

## Quinoa and World Food Security

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#### Editorial

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### Editorial

Quinoa could hold one of the keys to feeding the world's growing population because it can thrive in harsh environments and grows well on poor-quality, marginal land.

#### FAO's Role in Quinoa

Like the potato, quinoa was one of the main foods of the Andean peoples before the Incas. Traditionally, the quinoa grain is roasted and then made to flour to make different types of breads. It can also be added to soups, used as a cereal, made into pasta and even fermented to beer or chicha, the traditional drink of the Andes. When cooked it takes on a nut-like flavor.

#### Climate Change

Quinoa is recognized not only for its nutritional and dietary properties but also for its genetic diversity, adaptability to different agro-environmental conditions as well as the cultural and socio-economic benefits it has on the local environment. Faced with the challenge of increasing the production of quality food to feed the world's population in the context of climate change, quinoa offers an alternative for those countries suffering from food insecurity. It also, has the potential to reduce dependence on other staples like wheat and rice [1].

#### Quinoa in Egypt

Egypt face serious challenges in the process of achieving national food security at the level of strategic crops, at a time when environmental degradation and depletion of natural resources. This forms a danger on the sustainability of food production. This is leading to high poverty rates in Egypt, Central Agency for Public Mobilization and Statistics issued a report on indicators of poverty. The poverty rate was about 85% of the rural population is poor and 42% in urban areas below the

poverty line, The poverty rate in the Upper Egypt governorates was about 58%, while this percentage was about 13.1% in lower Egypt. In other words, 48% of Upper Egypt's population is poor, while the number of poor is about 36% in Lower Egypt [2]. Quinoa -called super food. When a lot of cultivation is possible to achieve food security, It is used as food for humans and animals. Also it is included in many industries as food. The importance of the cultivation of quinoa is its outstanding qualities in terms of Agricultural Sciences where it does not need water, since it can be planted in drought, salinity. So it can reduce the food poverty gaps.

The research which made in Egypt entitle (The Economics study of Quinoa Production to Reduce Food Poverty Gap in New Valley Governorate- Egypt ) marked that the results of the economic analysis of quinoa production in the sample of the research in Kharga area (case study) [3]. It is clear that the current value of the value added was to about 45 thousand LE, while the present value of net value added was about 7 thousand LE and the social surplus was about 6 thousand. That refers to positive contribution to quinoa production in national income (Table 1).

Statement	Value
Total current value of revenue	50000
Total present value of variable and fixed costs	37826
Total current value of production inputs	4700
Total current value of the wages	1300
Current value of value added	45300
The present value of net value added	7474
Social surplus	6174

**Table 1:** Economic analysis of quinoa production in ElKharga 2017/2018.

Source: compiled and calculated from questionnaires.

### Egypt's Competitive Advantage/Disadvantage

The SWOT analysis below summarizes the strengths, weaknesses, opportunities and threats that exist for Quinoa. While the health food market will sustain good niche crop production, future opportunities are certainly

contained in the component strengths of the crop. From a farmers' view, Quinoa production currently does look advantageous on the basis of return per acre in comparison to traditional crops (Table 2).

<p><b>Strengths</b> Uses:</p> <ul style="list-style-type: none"> <li>• Whole seed</li> <li>• Flour</li> <li>• Flakes</li> </ul> <p>Known potential uses:</p> <ul style="list-style-type: none"> <li>• Small granule starches (various applications)</li> <li>• Saponins</li> <li>• Oil</li> <li>• a dietary supplement</li> </ul>	<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• domestic health food markets</li> <li>• Growing celiac and diabetic markets</li> <li>• Value-added markets</li> <li>• Various potential industrial uses</li> </ul>
<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• Current industrial use of Quinoa is limited by small-scale production</li> <li>• Need to be able to produce 'competitive' yields/ production costs</li> <li>• Prices for the grain too high to be commercially competitive with wheat, rice, and barley</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Unconfirmed ability to produce Quinoa in Egypt with yields consistently above 1ton/Feddan</li> <li>• Several South American countries are exporters of Quinoa with the ability to increase production and exports</li> <li>• Ability to produce good quality Quinoa in Egypt</li> </ul>

**Table 2:** SWOT Analysis, Quinoa.

### So we will Recognize by

- I. Egypt should seek to fill the food gap and achieve food security for the population through the expansion of cropping horizontally, vertical expansion through scientific research and the integration between Arab countries.
- II. Expansion in the cultivation of quinoa grain in all desert regions because its cultivation doesn't need large amounts of water, but it can grow the crop on frost and rain water only.

### References

1. FAO (2013) Food and Agriculture Organization of the United Nations.
2. Egypt Statics (2015) Central Agency for public Mobilization and statistics.
3. Sherine F Mansour (2019) The Economics study of Quinoa Production to Reduce Food Poverty Gap in New Valley Governorate- Egypt. International Journal of Agriculture and Environmental Research 5(5).

