3. Almond oil factory

Local bottlenecks

Almond processing remains non-existent in Mazar leading to the following:

- Value addition (e.g. deshelling) and packaging: "Absence of professional processing services and no varied packaging"
- Lack of diversified almond products for the world market for Afghan almonds

"The Solution": Business Concept

The 'almond oil' company processes bitter almonds into almond oil for high-value export markets, with quality control. The end-product will be intended for industrial markets, to be used as an ingredient for a variety of products. Almond oil has several known benefits including: Vitamin E, anti-aging, anti-oxidant effects, and is used as an ingredient in medicinal products and cosmetics. The factory will be based on the outskirts of Mazar. The almond-oil will be distributed in bottles. This exclusive product aims at niche-markets, by selling the end-product as a supplier to a pharmaceutical or food processing company, depending on quality and price of product, for use in consumer products, either pharmaceutical, medicinal or food. A way to organize the work process - which will involve the farmers -is to have the farmers' wives do the initial deshelling by hand, and /or first sorting and grading.

Management: Manager to be identified through AISA/AICC/ACCI in cooperation with the Dried Fruit & Nuts Association.

a) Services

Almond oil production

b) Organisational models

Factory setting.

c) End products:

Almond oil.

d) Estimated employment

50 people

Economic Viability

Depending on scale of operations, the factory would need to be large enough to recover investments in extraction, processing and bottling equipment. A break-even analysis would need to be done to determine the scale of operations.

i. *Investment required*
Substantial investment required, which does not fit in to the budget of this project: 1 million USD upward (as estimated by Roots of Peace / Zach Lea – the machinery required is high-tech).

- Extraction equipment
- Processing machine
- Bottling machine
- Land and building/unless land and building of Dried Fruit & Nuts Association can be used

ii. *Operational budget*:

- Electricity/fuel for running processing equipment
- Raw materials (almonds[15]; and other)
- Salaries
- Bottles

Technical Feasibility

i. Technical Assistance:

- Management Assistance
- Access to finance
- Technical Training in operation of equipment/plant and other work processes, such as Quality Control
- BDS/Marketing Training
- Market linkages to industrial buyers
- Linkages to transportation services

[15] Please refer to SWOT for total quantities and Appendix 2 for district breakdown of supply. Traders based in Mazar are the main suppliers.

ii. *Technical Resources*

- Electricity: (See Appendix 1)
- Skilled labour: for operating equipment are not there. Labourers have to be trained to learn to follow strict hygienic procedures.
- Raw material: local almond supply is available [16];
- Equipment: available in China, India, TBD with experts

Other considerations

- Factory environment may not be suitable for (remote based) women (see Appendix 1).
- Electricity may not be reliable (see Appendix 1).
- Cost may be prohibitive.

Constraints

- There are no direct flights from Mazar for immediate export.
- Supply of sufficient and consistent volume / quality almonds (current levels may not be suitable for consistent high levels required for a big factory) [17].

Preliminary Analyses/Impact

Direct employment: 50 people (based on general estimation), but as skilled labour is not available a number are not from within the country.

Involvement of women: Women can be directly employed in the factory.

Marketing channels: High value product will diversify links to higher grade buyers.

Rural income: Price of end-product will be substantially higher because of added-value product and sales in higher-end markets, which means increased income throughout the almond-subsector in Afghanistan. Farmers' incomes will increase, directly when they will do the deshelling and sorting by hand instead of delivering raw products to factory. Farmers' income will increase indirectly, as market-mechanism will strengthen their position to negotiate prices with the buyer, when demand for almonds increase and production levels stays the same.

[16] Please refer to SWOT for total quantities and Appendix 2 for district breakdown of supply. Traders based in Mazar are the main suppliers.

[17] Please refer to SWOT for total quantities and Appendix 2 for district breakdown of supply.

Industry reputation: High-quality end-product will enhance the image of the almond industry in Afghanistan; prove the capability to deliver high-quality end-products. The ability to fill a niche in export market will create long-term sustainability in world market

Due to high costs of the equipment, this concept does not fall within the reach of this project.