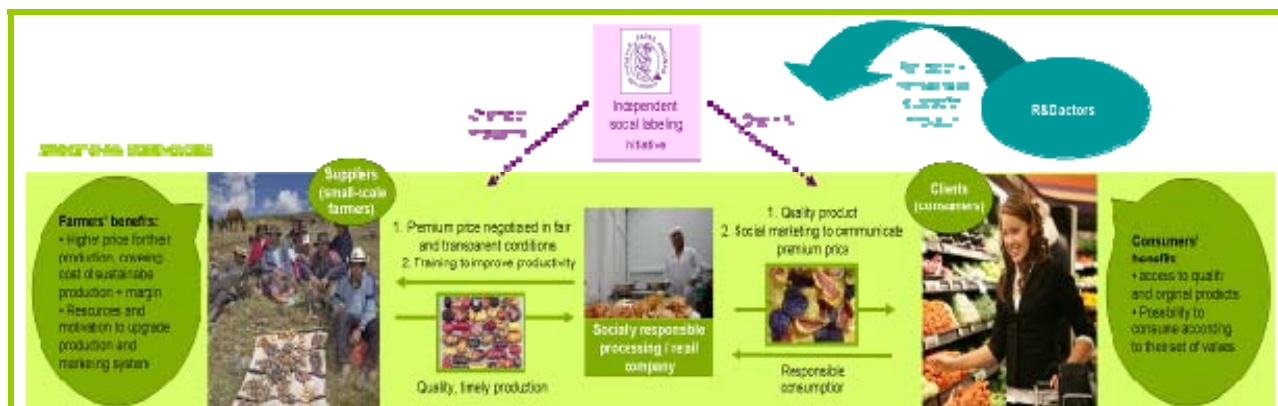
**Figure 1. Growth of the demand for native potatoes, led by the chips industry**

Native potato demand and competition has been growing at a fast pace since then, making room for larger-scale farmers, which in turn threaten the unique selling position of small-scale farmers in the native potato market chain. In order to keep a competitive edge, small farmers must turn their initial comparative advantage (native potatoes inherited from past generations) into a sustainable competitive advantage by producing a quality product that meets the supply requirements of large industries without losing sight of environmental concerns. This challenge is shared by R&D organizations like CIP-Papa Andina and its partners CIP-INCOPIA, FOVIDA and CAPAC PERU, that foster innovation to develop inclusive and competitive market chains taking advantage of potato biodiversity, with the aim of reducing poverty. They identified CSR as an entry door to develop private sector’s commitment towards this objective (Hermes, 2005).

### **Integrating csr in the market chain: the business model**

Papa Andina and its partners base their work on the broadly accepted definition of CSR as a company’s philosophy and ethical form of management that takes into account the expectations of its stakeholders in order to achieve sustainable development (Canessa and Garcia, 2007). According to this definition, CSR should be confused neither with philanthropy (understood as donations corresponding more to the company’s values than to its stakeholders’ interest), nor with mere marketing. CSR should be strategically linked to a company’s core business and aim at strengthening a long-term relationship between the company and its stakeholders, resulting in economic, environmental and social benefits for both in the long run.

Drawing on examples of CSR applied to market chains in the context of high value products (Hermes, 2005), Fig. 2 summarizes how a food company can establish an innovative, mutually-beneficial relationship with small-scale farmers to take advantage of market opportunities for native potatoes while contributing to reduce poverty.



**Figure 2: CSR applied to the (native potato) market chain**

In a CSR framework, the company focuses its investment on:

- Developing a market segment willing to pay a high price for a high-quality, environmentally and socially-sustainable product (investing in the quality of the product, and in social marketing campaigns that convey credence attributes to consumers);
- Developing the competitiveness of its suppliers and reducing the asymmetry in bargaining power (providing fair buying conditions including price and payment delay, and investing in capacity building).

In that model, high production and transaction costs (e.g. cost of searching for information on native potato offer; cost of negotiation; cost of planning and monitoring the product transfer without clear quality criteria) generated by small-scale farmers' systems (e.g. numerous plots scattered in remote areas, weak organization and distinctive business culture) are:

- Reduced through training and trust established in the framework of a long-term relationship;
- Transferred to the consumer;
- Absorbed by the company and turned into image benefits.

By applying CSR to the market chain, the company makes it possible for poor, small-scale providers to increase their income and standards of living by accessing new markets despite their initial lack of competitiveness, and to get a share of profitability despite their low negotiation capacity.

This business model is certainly neither the fastest nor the most profitable track for the company to develop its business in the short term ("business as usual"). However, it is bound to develop new, high-value market niches and increase providers' reliability and competitiveness in the medium term ("business for development"). In addition, by communicating on this strategy, the company may draw benefits for its brand value.

Social labeling initiatives (certification schemes and public advocacy campaign) driven by an independent party can consolidate this model, providing the company with:

- Credibility to back up its own social marketing towards its client;
- Orientation on how to invest in its providers' competitiveness in an impact-oriented way.

To implement such a business model, innovation and capacity building are required at different levels. R&D institutions can provide following contributions:

- Capacity building for farmers to increase their competitiveness;
- Orientation to companies on business with CSR;
- Generation and provision of marketing services for all market chain actors (as an initial investment into kick-starting the business and building trust among market chain actors);
- Identification of pro-poor commercial practices and facilitation of innovation processes to develop social labeling initiatives;
- Demand-oriented research for sustainable and affordable technologies that increase competitiveness of small farmers.

## **Outcomes: public-private partnerships for development**

In 2008, the multinational company Pepsico Foods entered the growing native potato market that had been impulsed by the efforts of Papa Andina and its partners. On Peru's National Potato Day, Pepsico launched "Lay's Andinas", naturally-colored native potato chips. A market leader with more than 80% share of the Peruvian snacks market, the company turned the idea of native potato chips into a top-quality product available at any supermarket in Lima, and contributed to validate the business model presented above.

Pepsico's CSR investment focused on two aspects. First, Pepsico invested in a transparent, mutually-beneficial business relationship with providers that had a lower bargaining power and were little competitive. In this process, several innovations were introduced in the native potato market chain. Commercial conditions were negotiated with regards to the situation of

High Andean farmers: the price was set to leave farmers with a profit margin - taking as a reference production costs (including workforce) plus marketing costs -, and certain flexibility was introduced for non-compliance of agreed volumes. Despite finding itself in an almost monopsonistic position for buying native potatoes, the transnational company maintained the conditions that it usually offers to its providers. So for the first time, native potato producers were offered a contract at the beginning of the growing season guaranteeing demand for their production; a transparent quality control; short payment delays (maximum one week); technical assistance at critical moments of the campaign; and the opportunity to visit the processing plant in Lima.

Second, the company heavily invested in the development of a niche market for a product that not only boasted a high intrinsic quality, but that was also socially responsible – and relatively expensive too (price/kg up to twice that of competitors). Pepsico developed a social marketing campaign (packaging, TV commercial), appealing to the sensitiveness of the top consumer segment on issues such as health, social development in the High Andes, cultural legacy and active conservation of biodiversity. Linking these issues to a food product also constituted an innovation in the Peruvian market.

Launching Lay's Andinas was a private initiative by Pepsico. However, partnerships at two different levels with R&D actors have been necessary to make this an impact-oriented business model, yielding benefits to both the company and small-scale farmers, and bound to do so over time. The first partnership was formed in 2007 between Pepsico and the Peruvian non-for-profit organizations FOVIDA (an NGO with extensive experience in promoting pro-poor market chains) and CAPAC PERU (a stakeholder platform [Devaux *et al.*, 2007] constituted by NGOs, farmer organizations and companies, and chaired by FOVIDA). In this framework, both FOVIDA and CAPAC have been covering part of the initial investment involved in linking small-scale farmers to the agro industry. Indeed, among the challenges that arose from setting up Pepsico's native potato supply chain was the unavailability of counterparts with an adapted legal and fiscal status to sign the supply contract, since most farmer organizations were still in the process of formalization. Definition of quality parameters and referential production costs were also lacking for these not-yet-commercial varieties traditionally used by producers for self-consumption. In addition, the multinational did not have the resources to provide the initially requested day-to-day monitoring and capacity building on dozens of scattered small farms. Services provided by FOVIDA and CAPAC PERU to bridge these gaps fall into two categories:

- Capacity building in production and post-harvest management, organization and business management in order to increase farmers' productivity and competitiveness with a criteria of environmental sustainability.

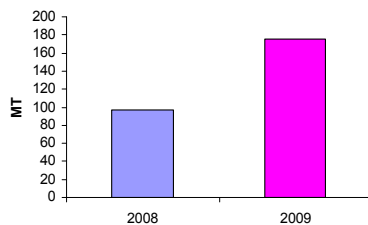
- Business services, including legal representation of small-scale individual or organized farmers, contract management and credit for inputs and transport.

These services are provided on a non-profit basis justified as an initial investment in the setting-up and consolidation of a new, inclusive market chain. They are financed by development cooperation funds from Switzerland, New Zealand, and USA, and imply technological and methodological expertise from CIP (Farmers Field Schools and Integrated Crop Management practices) and the National Institute for Agricultural Innovation (INIA). Particular care is taken to make the corresponding costs visible to both farmer organizations and the agroindustry. There is a shared perspective to transfer them to market chain actors as business develops.

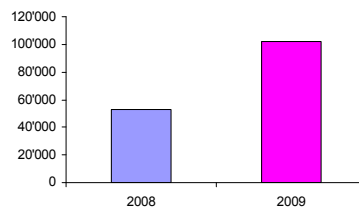
The second partnership was formed in parallel to the development of Lay's Andinas business; CSR and advocacy were the core issues. It led to the setting up of the Andean Potato Initiative ([www.papasandinas.org](http://www.papasandinas.org)), launched officially in May 2008 with the aim to promote a native potato trade based on values such as culture, history, biodiversity, health and poverty reduction. The Initiative is a public-private open alliance, currently integrated by FOVIDA, CAPAC, the NGO Aders-Peru, Pepsico, Wong supermarkets, representatives of the gastronomical sector and market-oriented farmer organizations. It receives technical back-stopping from CIP-Incopa. Hosted by CAPAC-Peru, the Initiative has led an award-winning advocacy campaign and co-organized the celebration of the 2009 National Potato Day with CIP and the Ministry of Agriculture. The Initiative soon recognised the need for precisely defining the content of native potato trade with CSR. As market leader and an observed player, Pepsico was interested in getting it right with an impact-oriented CSR strategy towards their new providers, as well as to obtain independent and high profile institutional backup to maximize their external credibility. After identifying a similar demand from other private actors processing or distributing native potato products and recognizing the need for a label relevant to the domestic market, CIP-Papa Andina facilitated a public-private workgroup in the framework of the Initiative to establish a specific certification scheme for Andean native potato trade with CSR. The objective was to set a standard for responsible practices and develop a communication tool to make companies' compliance visible to consumers. Intended results were to secure benefits for farmers and prevent unfair competition from companies conducting "social" marketing not based on CSR practices. The "Andean Potatoes Label" was made available mid-2009, and two companies are currently in the process of being certified against this standard.

### Early impacts: results at farmers' level

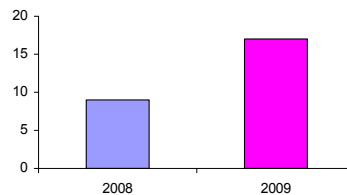
Participation in the supply chain of a product like Lay's Andinas has generated benefits for farmers in terms of access to a high value market for their potato biodiversity.



**Figure 3. Native potatoes sold to the chips industry through contract**

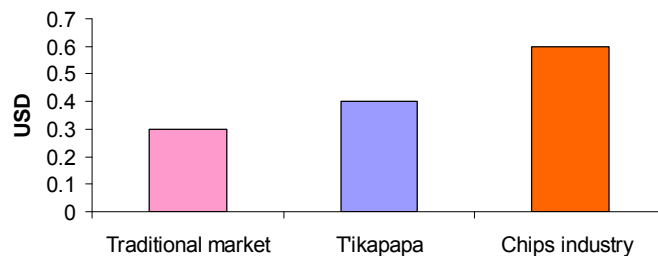


**Figure 4. Total value in USD**



**Figure 5. Number of different varieties validated for the chips industry**

The strong growth between 2008 and 2009 in terms of volumes (Fig. 3), corresponding business value (Fig. 4), number of varieties accepted by the industry (Fig. 5) and workdays generated for farmers (from 7'500 in 2008, to 16'700 in 2009) gives evidence of the potential of this type of market chain to improve sustainable means of living in High Andean communities. In absolute terms (brought down to cash benefits at an individual scale), results are still modest. But they are quite satisfying in relative terms (compared with opportunities farmers had before, see fig. 6).



**Figure 6. Price paid to farmers in 2008 by the chips industry means a 100 % increase compared to local market**

Estimated business profitability for farmers is between 20% and 50% depending on local conditions. Moreover, the contract guarantees market and a stable price to farmers. Besides, business is extending beyond this successful commercial relationship. On the one hand, farmer organizations involved (from the Department of Huancavelica, Junin and Apurimac) have started to diversify their clients and enter new high-value markets (selected fresh potatoes, seeds) using potatoes that don't fit industrial requirements. On the other hand, the agroindustry is seeking to extend its supply chain to other Andean regions.

From a qualitative point of view, farmers' commitment to quality criteria like Pepsico's encouraged them to acquire new skills and adopt new attitudes, especially in post-harvest management (selection). In the High Andean remote areas, where communities have had a growing tendency to rely on external aid (in many cases due to extended development cooperation or public support), interesting changes towards a more entrepreneurial attitude could be observed: for the second campaign and in the context of soaring prices on the input market, farmers negotiated a price increase of 20%; they also increasingly incur the costs of frying trials at farm gate in order to minimize the risk of rejection upon delivery in Lima. Additionally, in Junín and Huancavelica, farmers have been developing their capacities for production with the support of FOVIDA, driven by the motivation to supply the industry, and obtained an increase in average yield from 6 to 12 MT thanks principally to an adequate use of inputs.

In regards to native potato trade and *in situ* biodiversity conservation, early evidence shows a positive influence through the extension of cultivation areas and a general revalorization among farming communities of native potato varieties, going beyond varieties demanded by the industry. A more detailed study is needed.

## Perspectives and conclusion

The public-private partnerships and institutional innovations around T'ikapapa and Lay's Andinas have validated the approach of Papa Andina and its partners to integrate CSR into the native potato market chain. In the current conjuncture, where demand for quality native potatoes still exceeds offer, the agreement reached by farmers and R&D actors with the market leader in a CSR framework has set a benchmark for the whole native potato market, and competitors have been aligning prices offered to farmers (on both fresh and processed markets). However, to make benefits sustainable for farmers, Pepsico will have to strengthen its CSR commitment towards its initial High Andean providers although larger suppliers of native potatoes are entering the market. As for competitors in the potato industry, they will have to institutionalize the high price they currently offer to farmers into a comprehensive, proactive CSR strategy. Finally, consumers will also have to be responsible in their purchases in order to make this trade with CSR viable. This is the main objective of the Andean Potatoes certification label. The possibility to access new, export markets, where ethical consumption is more developed, shall favor this process.

This experience also highlighted priorities for a demand-driven research targeted at improving the competitiveness of small-scale farmers. Issues currently tackled by Papa Andina and its partners in collaboration with other CIP research divisions and private partners include stabilizing reducing sugars in native potatoes to minimize rejections from the chips industry; defining Good Agriculture Practices for High Andean farming systems to ensure environmental sustainability and protect farmers' (and consumers') health; facilitating access to sprout inhibitors to improve supply regularity of this seasonal product; and improving pro-poor quality seed

production systems to enable farmers as a way to increase yields. The opportunity and modalities of private sector's participation in this research agenda are currently being debated case by case.

There are nevertheless a number of unresolved issues linked to sustainability in the current experience of Papa Andina and its partners. While the Andean Potatoes Initiative provides an institutional framework to address them in a constructive and practical way, the following issues ought to be further investigated to prevent "business for development" from turning into a more cynical "development as a business".

### ***Transfer of costs and responsibilities to market chain actors***

Based on previous positive experiences (Escobal, 2003), there is consensus that subsidizing the competitiveness of small-scale farmers is a necessary initial social investment taken on by NGOs, and that market chain actors in the long run should cover these costs without aid funds. However, in the recently established native potato chain, no reasonable horizon and agenda could yet be defined for a direct relation between the industry and farmer organizations. The modest situation of High Andean farmers (in terms of educational levels and resources) is likely to slow the transfer of responsibilities from the NGOs to farmers' organizations.

### ***Safeguarding benefits for small-scale farmers in the development of the native potato market chain***

The inclusive and sustainable character of the native potato market chain is subjected to many potential threats. Examples are given below in the form of possible scenarios, yet their relevance will become clear as the market develops:

- Ethical products face the unfair competition from products boasting to benefit small-scale farmers without necessarily walking the talk;
- Small-scale farmers are unable to remain competitive with the appearance of larger-scale farmers, generating a shift in demand. This threat could be heightened by improved colored varieties suitable for lower altitudes;
- Recently-formed farmer organizations are undermined, as individual farmers get capitalized through native potato trade and leave their organization to operate as independent providers, generating exclusion from the market chain of the most marginalized producers;
- Overproduction generates pressure on price and exclusion of less competitive actors;
- As a result of market pressure, increase in productivity is sought at the cost of biodiversity, human health and the environment.

The certification scheme is an attempt to consolidate a market for responsible products, but the success of this strategy will depend on factors like the sustainability and credibility of the Andean Potatoes Initiative and its institutional framework, the stakeholder platform CAPAC PERU. Their ability to get companies committed with the vision embodied by the label and to position that label on the market will of course be crucial. Finally, the market response will be decisive.

### ***Responsibility towards consequences of climate change***

The multiplication of erratic and severe droughts and frosts is turning High Andean agriculture into an increasingly risky venture. The industry has adopted a relatively flexible attitude towards small-scale farmers, tolerating non-compliance with agreed volumes. However, the risk of losing the crop is still basically carried by producers. Ideas like the creation of an insurance scheme for farmers, to which companies would contribute in the framework of their CSR strategy, have been brought to discussion, but no concrete solution has been drafted. In the meantime, diversification of crops and of sources of income is further encouraged.

The research agenda to increase the competitiveness of small-scale farmers on the native potato market is broad. The case presented here shall highlight how meaningful it is to involve CSR-conscious private companies in the innovation process. Only with their commitment – and that of consumers – is native potato trade bound

to yield long-term benefits for the smallholders who have been maintaining potato biodiversity over centuries, and to fulfill farmers' and R&D actors' expectation to see it develop into a viable vehicle for poverty reduction.

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