Organic smallholder women supplying the gastronomic sector in Cusco, Peru

HANNES VAN DEN EECKHOUT, ÁNGEL LUJÁN[1], ROBERTO UGÁS[2]

Key words: organic, smallholders, food security, market access

Author's Background

The authors are part of the team of the AGROECO Project – *Ecological and socioeconomic intensification of Andean smallholder agriculture*, in Peru, led by National Agrarian University La Molina (UNALM), in collaboration with the National Association of Ecological Producers of Peru (ANPE PERU) and supported by the Canadian International Food Security Research Fund (CIFSRF), with financial support of the International Development Research Centre (IDRC), www.idrc.ca, and the Government of Canada, provided through Foreign Affairs, Trade and Development Canada (DFATD), www.international.gc.ca.

Summary

Aimed at improving conditions of food security, this paper describes the short-chain market integration of smallholder women supplying organic vegetables to the gastronomic sector in Cusco (Peru), complementing PGS progress and local organic marketplace initiatives. Both from an operational and a strategic point-of-view, the value chain and stakeholders´ attitudes are analysed in order to describe the experience and draw up recommendations. Economic viability and bottlenecks along the value chain are analysed and suggestions and challenges for sustainability presented.

In conclusion, promoting organic vegetable production and household consumption, through protected horticulture technologies and revalorizing local varieties, contributes to improving household diets as a primary objective. Supplying to hotels and restaurants, in addition to existing local organic marketing channels in Cusco can create extra income as another driver of both food security and health and education.

Background

Sustained economic growth, rising consumer awareness, a flourishing tourist sector and the gastronomic boom in Peru, are in a harsh contrast with socioeconomic conditions of smallholder farmers in the country. Even in Cusco, one of the most attractive tourist destinations of the Latin American continent. Improved linkages between smallholder farmers and the gastronomic sector in this tourist capital combined with advanced product differentiation through a collective mark are powerful tools to improve market integration, especially for women involved in protected vegetable farming, aimed at better conditions of food security. On the other hand, ANPE PERU (National Ecological Farmers Association of Peru) has been promoting Participatory Guarantee Systems (PGS) over the last ten years to improve market integration of non-certified ecological farmers. The AGROECO project – Ecological and socioeconomic intensification for food security in smallholder agriculture in the Andes, coordinated by UNALM (National Agrarian University La Molina) and financed by CIFSRF (Canadian International Food Security Research Fund), has continued the implementation of PGS at the level of provincial PGS councils to be led by local authorities. Moreover, ANPE PERU has over eight years of experience in implementing organic fairs, with changing success. While the AGROECO project also promotes a couple of these small-scale marketing initiatives, evidence suggests that farmers still mainly sell their organic produce in local marketplaces at conventional prices. Thus, the article examines the implementation of another sales option: supplying to the gastronomic sector directly, as a practical way to examine and advance the long-lived discourse of the farmer – cook alliance in Peru.

The farmer – cook alliance is being promoted since 2009 by the Peruvian Society of Gastronomy (APEGA), UNALM, ANPE PERU and the National Convention of the Peruvian Agro sector (CONVEAGRO) among other organizations, strengthening bonds between rural areas and chefs with the aim of contributing to social inclusion by integrating smallholder farmer families in the gastronomic value chain and, hence, creating sustainable marketing opportunities.

In this context, interesting sales are achieved every year in Latin America´s largest international gastronomy fair "Mistura" and in the first "Festivals of native potatoes" in Lima and Cusco (for one month restaurants promote a dish with native potatoes as the central element). The organic farming sector in Peru is growing rapidly thanks to thousands of family farmers (Ugás 2009) and between 2009 and 2012 the restaurants and hoteling sector has known a remarkable growth of 46 % at the national GDP level (INEI 2013). 5.5 Million Persons benefit directly or indirectly from this gastronomic boom in Peru, not including the country's smallholder farmer families that assure 70 % of food production at the national level (APEGA 2013). While a considerable part of the high-end restaurants in Cusco is controlled by at least three gastronomic groups, they source their organic vegetables from only a few local suppliers, mainly privately run initiatives in the Sacred Valley by entrepreneurs from Lima or abroad. Most of the previous experiences of linking smallholder farmers with restaurants have remained rather limited in scale or dependent from NGO support. Others suffered discontinuity in time because of the multiple coordination and sustainability challenges that are presented along the value chain. As outlined in table 1, a rising number of actors are (willing to get) involved in the establishment of this commercial partnership between cooks and farmers, urging the need for a more streamlined approach and inter-institutional coordination.

[1]AGROECO Project, Peru, www.lamolina.edu.pe/hortalizas/Agroeco.htm, hannes.vde@scarlet.be

[2]Universidad Nacional Agraria La Molina, Peru, www.lamolina.edu.pe/hortalizas, rugas@lamolina.edu.pe

Table 1: Actors involved in connecting smallholder farmers with the gastronomic sector in Cusco

Institution – Project	Type of institution	Development goals			Proposed model of market integration	Period
		Economic integration	Food security	Organic farming		
ANPE PERÚ	National organic farmers association	Yes	Yes	Yes	Direct sales with top chef's engagement	2009 - 2012
Cenfopar Arariwa	NGO	Yes	Yes	Not explicit	NGO-supported associative market connection	> 3 years
Proyecto Qorikancha	Private foundations, local NGO – led implementation	Yes	Yes	Not explicit		Since 2010
UNALM – AGROECO project	University	Yes	Yes	Yes	Farmers' association-led intermediation to direct sales	2011 - 2014
Alianza Cusco	International development aid with government support	Yes	Not explicit	Not explicit	Stakeholder owned centralized buying company	Since 2014
IAA	NGO	Yes	Yes	Yes	NGO-supported market connection	> 3 years
Alianza Andina	NGO	Yes	Yes	Yes	Farmer-led collaborative approach, + focus on publicity	To be approved

Considering this complexity, AGROECO worked on the development of the agro-gastronomic value chain as a part of a larger program to improve market integration of non-certified organic smallholders, including: i) capacity building in organic farming techniques; ii) social capital construction, strengthening ties with local authorities and support organizations like municipalities, state agricultural agencies, NGO, etc. to establish the provincial PGS councils' guarantee; iii) development of the branding and communication strategy to improve product presentation, quality standards and marketing, including but not limited to the development of the collective mark "Frutos de la tierra", Fruits of the earth (Van den Eeckhout and Ugás 2013); and iv) through these guarantee mechanisms, developing new direct sales opportunities and improving product positioning in the existent sales channels. Adding to organic farming capacity building and PGS progress, the gastronomic market approach aims at establishing long-term relationships between the gastronomic sector and farmer groups, based on trust and direct communication, excluding intermediaries and providing quality organic ingredients. As such, a total of forty women in the Calca and Quispicanchi provinces (Cusco) organized to improve protected vegetable farming in communal plastic houses and micro tunnels, aiming to supply to five gourmet restaurants in Cusco. More than just another supplier relationship, the farmer – cook alliance intends to call on Corporate Social Responsibility motives of restaurants to publish and communicate this win-win relationship to their customers by using innovative tools like the newly developed collective mark.

Main Chapter
Analysis

AGROECO facilitated and studied the commercial linkages between the smallholder women groups involved in protected horticulture capacity building – key to eliminating seasonality effects in the supply capacity – and some of the gourmet restaurants in Cusco over a period of time of seven months. Since, perishable and potentially high-value products are more likely to offer sufficient returns to offset organizational costs (Berdegué 2002), the experience focused on certain highly demanded cash crops (mainly lettuces) and high-value products like edible flowers. Table 2 presents a short exercise on the economic viability of marketing of some of these products, if the Quispicanchi women groups were to sell them at their current supply capacity. It is noteworthy that while these groups are typically part of conventional farming systems that focus on staple crops like maize (71 % average of cultivated area) and potatoes (8 %) (arithmetic mean of data on district level: INEI 2012), in the last four years these women submerged into organic farming with small vegetable plots, and a few of them are even starting to gradually convert their main fields from conventional to organic.

Table 2: Analysis of the economic viability of weekly supplies from Quispicanchi

Value of the average product delivery (weekly)(USD)		Incurred costs (two deliveries per week)(USD)	
216 Lettuces (green and red leaf, red oakleaf and green romaine lettuce)	$143	$58	Opportunity cost (value of basket if sold in the community)
45 cucumbers	$16	$9	Harvest and postharvest in the field (labor, inputs, depreciation of materials)
48 Italian baby zucchini	$22	$49	Transportation cost (transport to the city, time invested)
24 zucchini flowers (edible)	$9	$27	Transaction cost of supply handling and delivery (time invested, local transport, depreciation of materials)
-	-	$5	Administrative cost (without invoice fee nor taxes)
Total sales revenue (333 units)(a)	$190	$147	Total cost of sales (b)
Per farmer sales volume (10 women)	$19	$0.44	Average cost per unit
$43 Estimated income (weekly)(a-b)			

23% Estimated sales margin ((a-b)/a)

However, in the first months, regular sales were achieved with only two of the most sensitized clients among the various contacted restaurants and, hence, selling at only one fifth of their current production capacity in the plastic greenhouses led to an initial sales-at-loss situation in the pilot experience. Nevertheless, it is estimated that with accumulated training and experience at the end of the seven month period the women are able to gradually step up their supply capacity, and negotiations to find new customers are already under way coordination with other key support organizations.

While net income per women might seem low, farmers generally focus on sales revenues and the additional cash flow of $19 a week (nearly 1,000 USD a year) implies a considerable amount of extra money in control of women, giving way to significant food security, health and education expenses. Unlike the main annual harvests (usually rainfed and controlled by men), sales of irrigated vegetable production in plastic greenhouses create a continuous flow of income throughout the year that is managed by women, responsible for household nutrition. Additionally, the direct availability of healthy vegetables for household consumption throughout the year is not accounted for and the figures in table 2 are proportionate to the time invested in the production of the indicated quantities. They only consider sales generated from collectively managed 300-square-meter plastic greenhouses and do not include potential sales of individually-run production under other plastic structures like micro tunnels or even open-field production.

In contrast with the high additional costs of logistics to deliver in the city twice a week, the estimated sales margin is favourable due to the negotiation of differentiated pricing. Price formation in itself is a very complicated phenomenon, influenced by a series of unpredictable factors and thus demonstrating high variation. However, based on price observations and averaging out the effect on single product prices, interesting price margins can be observed in table 3 as opposed to alternative sales channels, mainly due to the commitment of few restaurant holders that recognize the added value of buying from local smallholders and organic, thus, demonstrating a higher willingness to pay.

Table 3. Relative price analysis in Cusco (November 2013)

Comparison of average organic vegetables sales prices	Market level	% Deviation
Difference with main competitors	Regional	-2 %
Difference with markets in Cusco	Regional	54 %
Difference with local markets	Provincial	65 %
Difference with the community price / selling to neighbors	Community	73 %

While in the medium term, economic sustainability of this innovative marketing opportunity seems feasible, the bottlenecks that should be taken into account along the value chain are presented in table 4, including an assessment of the horticulture women group of Janac Chuquibamba that was not yet included in the pilot phase (mainly due to communication and leadership issues), two native potato producing highland communities (4000+ MASL) from Calca that only achieved limited sales, the women from Quispicanchi and restaurants. Organic production (especially soil management and ecological control of pests and plagues), postharvest management and continuous production planning, as well as farmers' motivation to apply these processes adequately, remain main challenges and could compromise sustainability. Additionally, producing a buffer supply to respond to restaurants' weekly and seasonal variations in demand creates the need for parallel marketing channels to place production surpluses. With regard to native potatoes, the main issue is dealing with farmers' custom to sell wholesale to intermediaries, in the field and cash as opposed to restaurants that buy small quantities, on credit and at their doorstep. Similarly, homogeneity as requested by some buyers can affect traditional mixed production systems, discouraging genetic biodiversity conservation as such.

Overall, farmers' associativity and group coordination probably signify the most important challenge to streamline logistics for timely deliveries that respond to quantity and quality demands. Whereas short-termism and other priorities often make farmers do not perceive the economic growth perspectives of this alternative sales opportunity, Shiferaw et al. (2009) affirms that effective collective action is only likely to occur if expected benefits arising from lower transaction costs, better prices for inputs and outputs and/or empowerment and capacity enhancement outweigh the associated costs of complying with collective rules and norms.

On the other side of the value chain, buying restaurants need to adapt as well to meet their inclusive vision: buying relatively small amounts of vegetables at a high frequency, the current market favors the existence of only one sophisticated supplier company with control over the entire production and distribution process. Therefore, competition should not only focus on product quality but also include the intrinsic social responsibility value of buying from smallholder farmers that promote sustainable agriculture and food security. On the other hand, payment through invoices and on credit implies considerable delays even on small disbursements, and farmers´ additional efforts to respond to all of these challenges, are not always reflected in price discussions with potential buyers.

As the scores in table 4 suggest, the issue of resource endowment implies that individual household capacities and conditions (in producing interesting volumes of marketable produce, coordination skills, access to communication services, distance to the market, etc.) to participate in collective marketing capacities differ between different types of farmers (Shiferaw et al. 2008) and tend to benefit the better-off poor, for instance due to high transaction costs (Fischer and Qaim 2012; Barrett 2008; Hulme and Shepherd 2003). As such, literature suggests that "commercially-oriented producer organizations may well not be the appropriate way forward for very resource-poor farmers" (Shiferaw et al. 2009). Indeed, education, native language and physical access to roads and telephone services play an important role in the limited participation of Janac Chuquibamba and the native potato producer communities in the AGROECO experience. A documented experience of linking potato farmers in Uganda with a fast-food outlet in the country's capital (Kaganzi et al. 2009) highlights the importance of collective action in combination with strong leadership and suggests

that the challenges that are mentioned form part of a natural iterative market-led learning process that will enable the farmers to meet the stringent quality parameters as required by their direct buyers.

Table 4. Challenges along the value chain (AGROECO Pilot experience)

(3 = fundamental challenge) *(1 = challenge partially addressed)* *(0 = solved challenge)* *(NA = not applicable)*	Janac Chuquibamba	Quispicanchi	Calca highlands	Restaurants
Natural resources and crop management				
Access to seeds	3	3	1	NA
Capacity to manage and conserve agro-biodiversity products	0	1	0	3
Agro-ecological management of production (soil, pest and plague management, etc.)	1	1	1	NA
Adaptation to a continuous production scheme (production planning and succession planting)	3	1	3	NA
Use of protected horticulture technologies (plastic greenhouses and tunnels)	1	2	NA	NA
Human resources				
Access to capacity building	1	1	1	NA
Capacity to comply with quality standards	1	1	3	NA
Administrative and commercial management capacities	3	3	3	NA
Knowledge of the nature of peasant production	NA	NA	NA	3
Fulfillment of commitments	1	1	1	NA
Compliance with food safety principles and standards	1	1	1	NA
Institutional framework				
Effective dialogue with other actors	3	3	3	3
Strength of the farmers organization for collective production and marketing	1	3	1	NA
Beneficial interaction with local government	1	1	1	NA
Beneficial interaction with support organizations	1	1	1	NA
Internal leadership	3	1	3	NA
Involvement of young people	1	1	1	NA
Sense of belonging to the farmer – cook alliance	3	1	3	1
Infrastructure and logistics				
Access to telephone services for communication and delivery coordination	3	0	3	0
Use of storage facilities	3	3	1	3
Distances, road conditions and public transport for logistics	1	0	3	NA
Postharvest management	3	1	3	NA
Marketing and financing				
Custom of selling on credit through invoices	3	1	3	NA
Capacity to manage financing and credit	1	0	3	NA
Habit of selling wholesale	1	1	1	3
Disposition to adapt to seasonality of demand / production	NA	NA	NA	1
Willingness to pay a differentiated price	3	1	3	NA
Existence of sources of financing and credit	1	1	1	NA
Organic guarantee	1	0	1	NA
Management of legal and tax issues	3	3	3	NA
Transparency in transactions	1	1	1	1
Commercial volumes perceived as sufficient	0	0	0	3
Total score on challenges	52	38	53	NA

Core Messages and Conclusions

The current experience aims at contributing to food security of non-certified organic smallholders by improving their income through direct market integration with high-end restaurants. As such, the main lessons learned and recommendations are:

1. Hotels and restaurants, despite their low purchase volumes, are reaffirmed as learning opportunities for product development and positioning as well as for quality management through the supply of specialized products.
2. Requiring mayor efforts in production planning and continuous supply, a chicken-and-egg discussion arises: smallholders need to visualize interesting sales volumes in order to invest the necessary amount of time in production, postharvest and sales activities, which in turn impairs the process in its initial phase, when a gradual increase of supply and demand have to go hand in hand in order to reach a sustainable equilibrium.
3. Price discussion is a central issue in negotiations. However, in the context of the farmer – cook alliance and given a continuous supply in terms of volumes and quality, the AGROECO experience confirms that a selected group of sensitized restaurants and hotels is willing to pay a price premium; as opposed to traditional local sales channels and considering corporate social responsibility and marketing incentives.
4. Accounting for seasonality and variability in restaurants' demand, producing a buffer supply is key and, therefore, complementarity with other sales channels is reinforced by the need to have alternatives to sell this excess production when supply outreaches the sum of demand and household consumption. Weekly organic fairs or a permanent farmer's shop in town, are ideal complementary strategies to collocate production surpluses.
5. Moreover, important economies of scale can be achieved in transaction costs when selling to restaurants is part of a larger array of commercialization strategies.

6. Product differentiation in selling to restaurants should be improved by fostering the acknowledgment and dissemination of the participatory guarantee mechanisms in the local markets as well as by further developing the collective "Frutos de la tierra" mark.
7. Considering small-scale farmers have to organize to collectively market their products, collective buyer groups should be experimented with since restaurants and hotels in reality are also small-scale buyers.

Promoting organic vegetable production, crop diversification as well as household consumption, and supplying hotels and restaurants, the project aims to contribute to the improvement of the household diet and to create extra income for women. Likewise, non-use of agrochemicals and less dependency on external inputs as well as differentiation of sales channels are also examples of how the presented marketing model and technologies drive real impacts in the lives of these households and their environment. Fostering the implementation of family gardens and revalorizing native and highly nutritional varieties, contributes to improving household diets as a primary objective. Supplying to hotels and restaurants, in addition to existing local organic fairs and a shop of the farmer association in Cusco, creates extra income as another driver of both food security and health and education.

References

APEGA (2013): El boom gastronómico Peruano al 2013, APEGA Peruvian Society of Gastronomy, Lima, 92p.

Barrett CB (2008): Smallholder market participation: Concepts and evidence from eastern and southern Africa. Food Policy, 33 (4), 299–317.

Berdegué J (2002): Learning to beat Cochrane's treadmill: Public policy, markets and social learning in Chile's small-scale agriculture. In C. Leeuwis & R. Pyburn (Eds.), Wheelbarrows full of frogs: Social learning in rural resource management, 333–348.

Fischer E & Qaim M (2012): Linking smallholders to markets: determinants and impacts of farmer collective action in Kenya. World Development, 40 (6), 1255–1268.

Hulme D, & Shepherd A (2003): Conceptualizing chronic poverty. World Development, 3 (3), 403–423.

INEI (2012): IV Censo Nacional Agropecuario 2012. Instituto Nacional de Estadística e Informática, Lima, Peru.

INEI (2013): Perú: producto bruto interno por grandes actividades económicas 1991-2012. Instituto Nacional de Estadística e Informática [website] [cited 2013 Sept. 28] Available from: http://www.inei.gob.pe/estadisticas/indice-tematico/economia]

Kaganzi E, Ferris S, Barham J, Abenakyo A, Sanginga P, & Njuki J (2009): Sustaining linkages to high value markets through collective action in Uganda. Food Policy, 34, 23–30.

Shiferaw B, Obare G, & Muricho G (2008): Rural market imperfections and the role of institutions for collective action to improve markets for the poor. Natural Resources Forum, 32, 25–38.

Shiferaw B, Obare G, & Muricho G (2009): Leveraging institutions for collective action to improve markets for smallholder producers in less-favored areas. African Journal of Agricultural and Resource Economics, 3 (1), 1–18.

Ugás R (2009): El protagonismo invisible de la agricultura orgánica. Centro Peruano de Estudios Sociales. La Revista Agraria 2009 Oct, 112, 4-6.

Van den Eeckhout H & Ugás R (2013): A collective mark to improve local value chains for Peru's smallholder organic products. Conference paper presented in: FAO-IFOAM Asia-Pacific Regional Symposium: Entrepreneurship and innovation in organic farming; 2013 Dec 2-4; Bangkok, Thailand.

Van den Eeckhout H, Vega G, & Carrión D (2013): Frutos de la tierra, una marca colectiva para el desarrollo rural agroecológico. LEISA Revista de agroecología, 29 (2), 44–47.