Celebrating the International Year of Quinoa: A Future Sown Thousands of Years Ago
1. Project title
Celebrating the International Year of Quinoa

2. Background
The United Nations (UN) has declared 2013 as the International Year of Quinoa (IYQ). The existence of this “miracle” plant has been a well kept secret from most of the world. It is time for “Chenopodium quinoa Willd.” more commonly known as “quinoa” to make its debut in the international scene and in what better circumstances than through an international year? Many will now ask “What is Quinoa? Why Quinoa? Who will benefit from Quinoa?”.

3. What is Quinoa?
Quinoa is a staple food of the ancient civilizations of the Andes of South America. It is mainly grown in the Andean Countries. It is sometimes called a pseudo-cereal because of its grain like appearance and sometimes a pseudo-oilseed, because of its high content of oil fat.

4. Why Quinoa - What are its distinct properties?
Quinoa is known for its:
- Adaptability to climatic conditions, being known to grow in a temperature range from -4 degrees to 35 degrees Celsius.
- Hardiness. It is easy to grow under difficult conditions as it is drought tolerant and resistant to salinity. It grows in highlands and in lowlands thus proving its versatility - as a real climate smart crop.
- Low production costs.
- Environmentally friendly: according to historians, quinoa has been cultivated in the Altiplano for more than 7000 years with low environmental impact, contributing to biodiversity and protecting the ecosystem.
- Nutritional qualities whereby it provides all essential amino acids, is rich in minerals and has high protein content. It is considered a seed (vegetable) but is eaten like a grain and is gluten-free. Therefore, it is a good substitute crop for celiac persons.
- Appreciation by NASA as an ideal crop for inclusion in possible future long-term space missions when crops would need to be grown on a spacecraft.
- Ethical qualities: In the Andes, production remains family based and mostly organic, conferring an elevated fair-trade/super food’s image. It fits almost every recent health food image: whole grain, gluten-free, fair trade and organic. Production has increased the income of the lower income farmers in the semiarid Andes highlands, especially in the last few years.

5. Who will benefit?
The beneficiaries are multiple and diverse – from governments to small farmers and indigenous populations, from the private to the agro-bio sector - fair trade, Slow Food, organic agriculture, cosmetic and pharmaceutical industries and others. At least 130,000 small quinoa growers from South America will benefit from increased sales, higher prices for their crops and a return to indigenous practices in a sustainable manner. The potential uses of quinoa and its impacts on the beneficiaries are explained in more detail below:
- Smallholder farmers in Andean countries will benefit both from its production (higher incomes), its consumption (nutritional value), the recovery of traditional values and will be incentivized to continue to grow a hardy, tolerant, biodiverse crop.
At least 130,000 small growers only in Latin America

which is likely to be climate change hardy. With a market value five times the price of soybeans in the US and European markets, smallholder farmers will benefit from higher incomes based on the increased demand.

- Smallholder farmers, also those with limited access to preprotein sources from countries such as Kenya, Nepal, Bhutan, Haiti, will benefit through the cultivation and consumption of this product.

- Consumers of quinoa can be found both in countries where it is presently grown as well as in those where it is being imported. Consumers will benefit from healthy and reasonably priced food. It will be more readily available and easy to prepare.

- Governments which are trying to promote healthier diets and healthier eating habits could incorporate quinoa into their public feeding programmes, for example quinoa can be used in school meals as a reasonably priced source of protein.

- Communities with restricted diets, including vegans or hospital feeding programmes, can use quinoa as an alternative to meat and other animal products. Also, it is more easily digestible than cereals.

- Nutraceutical industries. A quinoa protein concentrate (50 percent protein) which is food-grade and/or pharmaceutical-grade has potential use as an ingredient in food, infant formula, cosmetics, pet food, and animal feed supplements.

- Pharmaceutical industry. Saponins extracted from bitter quinoa have properties that can induce changes in intestinal permeability and assist in the absorption of particular medications. Saponins are also being studied for their antibiotic and antifungal properties and potential use to influence the immunological system and in vaccines.
Organic by-products. Saponin has been used as a bio-pesticide of interest to organic producers.

Industrial/culinary use. The by-products of quinoa offer a wide range of uses in the chemical and food industries, examples are detergents, toothpaste, soaps, beer, bread, yogurt, oil. In culinary terms, quinoa can be prepared in various forms for meals or snacks.

6. Why action is needed - Emerging challenges

Quinoa is emerging as an important crop with a potential place in the international food system. At this moment approximately half the world’s supply is grown in Bolivia, Peru and Ecuador, where production remains family based and organic. It is expected that high market prices and increased consumption will cause the rapid growth of planted quinoa areas. For this reason, it is necessary to take action to promote a sustainable production in accordance with FAO’s approach for Sustainable Crop Production Intensification (SCPI). Otherwise, there are risks, such as:

- Increase of monoculture of quinoa and lower rest period of crop fields and the emergence or resurgence of quinoa pests.
- Loss of traditional technology and local knowledge, by intensive use of external inputs and agricultural machinery.
- Small growers might sell all their production of quinoa, leading to less consumption of quinoa by themselves and their families, in turn leading to a less balanced and nutritious diet.
- Loss of biodiversity by use of a reduced number of varieties with higher market demand.
- Movement of unregistered germplasm, due to the growing demand to produce seeds for the expansion of planted areas.

The IYQ represents an ideal platform to address those risks under specific projects and programmes.

7. Objectives

a) To promote greater international cooperation and partnership among public, private and non-governmental actors involved in the production and promotion of quinoa and its sustainable use worldwide.

b) To raise awareness about the need for more sustainable cultivation practices in quinoa and to recommend enabling policies for promoting sustainable conservation and use worldwide.

c) To raise public awareness of the properties and added value of quinoa.

d) To improve the nutritional status and increase self sufficiency of local populations.

e) To recognize the invaluable contribution of indigenous people as custodians of quinoa for present and future generations.

f) To generate new knowledge and promote an exchange of knowledge.

g) To diversify the use of quinoa through new and varied forms of consumption. This would imply more research by the agricultural research institutes, the institutes of nutrition and gastronomy, and the respective food chains.

8. Proposed Activities

FAO, Bioversity and other partners will organize an international campaign
Quinoa is an important emerging crop targeting a wide variety of audiences around the world. The campaign will focus on traditional quinoa producing countries (Argentina, Bolivia, Chile, Colombia, Ecuador, and Peru) as well as newly emerging producers (Czech Republic, Denmark, France, Germany, Italy, Spain, Sweden and USA) and countries where quinoa has potential to alleviate hunger (mainly African and Asian countries). The campaign will focus on the following areas:

A. Design and implementation of a communication campaign

- Setting up a Quinoa internet page and network.
- Requesting interested partners such as Bioversity, the Secretariat of the International Treaty on Plant Genetic Resources for Food and Agriculture, the United Nations Environment Programme (UNEP), quinoa producing countries and others to disseminate literature on quinoa and to include it in their newsletters.
- Presentations at international fora such as the UN General Assembly in October 2012 and other international events.
- Public Awareness campaigns through promotional and educational materials.
- Celebrating the day of quinoa around the globe.
- Publishing traditional and new recipes and uses around the world, for instance under the programme “chefs against hunger”.
- Competition for the most technologically innovative use of quinoa.
- Recognizing (prize) the work carried out during the IYQ by the media – contacts with TV, radio, press (including reportages on quinoa through e.g. National Geographic Magazine) at regional and national levels.

Geographical distribution of the world production
private sector, research institutes, civil societies or nongovernmental organizations.

B. Promote international fora for the exchange of experiences and knowledge

- Workshops to highlight quinoa:
  - potential for nutritional improvements and fight against hunger
  - as alternative for countries with limited food production
  - as alternative source of protein
  - as traditional, nutraceutical, and medicinal uses

- Workshops on traditional knowledge and farmers’ rights:
  - origin and domestication of the crop
  - role of indigenous people as custodians of quinoa diversity
  - documentation of traditional knowledge in the sustainable management of quinoa
  - role of quinoa in sustaining important civilizations and as key symbol of the identity of Andean culture
  - sovereignty policies supportive of diversity as a conduit for better livelihoods of people in the Andes
  - changes in its use over time

C. Create a network between producers, consumers, researchers, indigenous communities and other participants who partake in the diversification of the use of the product.

- Initiate knowledge-sharing discussion groups, electronic fora and/or fairs on industrialization, value addition and uses: comparing old, new and emerging technologies used in producer countries for commercial production, postharvest handling and processing; traditional and modern uses; mechanization (gaps and needs).

- Request nutrition laboratories to review and complement the existing published results on nutrient content, phyto-chemicals and different carbohydrate constituents of quinoa.

- Workshops at various levels and for a variety of stakeholders: researchers, producers, consumers, and indigenous communities on trade and marketing issues at national and international levels; bottlenecks and constraints on value chain, how the quinoa market chain operates, how to link indigenous community quinoa producers to markets and gastronomic niches.

9. What will success look like?

Quinoa offers poor communities, living in harsh environments, options to improve their livelihoods, generate income, achieve food security and enjoy better nutrition and health. The IYQ can contribute in a unique way to attain these goals. The outcome of the IYQ is expected to be:

- Increased awareness of what quinoa is and how it can contribute to alleviate hunger and malnutrition.

- Better understanding of quinoa markets, opportunities, constraints and channels to link indigenous community quinoa producers to markets and to expand existing markets.

- Improved scientific and technical knowledge and exchange of information about quinoa.
Programmes and projects to promote the expansion of the quinoa frontier beyond the Andes to other countries of the world.

10. Partnership

The following potential partners have been identified and they will be contacted shortly: GIZ (Germany), SDC (Switzerland), Slow Food Foundation (Italy), BGCI, Senckenberg Institute (Germany), other CGIAR system centers such as CIAT (Colombia), CIMMYT (Mexico), CIP (Peru); Via Campesina, International Indigenous Forum on Biodiversity (IIFB), WFP and other relevant agencies of the UN system; CIRAD (France), USDA-ARS (USA), PROINPA and INIATF (Bolivia), INIAP (Ecuador), INIA, CIRNMA and STCGIAR (Peru), as well as various Universities in Latin America, Europe and India.

11. Estimated cost

The estimated cost for implementing the Campaign is USD 2.8 million.

Footnotes and References