

**Case Study – Quinoa Market Development – Demand-Driven Niche Marketing
for Indigenous Crops**

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Abstract:

Quinoa is an indigenous crop of the Andean range of South America which possesses significant nutritional characteristics with a high protein level and balanced amino acid. The fact that quinoa can only be produced at high altitudes to maintain its nutritional profile has kept Quinoa from being produced around the world as the tomato and potato which were also developed in the Andean Region of Peru and Bolivia.

The Andean region of Peru is one of the poorest regions of the country with few viable sources of income available to the local people. To support these populations and expand sustainable incomes government and aid agencies have been working to find markets for the few crops that can be produced in this region.

Through a cooperative effort between businesses in Peru and the USA with support of USAID, Care and the Government of Peru, a “new” variety of quinoa was discovered which has unique characteristics which allows it to be fill a different market niche than conventional quinoa. This variety has since been multiple and provides sufficient volume for commercial markets in the USA. In fact demand still exceeds supply with continue efforts to expand available seeds while continuing to support the market.

This example illustrates the strength of development efforts when coupled with industry from the start of the program. The private sector identified the opportunity and the development community helped by providing the in-country support necessary to overcome the hurdles of developing a new crop with existing resources.

EXECUTIVE SUMMARY

In a geographic area with limited resources, the Altiplano of Peru, the ability to produce agricultural products is limited by environmental conditions. The Poverty Reduction and Alleviation Project (PRA) of USAID in Peru identified market demand for a near extinct variety of quinoa, a traditional Andean crop that is unable to be produced commercially at lower altitudes due to the conditions necessary for production.

With a qualified and quantified demand and a buyer committed to purchasing the produced and processed crop the project was subsequently able to multiply the available seed to ensure sufficient supplies to meet the demand for a unique niche in the USA health food and conventional food markets. This program proved sufficient to provide sustainable income to growers who have historically had few income opportunities without leaving their ancestral homes.

With the assistance of a consortium including the private sector, NGOs, and USAID the growers of quinoa were able to produce a revived “heirloom” variety of quinoa for export to the USA. By targeting the foodservice industry and established quinoa import channels the project filled a niche of demand that only the growers they were helping could fulfill due to limitations on seed variety. By working with the foodservice sector the program was able to increase demand for quinoa — consumption in restaurants increased, which also helped to stimulate retail growth as consumers tasted the product at their favorite restaurants and then demanded it from their local grocery stores.

In addition to providing a market for the product the buyer provided a pre-planting payment to the local processor to support the growers in their production. Therefore, for the first time the farmers on the Altiplano of Peru received a contract and partial payment for their production prior to planting. This agreement between the processor and the buyer ensured that the needs of both the producers and buyer were met; resulting in a win/win marriage between companies and producers, which provides for the sustainability of this project.

This case study reflects how private and public parties can join together in a demand-driven environment to achieve mutually beneficial, sustainable results.

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General Facts	
Country:	Peru
Region:	Altiplano – Puno-Juliaca (Highlands of Southern Peru)
Program:	Peru Poverty Reduction and Alleviation Project (PRA)
Funding:	United States Agency for International Development (USAID)
Year:	1999 to present
Company:	El Altiplano S.A.C. located in Puno, Perú
Incremental sales:	\$307,149 through December 2005
Labor generated:	18,864 days of employment
Participants:	<ul style="list-style-type: none"> • Quínoa producers, Puno-Juliaca Perú • Catholic Church, manager of El Altiplano processing company • Jim Krigbaum, marketing specialist, USAID/PRA consultant • David Schnorr, President of Quinoa Corporation, a California-based importer and distributor of branded quinoa products • Alipio Canahua, quinoologist, CARE/Peru Puno office • Oscar Rizo-Patron, technical assistance director, USAID/PRA Project • Carlos Pinzas, export manager, designer, USAID/PRA Project •

Subsistence and small surplus farming comprise the vast majority of agricultural production in the Puno area of Southern Peru (near Lake Titicaca). Producers sell small surpluses for cash, and in turn, use the cash to buy other staple products produced by neighbors. Little incentive exists for large surpluses due to the lack of industry in the area coupled with small markets and high transportation costs and the fact that their neighbors produce the same crops as they do.

The lack of income opportunities in the Puno Department results in a per capita income of around \$475 per year in rural areas and \$1,000 per year in urban areas. These figures are lower than in the rest of Peru, most notably in Lima, where per capita income is \$3,000 per year.

To improve the standard of living in the Puno area the USAID/PRA project established a regional office in Puno to facilitate private sector activity and strengthen linkages between farmers and agribusiness processors in the area. In Peru these offices are referred to as Economic Service Centers. USAID/PRA seeks to create jobs and reduce poverty through increased business transactions and the facilitation of business relationships between buyers, processors, and producers.

Many barriers exist in the Puno area for the development of sustainable economic activities. For success in Puno a niche product had to be identified and developed that took advantage of local conditions and factors of production. Preferably those conditions would be unique to the Puno area and thus provide them with limited competition and a chance to establish something they could benefit from exclusively. By working with an unofficial consortium composed of local growers, community and agricultural leaders, private and public entities, and a quinoa

distributor in the U.S. the project was able to identify red quinoa as a niche opportunity for the Puno area and succeeded in developing a sustainable business based upon this opportunity.

BACKGROUND

For centuries residents of the Altiplano adapted to local conditions to survive at an altitude of 4,200 meters above sea level and higher. This is an environment suitable for the production of few crops. Prior to the Spanish Conquest in the 1530s, the staple crops of quinoa and potatoes had emerged as the primary crops cultivated in the region. Their nutritional benefits provided a balanced diet, which, when coupled with their long-term storage capabilities, allowed the people of the region to thrive. It is often argued by anthropologists and others that if it were not for those crops the very existence and success of the groups in the region would have been in question.

To survive under the harsh conditions of the Altiplano, generations of farmers relied on crop surpluses in good production years sufficient enough to survive years of crop failure or interrupted harvests by drying potatoes into a product known locally as chuño. This naturally “freeze-dried” potato can be stored for several years without artificial refrigeration or advanced technological processing. The nutritional characteristics of quinoa complement those of chuño and thus provide a balanced diet.

Much of the terrain of the Lake Titicaca area is mountainous and therefore does not lend itself well to large-scale mechanical farming. A high percentage of the production area is on hillsides that that were terraced for agricultural production centuries ago. Many of those fields have been fallow and not maintained for generations due to lack of markets and demand for products that they could produce competitively. Only with adequate demand would it make sense to reclaim the terraces for agricultural production. The challenge was how to find such demand and make it work economically without subsidies or artificial market incentives.

The traditional farming techniques of the Puno require little input outside of what can be supplied locally by the family. Fertilizers, pesticides, herbicides, and mechanical planting and harvesting equipment are beyond the resource capabilities of most farming families of the region. The results are natural production techniques that by their very nature are organic. No internationally recognized organization has certified most quinoa produced in Puno as organic. Prior to the efforts of the red quinoa project insufficient demand existed that would justify such certification. Achieving internationally recognized certification would not be difficult to achieve, but it would require that monitoring of fields and processing techniques take place for a predetermined statutory period of time to meet international standards.

Peru has 84 of the 118 known life zones on earth ranging from the ocean desert to the Andes and plains of the Altiplano. Potatoes were domesticated in Peru and produced in many of these

climatic zones with different varieties adapted for production in different climate zones. The selective breeding done by the indigenous people of Peru prior to the Spanish Conquest allowed for a wide range of potatoes to be available for production in Europe. Other countries around the world were slow to adopt the potato, but ultimately it found its way around the world as a staple crop. The potato is one of the primary crops benefiting the world through the process known as the “Columbus Exchange” of goods from the “New World” to the “Old.”

Despite their head start of centuries in producing a wide diversity of potatoes, several factors prevent Peruvian farmers from achieving a comparative or competitive advantage in potatoes and potato products for global consumption. Those factors include:

- The sizes of the farms – Peruvian farms are often less than two hectares, and 70 percent of the farms in the highlands have less than five hectares. Potatoes lend themselves well to large-scale mechanical production.
- The high cost of production – Peruvian potatoes are planted and harvested by hand. Entire communities help in coordinated planting and harvesting at appropriate times. Such labor-intensive production does not give Peru a competitive advantage over countries where production is highly mechanized.
- Limited demand for processed potatoes – The domestic Peruvian market for processed potatoes is small. This is a factor of the following:
 - Consumption of potatoes on farm or in the community where harvested
 - Limited refrigeration in most non-city homes
 - Cheap labor allowing those without refrigeration to hire help to “process” potatoes in the home at the time of consumption
 - Those who can not afford refrigeration have time to process their own potatoes and are not dependent upon ready-to-consume products.
 - Economies of scale – small-scale farming does not allow for efficient processing of potatoes where large volumes of throughput are required to run a plant efficiently.

The result of these factors is that most potatoes produced in the region are either consumed by producing families or communities or sold in fresh regional markets in Lima and La Paz.

Along with the potato local farmers domesticated and cultivated a native seed crop known as quinoa. The nutritional benefits of quinoa consumption are significant: quinoa has high protein (16% - 22%) and outstanding amino acid balance.

Quinoa production requires conditions found only at high altitudes (high UV rays, cool night time temperatures, and hot days). These requirements limit quinoa production to very few climatic regions including the highlands of Peru, Bolivia, and Ecuador. (There is some production in Colorado and Saskatchewan where conditions are similar; however, these areas do not yield the large seed with high protein content produced in the Puno area.)

Despite its nutritional benefits quinoa was not carried back to Europe for production in the conquering countries. Quinoa's need for high altitude conditions, coupled with its religious significance for the Incas, made it a less attractive crop to the Spanish than the potato. The fact that Quinoa was considered the "Mother Grain" and the "Grain of the Gods" put it in conflict with the Catholic religion promoted by the Spanish Conquistadors. Their religious leaders therefore discouraged its production and consumption in the newly conquered territories of Peru.

IMPLEMENTATION

Step 1: Opportunity assessment

USAID/PRA considered the following factors in exploring what products to work with to help increase incomes in the Puno area:

- ✓ Limited manufacturing potential
- ✓ Unskilled labor
- ✓ Distance from markets
- ✓ A limited number of crops that could be produced effectively and delivered to market
- ✓ Experience locally in producing crops
- ✓ Existing processing plants and market apparatus
- ✓ Comparative advantage in producing crops for the market beyond the local market
- ✓ The need to produce something with local and domestic demand in the absence of a broader market
- ✓ A crop that minimized the need to introduce new farming techniques and was quickly adaptable by the local producers

Product identified filling most requirements above

An international market existed for quinoa with quinoa available for sale in most health food stores in the USA. Quinoa consumption was limited to consumers with knowledge of health foods. Individuals whose research had led them to value quinoa for its health benefits including its gluten-free status. Quinoa was not a product "consumed by the masses," but rather one "discovered" by educated, health-conscious consumers.

After the review of resources and opportunities quinoa emerged as one of a few crops that offered an opportunity for the people of the Puno area to go beyond subsistence and small surplus farming. Although potatoes have a ready global market, the factors discussed above

prevent it from acting as the “silver bullet” to help raise local producers above subsistence farming into the cash economy.

Two factors also kept quinoa from acting as the “silver bullet” to meet the needs of the local growers targeted for project assistance:

1. The majority of the quinoa sold in the United States was produced in Bolivia. Therefore, business linkages already existed throughout the supply chain in Bolivia. Additionally, the prices for quinoa in Bolivia and Peru were almost the same as factors of production were similar between the countries. The presence of established suppliers and lack of price competition make entry into a new market problematic as it is always difficult to unseat existing suppliers at similar price points.
2. The size of the quinoa produced in Bolivia was larger than that produced around Lake Titicaca in the Puno region of Peru. Therefore, the limited demand that did exist in the United States was already met by a product of larger size for which consumer expectations had already been established. With a product considered to be of inferior quality, due to size perceptions, it was impossible to use quality as an element in favor of production from the Puno area.

With the above-discussed factors not boding well for export of Puno quinoa to the United States, other alternatives had to be explored to meet USAID/PRA’s objectives for generating sales and jobs.

Market size	Limited to health food channels
Number of buyers	Limited
Market concentration	High – Quinoa Corp.’s Ancient Harvest had a very large market share with about 60% market penetration
Quality	Poorer than Bolivian quinoa in consumer’s eyes
Relationships	Current exports have existing and friendly relationships existed between existing exporters and importers
Price	On par with Bolivian quinoa with a possible slight freight advantage
Experience	Inferior to Bolivia’s

Step 2: Identify Competitive Advantage

Taking into account the above factors for successful export of Peruvian quinoa to the United States it was essential to identify a niche that would take advantage of the unique characteristics of quinoa produced in the Puno area to compete with quinoa produced in Bolivia. This initiative would have even greater success if it were able to increase the overall demand for quinoa without competing directly with Bolivia and simply shifting production from Bolivia to Peru. It was essential to cement Peruvian quinoa as a unique product in the mind of the consumers.

On a consulting trip to Peru to work on quinoa marketing, Jim Krigbaum, a marketing specialist brought to Peru by USAID/PRA identified a niche that he believed would allow Peruvian quinoa to succeed in the global market. Among other things, Mr. Krigbaum's trip to Peru focused on understanding details of production and post-harvest handling, varieties available for production, and characteristics of varieties.

While performing this research Mr. Krigbaum met with several indigenous growers. One of these growers, a traditional Andean woman, presented him a box with that contained several varieties of quinoa that her family had collected over the years. Several of these varieties had no significant commercial value. As the samples were displayed and discussed, however, one variety caught the eye of the team. The Pasankalla variety, which is deep mahogany in color differs from the traditional tan/white color of the majority of quinoa produced and exported.

Realizing that this unique variety would give Peru an advantage over the light, "bland" cream color of traditionally produced and exported quinoa the team decided to explore the opportunities that this variety presented. One reason of the rationales for this speculation was that mahogany colored quinoa could provide professional chefs with a color option for incorporation into menus. Realizing that the chefs of the world are always looking for something that can set their menus apart from others' is the window of opportunity for this product. Integrating a red-colored entrée into menus would give them a unique niche, allowing them to substitute quinoa for rice, couscous, potatoes, and other "white" starch-based products. The fact that quinoa is not a starch and contains high nutritional value, this option appeared to offer even greater potential. In the case of red quinoa it was not the unique nutritional benefits of quinoa that would capitalize upon but rather a new feature of Peruvian quinoa rediscovered by the USAID/PRA team that could lead to product differentiation and the development of a successful market niche. Furthermore, the fact that the variety in question was not in commercial production and had limited seed stock meant that a niche could be developed for the Puno area that could not be duplicated by other producers or competing countries where access to the seed variety did not exist.

Step 3: Find a Buyer

Once the USAID/PRA team had identified the potential competitive advantage for Peruvian quinoa they took on the task of finding a buyer for the Pasankalla variety. They invited David



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Schnorr, President of the Quinoa Corporation of California, on a trip to explore opportunities for sourcing quinoa from Peru. The Quinoa Corporation owns, markets, and distributes “Ancient Harvest” its commercial brand for packaged quinoa. Ancient Harvest quinoa has market penetration in more than 60 percent of the health food stores across North America. Although the Quinoa Corporation had strong commercial retail sales numbers, its distribution was limited with respect to the food service market.

Why the focus on the food service sector?

Introducing new products in the North American market is an expensive venture often with the odds of success are often strongly against most products. According to the market research group AC Nielsen, “In 2001 an estimated 30,000 new consumer products were introduced in the United States, at a failure rate estimated around 93%. Given the millions of dollars spent on developing and marketing a new product, the total failure cost conservatively exceeds \$20 billion.” (<http://www.bases.com/news/news03052001.html>) This rate of failure makes the introduction of a “new” product by any company a difficult challenge, and those with greater limitations to resources than the large marketing companies run an even greater risk of product introduction failure.

Introducing a product to retail requires capital investment to identify the appropriate packaging, working with retailers to “buy” shelf space, and promoting the product to individual consumers (advertising). Those costs are significant as most “buyers” at the retail level do not want to accept the risk that the product will not sell. Therefore, they pass the risk back to the suppliers through guarantees. They sell shelf space, but requiring the supplier to pay for product promotion and, often, “guaranteeing the sale.” These factors make it both difficult and costly to introduce new products to market.

Those barriers are reduced, however, if the distributor has an existing relationship with the retailer and the supplier has complementary products on the shelves. In this case the distributor can leverage its existing relationship to add a new item to an existing product mix.

Although the Quinoa Corporation had a wide range of quinoa products available under its brand name in the market the introduction of red quinoa represented a major undertaking.

The food service industry represented a good alternative in this case because it involves supplying restaurants as opposed to managing the sometimes difficult and costly process of introducing a new retail product. With food service buyers, the motivating factors to purchase a product differ in both requirements and degree of emphasis: the food service emphasis is more on quality and price than on brand image. The Chef is concerned first about the quality of the meal he or she serves and secondly about the cost of that meal. As the brand of the product is not known by the end consumer, it plays little role in the chef’s decision process.

Motivating factors in making first time purchase

Factor	Retail Importance	Food Service Importance
Packaging image	High Often the top reason that a retail consumer purchases a product.	Medium -The food service buyer is concerned most about how the package impacts the quality of the product. The “on-the-shelf” image is not important to the food service buyer.
Quality	Medium - Often unknown with the first purchase of a product or brand. Retail consumers do not have the luxury of sampling the product before making their first purchase decision.	High Food service buyers always understand the quality before they buy a new brand or product.
Price	High Along with the package image, price is the top reason that a retail consumer purchases a product the first time.	Medium - Food service buyers will often trade price for quality. Their reputation is based upon the quality of their product and the incremental price is often insignificant when added to a menu.
Packaging quality	Medium The retail consumer often does not have sufficient information to determine the quality of packaging.	High - The chef and food service buyers understand packaging quality and how it impacts the quality of the product.

Taking these factors into consideration, Mr. Schnorr saw the value in expanding his business to include a greater focus on food service and the potential for utilizing red quinoa to break into the market. He believed the varietal’s deep mahogany color and high nutritional value would be very appealing to professional chefs.

Step 4: Organize Supply and Penetrate Market

With success in hand after finding a buyer for Peruvian red quinoa, the challenge turned to organizing supply and penetrating the market. USAID/PRA facilitated a process to synergize businesses and producers in the red quinoa supply chain to achieve production and export success.



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After identifying and receiving the commitment of Quinoa Corporation, USAID/PRA helped farmers in rural Puno and a local quinoa processor produce to the volume and quality standards required by the customer. The first hurdle was convincing growers to grow a crop previously considered inferior due to lack of domestic market. To overcome this hurdle, Quinoa Corporation advanced El Altiplano, the local processor, 30 percent of the value of its purchase order. El Altiplano used these funds to support the growers in producing additional seed for the Pasankalla variety and to cover planting costs. USAID/PRA supported the program by facilitating contracts between producers and the local quinoa processor. The purchase contracts guaranteed the purchase of the red quinoa at pre-planting prices and ensured quick payment to farmers because the production was pre-sold. Ultimately, the advance helped local farmers reduce their risk in planting a crop that, in their experience, never had a market. Through its work, USAID/PRA reduced risk throughout the market chain and gave the Quinoa Corporation confidence that El Altiplano would deliver the quality and quantity of finished product it needed on time. At the same time, farmers were confident that they could sell the red quinoa they produced.

The USAID/PRA office in Puno worked with El Altiplano throughout the production process, enlisting the assistance of CARE to supervise growers and provide technical assistance as needed to address specific problems. USAID/PRA's accompaniment throughout the process ensured that sufficient hectares were cultivated to produce to the volume required by El Altiplano and ultimately the Quinoa Corporation. USAID/PRA also worked with El Altiplano during the processing and shipping of the Quinoa Corporation's order to ensure proper quality control practices were employed for cleanliness, sizing, and packaging. Both El Altiplano and USAID/PRA had been made aware of the Quinoa Corporation's standards for the final product through specifications set forth in the purchase order and regular communications thereafter. Particular attention was given to size and foreign matter (stones) in light of the competitive products and standards established by Bolivian quinoa.

In obtaining the commitment from the Quinoa Corporation USAID/PRA agreed to cooperate with the company in the process of introducing a new product in the market and sourcing red quinoa from Puno farmers. Project activities resulted in the reduction of start-up transaction costs that otherwise would have made the Quinoa Corporation's initial investment unattractive. By helping to minimize Quinoa Corporation's risk in introducing a new product the project was able to achieve its desired results.

To assist the Quinoa Corporation in initial penetration of red quinoa, USAID/PRA supported the company's participation in the National Restaurant Association (NRA) tradeshow in Chicago in 2001. Through this tradeshow the Quinoa Corporation could interact face to face with potential buyers and show them the positive attributes of the deep mahogany red Pasankalla quinoa. Also, for distribution at the tradeshow and through major media outlets, USAID/PRA supported the development of a red quinoa media kit. The purpose of the media kit was to

educate consumers on the general benefits of quinoa as well as the special characteristics of Peruvian red quinoa. The media kit was distributed to potential buyers at the NRA tradeshow and to major trade journals and newspapers.

BEST PRACTICES

There were several essential ingredients to the successful export of red quinoa from Peru to a distributor in the United States. These ingredients are important to consider for replication elsewhere.

1. *Demand driven:* Export of red quinoa was ultimately successful because a buyer in the United States viewed it as a potentially profitable venture and submitted a purchase order to a Peruvian quinoa processor accordingly. USAID/PRA facilitated the process through strategic interventions to lower initial transaction costs and reduce the risk incurred at each level of the market chain.
2. *Cooperation:* The private sector worked with USAID/PRA and NGOs to build synergies based on mutually beneficial interests.
3. *Start with buyer:* At an early stage Quinoa Corporation became the driving force for the development of the whole market chain. Because it was the buyer, it had an interest in what the final product would look like and therefore an incentive to invest and collaborate actively.

Sustainability through profit: Profit is the motivator and the glue that ties and holds opportunities together after support funding ends. USAID/PRA played a major role in catalyzing the initial steps for export success. However, project assistance becomes less and less necessary as long as profit exists for buyers and sellers at each level of the market chain.

LESSONS LEARNED

As the original consultancy ended and the USAID/PRA project gave priority to other regions of the country, the local producer and the importer found themselves more on their own and less able to solve “second-generation” problems. Follow-up on this project has found that much of the demand for this product has shifted to Bolivia where the ability to sort the larger-sized quinoa was more advanced. In retrospect, Peru would have retained more of the production had the following occurred:

- If the processor, El Altiplano, had done a better job of sorting their quinoa, their business with Quinoa Corporation would have continued to grow.
- It was suggested that Quinoa Corporation and El Altiplano work together to brand, trademark, and market this “new” variety as Arapa Red. Arapa is the name of a lake in



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the region, and use of that name might have allowed El Altiplano and the Quinoa Corporation to differentiate their product. If Altiplano and Quinoa Corporation had marketed the product as something different from “Red Quinoa.” In that way they might have they could have better controlled the market by creating a demand for “Arapa Red” which would only be available exclusively from them.