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# Has Quinoa Opened Up Wider Opportunities for Young Farmers?

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# HAS QUINOA OPENED UP WIDE OPPORTUNITIES FOR YOUNG FARMERS?

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## **“Quinoa holds hopes for dry Anantapur”**

quoted one of the English newspapers based in India in one of its city editions last month (June 2013). This made me look at what are the opportunities the quinoa has for the dry lands and young farmers!

The quinoa (*Chenopodium quinoa* Willd.) is a pseudocereal crop belonging to the Amaranthaceae family and originated in the Andean region of Ecuador, Bolivia, Colombia and Peru. The Anantapur is a drought-prone district of the state of Andhra Pradesh in India. Under the pilot project ‘Project Ananta’ aimed at the development of the drought-prone districts, now the quinoa would be cultivated on a pilot scale. The results of the work carried out at the AMR Andhra Pradesh Academy of Rural Development in Andhra Pradesh had showed that the quinoa as a good alternative to the groundnut crop whose cultivation is not any more fascinating due to drought conditions in the Anantapur district.

The quinoa is tolerant to several abiotic factors, viz., soil salinity, drought, frost and it can be grown in wide agro-ecological regions having relative humidity range of 40% to 88% and temperature range of -4 °C to 38 °C. It is a highly water efficient plant producing acceptable yields even with rainfall of 100 to 200 mm. The study carried out during the winters of 2008-09 and 2009-10 for analysing the prospects of quinoa introduction in Pakistan proved that quinoa is a potential drought and salinity tolerant crop for the Punjab province. In an earlier study during 2002-2003 and 2003-2004 in India, it

is reported that the quinoa seed yield was about 9.83 t/ha with the 21.02% of seed protein and the crop matures in 569 days when sown as a rabi crop in mid November. The quinoa seeds have a very good nutrient composition having essential amino acids and calcium, phosphorus, and iron. It has also got high unsaturated fat content, vitamins, rich dietary fibre and antioxidants.

As per the recent estimates, 12.5% of the world’s population are undernourished. To improve the access to the nutritive food is now a top global priority and quinoa stands a suitable candidate for mitigating malnutrition globally. Seeing the importance and potential of the quinoa, The United Nations General Assembly declared this year 2013 as the ‘International Year of Quinoa’ with an objective of the to draw the world’s attention to towards the quinoa and its importance in meeting the food and nutritional security. This indeed is a great recognition of the Andean peoples’ efforts in the conservation of quinoa for the present and future generations.

## **Quinoa for Young Farmers?**

Approximately one billion (18%) of the global population are youth and the majority (~85%) of the them are in the developing countries, with approximately 60% in Asia and the projections for India is that by 2020, India would become the youngest country in the world. However, the youth has limited access to opportunities and so are unemployed. The 60% of the world’s rural population are youth but they are migrating to cities in search for opportunities as it is felt that there are better chances of acquiring skills and training in cities than in rural areas. In India, as per the latest data, there is a decrease in the number of farmers. At present there are 7.7 million less farmers when compared to 2001. This situation needs to be addressed as if this trend





continues, then how we would feed the global population which would reach 9.2 billion as projected by 2050?

The young farmers need investment in their capacity building in terms of entrepreneurship skills for creating self employment and substantial funding support for the initial establishment. Looking at the efforts for the conservation of the quinoa crop for the future for its prospects and the growth of the awareness among the people for quality and organically grown food, the quinoa proves as a promising crop for the rural youth to gain much by cultivation and marketing (exports). The recent trade trends show that the producer prices are touching up to \$1,300 per tonne and exports reaching to \$ 46 millions during 2010.

The young farmers as entrepreneurs and researchers have a wide scope of their intervention in the quinoa growth and development. There is an immediate need for the development of good agricultural practices and breeding of new improved varieties suitable for the establishment of quinoa based small scale industries for the development of food, cosmetics and pharmaceuticals.

Due to changes in the food habits of the population, the demand for ready to cook and eat foods is increasing. As

quinoa is of highly nutritive nature, it is being used in making flour, bakery, biscuits, soup and other breakfast items and also sold either as whole grain that is cooked as rice. Furthermore, in order to feed people with nutritious food during the emergency situations like natural calamities, processed quinoa food may be used. In India, the demand for quinoa based products is growing but they are now only available in select supermarkets and online e-commerce stores.

The quinoa has saponins in its seed coat ranging up to 11.3 g/kg dry matter which are anti-nutritional factors present and are removed before consumption on a commercial scale by abrasive dehulling. These saponins have immense industrial importance and are used in the preparation of soaps, detergents, shampoos, beer, fire extinguishers and photography, cosmetic and pharmaceutical industries. They are also known to lower blood cholesterol levels. This character further gives scope for the establishment of processing units for processing quinoa. It is also reported that on a fresh weight basis quinoa showed an oil content ranging from 1.8 to 9.5% and has a diversity with 66 seed colours which would give an opportunity to extract oil and natural colours for the industrial application. The quinoa can be fermented to make beer, or used to

feed livestock.

The young agricultural researchers have also scope for their research viz., reduction in the drudgery in processing, value addition at farm level, development of good agricultural practices and development of improved varieties. As most of the times due to lack of access to current market prices, the young farmers would not get good remuneration for their produce. Now with the advent of new ICT tools, the youth has an opportunity to collate and disseminate the market prices. This has also a great potential role in the generation of knowledge with respect to quinoa nutritional benefits, industrial benefits and conservation of its biodiversity.

By addressing the problems faced by the young farmers and training them with good agricultural practices viz., setting up demonstration plots of quinoa, making available the necessary agricultural and business related information through youth forums, the young farmers and definitely they show enthusiasm to grow this high quality crop, quinoa and market it. This would make the rural youth to stay in their villages and take up farming as a livelihood instead of migrating to towns and cities due to the drought conditions in their villages.