

Market Report

Liquorice



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Report summary

This report discusses the market for Liquorice from Afghanistan. In addition to food use (candies, herbal teas), this plant is used in medicines such as coughing syrups.

Liquorice is consumed all over the world, but main importers can be found in the Western market. Next to China, Afghanistan is an important exporter of liquorice. While China and other countries trade in roots as well as extracts, Afghanistan is mainly exporting roots.

Global imports showed continuous growth over the last five years and medicinal plants (under which Liquorice) enjoy wider recognition for its application possibilities in the pharmaceutical and confectionary industry (herbal teas).

In Afghanistan, only wild-collection of Liquorice takes place, other European countries also cultivate the plant.

This report gives more insight in the value chain of Liquorice from Afghanistan, including pricing. It is clear that the prices in the neighbouring countries of Afghanistan, also the main trading partners of the country, are lower than in other liquorice markets. Also, the difference in pricing between (organically) certified and non-certified has become clear, including the increasing demand for certified Liquorice on western markets.

Global market conditions for Liquorice look fairly good. The basic quality of the Afghan liquorice roots is in general good, and can compete with international standards. However, several bottlenecks remain present and must be overcome, if Afghanistan wants to enter the global market place successfully and capture some of the value added activities.

1 Introduction

This market report on Liquorice is a result of the market and value chain analysis conducted in the framework of the RALF/OXFAM NOVIB Multi-Stakeholder Programme on Natural Ingredients for Food, Pharmaceuticals and Cosmetics in Afghanistan.

This 2-year research project aims to offer analyses and ways to improve the living conditions of rural communities in Afghanistan, by assessing alternative sources of employment and income, and developing and promoting innovative livelihood options.

This will be done through promoting employment and income opportunities at community level through the value chain analysis and development of six natural ingredients (see table below), including knowledge of, and access to appropriate processing technologies for these ingredients, allowing for quality improvements and improved (local and international) market access and linkages.

With the results of these market and value chain analyses, strategies can be developed for the successful development and (local and international) marketing of the six ingredients, in the case of this report for Liquorice.

Liquorice and the five other natural ingredients were selected through a detailed feasibility study that involved product selection and service mapping methodology that included marketing, ecological, socio-economic and technological criteria.

Based on this selection, the Multi-Stakeholder Programme first made an analysis of the natural resource management situation in the selected areas, and together with the partners in the programme developed the Collectors' Manual and the following Standard Operating Procedures (SOPs):

SOP 1	Herbarium Sampling for Botanical Identification
SOP 2	Access Rights and Identification of collection areas
SOP 3	Resource Assessment
SOP 4-9	Collector's Plant Monographs for each of the 6 species
SOP 10-15	Post-Harvest Treatment for each of the 6 species.

All partners were trained in the methodologies and tools, and Master Trainers have been trained for implementation in selected pilot areas in the 9 provinces.

It is crucial to note at this point that any market development strategy that may be developed on basis of this market information, must be based on proven and verified sound Natural Resources Management (according to the abovementioned SOPs) and careful balancing of local versus international marketing opportunities. This is required in order not to deplete Afghanistan's resources and making sure that the benefits from the sales are benefiting the local collectors and communities.

Methodology

In total, six market reports have been compiled by the Market Analysis teams from the three NGO partners in the project, with technical advice and assistance of ProFound – Advisers in Development.

Each NGO represents different provinces in Afghanistan. Production of the six products, however, takes place all over Afghanistan and is not always directly related to the NGO working area (see box below). Each report focuses on the province of the NGO that worked on the market report, although it tries to discuss the product for the entire country of Afghanistan as much as possible.

This market report has been compiled by TLO (<http://www.tlo-afghanistan.org>). TLO represents the South-eastern provinces in Afghanistan: Paktia and Khost.

Product	Province	NGO working area
Liquorice	Badakhshan, Baghlan, Bamyan, Herat, Faryab, Paktia	TLO, AKF, CHA
Cumin	Khost, Paktia, Badakhshan, Faryab, Ghor	TLO, AKF, CHA
Hing	Paktia, Baghlan, Herat, Ghor, Faryab	AKF, CHA, TLO
Caraway	Bamyan, Herat, Farah, Faryab	AKF, CHA
Artemisia	Khost, Paktia, Bamyan, Ghor, Faryab	TLO, AKF, CHA
Jujube	Farah	CHA

For the market analysis, three levels of market information have been distinguished:

- Local (representing Afghanistan and its provinces);
- Regional (representing neighbouring countries of Afghanistan such as Pakistan, India, Iran and Uzbekistan);
- International (representing the global market including the EU and the USA).

These market levels show clear differences in size, market access requirements and trade channels. Next to these three subjects, this market reports discusses production, trade flows and prices. The report concludes with some general conclusions and recommendations on opportunities and threats of the discussed product.

This report represents a mix of qualitative and quantitative information. The market information has been gathered through desk research (publications, Internet sources) as well as fieldwork (interviews with collectors and traders, trade fair and local and regional market visits etcetera).

Trade statistics has mostly been collected through ITC (<http://www.intracen.org>). Please note that trade statistics are only available when a HS code (Harmonized Commodity Description and Coding System) for a specific product is available. From the 6 selected natural ingredients, only two products have an individual HS code, the others are part of larger product group. Also the Afghan Ministry of Commerce has been visited for the collection of local and regional trade data. According to the Ministry of Commerce, only around 40% of total exports have been registered with the ministry. The other 60% is illegally traded and thus not registered in local and regional trade statistics.

On local and sometimes also regional level, hardly any statistics on consumption and production are available. This has been filled with qualitative data-mining through personal interviews with key-players in the market. However, it proved to be impossible do this for the whole of Afghanistan and instead, the MA teams focused on for them known provinces. For this market report, traders and collectors in the following provinces/cities have been interviewed: Paktia, Khost, Mazar-e-Sharief, Herat and Kabul. Also in Peshawar, Pakistan and at the India Organic trade fair (Bangalore, November 2006) traders and agencies have been interviewed.

It should be noted that this market research study is by no means a conclusive study, but a representation of the information currently available to the Multi-Stakeholder Programme on Natural Ingredients. As a result, there are still information gaps in the value chains of the six products that could be worked on in a possible future follow-up project. Moreover, next to offering concrete market information, the process of market analysis has been a tool for building capacity in the field of market- and service oriented programme management at the NGO level. The value chain analysis provided in this market report utilises the limited information available on the different levels, and is therefore not conclusive. Moreover, the found prices do not include organic certification.

Finally, part of the information in this market report is considered to be confidential and should only be used for internal project purpose. Therefore, information on potential buyers and their information have been left out.

2 Product Characteristics

2.1 Product group

Plant description

Botanical names: *Glycyrrhiza uralensis Fisch* and *Glycyrrhiza glabra*
 Family: Fabaceae
 Local names: Liquorice (British English), Licorice (American English), Shirin Buya / Makh Buya (Dari), Khagawola (in Pashto).

Glycyrrhiza glabra and *Glycyrrhiza uralensis Fisch* are tall, erect perennial plants with light, spreading pinnate foliage and dark green leaflets. The plant disappears in winter, grows in spring and flowers in July and August when long-stemmed spikes of numerous white flowers grow from the leaf axils, followed by small leguminous seed pods. The roots are brown, long and cylindrical and have to be 3 to 4 years old before the roots can be harvested in autumn and dried to be ready for further applications.

Glycyrrhiza is native to south-eastern Europe and south-west Asia to Iran, growing in open fields close to running water. It was commercially cultivated until recently in northern England. Currently, most Liquorice is produced in Italy, Spain, Greece, Turkey, and Asia.

Identification of the Liquorice

From the samples collected during this project, two different species of liquorice have been identified; *Glycyrrhiza uralensis Fisch* in Gardez district in Paktia province and *Glycyrrhiza glabra* in Shindand district in Herat province.

Description *Glycyrrhiza glabra*

A perennial glandular herb, 30-100cm high. Stem erect, with short whitish hairs and echinate glandular hairs; the lower part of the stem is woody. Leaves alternate, imparipinnate; leaflets 7-17, ovate-elliptical, 2-5.5 cm long by 1-3cm wide; apex obtuse-rounded; base rounded; both surfaces covered with glandular hairs and short hairs. Stipules lanceolate. Inflorescence an axillary cluster. Flowers purplish, papilionaceous; calyx villous. Fruit a flat pod, oblong, sometimes falcate, 6-9mm wide, densely covered with brownish echinate glandular hairs. Seeds 2-8. The root is cylindrical, fibrous, flexible, 20-22cm long and 15mm in diameter, with or without cork, cork reddish, furrowed, light yellow inside.

Description *Glycyrrhiza uralensis Fisch*

A perennial plant, up to more than 1m in height, erect, with highly developed stoloniferous roots. The rhizome is multi branched of a dark, reddish brown outside, and yellowish inside, from which its stolons and very long rootlets spring. Leaves compound, 9-17 alternate imparipinnate leaflets, oblong to elliptical-lanceolate, acute or obtuse; racemes loose, shorter than the leaves or a little longer. Flowers 1 cm long. Flat pods oblong to linear, 1-3cm long by 6 mm wide, more or less densely echinate glandular, many-seeded or abbreviated, 2- or 3-seeded.

In the table below, an overview is given of the chemical analysis of the Liquorice species researched in this market report, officially known as *Glycyrrhiza glabra* and *Glycyrrhiza uralensis Fisch*.

Summary of Liquorice quality analysis:

N. of Samples	Org anol . prop erti es	Foreign matters (%) *		Loss on drying (%) *	Total ashes (%)	acid-insol. ashes (%)	Extractive materials by different solvents (%)			Acid glycyrr hizic
		Org.	Inorg .				Water-soluble	Ethanol 40% - soluble	Ethanol 70% - soluble	
4-Gly. Glabra		2.9	0.34	5.82	3.5	1.7	27.38	33.70	30,42	4.83
12-Gly. Uralensis		3.7	3.1	5.6	6.2	1.94	25.61	42.61	37.98	11.6

Source: Faculty of Pharmacy, University of Kabul

The working content of Liquorice is glycyrrhizin, which is about 50 times sweeter than sucrose (sugar cane). Laboratory test results showed a good glycyrrhizin content of Afghan liquorice. The exact content of each liquorice species depends on such factors as soil, hours of sun, rainfall etc.

According to the Afghan Ministry of Commerce, Afghanistan Liquorice grown in the provinces of Badakhshan and Takhar are known to have the best quality of Liquorice.

Regular uses

Liquorice is consumed in the following forms:

- Dried Liquorice
- Liquorice sticks
- Liquorice paste (on account of a certain bitterness, this form is unsuited for use as a sweetmeat or in medicine, and is principally employed in the preparation of tobacco for chewing and smoking)
- Liquorice extract
- Liquorice powder
- Liquorice syrup

In Afghanistan Liquorice is used in Unani medicine since centuries for chest diseases. In the regional level Liquorice roots is sometimes used in Unani medicine. Regional countries like Pakistan, Iran, India and China are extracting Liquorice roots for Pharmaceutical, herbal medicine and confectionary applications. Globally, Liquorice roots are used for pharmaceutical, herbal medicine, industrial and confectionary applications.

The parts of the liquorice plant processed in Afghanistan, locally named *Shireen Buya*, are the roots and the dried rhizome of the plant. These parts find wide application in medicine preparation, for relief of sore throats but also to disguise unpleasant flavours of certain medicines. Already in ancient Greece, China, and Egypt, Liquorice was known to heal gastritis (inflammation of the stomach) and ailments of the upper respiratory zone. Powdered liquorice root is especially used in Ayurvedic medicine.

At high doses, Liquorice is laxative and large doses of glycyrrhizinic acid can lead to hypokalemia (low blood potassium levels) and serious increases in blood pressure. Most adverse effects have been attributed to the chemical component glycyrrhiza (or glycyrrhizic acid). Liquorice can be processed to remove the glycyrrhiza, resulting in DGL (deglycyrrhizinated Liquorice), which does not appear to share the metabolic disadvantages of Liquorice.

In addition to its medicinal uses, Liquorice has been used as a flavouring ingredient, valued for its sweetness (glycyrrhizin, a component of Liquorice, is 50 times sweeter than table sugar). The generic name "Glycyrrhiza" stems from ancient Greek, meaning "sweet root." Liquorice flavour is found in a wide variety of liquorice candies. It should be noted, though, that in most of these candies the taste is reinforced by aniseed oil, and the actual content of liquorice is quite low. Additionally, liquorice is found in some soft drinks (such as root beer) and in herbal teas where it provides a sweet aftertaste.

Furthermore, liquorice preparations are used as a conditioning and flavouring agent in tobacco products. Liquorice is used as an adjunct to boost the sweetness of tobacco products. The taste of liquorice to the smoker is that of a mellow sweet woody note which, at proper use levels, greatly enhances the quality of the final product. However, glycyrrhizic acid, the main biologically active component of liquorice, is currently investigated as adding to the addictive aspects of smoking, and posing additional health risks.

Cultivation

There is no cultivation of Licorice in Afghanistan, only wild collection. While wild licorice continues to be exploited, cultivation is now established in central Asia, Australia, Brazil, Southern France, Italy and Spain (www.wwf.org.uk).

Licorice roots require deep and fertile soils, preferably sandy. Slightly alkaline conditions produce the best plants. Clay soil is not suitable for Licorice. An average of 15 degrees Celsius is required for the plant to grow. When the flowers are removed, longer root growth can be stimulated.

The harvesting parts of Licorice are the roots and the rhizome- the (usually underground) horizontal stem of a plant, also known as rootstocks. For harvesting, the following basic tools are at least necessary:

- Shovel, hoe and pick-axes to remove the soil from the roots and knives,
- Pruning scissors for cutting the roots,
- Gloves and rope.

Globally, the average yield per acre is from 4 to 5 tons (<http://www.botanical.com/botanical/mgmh/l/licuor32.html>).

In the Shindand district of Herat, CHA master trainers collected 20kg from 50 sq. m=1.54 tons per acre. The same ground yields a crop every three or four years, the fourth-year growth being the best. That of the third year and earlier is deficient in sweet substances, but immediately after the fourth year the texture begins to take on a tough, coarse and woody character. It is desirable also to collect the roots of those plants that have never borne fruit since that process exhausts the sweet substance of the sap (http://www.licorice.org/The_Plant/the_plant.htm). Collection period differs based on location and climate of the area. In some areas it may start from end of May until June, depending snow. In August/September, the roots are then suitable for sales/export. However, in Paktia the collection period is from the end of September when the plant normally bears fruit.

In some areas of Afghanistan licorice is being harvested unsustainably, the upper parts being used for cattle, and the whole roots being harvested for trade. Collectors in these areas have no information about sustainable collection, like in Farah, where most of the Licorice resources have been depleted. In other areas, in particular in the North, harvesting takes place on specification by the buyers, with particular measurement of the roots. In these areas the collection system is more sustainable. Please refer to Chapter 8 where an example of the Standard Operation Procedures for post-harvesting developed in this project is explained.

The main collection regions in Afghanistan are: Badakhshan, Balkh, Juzjan, Baghlan, Kunduz, Bamyan, Herat, Faryab, Badghis, and Paktia. Moreover, the main licorices roots markets in the country are situated in Kabul, Mazar-e-Sharif, Herat and Kandahar.

2.2 Statistical Product Classification

On January 1, 1988, a unified coding system was introduced to harmonise the trading Classification System (HS) which was developed by the World Customs Organization (WCO). The system covers about 5,000 commodity groups; each identified by a 6-digit code, arranged in a legal and logical structure and is supported by well-defined rules to achieve uniform classification. The system is used by more than 177 countries and economies as a basis for their customs tariffs and for the collection of international trade statistics.

Licorice roots are classified as vegetable products. A further classification can be made, according to HS codes, which is shown in table 2.2. Apart from Licorice roots, this market report focuses on Licorice extracts where possible.

Table 2.2 Statistical Product Classification

Classification	HS code	Definition
Product category	12	Oil seeds & oleaginous fruits; miscellaneous grains, seeds & fruit;

		industrial or medicinal plants; straw & fodder.
Product group	12 11	Plants and parts of plants for pharmaceutical, perfumery, insecticides, fungicidal use; fresh, dried, cut or not, crushed, powdered/herbs, Liquorice, mint, ginseng
Product	12 11 10	Fresh/dried Liquorice roots, cut, crushed/powdered
Product category	13	Lac, gums and resins
Product group	13 02	Vegetable saps and extract
Product	13 02 12	Vegetable saps and extracts of Liquorice

3 Consumption

3.1 Market size

The market for liquorice can be segmented into the pharmaceutical, herbal medicine, industrial, tobacco and confectionary industry. The demand for Liquorice from the pharmaceutical and herbal medicine industry is, by far, the largest. Herbal medicines, as distinct from conventional pharmaceuticals, are produced directly from whole plant material. As a result, they contain a large number of constituents and active ingredients working in conjunction with each other, rather than a single, isolated active compound. In general, the market for herbal medicines is growing at a faster rate than that for conventional chemical drugs. The biggest markets for herbal medicine within the EU are Germany and France, accounting for two-thirds of the European market of around € 6 billion in 2003 (IENICA, 2004).

Data regarding trade and consumption of Liquorice, as for most natural ingredient/medicinal plants, is scattered and difficult to obtain. One of the underlying problems is that the plant is traded for various end-users where the liquorice content only forms a minor part of the total end-product.

Local level

Demand for Liquorice roots derives from local traders, middlemen and local shop keepers, who buy the roots from local collectors. These intermediaries bring the roots to a local or regional market or sell the roots further to an export company. Local demand for Liquorice is increasing. When the roots are further processed into extracts, local demand is reflected in the number of processing plants. In these plants, liquorice is extracted by boiling water and the extract is sold as liquid, paste or powder to industrial manufacturers. In Afghanistan, there is no processing plant to extract Liquorice roots. Recently, one pharmaceutical company interviewed has planned to extract Liquorice roots in their company, which is located in Kabul.

Regional level

On a regional level, Pakistan and India are traditionally the most important markets for Afghan Liquorice and other wild plants grown in Afghanistan. The regional and international demand is estimated at around 20,000 tons per year. Companies in these neighbouring countries apply value addition through extraction and through further application of the liquorice content in final-end products for the pharmaceutical, industrial or confectionary industry, also exporting these products to other countries.

International level

On the international level, the main markets for Afghan Liquorice roots are in the USA, UAE, EU (notably the UK, Italy, France, Spain, The Netherlands and Germany), Japan and Israel. These countries have been importing Liquorice roots from Afghanistan over the last couple of years.

3.2 Patterns and trends in consumption

Local level

Local demand appeared to be stable over the years.

Regional level

According to traders in Mazar-e-Sharif, the demand for liquorice in Afghanistan has increased in the last 3-4 years. In the regional markets, Pakistani and Indian demand is increasing for Afghanistan Liquorice roots and also Afghan traders are selling their products to international buyers.

The demand for the roots is even higher than the demand for extracts or powder. The main reason is that traders in regional markets prepare the Liquorice roots in their countries, based on the demand of their international buyers and local users. Also, non-value added raw

Liquorice roots are cheaper than value-added Liquorice; therefore regional buyers are more interested in Afghani raw material instead of Liquorice powder or extracts.

International Level

Market opportunities for the pharmaceutical and herbal medicine industry

The market opportunities for the commercialisation of wild-collected (and organically and "FairWild" certified) Liquorice looks promising. In Europe, the demand for natural ingredients (thus including Liquorice roots and extracts) for pharmaceuticals has been growing steadily as a result of the growing popularity of alternative treatments and wider recognition of the benefits of traditional medicine systems (FAO, 2004, Nutra-ingredients Europe).

Furthermore, the use of natural ingredients for pharmaceuticals is also expected to continue to increase, both in conventional and herbal medicine. A great deal of these increased sales can be contributed to the professionalisation of the herbal medicine sector. Increased emphasis on safety, efficacy and quality has resulted in more research and development, a shift towards standardised products, and requirements for high-quality raw materials.

Great improvements have been booked in validating the safety and efficacy of herbal remedies and in legislation issues, improving the status of the herbal medicine industry. If Afghanistan would like to benefit from the growing global herbal medicine industry, it should be able to produce standardised, clean, high quality liquorice complying with the international requirements.

A clearly demarcated trend in Western Europe and North America is the popularity of herbal teas (mostly at the expense of black tea consumption). Therefore, Afghan producers of Liquorice are advised to export dried Liquorice roots of a uniform 2-3 cm cut, as it will be easier (and less expensive) to cut for tea-bagging. It will cost less to ship, because it will be possible to get more into the container and drying time should be shorter which will make aflatoxin and other microbiological problems less likely.

Despite good market conditions, the commercialisation of Afghan Liquorice will be a challenge. Afghan traders do not have direct access to international markets because there is no direct link between Afghanistan and international buyers. Bottlenecks Afghan traders have to deal with are related to political and socio-economic instability, infrastructure, production capacity, compliance with international product standards regarding uniformity, hygiene, traceability etcetera.

Market opportunities for the confectionary industry

According to the e-business portal of the confectionary industry (<http://www.candyindustry.com/content.php?s=CI/2006/06&p=5>), today's global confectionery market shows continuous promising growth, both in the traditional established markets of North America and Western Europe, as well as the emerging markets within Asia, Latin America and Eastern Europe.



Table 3.1 Forecast of global confectionary sales (in US \$ billion)

	2005	2010	2005-2010 annual increase
Global confectionary sales	126.6	143.7	3%
Liquorice sales	1.20	1.30	2%

Source: Euro monitor International, 2006 1CAGR

Interesting to know is which regions in the world account for the largest share in global confectionary sales. According to Euromonitor, this is Western Europe, with sales of € 36.8 billion in 2005. Sales are expected to rise 10.8%, to € 40.8 billion by 2010. The winners of global confectionary sales are sugar-free candies and gums.

4 Production

4.1 Size of production

Local level

There is no cultivation in Afghanistan, only wild collection of dried Liquorice roots. It is very hard to estimate the real size of the collection and trading, as collection is scattered, small-scale and not recorded as it is foremost a community activity. Based on interviews with local traders, Afghanistan is exporting around 20,000 tons liquorice roots, only Mazar-e-Sharif market is exporting more than 3500 tons annually, giving us an idea of the size of local production of liquorice.

Most of Afghan traders are educated in the general business field and follow in the business of their fathers. Although the people of Afghanistan are historically known for their commercial spirit, technical or in-depth expertise in the field of extraction, certification and other value added activities is lacking. Furthermore, the facilities for such industrial work are not available in most of the regions. Local processing capacity of Liquorice is small and an extraction industry is almost non-existent.

Regional level

We could not come across exact data regarding production quantities of Liquorice roots and extracts in neighbouring countries. What we do know is that the processing and extraction industry in Pakistan, Iran and India is much better developed than in Afghanistan. They mix and extract Liquorice roots imported from Afghanistan and then export it as value-added product to international markets at a higher price. Most of the value added activities like grinding, sorting, mixing, packing, labelling and certification take place in these countries. Therefore, the Liquorice derived from the neighbouring countries command a higher world market price than Afghan Liquorice. In Pakistan, Iran and India there are also extraction/process companies which extract liquorice roots for the international market.

International level

The main competitors of the *Liquorice glabra* in Europe are located in Italy and Spain. In southern Italy, large quantities of Liquorice root are grown, but it is chiefly converted into extract, though some of the root is exported. Spain is the main supplier of dried liquorice roots, the better quality of which comes from Tortosa and Alicante. The manufacturing of Liquorice extract is conducted on a wide scale in Spain, southern France, Sicily, Calabria, Austria, southern Russia, Greece and Asia. In Asia, Pakistan, India, China, Iran and Turkmenistan are the main producers of liquorice extracts.

Medicinal and aromatic plants

As mentioned before, the pharmaceutical and herbal medicine industry is an important market segment for Liquorice roots and extracts. Medicinal and aromatic plant material is obtained both from plants growing in the wild and from cultivation. Worldwide, approximately 400 from 70.000 plant species are cultivated. Europe's place in world trade and production in medicinal and aromatic plant material is of global importance. Regarding vegetable extracts (including Liquorice extracts), Germany is the leading producing country in Europe, but other countries such as France and the UK also have significant extraction industries.

4.2 Trends in production

Local level

Traceability is of increased importance nowadays in the global trade of biodiversity-related products. Therefore, collectors need to be registered and the product must immediately be labelled indicating the name of the product, collection date and collection area.

The local trade structure is improving between traders, middlemen, representatives of foreign buyers and collectors. Traders are looking for opportunities to develop the medicinal plants

trade by using new technology, machineries and by building extraction factories in Afghanistan, in order to export standardised and value-added products of less volume and with higher prices.

Regional level

Traders in Pakistan, Iran and India grind and extract Afghan Liquorice roots to be processed into powder, extracts and syrup. These products are sold to the pharmaceutical industry or to traders in international market, claiming that it is Pakistan Liquorice, whilst the raw material is actually from Afghan origin.

The regional countries Pakistan, India and Iran are further developing their capacities and systems in respect of medicinal plants. These countries are extracting Liquorice roots and using extracts in syrup and also preparing powder of Liquorice roots for selling on other companies or buyers. There are some projects of GEF and UNDP in the mountain areas in these countries focussing on the promotion of sustainable use of wild sources, especially in Pakistan.

International level

Manufacturers of herbal medicines used to acquire their raw materials from traders, but now some have their own plantations or have direct contacts with producers. Manufacturers of herbal products are increasingly interested in having direct relationships with producers of the required materials, in order to ensure a sustained source and/or to save costs.

Furthermore, the capacity of many countries harbouring biological diversity to engage in value-adding research has grown over the last decade. Companies are therefore increasingly open to collaborations with provider-country institutions if they are confident of the quality and cost-effectiveness of the work of these institutions.

This offers opportunities for local communities in Afghanistan and their supporting CSO's to build sustainable (organic, FairWild, ISSC-MAP) trade relations with Liquorice importing companies. Afghan producers should realise that the Internet is an important medium in the sourcing of raw materials for herbal products. A number of users/traders of natural ingredients mentioned that they use the Internet in order to find new suppliers.

5 Trade

5.1 Imports

Afghanistan

There is no import of liquorice reported into Afghanistan.

Regional

Under regional trading partners we distinguish Pakistan, Iran, India and Kazakhstan. It is interesting to see where these countries import their Liquorice and extracts from in order to get more insight in the competitor analysis for Afghanistan:

Table 5.1 Regional liquorice importers and their supplying countries.

Name of Regional Country	Roots import	Extracts import
India	Indonesia, Pakistan, Afghanistan, Iran	USA
Pakistan	Afghanistan, Iran, Azerbaijan, Thailand	-
Kazakhstan	Uzbekistan	-

Table 5.2 Imports of Liquorice roots on regional level, value in US \$ thousand, quantity in tonnes, 2005

	Imported value	Import quantity	Main supplying countries
India	876	2,649	Pakistan (76%), Afghanistan (18%), Iran (5%)
Pakistan	244	2,398	Afghanistan (94%), Iran (6%)

Source: International Trade Centre (ITC) Product maps/trade data

Table 5.3 Imports of Liquorice extracts on regional level, value in US \$ thousand, quantity in tonnes, 2005

	Imported value	Import quantity	Main supplying countries
India	104	13	US (58%), China (38%)

Source: International Trade Centre (ITC) Product maps/trade data

International

Global imports of Liquorice roots increased at average by 3% in value between 2001 and 2005, totalling \$ 31.7 million in 2005. Global imports of Liquorice extracts increased by 5% annually between 2000 and 2004 and were estimated at \$ 92.3 million in 2005. Note that the global import value of Liquorice extracts is three times as much as for roots, because the former is a processed value added product.

Liquorice roots importing countries:

According to ITC, The International trade Centre, Liquorice roots could be classified as an 'achiever in adversity', in other words, world trade in liquorice could deepen (meaning a larger percentage of local production is exported) and demand could increase, however not without difficulties.

Table 5.3 The ten leading importing countries of Liquorice roots, value in US \$ Thousand, quantity in tonnes, 2005

Importers	Value imported	Quantity imported	Unit value	Annual growth in value 2001-2005, %	Share in world imports, %
World estimation	31,723	27,720	1,144	3	100
US	4,646	7,165	648	-6	15
Japan	3,468	1,481	2,342	-6	11
Republic of Korea	3,464	2,914	1,189	-8	11

Israel	3,222	1,465	2,199	22	10
Taiwan	2,268	1,680	1,350	14	7
Singapore	2,264	452	5,009	300	7
France	2,176	1,276	1,705	-10	7
Germany	1,851	1,017	1,820	14	6
Belgium	1,373	191	7,188	29	4
Malaysia	954	292	3,267	24	3

Source: International Trade Centre (ITC) Product maps/trade data

The main Liquorice roots importing countries in 2005 where the USA (US\$4.6 million), Japan (\$ 3.5 million), Korea (US\$3.5 million) and Israel (\$3.2 million). Note the high differences in import unit value between the USA for instance (\$ 648/tonnes) and Korea (\$2,342/tonnes). This can be partly explained by the large quantity demanded by the US, allowing for price negotiations. Imports by the leading Liquorice roots importing countries decreased a little, whilst imports by the smaller importing countries increased considerably, noteworthy Singapore (by 300% annually between 2001 and 2005).

Germany is an important market for Liquorice roots and other medicinal herbs and plants. The dominance of Germany in the intra-European drug trade is evident, as one third of the overall quantities of pharmaceutical plants imported into Europe are destined for Germany. Moreover, Germany acts as a link between the markets of eastern and south-eastern Europe and those of West and Central Europe. It imports two third of the plant material exported from South and Southeast European countries, and exports it above all to Central and Western European countries (Lange, Dagmar, 2006).

Although China is not mentioned in the top-10 global importers of liquorice roots, it is an important trader on regional and international level as well. The country imports roots mainly from Azerbaijan, Turkmenistan, Pakistan, Kyrgyzstan, Iran, Uzbekistan, Kazakhstan.

Liquorice extracts importing countries

The main Liquorice extracts importing countries in 2005 where Germany (US\$16.2 million), the USA (US\$ 10,5 million), The Netherlands (US\$7 million), Japan (US\$ 6,8 million), China (US\$ 6 million), France (US\$ 5,4 million), Denmark (US\$ 4,7 million), Finland (US\$ 2.6 million), Spain (US\$ 2,4 million) and Poland (US\$ 2 million).

Table 5.4 The ten leading importing countries of Liquorice extracts, value in US \$ thousand, quantity in tonnes, 2005

Importers	Value imported	Quantity imported	Unit value	Annual growth in value between 2001-2005, %	Share in world imports, %
World estimation	92,338	20,805	4,438	5	100
Germany	16,159	3,418	4,728	5	17
USA	10,548	3,210	3,286	-6	11
Netherlands	7,057	1,727	4,086	3	8
Japan	6,802	783	8,687	-4	7
China	6,011	2,354	2,554	109	7
France	5,440	1,298	4,191	22	6
Denmark	4,696	1,293	3,632	7	5
Finland	2,667	728	3,663	3	3
Spain	2,428	343	7,079	15	3
Poland	2,024	179	11,307	26	2

Source: International Trade Centre (ITC) Product maps/trade data

Interesting to notice is that China, also a neighbouring country of Afghanistan, showing more activities in further processing, since it is also importing liquorice extracts from Turkmenistan and Uzbekistan, but also from Japan, USA, The Netherlands and Germany.

5.2 Exports

Afghanistan

According to Mohd. Azim Wardak, President of Foreign Trade in Ministry of Commerce, about 40% of the exporting medicinal plants are registered with the Ministry of Trade. The remaining 60% is exported illegally to neighbouring countries such as Pakistan and India. There are some figures of registered exports of medicinal plants, which are shown below.

Table 5.5 surprisingly shows that the majority of Afghanistan's Liquorice roots are exported to Israel (\$72 thousand), however in terms of quantity less relevant. A more considerable share is exported to Pakistan and India. Interesting to note is the high difference in export value of a tonnes Liquorice roots destined for Israel (which is worth \$2,200/tonnes) and other countries compared to the price paid in Pakistan and India. It more or less makes clear that it is advisable for Afghanistan to focus on Western markets than on its traditional trading partners. However, the prices for the Western markets also include higher costs for different contract terms.

Table 5.5 List of importing countries for liquorice roots exported by Afghanistan, in US \$ thousand, quantity in tonnes, 2005

Importers	Export value	Exported quantity	Unit value (US\$/tonnes)	Share in Afghanistan's exports %
Total	100	3,814	564	
Israel	72	700	2,200	10
Pakistan	11	2,335	99	1
India	7	489	317	3
France	5	125	928	7
Japan	2	100	490	11
Spain	2	60	817	1
Netherlands	1	5	2,800	1

Source: International Trade Centre (ITC) Product maps/trade data

Regional

Under regional trading partners we distinguish Pakistan, Iran, India, Uzbekistan, Turkmenistan, Azerbaijan and Kazakhstan. It is interesting to see where these countries export their Liquorice roots and extracts to, in order to make a competitor analysis.

Name of Regional Country	Roots export	Extracts export
India	Saudi Arabia, UAE, Germany UK, Yemen, Malaysia, Canada	USA UAE
Pakistan	Singapore, Egypt, France Japan, Taiwan, Myanmar	France, Myanmar, Egypt, USA, Japan Taiwan, India, China Singapore, Canada Spain
Iran	Italy, Egypt, France, India Spain, Singapore	Germany, China, France, Netherlands UAE, Italy, South Africa, Indonesia, Mexico, Egypt, Belgium, Singapore, UK Hong Kong, Denmark, Spain, Russia, Finland
Uzbekistan	USA, Korea, Kazakhstan Croatia, New Zealand Russia, China, Germany Ukraine	France
Turkmenistan	Israel, USA, China	Russia
Azerbaijan	Turkey, China, USA, France	-
Kazakhstan	Korea, Russia	-

If one compares tables 5.6 and 5.7 with tables 5.1 and 5.2, one can see that Afghanistan's neighbours mainly import their Liquorice roots from regional trading partners, but export their Liquorice roots and extracts to a wide variety of destinations. While India dominates the

regional imports of Liquorice and Liquorice extracts, its presence is much smaller in the exports of the plants. Regional exports of Liquorice roots are dominated by Uzbekistan and Liquorice extract exports by Iran.

Table 5.6 Exports of Liquorice roots on regional level, value in US \$ thousand, quantity in tons, 2005

	Export value in US\$ thousand	Export quantity (tonnes)	Main destination
Uzbekistan	2,034	3,703	US (38%), Korea (36%), Germany (17%)
Pakistan	1,258	2,365	France (28%), Myanmar (19%), Egypt (18%), US (10%), Japan (9%), Taiwan (7%)
Iran	291	808	Italy (55%), Egypt (24%), France (10%), India (4%), Spain (4%)
India	269	24	Saudi Arabia (44%), United Arab Emirates (27%), Germany (16%)

Source: International Trade Centre (ITC) Product maps/trade data

Table 5.7 Exports of Liquorice extracts on regional level, value in US \$ thousand, quantity in tons, 2005

	Export value in US\$ thousand	Export quantity (tonnes)	Main destinations
Iran	6,878	3,805	Germany (54%), China (19%), France (13%)
Uzbekistan	924	450	China (78%), Korea (11%), France (10%)
Pakistan	599	510	US (84%), France (16%)
India	24	1	United Arab Emirates (63%)

Source: International Trade Centre (ITC) Product maps/trade data

International

Liquorice roots

The main Liquorice roots exporting countries in 2005 where China (US\$6.3 million), Afghanistan (US\$ 2.1 million), Uzbekistan (US\$ 2 million), Italy (1.7 million), Turkmenistan (US\$ 1.5 million), Syria (US\$ 1.4 million), Belgium (US\$ 1.4 million), Germany (US\$ 1.3 million), Pakistan (US\$ 1.2 million) and Azerbaijan (US\$ 1.1 million).

When looking at Table 5.4, it becomes clear that although Afghanistan and also Uzbekistan are exporting higher quantities of liquorice roots than China, the latter country shows higher exports in terms of value. At the same time, the previous Section on imports mentioned that China is also importing liquorice roots from Azerbaijan, Turkmenistan, Pakistan, Kyrgyzstan, Iran, Uzbekistan and Kazakhstan. In other words, it seems that China is receiving a higher price by adding value to imported liquorice roots through further processing. This is also confirmed by Table 5.5, showing China in the top-10 of liquorice extract exporters, while Afghanistan and Uzbekistan are not listed.

Table 5.4 The ten leading exporting countries of Liquorice roots, value in US \$ thousand, quantity in tons, 2005

Exporters	Value exported	Quantity exported	Unit value	Annual growth in value between 2001-2005, %	Share in world exports, %
World estimation	24,251	23,204	1,045	0	100
China	6,340	2,908	2,180	-3	26
Afghanistan	2,153	3,814	564	42	9
Uzbekistan	2,034	3,703	549	18	8
Italy	1,726	376	4,590	13	7
Turkmenistan	1,504	1,815	829	-2	6
Syrian	1,405	597	2,353	16	6

Belgium	1,383	181	7,641	8	6
Germany	1,280	301	4,252	6	5
Pakistan	1,258	2,365	532	/	5
Azerbaijan	1,121	4,153	270	-4	5

Source: International Trade Centre (ITC) Product maps/trade data

Please note that the exported amount mentioned for Afghanistan refer only to officially registered imports of importing countries. Therefore, Afghan liquorice exports can be assumed to be higher than the mentioned number in Table 5.4.

Liquorice extracts

When looking at Table 5.5, it becomes clear that USA exported an amount of 12,263 tons in 2005, referring to a unit value of US\$ 2.530/ton. On the other hand, Japan is exporting only 54 ton of liquorice extract, reflecting a unit value price of US\$ 78,148. The high differences can be mainly explained by differences in quality of the extracts (glycerine content etc.).

Table 5.5 Main exporting countries of Liquorice extracts, value in US \$ thousand, quantity in tons, 2005

Exporters	Value exported	Quantity exported	Unit value	Annual growth in value 2001-2005, %	Share in world exports, %
World estimation	93,949	29,960	3,136	6	100
US	31,031	12,263	2,530	1	33
France	15,076	2,831	5,325	10	16
Israel	8,398	1,965	4,274	6	9
China	7,938	3,046	2,606	4	8
Iran	6,878	3,805	1,808	11	7
Germany	5,047	1,252	4,031	22	5
Netherlands	4,263	459	9,288	50	5
Japan	4,220	54	78,148	23	4
Turkmenistan	3,780	1,857	2,036	38	4
Iraq	1,660	694	2,392		2

Source: International Trade Centre (ITC) Product maps/trade data

6 Trade Structure

6.1 Distribution channels

Please look at Appendix B, the value chain of Afghan Liquorice, for a clear visual understanding on how Liquorice from the collection field finally finds its way to the global end-consumer.

- The first level of the trade structure comprises the collection of the liquorice root, usually on government land, where local communities have been given the right to collect the liquorice roots. Value addition at the collector's level is often limited, since the collectors do not carry out substantial value adding activities and no real product transformation takes place. Besides, it is very difficult to obtain economies of scale through wild collection activities. Therefore, cooperation at the collector/grower level is recommended, since this is the only way to reach economies of scale, undertake joint investments (buying a truck) and to upgrade the collector/grower's position in the value chain. The potential for value addition by collectors/growers usually comprises cleaning, drying, and sorting of raw materials, which is otherwise usually captured by traders.

The post-harvest activities can be a joint undertaking of collectors and local traders, or can be completely left to local traders.

- After the post-harvesting activities, local traders sell the roots to other middlemen or local shopkeepers, take it to a district market, or directly to an export company or processing plant. It is quite common that collectors are paid in goods instead of money. The price at this level depends on the kind of species and whether it is organic and/or certified. The latter also shows how organic certification can contribute to value addition and income improvement.
- Usually, there are a couple of exporters who set the purchasing price from a group of reference points they have. These reference points in turn (the local traders) set the purchasing price from the collectors. This structure does not leave much negotiation space for the collectors, as they have neither a way of verifying the price set by the exporters, nor a way of negotiating with the exporters, which shows the lack of transparency of the liquorice value chain.
- When the root or extract is being exported, potential for value addition is determined by the capacity to comply with international/national legislation, and with industrial buyers' quality standards (GMP and GACP and the Sanitary and Phytosanitary Measures Agreement on food safety and animal and plant health standards, for more information see <http://www.wto.org>).
- Substantial value adding takes place in the processing plant where liquorice is extracted by boiling water and the extract is sold as liquid, paste or powder to industrial manufacturers. Extraction can take place in the country of origin or in the importing country, but it requires substantial know-how, technology and capital, since the material is difficult to cut and process. Final industrial manufacturers include pharmaceutical-, cosmetic-, and food industries, which process the natural ingredients into their final form (capsules, pills, cosmetics, teas, lotions, etc.). Also in this stage, substantial value adding takes place.
- After packaging, the final product is distributed throughout Europe, North America, Australia and Asia and sold in retail or wholesale sales centres including over-the-counter



drug stores, prescription drug pharmacies, cosmetic stores, health food stores, and catalogue sales to the consumer.

A complete analysis of added value, and thus costs and prices, requires involvement of all stakeholders in the supply chain, in order to be able to identify proper costs and price calculation. Only if there is transparency at the different levels of the liquorice value chain, will it be possible to determine fair costing and pricing, which in turn will enhance awareness and importance of the potential for value addition in the supply chain, and thus the potential for sector development in a national context.

7 Prices

The price paid for a kilogram of Liquorice root or extracts depends on many factors such as quality, quantity demanded and cutting size.

Purchasers' criteria for evaluating the quality of Liquorice roots are:

- Visible appearance
- Organoleptic properties
- Sorting/size of liquorice
- Adulteration (mixing with other materials, increasing volume but reducing quality)
- Water content
- Collection areas (documentation!)
- Chemical analysis
- Certification

There is a considerable difference between the price paid for conventional and for organic certified liquorice. Moreover, considerable amount of value can be added during processing (e.g. extraction) of liquorice and at the industrial manufacturers' level (e.g. pharmaceutical industry). When comparing local sales prices with international purchasing prices and final retailer prices, it is important to also take into account the transportation costs.

Local Level

Table 7.1 Local market prices for Liquorice roots, in US\$

Purchase/kg	Sales/kg	Region	Specification
0.48	0.54	Kabul	for 2-5 cm cut
0.48	0.54	Kabul	for 2-5 cm cut
0.50	1.00	Kabul	for 2-5 cm cut
0.43	0.57	Kabul	for 2-5 cm cut
0.43	0.64	Kabul	for 2-5 cm cut
0.28	0.28	Herat	for 2-5 cm cut
0.28	0.32	Herat	for 2-5 cm cut
0.35	0.47	Mazar	for 2-5 cm cut
	0.64 -0.71	Mazar	for 20-40 cm cut

Source: TLO and CHA interviews with local traders (2006)

Regional and international

Based on the value/unit data of ITC (as mentioned in the section on trade) we can get insight in global prices of liquorice roots and liquorice extracts. The average value/unit (US\$/tonnes) for liquorice roots globally traded is US\$3,381/tonnes, while for liquorice extract is US\$4,341/tonnes. Slovakia is paying a relative high price for liquorice roots (US\$ 34,500/tonnes), while Colombia does for liquorice extracts (US\$ 12,867/tonnes). Neighbouring countries of Afghanistan are paying a relative low price for liquorice roots (Pakistan US\$102/tonnes, Kazakhstan US\$ 285/tonnes, China US\$ 294/tonnes) and liquorice extracts (U.A.E. US\$ 1,406/tonnes, Taiwan 1,908/tonnes, China 2,554/tonnes). It should be noted, however, that these value/unit data do not reflect exact trade prices.

Example of a cost calculation of Afghan liquorice

As an example for liquorice from Afghanistan, a recent cost calculation was prepared by TLO for the export potential of organic and FairWild certified shipment from Paktia province. Please take in mind that the cost calculation is in an intermediate stage and still under the process of discussion.

Collectors price for 1kg ¹ dry Liquorice root	1.00	US\$
Collection Station processing cost	0.50	US\$
Transportation Paktia-Kabul-Europe	0.40	US\$
Certification Fee	0.20	US\$
8% Exporter Fee	0.12	US\$
Quality Control	0.01	US\$
Fee for Social Projects 30%	0.45	US\$
TLO Facilitation Fee 10%	<u>0.15</u>	<u>US\$</u>
Cost Per kg dry Liquorice roots	2.83	US\$

The estimated cost price for organic and FairWild collected Liquorice from Paktia Province is **US\$ 2.83 CIF**, for rough cut, export quality. The percentages (export fee, social projects and facilitation fee) are taken from the sales price at the collection station (collectors price plus processing costs: \$ 1.50) based on calculations made by TLO.

Additional costs for the overseas importer in order to obtain liquorice that is 2-3 cm tea bag cut are approximately:

Customs and delivery to processor	0.13	US\$
Cutting charge	0.80	US\$
Losses in milling	<u>0.47</u>	<u>US\$</u>
	1.40	US\$ /kg

The supplier and importer together decide the export terms of sale. This is to determine which costs are covered in the price of the cargo, at what point ownership transfers to the buyer and at what point responsibility for the cargo is transferred. The most commonly used terms of sale are FOB (Free on Board), and less often CFR (Cost and Freight) and CIF (Cost, Insurance, Freight). Suppliers and importers are free to negotiate and agree whether quotations and subsequent trade are based on FOB, CIF or CFR prices. The same applies to terms of payments, for which the most commonly used terms are *Letter of Credit* (L/C) and *Cash Against Documents* (CAD). Special attention should also be given to contract fulfilment in reference to contingencies that might occur while the sale order is being processed, shipped etc.

¹ 1kg dry Liquorice roots = approximately 3.5 kg fresh, depending also on the location & quality of the roots.

8 Market access requirements

This Section discusses the market access requirements of Liquorice, which are demanded by either governments or by private sector parties. In general, these requirements are based on consumer health, product safety, environmental, social and quality concerns.

If no product specific requirements exists, reference will be made to general pharmaceutical or herbal medicine requirements, the two main market segments of Liquorice. Moreover, since the requirements of the markets subject of this report vary greatly, only brief highlights and links to further information will be presented. Any follow-up market research could go more into detail in a more specific market (segment- and geographic wise).

8.1 Legislative requirements

Legislative market access requirements form an important part of all the Market Access Requirements exporters face when trading their products. In general, legislative requirements are set by national governments, but for example in case of the European Union the legislation set by the European Commission is the first point of reference and as much as possible harmonised with the individual countries' legislation.

Local level

There are no legislative requirements on Liquorice and related sectors in Afghanistan.

Regional level

No regional legislative requirements on Liquorice and medicinal plants have been encountered during this research.

International level

Especially on markets such as the United States, the European Union and Japan, it is important to be aware of the many –and often also demanding– legislative requirements. Although no specific requirements for *Glycyrrhiza glabra* exist, there are many others for Liquorice as a pharmaceutical or food ingredient to be taken into account.

Pharmaceutical ingredients, for example, as well as pharmaceutical products have to comply with several legal requirements on safety, marketing and Good Manufacturing Practices (for the latter, see <http://www.who.int/medicines/library/trm/medicinalplants/agricultural.shtml>). Moreover, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES <http://www.cites.org>) is relevant.

In the EU, Directive 2004/24/EC extends the coverage to include traditional herbal medicinal products. Just as for homeopathic products, a special and simplified procedure has been developed for these products.

For more information, please check:

- At <http://www.intracen.org/menus/busserv.htm> check the sections on 'Export Quality Management' and 'Legal Aspects of Foreign Trade'.
- US Food and Drug Administration: <http://www.fda.gov>; US Import requirements: http://www.cbp.gov/ImageCache/cgov/content/publications/usimportrequirements_2edoc/v1/usimportrequirements.doc.
- Some fruit and vegetables need to comply with the Agricultural Marketing Service (AMS <http://www.ams.usda.gov>). At entrance of the product, inspection of the Food Safety and Inspection Service (FSIS <http://www.fsis.usda.gov>) takes place, which is also regulated by the Animal and Plant Health Inspection Service (APHIS <http://www.aphis.usda.gov>).
- EU market access database: <http://mkaccdb.eu.int/mkaccdb2/indexPubli.htm>
- For EU market access requirements, go to 'Market Information' at <http://www.cbi.eu>.
- Japan: <http://www.jetro.go.jp/>.

8.2 Non-legislative requirements

Non-legislative market access requirements are all requirements which companies may have for their suppliers, or which may offer you a competitive advantage when marketing your products. Examples are for instance labels and management systems, which are not legally required but could be required by a business partner.

Local level

Trust between seller and buyer, acquaintance with buyer.

Regional level

It needs to be mentioned that written contracts are not common between Afghan traders and its trade with neighbouring countries. Agreements are all based on trust and acquaintance.

International level

Next to above mentioned legislative requirements, an increasing number of non-legislative requirements for food and pharmaceuticals exist on international level.

In general, these requirements are set by the international buyer and can be under continuous discussion between the buyer and local seller. A good example is the 'Conditions of Order and Supply' of Organic Partners enclosed in Appendix 3 (please refer to Market report of Artemisia). This document specifies issues such as packaging and marking, but also on allowed Aflatoxin, Ochratoxin, moisture etc. levels.

Another good example of buyer requirements is the Standard Operations Procedures (SOP's) developed during the execution of the Multi-Stakeholder Programme on Natural Ingredients for Food, Pharmaceuticals and Cosmetics in Afghanistan. In the future, when the project is further implemented, these procedures will also have their implications on the requirements on local level. As an example the standard operation procedures for post-harvesting liquorice, namely drying, sorting and cutting are mentioned below:

Drying: In case of natural open air drying, the plant raw material must be spread out in a 10-15 cm layer depending on temperature. In order to secure adequate air circulation the drying devices must be located at sufficient distance from the ground.

Drying under direct exposure to the sunlight is recommended. Attempts must be made to achieve uniform drying of the fresh plant material to avoid formation of mould and fungi.

Sorting and Cutting: Sorting of qualities according to diameter needs to be done according to buyer specifications, optimum diameter for Europe 10 – 15 mm, local requirements for diameter not specified. Cutting size – depending on buyer specifications (China: 2 cm; Europe: 15-20 cm).

Packaging: according to buyer requirements and specifications in jute bags or cartons; goods are loaded on pallets.

Some general buyer requirements, which are also often encountered in a less formal way on the other levels are issues such as:

- Contract fulfilment and reliability;
- Procure product delivery document in good time;
- Cooperation on a partnership basis and seek a common solution even if conflict arise;
- Trust between seller and buyer.

8.3 Packaging, marking and labelling

Packaging

In order to protect the product and to reduce the risk of pests, early packaging is advisable. The product should be packaged in clean and dry, preferably new jute sacks, bags or cartons of 50 kg. The label should be clearly written according to certification and buyer requirements, permanently fixed and made from non-toxic material. Information must conform to regional and/or national labelling regulations. Labels have to respond to the buyers and certifiers

requirements for information. The labels should contain information on the exporting companies name, location and lot number. Also indicate the buyer and location of delivery. Re-usable packaging material is well cleaned and perfectly dried before use. No contamination should occur through re-using bags. Packaging material is stored in a clean and dry place, free of pests and pesticides, and inaccessible to domestic animals. It must be guaranteed that no contamination of the product occurs by the use of packaging materials, particularly in the case of fibre bags. Weight and volume of packaging units is according to buyer requirements.

The pictures below give an example of Liquorice roots packing, labelling and marking for a Japanese buyer.

Figure 8.1 Packaging and Labelling of Liquorice roots in Afghanistan



Storage and Transport

Packed dried plant material has to be stored in a dry, well-aerated building, in which daily temperature fluctuations are limited and good aeration is ensured. The packaging units are placed on standardised palettes with distance (40 cm) from walls. Storage and transport facilities have to be free of pesticides and other toxic materials. In case of bulk transport, it is important to secure dry conditions. Furthermore, in order to reduce the risks of mould and/or fungi formation or fermentation, it is advisable to use aerated containers or other aerated transport vehicles and facilities. Fumigation is co-ordinated with the clients and reported in documentation. For fumigation of warehouses, only substances permitted by the regional and/or national regulations should be used.

Documentation

On the international level, documentation of SOPs (Standard Operation Procedure of resource assessment, access rights, and herbarium for the botanical identification) for Liquorice roots is necessary. All processes and procedures that could affect the quality of the product are documented. Extraordinary circumstances during the growth period that may influence the chemical composition of the plant material, such as extreme weather conditions and pests, are documented. It is essential to document the type, quantity and the date of harvesting. The application of fumigation agents is documented. For organic certification fumigation is not acceptable. Different documentation is used for purchasing, processing and sales of conventional/organic products. In case of organic quality the word "organic" has to be mentioned in all invoices and diaries.

8.4 Tariffs and quota

Local level

According to the Foreign Trade President, there are no custom charges on Afghanistan exporting products and quota for Liquorice roots do not apply.

Regional level

Taxes apply for traded goods passing the border of Afghanistan and Pakistan.

International level

In general, a 0-tariff applies to medicinal and aromatic plants and many other products coming from Afghanistan. For more information on tariffs in the EU, please refer to <http://export-help.ec.eu.int/>. For the US no tariffs and quota are known for pharmaceutical and food ingredients.

9 Conclusions & Recommendations

During the execution of the research for this market report, the Market Analysis Team has made several observations. In this concluding Section, an overview of bottlenecks encountered and opportunities of Afghan Liquorice trade are summarised. Moreover, some recommendations for a follow-up market strategy will be presented.

Bottlenecks of Afghan Liquorice:

- Although the Afghan Liquorice is basically in general or good quality, it is lacking quality in further processing (drying methods, cleaning etc.) and therefore has less access to international markets.
- Little value addition (sorting, grading, processing, cleaning, cutting and packaging) is taking place in Afghanistan. Therefore, the price paid for Afghan Liquorice roots is low. Moreover, not much investment from the private sector is available in processing facilities and knowledge in this field lacks.
- There is a general lack of market information on all stages of the value chain in Afghanistan (collectors and local traders). In this way, it is difficult to make strategic decisions for local collectors and traders. As a consequence, direct trading relationships to important international markets are lacking.
- Hardly any sustainable collection of Liquorice takes place, threatening the availability of Liquorice on the long term.
- In general, Afghan export is not very well supported by national legislation or by using certain trade terms (of payment, of contracts). The Ministry of Commerce ends up dedicating much of its time in resolving commercial issues diplomatically. All this increases risk, operational costs and is not supportive for developing trade through the Afghan private sector.
- The lack of governmental support is also reflected by the unofficial “tolls” still existing between provinces, often based on war-lord control. Official duplication of taxes also occurs as products pass from one province to another.
- The security situation of some Liquorice collection areas (and in our case in the two pilot areas of Shindand and Gardez) is unpredictable at the time of writing.
- Also logistics in Afghanistan are poor: lack of proper roads and transportation facilities cripples Afghanistan’s capability to reach better markets, capture more value and to control price volatility. Afghanistan mostly depends on Pakistan logistics.
- Another bottleneck is the lack of measure unification resulting in disputes and difficulty in price resolution. (For example, 1 Man or Seir equals to 4.5 kg in Kandahar, 7kg in Kabul, 8 kg in Herat, and 10 kg in Quetta.) It often results in arguments, inaccurate market information, disputes over shipments, re-weighting and reloading.

Opportunities of Afghan Liquorice:

- Global market conditions for liquorice look good. Global imports showed continuous growth over the last five years and medicinal plants (under which Liquorice) enjoy wider recognition for its application possibilities in the pharmaceutical and confectionary industry (herbal teas).
- Basically, the quality of the Afghan liquorice roots is good. From some chemical analyses of Afghan Liquorice samples, the glycerine content appeared to be good.
- Although sustainable harvesting needs far more attention, Liquorice is widely available in Afghanistan.

Recommendations for a Market Strategy for Afghan Liquorice:

When overcoming above mentioned bottlenecks, the Afghan Liquorice has direct opportunities on the international market, and passing intermediary traders in Pakistan could result in higher margins retained in Afghanistan. In order to make the Liquorice trade more successful, the following recommendations regarding project activities should be taken into account:

1. In Afghanistan:
 - a. Further capacity building of stakeholders in the value chain (collectors, local traders) on Natural Resource Management. Organic certification including the required documentation can be part of this.
 - b. Set up the organisation of local processing and product development through 1 to 3 committed local companies including the implementation of a quality control system.
 - c. (Governmental / semi-private) support to the private sector in Afghanistan in the field of export promotion (namely market information and linking to potential international traders), but also trade regulations.
2. At the same time, on the market side activities in the following fields should take place:
 - a. International exposure of the Liquorice on the US and EU market through 2 to 3 international (business) partners that take care of the marketing aspect. The US and EU markets show the best market opportunities for (organic) Liquorice.

Part of the information in the appendices is considered to be confidential and for internal use only and therefore has been left out.

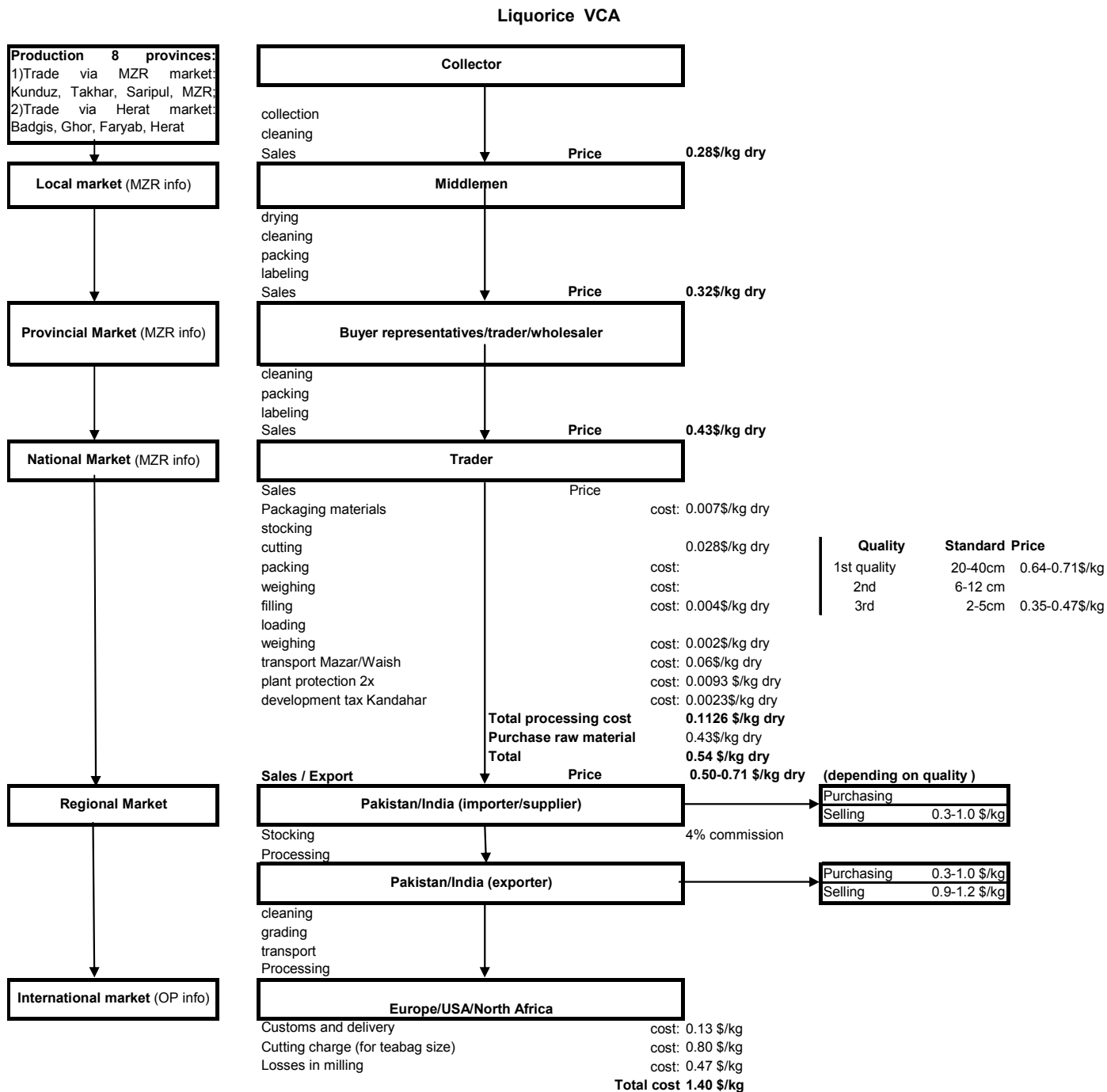
Appendix 1 Company Information

Local level

Regional level

International level

Appendix 2 Liquorice Value Chain Analysis



MZR = Mazar-e-Sharif market
 OP = Organic Partners
 1kg = 3.5 kg fresh liquorice

Appendix 3 Source of Information

Implementing Organization:
Tribal Liaison Office (TLO)
([http:// www.tlo-afghanistan.org](http://www.tlo-afghanistan.org))
Phone: +93 (0) 700203557

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President of Foreign Trade, Ministry of Commerce of I.R. Afghanistan
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Email: foreigntrade_department@yahoo.com , dept_fortrade@parsimail.com

Abdul Majid Wafeq
President Afghanistan Plants Co. Ministry of Commerce
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Trade statistics has mostly been collected through;
International Trade Centre (ITC) Product maps/trade data
<http://www.intracen.org>

Appendix 4 Questionnaires used

The below questionnaire have been used local and regional market research..

Local Markets Research questionnaire:

Name of Interviewee	Complete address	Kind	Grows in	Price in USD/kg		Collection	USage	Export to	Qty	Comments
				Purchase	Selling					

Regional Markets Research questionnaire:

Name & address of Interviewee			Is he trading or processing?	Trading organic/certified product?	Buying from Afghan traders or collectors?	Traded quantity per season	Demand (low, high, max. Quantity)	Regional vs international demand		Export to & Quantity per year		Selling to whom (enduser or other trader)	How is quantity tested?	Factors effect the prices	Purchasing price per kg From Collector/middlemen	Selling price per kg on national & international levels	Packing & Labelling	USage
Name	Address	Phone#						% of product sold in Pakistan, estimated tons	% of exports, estimated tons	Location/ country	Qty							

Below questionnaire has been used at the India Organic trade fair visited November 2006:

**Company Questionnaire for the India Organic Trade Fair
9-12 November 2006**

Introduction

When you meet relevant persons on the trade fair, briefly introduce yourself, your organization and the work of the Multi-stakeholder programme. Also mention the 6 products we are working with: Artemisia, Liquorice, Jujube, Cumin, Caraway and Hing. Make note of the following:

Background information interviewed company:

Name and contact details (easiest is to ask for a business card):

.....

Main activities:

- | | |
|--|--------------------------------------|
| <input type="checkbox"/> Distributor | <input type="checkbox"/> Wholesaler |
| <input type="checkbox"/> Agent | <input type="checkbox"/> Processor |
| <input type="checkbox"/> Importer/Exporter | <input type="checkbox"/> Other |

Main products and if possible also quantities traded:

Is the interviewee familiar with our 6 products?

(From now on, specify the following questions for the products he/she is familiar with. If possible, focus on our products, otherwise on his/her available knowledge.)

Logistics and trade channel:

- 1) What is the route of the by you exported product? To which countries or regions do you trade?
- 2) Where do you get your products from; from what kind of company and from which area?
- 3) To what kind of company (importer, distributor, etc.) do you sell your product? Do you know his client(s) and/or the final destination of the product?
- 4) Is the product transported by air, by road, by train or other?

Quality aspects:

- 5) What quality aspects do you take into consideration when purchasing a product?
(legislative as well as non-legislative)
- 6) What are common bottlenecks within the trade of the 6 mentioned products with regard to quality aspects?

Packaging & Labelling:

- 7) What are your preferences regarding packaging of the mentioned products?
- 8) What is your preference regarding labelling of the mentioned products?

Prices (& costs & value added):

- 9) What is the price for which you buy 1 KG of (the product)? (or other quantity unit)
- 10) Do you add value, and if so, what costs are involved?

General questions:

- 11) Which of the 6 mentioned products offer most opportunities in your point of view?
- 12) What are developments and trends in the Indian and global market of
 - a. Organic products
 - b. Natural ingredients
 - c. Wild-collected products?
- 13) How do you consider trade from Afghanistan in general?

THANK YOU!