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Case Studies Series

UNDERSTANDING MARKETS IN AFGHANISTAN: A Case Study of the Raisin Market

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by Sarah Lister & Tom Brown
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Understanding markets in Afghanistan: a case study of the raisin market

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June 2004

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Abbreviations

AREU	Afghanistan Research and Evaluation Unit
CADG	Central Asia Development Group
CSO	Central Statistics Office
FAO	United Nations Food and Agriculture Office
MAAH	Ministry of Agriculture and Animal Husbandry
MoC	Ministry of Commerce
MoF	Ministry of Finance
mt	metric ton
UCD	University of California, Davis

Photographs by Tom Brown and Zainiddin Karaev. Used with permission.

1. Introduction

This study is one of three case studies funded by the World Bank and conducted in March – April 2004 under the Political Economy and Markets Programme of the Afghanistan Research and Evaluation Unit (AREU).[1] The case studies cover three activities important to the Afghan economy: raisins, carpets, and construction materials. The aim of the studies is to enhance understanding of the role of markets in affecting the prospects for growth, and the distribution of the benefits of growth, in Afghanistan. They explore the structures and functioning of markets in Afghanistan and thereby assist in the formulation of government policies aimed at enhancing broad-based growth and poverty reduction in a market environment. A short synthesis note which looks at some of the key findings from the three case studies has also been prepared.

Raisins are economically the largest part of the horticultural crop in Afghanistan. They are also its primary export commodity. During the 1960s and 1970s, export of raisins from Afghanistan accounted for 60 percent of the world market. Accordingly, there is perceived to be a tremendous potential in the Afghan dried fruit market and there is a considerable interest in the market from donors, who see in potential raisin exports a way of boosting Afghanistan's economy.

This study looks at the production and marketing of raisins in Afghanistan. It is based on about 35 interviews with grape growers, raisin traders, raisin exporters, government officials and others involved in the production, processing and export of raisins in Mazar-e-Sharif, Kabul, and Peshawar, Pakistan. Visits were also made to wholesale markets in Mazar and Peshawar, and working raisin processing plants in Mazar and Kabul. It also draws heavily on the experience of one of the authors, Tom Brown, Zeerat International, a horticulturalist who has worked in the international export trade, especially vegetable seed trade, for many years, with particular experience in Kandahar and the south and southeast of Afghanistan. Additionally, it benefits from other recent studies, particularly those by the University of California, Davis (UCD) and the UN Food and Agriculture Office (FAO).

In order to understand the potential for export, and the differentiation of markets by product, quality and price, this paper looks first in detail at production and marketing processes, the so-called 'chain' from producer to export destination. It then considers various issues relating to the functioning of the raisin market. The following section considers existing data on exports, and the different international markets to which Afghan raisins are sent, as well as the constraints to expansion. The paper concludes with a discussion of possible interventions.

2. Production processes: grapes and raisins

It is important to note in the beginning that, in Afghanistan, raisins are a by-product of fresh grape production. The main interest and intention of most Afghan grape farmers is to sell

[1] These three studies were produced by an AREU research team consisting of: Mohammad Moharram Ali (consultant),Tom Brown (consultant), Zainiddin Karaev (Research Intern, AREU) Jamal Khan (consultant), Sarah Lister, (Team Leader -consultant), Adam Pain (consultant). Additional input to this raisin study was provided by Anthony Fitzherbert. For more details contact sarah@areu.org.pk.

fresh grapes, because they receive a better price - calculations suggest up to three or four times more for the same weight of grapes.[2] This is in contrast to the West, especially in the dominant California production area, where fresh grapes and raisins are essentially two different crops with very different production and marketing strategies. Afghan grape growers, however, produce both raisins and fresh grapes from the same vineyard every season.

Grapes are grown in almost all regions of Afghanistan. However, certain areas, such as the southern provinces and Ghazni have a reputation for producing a better quality product, but quality is also somewhat dependent on weather conditions in particular years. For example, the north is suffering particularly badly this year because of cold weather during the last growing season, leading to both low quantity and poor quality. There is also some regional variation by variety. Vineyards in the south, for example, will usually have three or four varieties in them. The two most common are: Geerduk; early, round and seedless; and Shindukhani which is harvested later and is elongated and seedless. They are both green and are both antecedents of Western seedless grapes used for sun dried raisins (largely Thompson Seedless or, formerly, Sultanina). However, there are many other regional varieties, for example, black seedless grapes are common in the north, whereas there are virtually no black seedless grapes in the south. When growers in Kandahar have been asked why they do not grow them they reply that "those grow in Mazar", although there is no particular horticultural reason for this.

2.1 Grape growing

Across Afghanistan, there are different arrangements related to the ownership and production of the crop. In the southwest, for example, most vineyards are owner-operated, but some are share cropped. When sharecropping occurs, the normal arrangement in this region is that the landlord receives 5/6 of the crop and the sharecropper receives 1/6. However, sharecropping is only really feasible in abnormally large vineyards where the landlord is absentee and the 1/6 still amounts to a significant crop for the sharecropper. Under these arrangements the sharecropper and landlord share the costs of maintaining and re-digging the vineyard ditches annually. The landlord is usually fully responsible for providing fertilizer for the crop (which may be either animal manure or diammonium phosphate) and the sharecropper is fully responsible for irrigating. There are very few sharecroppers in tubewell irrigated vineyards or in vineyards that are not part of larger diversified farms that produce large amounts of manure for fertilizer.

Elsewhere sharecropping patterns differ. In the North, in the area around Mazar–e-Sharif, for example, it is common to have both owner-operated and share-cropped vineyards. The arrangements that these researchers heard about was for the sharecropper to receive ¼ of the crop when the owner pays all expenses other than labour, and to receive ½ when the owner rents out the land only and all inputs are provided by the sharecropper.

[2] Farmers quoted 750 Afs for 21kg box of fresh grapes. Assuming drying ratio of 4:1 (green fruit: raisin), then this weight of grapes would produce 5.25 kg of raisins. Farmgate prices for mid-quality kishmish are 300 Afs per 7kg, so 225 Afs for this quantity.

Most farmers diversify their production and may well have almond and apricot orchards as well as other land on which they grow vegetables, wheat and poppy. They may also keep some livestock.

Production issues

The traditional "jui" or 'earth–trellised' vineyard system is the main grape production system in the country. The establishment of the vines on a 'jui' system takes four years, after which production in subsequent years will be largely the same. The jui Afghan grape growers use the jui production system because they believe it protects the grapes from heat and wind damage, and because they are not convinced that another system, such as wire trellising, is beneficial. It is the system that has been used since antiquity so it carries a strong inertia of tradition as well. It also affords support to vines with earth, a material that is perceived as cheap.

However, this production system is unusual. All over the world, grapevines are trained to wire trellises of myriad configurations. Afghanistan is one of the last grape growing regions of the world that has not adopted the grape trellis as the foundation of its standard production system. Accurate figures are not yet available for yields versus costs of different systems, although a rough comparison of costs versus yields is provided in Annex A.[3] However, more accurate figures will be available at the end of the 2004 season, when the first small crop of grapes will be harvested from the Central Asia Development Group (CADG)'s small trellised vineyard demonstration plot in Kandahar.

Most farmers see the jui system as inevitable and in many cases, not even an issue to discuss. Moreover, the production system is not their greatest perceived constraint. Grape growers are far more interested in the availability of irrigation water. Over the recent years of drought, many grape growers in the Kandahar and Zabul areas drilled wells for the first time. This lowered the surrounding water tables and caused the drying of very old drainage channels (*karezes*) uphill from the well. This drying in turn resulted in the total loss of many old vineyards and orchards that had been *karez* watered. With the partial remission of the drought in the south, some vineyards have been brought back from the brink of total loss. However, poor management of irrigation water, especially well water that is actually too saline or alkaline to use for grapes, has created a serious production problem that did not exist before the drought years.

However, although the farmers do not always acknowledge it, water management issues are closely connected to the grape production system. Under the current system, the ditches in which the grapes are grown are difficult to irrigate efficiently. It appears that far more water is used in irrigation than is necessary for normal vine growth, since the irregularity of the surface means more water is needed to get to all of the depressions. Furthermore, the irregular surface of the jui vineyards provides many places for water to percolate upwards to moisten soil that has no grape root in it but does have weeds growing. It also appears that the best water conservation practices such as drip irrigation are not well suited for the irregular relief of the jui vineyard. However, it is also important to note that the

[3] A commonly-used estimate of yield for Afghanistan is fresh grape yields of around 9kg per vine with around 1900 vines per hectare yielding 17,100 kgs per hectare.

management of water throughout Afghanistan is not just a technical issue, but a political one, with heavy involvement by warlords and others with local power. Those who benefit from good water supply are often those who have cultivated close relationships with political power-holders, as well as those who are fortunate enough to be located upstream.[4]

2.2 Raisin production

There is a basic distinction in raisins between those that are dried directly in the sun, the black and red raisins, or *aftabi* (sun-dried), and those that are dried in the *kishmish khana* away from direct sunlight, the green raisins, *kishmish*.[5] Normally the long, seedless kishmish from the Shindoo Khani variety are the most expensive. The round ones are from the Geerduk variety and are not normally as highly priced. This is just a market preference issue, there is no horticultural reason.

Kishmish production

Kishmish are produced in *kishmish khanas,* which are simple mud-brick structures. Their basic design is a building with lattice sides. They are easily built and their operation is well known. The buildings are oriented to catch breezes. Due to the delicate nature of the grapes, they usually occupy the centre of the vineyard. By September, night time temperatures are quite cool and so the fruit is not subjected to constant intense heat nor are they in direct sunlight. Generally, one linear meter of *kishmish khana* will hold one *kharwar* (450kgs) of fresh grapes which will ultimately yield about 110kg of green kishmish. *Kishmish khana* can be quite long but are usually only about 3 meters wide.

Kishmish-khana in the middle of a vineyard

When the grapes are harvested and their bunches trimmed, they are hung on sticks that are placed in sockets drilled in the mud walls on the inside of the *kishmish khana*. There is some technique to arranging the fresh grapes in the kishmish khana. A gentle, lateral air flow is necessary. If too many grapes are hung in part of the house restricting airflow, then the respiring grapes can actually create pockets rich in carbon dioxide. Hapless vineyard workers

[4] Adam Pain, Understanding Village Institutions: Case Studies on Water Management from Faryab and Saripul

[5] In Afghanistan, the term 'kishmish' is usually only used for the green shade-dried seedless raisin, and it is this use that is adopted here. In Iran, however, the term is less narrowly defined and in Turkey it is the name of the grape variety that gives green seedless grapes.

who try to escape work by hiding in the *kishmish khana* and fall asleep there sometimes never wake up.

Kishmish need about one month to dry in the kishmish khana. However, an application of potassium carbonate prior to drying dramatically reduces drying time. Nonetheless, the correct concentration of chemical to use and its effect on the final product are not clear.[6] Also, sometimes the grapes are dropped in boiling water to break the skin so that they dry faster – the resulting type of raisin is known as *abjoosh*. Under ideal conditions, the grapes dry into an elongated shape and can retain bright, lime green colour and sweet-sour flavour. A recent study by FAO[7] speculated whether increased ventilation facilitated superior drying conditions and a better quality end product. Bigger drying houses, with lattices roofs as well as latticed sides, seemed to produce better quality raisins.

In general a kishmish khana is used for one batch per season. There is usually not enough harvest remaining for a grower to plan on a confirmed double batch through the *kishmish khana*. A shrewd observer can therefore estimate a farm's drying capacity by estimating the length of a farmer's *kishmish khana*.

Aftabi production

The harvest and sale of the fresh grapes removes about 30-40% of the crop from the vineyard and the harvest and hanging of the other grapes for kishmish production removes another similar portion. Thus another 20-30% of the crop remains. This is the fruit from which the sun dried aftabi raisin is prepared. The aftabi is the trimming waste, shattered berries, wasp-damaged, spillage, and left-over fruit after the end of the fresh grape harvest and when the *kishmish khana* is full.

These grapes are sun-dried on any available surface with minimum inputs. Semi-dried raisins are often mixed with dust to help them dry. The extreme dryness of the air – relative humidity of 15% is common in August and September – causes the raisins to dry down to 12-13% moisture. They then can easily be shovelled without clumping. Their capstems become very brittle and can be readily rubbed off.

Due to the way that they are produced, and their status as a third product in the production process, Afghan aftabi raisins are not of the highest quality. Their drying technique and the off-handed way they are treated by farmers almost guarantee that they will never compete with the higher quality Californian or comparable sun dried raisins. They require double washing and careful hand picking to render them acceptable for a discriminating Western market.

[6] Kemal-Ur-Rahim, K. (2003) " A review of the horticultural marketing and post-harvest conditions". Kabul, FAO.
[7] Ibid.

Box 1: An attempt to improve the quality of aftabi raisins

Afghan raisins can be of the highest quality when dried carefully using a cleaner and more intentional technique. This was tried in Kandahar in the summer of 2003. Paper drying trays from California and other locally available drying aids (wooden trays, woven reed mats, woven plastic mats, and plastic sheeting) were used as drying surfaces for improved aftabi production. The raisins produced were of high quality and good size. Their capstems were easily removed and they spent only 4-5 days in the sun before they were ready to clean and pack. Local Afghan raisin growers expressed keen interest in this production improvement.

A small lot of paper drying trays was imported and distributed to interested raisin growers for experimental use for a portion of their grapes. The participating grape farmers dried some of their grapes with these trays but when they sold them in the bazaar they received no price premium in the Kandahar market for the improved quality. The cleanliness and uniformity of the product brought no special price for a product that is, in the minds of Kandahari raisin traders, the very definition of a by-product. Market perception might change if volumes of tray dried aftabi raisins were made available but it is hard to imagine who would assume that risk with this precedent.

Drying aftabi raisins on trays

3. Marketing patterns

3.1 Selling fresh grapes: the first commodity chain

The use of gibberellic acid in table grape production in the West, while bringing about higher yields and increasing berry size in seedless grapes, virtually locks the Western grower into

fresh market sales. The Afghan farmer, however, can defer his marketing decision until just a few weeks before the maturity of the grape compels him to harvest. He will visit the main fresh and raisin markets and ask different dealers and other customers about prices. Based on this information and on his understanding of how much fresh grape will come from elsewhere to alter the price, he will usually decide to divide his crop into fresh grape and shade-dried kishmish; provided he owns a *kishmish khana* in which he can shade dry his grapes.

Once he has decided how much to sell as fresh produce, a farmer usually plans to sell this part of his crop as quickly as possible. Very few grape growers harvest their own fruit for fresh marketing, although they do harvest and process the grapes they keep for raisin production. Fresh fruit harvesting demands immediate marketing, as grapes have only about one week to get from the vineyard to the retail outlet. However, farmers often do not have semi-skilled harvesting labour and packaging materials. More importantly, they do not have the market connections and financial relationships that support the trade of a highly perishable product such as grapes. So farmers almost always feel some compulsion to engage a packer/shipper.

This packer/shipper contractor will meet the grower at the vineyard sometime in August, prior to the start of the harvest. The two will negotiate the fresh grape price to be paid and the terms of sale. The farmer will make sure the packer/shipper contractor understands that he can do without him by hanging his produce in the *kishmish khana* and the packer/shipper contractor will gauge the size of the *kishmish khana* and fortify his position with his estimate of the carrying capacity of the *kishmish khana* in relation to the size of the vineyard.

Very often the farmer will agree to sell about 40% of his crop fresh to the harvesting contractor. Since the varieties in the vineyard are usually mixed; the farmer will sell the seeded varieties and the early seedless varieties to the packer/shipper for sale in the fresh market. Once this deal is made, the farmer will have nothing more to do with the vines to be harvested by the packer-shipper except to irrigate them.

The normal expectation is for the packer/shipper to pay the farmer 30% of the estimated value of the crop at the time of the deal. Another 30% is paid halfway through the harvest and the final 40% at the end of harvest. It also common, however, for the packer shipper to delay payment, misrepresent the weight of the grapes harvested, attempt to re-negotiate the deal halfway through claiming bad market conditions and in the end, simply not pay for a portion of the grapes harvested

Few growers see these arrangements as preferable but since they are not usually well connected to the markets and do not have the downstream contacts themselves, they accept the cost and sell part of the crop to the packer/shipper. The perishable nature of the grapes heightens the unfavourable nature of many of these transactions for the farmer, since to avoid spoilage the product has to be delivered to markets whether or not cash has changed hands. However, the farmer has no plausible legal recourse if he thinks he has been cheated. If he has some patronage from a local commander then the packer/shipper may be less exploitative. However, if the packer shipper is the one with patronage then the farmer is vulnerable indeed.

This system of harvesting and payment is traditional and is also used – with somewhat less criminality - in neighbouring Pakistan. It functions well enough that grapes continue to flow out of Afghanistan and into distant markets in a reasonably predictable fashion. However, it

is a system that endures because of the inability of grape growers to find any alternatives. There are few existing farmer marketing associations or cooperatives, and most farmers do not really have the skills or awareness of how to establish such farmers' groups.

Furthermore, this current fresh harvest and marketing system also militates against the development of a value-added strategy that would require a partnership between the grower and the packer/shipper. The grower only has a genuine incentive to use value increasing horticultural techniques to improve the quality (such as girdling or bunch-thinning or crop thinning) if he knows that he will be rewarded for improved quality and treated fairly by the packer shipper.

Sometimes, if the farmer has sufficient capacity and time and he is located close to a major market, he will arrange for sale of his fresh grapes either to or through local shopkeepers, who may also provide the transport and packing materials. However, this is quite time-consuming and may not be appropriate for larger harvests, or for farms which are farther from markets.

3.2 Selling raisins: the second commodity chain

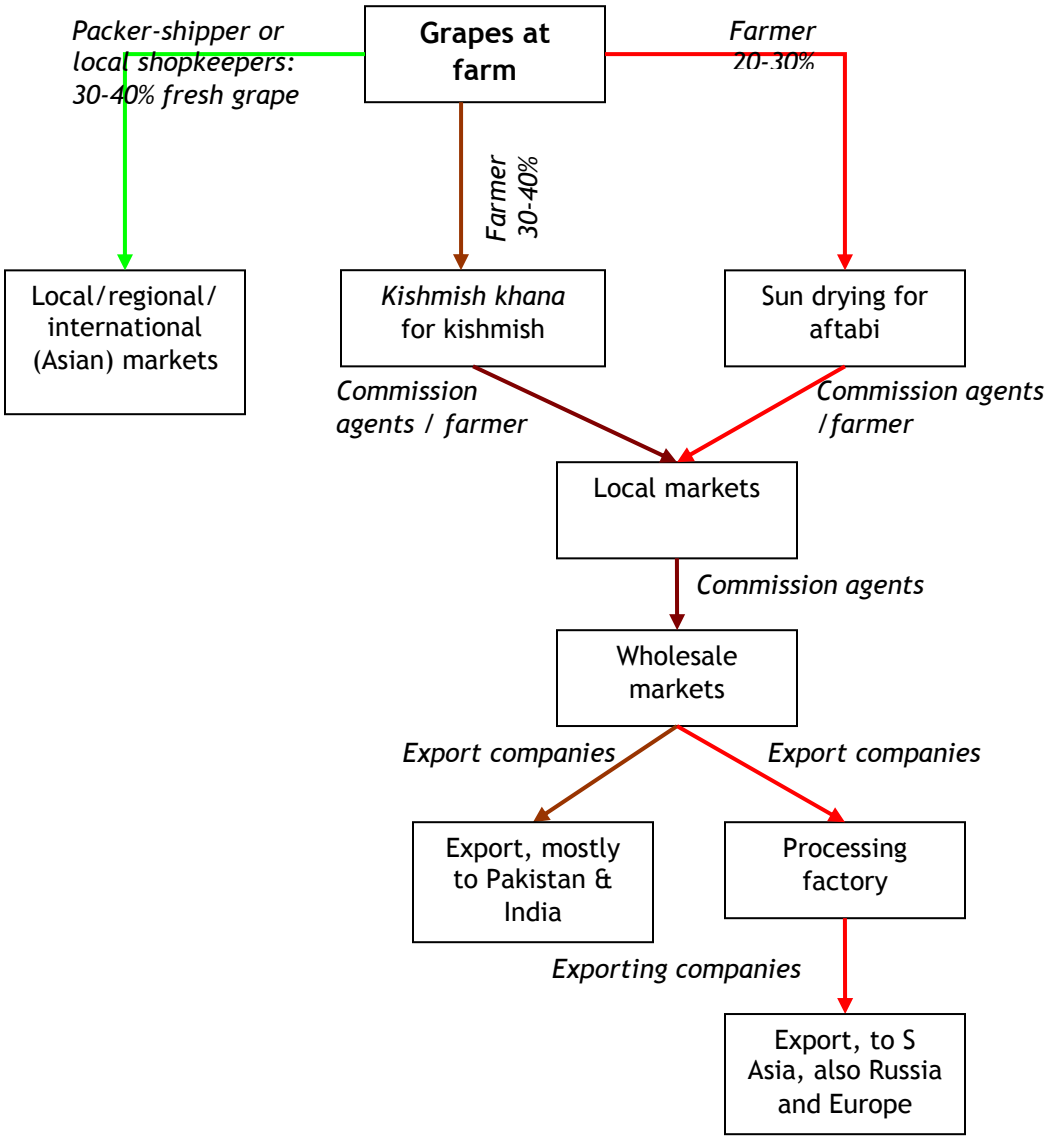
From farmgate to market

All farmers know that the lowest price is at harvest time so raisin producers try to store their product for as long as they can afford, and will often not sell all their harvest at one time. They will wait until prices are high, they need the money, or require the storage space for other products or next year's harvest. Indeed, farmers with a little cash will sometimes invest through 'speculating' in raisins, buying when prices are low and selling when prices are high.

Usually raisins move first from the farm to local markets, or sometimes they go directly to a dried fruit wholesale market (depending on the location of the farm). Often the farmer himself takes bags of 50 kg or 100 kg of raisins to the market. Sometimes a middleman, or 'seasonal trader' will appear at the farm gate at the time of harvest or later when raisins are ready.

At a local market, the farmer may sell the raisins to small or large traders, either those buying to sell at a wholesale market (such as Mazar or Kandahar) or directly to the commission agents of exporters, who are either acting on specific orders or speculatively. Alternatively, farmers may sit in or near the market with their gunny sack and sell the raisins in small amounts to retail customers. They take their pricing cues from other products already on sale in the market. If their product is extra clean or exceptional in some way then they will emphasise its attributes and attempt to push the price up accordingly. A raisin bazaar may have 50 or 100 tons of product present at any one moment and there may be 150 owners present as well. However, most of these people are farmers who hold for sale only a few kgs of product.

Figure 1: Commodity chains: grapes and raisins



For small lots of 50 or 100kgs of raisins this system of wholesale markets seems to work fairly well. But this system fails in the servicing of large orders. In this case, there should be a reward to the buyer for reducing the transaction costs of many sales to just one sale of a large amount. They can easily dispose of their product so they can get on with other business and so should pass their savings of time and effort on to the large buyer. The opposite sometimes happens in Afghan raisin markets. If a customer appears and starts buying up large lots of raisins, then the price goes up despite the absence of other buyers. There appears to be a price response to the number rather than the volume of transactions. There are relatively few buyers of raisins at present so a boom/bust mentality prevails and raisin sellers try to get in on the action to the extent they can. The price of raisins can double

within a few days if there is steady buying. This forces larger customers to cloak their procurement behind purchasing agents who buy small lots at irregular intervals.

This market behaviour is self defeating and makes it extremely difficult for traders to procure product opportunistically to meet large overseas orders. If the trader aims to buy 100mt of aftabi raisins then he may pay ten different prices for the product over one month of procurement. Whether it is cheaper to forgo the increased transaction costs and product storage costs by simply buying the product all at once and acquiescing to price inflation, or to be opaque, conservative, and piecemeal, would have to be judged case by case. A further disadvantage of this system is that it makes it very hard for exporters to deal directly with producers about, for example, the quality of the product. As soon as it is known that there is a large order in the offing (particularly from an international company), then the price inflates to a level beyond the reach of the company.

Some suggest that this situation would be improved by an auction process. If farmers could come to town with their raisins and auction them and leave with money then they would feel that they had received a fair price and so would the buyer. The buyer could continue to bid as long as he was comfortable with the price. When he stopped bidding then either he would get the lot or somebody else would who wanted it more. This is the way that most fresh produce is already sold in wholesale markets.

Box 2: The raisin market in Kandahar

The dried fruit market is within the confines of the city and occupies a two hectare site. There are approximately 150 raisin traders operating from this market. During the six month raisin season, approximately 270 tons of produce arrived per day. This means that up to 50,000 tons of produce could be passing through this market.

The biggest complaint made by the traders was the lack of appropriate storage facilities to allow them to keep their stock in a controlled environment. Red raisins that wholesaled at US$0.86 per kg when fresh lost condition within a few months due to heat damage and sold at US$0.17 at the beginning of the next season. Iranian raisins by comparison had a quality after one year that exceeded the Afghan raisin when fresh. The Abjoosh raisin that sold at US$2.88 per kilogramme when fresh, one year later would sell for US$0.86 per kilogramme.

Source: Kemal-Ur-Rahim, K. ibid.

3.3 Processing for export

There is relatively little processing of kishmish, which cannot easily be washed without damaging the quality. In the wholesale markets the product is usually carefully sorted into different quality, based on shape, size and colour. The long, uniformly green product of Shindukhani grapes is considered the best and brings the highest price. Irregular colour with more browning is considered to be of lower quality. Geerduk grapes produce a round kishmish which is also not as highly regarded but is still worth more than the aftabi. In order

of best to worst, quality is specified as: select, no1, no1.5, no2. Once this sorting and grading has taken place, there is little further processing.

Factory processing deals with aftabi for export, but only for certain markets. Raisins that are exported to Pakistan or Dubai often do not go through factory processing in Afghanistan, as they are often double-washed in factories at their destination. While there used to be at least 31 raisin processing factories in Afghanistan, few of these survived the conflict era. Some suggest that only eight are currently working – 2 in Mazar, 2 in Parwan, 2 in Kandahar, 1 in Kabul and 1 in Herat. These are all based on Russian or American processing lines that are over 30 years old. Factories are usually owned by businessmen who both export raisins themselves and rent out their facilities to other regular customers.

The lines wash, winnow and destalk the raisins after which liquid paraffin or seed oil is sprayed on them. After the mechanical processing, a manual sorting process occurs, often carried out by women or boys. The goods are then boxed ready for export.

Box 3: A raisin factory in Kabul

There were eight raisin processing factories in Kabul in the 1980s. Currently only one of them is operational, which on the day of the visit, was processing raisins for export to Russia. The raisins come from Istalif, Shomali, Parwan and Ghazni.

The equipment is old, bought in 1964 from California, and has worked continuously since then, all the way through the war. Raisins are shovelled onto the conveyor manually. They are washed and winnowed, then paraffin is sprayed on them. After that, women and boys manually sort the raisins and remove the remaining capstems, before they are loaded into 12 kg cardboard boxes. Approximately 1/2 of the process requires manual labour. The line can process 4-5 mts per hour.

The factory manager claimed to have 250 employees. However, there were around 30 people working at the time of visit. Around 2/3 of them were women and children and 1/3 men. At busy times of the year the factory operates double shifts. The factory operates all year around except for 15-20 days when it is shut for plant maintenance.

The factory processes raisins for 15 to 20 exporters during a year. Usually the exporting company pays for everything including labour wages, and the factory owner charges 500 Afs per mt of raisins processed.

A representative from the Raisin Export Promotion Institute visits to ensure the quality of raisins for export. The factory also has its own small laboratory.

Packaging aftabis for export

The quality of the processing and packing is often poor. The lines are not always very effective at destalking or winnowing, and some debris gets missed by the manual sorters as well. Consignments for European markets are often double washed and processed, manually sorted to make sure all capstems are removed. According to a factory manager this is increasingly becoming a requirement for exports to Russian markets too,

whose customers are becoming 'increasingly picky, just like the English!' The factory run by CADG in Kandahar, has a triple grading system in operation and its product is accepted by traders in London.

3.4 Exporting from Afghanistan

Different raisin products have different end destinations, as discussed in more detail below. Kishmish, a more valuable product than aftabi, is sold almost entirely in Pakistan and India. Aftabi are also sold in South Asia, but their main markets are in Russia and other parts of the former Soviet Union, and Europe.

Export from Afghanistan is a difficult process which endangers the quality of the product and jeopardises the end price. Each route has issues peculiar to that route. The route for product from Kandahar via Chaman/Waish is not untypical. Once the correct paperwork has been obtained (see below), then the product is trucked to the border. If the final destination is outside Pakistan but not India, then the product must be unloaded from its Afghanistan registered truck at the Chaman/Waish border area, and loaded again into railway cars that are sealed by the Pakistani Customs. The product is then transported to Karachi by rail. The product is offloaded in Karachi and held in the Afghan Transit Trade Zone warehouse from where it will eventually be reloaded into ocean-going containers and then exported by sea. This process is fraught with inefficiencies and risks to the product being shipped. For example, CADG's raisins normally take 4 weeks to travel from Kandahar to Karachi and then an indeterminate period to get loaded onto a ship.

It is not uncommon for the raisins to sit in the sealed rail car for 2-3 weeks in Pakistan Railways' shunting yards, in Sibi junction in Balochistan, in 40C heat. This damages the product quality, causes seepage of moisture from the product into the surrounding packaging and ultimately significant product loss. Further, the repeated loading and unloading of the cartons can cause a high rate of spillage and crushing. Access to the shipment as it sits in the Afghan Trade Zone in the Karachi port is usually denied by Pakistani port authorities. So damaged packaging and product may be shipped 'as-is' to a customer, resulting in lost business or customer demands for discounts.

Exporting to India is less problematic as Pakistani trucks may collect the Afghan product at the Pakistan-Afghan border and then directly travel by road to the Indian border near Lahore. By travelling entirely by road in private trucks, there is far less chance of lengthy delays. There may be delays but not of the magnitude possible on the railway. However, there is still no mechanism for cartons to be loaded once into a container at their point of origin and retained in that container until they reach their final destination. There is a slightly better transit system for sending raisins by rail to Moscow. Shipments on this route routinely take 15-20 days and with less damage.

Regardless of the means of transport, exported raisins are targets for inspections by law enforcement officials of both Afghan and neighbouring governments. These inspections can result in damage to both the packaging and the product itself. Often bribes are offered to the inspectors to forego the inspection.

The product loss due to poor transport is very frequently at the level of 5-10%, bribes in the supply chain can also increase the cost by 1%. However, the largest risk is loss of business

from poor quality and late delivery. The occasional total loss with no hope of compensation is a weighty disincentive to raisin traders to try to increase the value of their products with more attractive packaging or a higher moisture content.

The biggest risk that Afghan raisin or grape traders take during the whole production and export process is outside Afghanistan. It is while the raisin traders' products are in transit that a total loss of the consignment is a very real and even likely risk for them. If a truckload of raisins is hijacked en route from Kandahar to Kabul, the owner of the product has some recourse with local commanders and other authorities. Indeed, it is not uncommon to see local commanders being petitioned to deal with such problems. However, if a trader's shipment disappears in a lost rail bogey in Balochistan, then there is essentially nobody who can render useful assistance. There is no insurance for this kind of risk nor is there a hope of resolving damage claims with any of the neighbouring governments.

4. Market issues

4.1 Actors

There is very little specialisation among actors at any point in the commodity chain, with the exception of those who deal with fresh produce, and at the factory processing stage for aftabi. From the farmer, to the 'middlemen' or 'seasonal traders', to the wholesalers, to the commission agents, to the exporters, all of these actors deal with a number of products, including products outside the category of 'dried fruits'. As discussed in the synthesis paper, this is very typical of the trading environment in Afghanistan, and reflects both seasonality issues, as well as a spreading of risk. Factors significant to other forms of trading therefore equally affect the raisin business, with some factors made more urgent by the perishable nature of the goods and the need to keep them moving towards their final destination.

As with other commodities, relationships between different actors in the chain are based strongly on patron-client relationships, with those nearer the beginning of the chain (producers and small traders) almost always getting the worst deal. The choice of who to deal with in various transactions is not made on the basis of price alone (although sometimes it is forced by lack of choice), but also influenced by issues of trust, reputation and existing social and ethnically-based networks. Given the lack of a regulatory environment, the unavailability of commercial credit, and the absence of formal mechanisms of complaint, reputation and trust are seen to be absolutely vital. However, even if trust is abused it may not rupture a longstanding relationship. For example, despite a bad experience with a packer/shipper, a farmer may not change the person whom he contracts the following year. These issues of the embeddedness of business in social relations are complex, and require further study.

Businesses are also based on complex and long-standing webs of social relations. Seeing an Afghan trader as a lone operator is very rarely an accurate picture of how trading is conducted in Afghanistan. All large traders who deal through Pakistan have agents there and may themselves be the agent for a trader there. They also have a network of commission agents who will source and purchase produce for them in season. These commission agents are often paid a retainer of between USD17 to USD34 per month.[8] Similarly, those traders who ship through Russia do so through Afghan-Russian companies with whom they have

[8] Kemal-Ur-Rahim, K. Ibid .

longstanding connections, usually through a family member. Indeed, this type of relationship has enabled one or two large operators based in Mazar to increasingly dominate this route for raisin export, squeezing out smaller operators with weaker links, or less efficient partner organisations.

4.2 Prices

There is very little value addition that occurs beyond the farm gate, yet there are significant increases in prices at different stages of the chain. Farmgate prices are usually determined by the middlemen and commission agents, who visit the farms and buy the bulk of raisins. They also buy the bulk of raisins from local markets that are located far from the regional wholesale markets.

In the wholesale markets a complex system of price setting is at work. Prices may go up and down frequently, sometimes even during a single trading day. This depends on the volume of raisins available on the market and the number of buyers on that day. It is very hard to get accurate price information, and requests for such information are usually greeted with suspicion. The most comprehensive price information available is provided by a market survey conducted by UCD in October 2003 (see box 4). Price information collected in the course of this case study has not contradicted that information, although it has not been possible to verify all of their information, nor to clarify with them how such commercially sensitive information was collected.

The distribution of the final sale price is broken down for chains 3 and 7 in figures 2 and 3 below. It should be noted that these are only rough estimates, based on data from a variety of sources. Moreover, they are not comparing exact like with like within each category. In particular the second chart illustrates the share of final sale price, whereas the first illustrates the share of traded price in Moscow. This reflects the somewhat different markets for kishmish and aftabi - India is the final destination and point of consumption for kishmish, whereas Moscow is not for aftabi. Nonetheless, they illustrate that, although the more specialty items have greater mark-up, a smaller proportion of this finds its way to those lower down the chain.

The highest margins are payable on the more speciality items, for example, on the Shundukhani raisin illustrated below. By the time this green kishmish reaches India, the price has almost tripled. It is not clear how big the Indian market is (see discussion below). However, it certainly is large enough to support a 300% mark-up with the current product volume. If the hefty transaction costs were reduced, and more of the profit allocated to the producer, there could be some significant profit for the farmers.

In general, prices have been going up on the produce purchased for export. In 2002, CADG paid a weighted average of US$318/mt. In 2003, they paid a weighted average of US$418/mt. This rise occurred because the 2002 stock in the market was high and had been sitting unsold since before the fall of the Taliban. Western prices are not very far from these prices, so there is some sort of price contiguity. However, it is very difficult to get comparable international price data.

Box 4: Value chains

I. Value Chains: through Kandahar to India and Germany
1. Medium Quality Round Green Raisin
Afghan Wholesaler pays: $0.91 / kg.
(sorts, packs, transports until border)
Indian importer pays: $1.22 / kg.
(takes delivery and pays at border)
Indian retailer pays: $2.61 / kg.
2. Medium Quality Long Green Seedless Raisin
Afghan Wholesaler pays: $2.87 / kg.
(sorts, packs, transports until border)
Indian importer pays: $3.48 / kg.
(takes delivery and pays at border)
Indian retailer pays: $6.00 / kg.
3. High Quality Shundukhani Raisin (specialty item)
Price at farmgate: $4.50
Afghan Wholesaler/exporter pays: $6.26 / kg.
(sorts, packs, transports, duties until border = approx. $1.10/
Indian importer pays: $6.96 / kg.
(takes delivery at Pakistani border; later pays $1.74/kg.
Indian consumer pays: $12.50 / kg.
4. Medium Quality Red Raisin
Afghan Wholesaler/exporter pays: $1.22/ kg.
(sorts, packs, transports)
German importer pays: $2.96 / kg.

II. Value Chains: through Jalalabad to Pakistan
5. Sun dried Shomali Raisin
Afghan Trader pays: $0.52 / kg.
(sorts, packs, transports until border)
Pakistani importer pays: $0.70 / kg.
(takes delivery and pays at border)
6 . Sun dried Ghazni Raisin
Afghan Trader pays: $0.70 / kg.
(sorts, packs, transports until border)
Pakistani importer pays: $0.87 / kg.
(takes delivery and pays at border) …"

III Value chain: through Mazar to Moscow
7. Sun dried raisin (variety not known)
Price at farmgate: $0.43/kg
Traders buy from middlemen: $0.47
Paid to processors for processing inputs & packaging: $0.02/kg
Customs tariffs at Russian border: $0.10/kg
Traded price in Moscow: $0.80

Sources: UC Davis study, also Kemal-Ur-Rahim, Tom Brown and research interviews.

Figure 2 Share of traded price of aftabi raisin exported from Mazar to Moscow

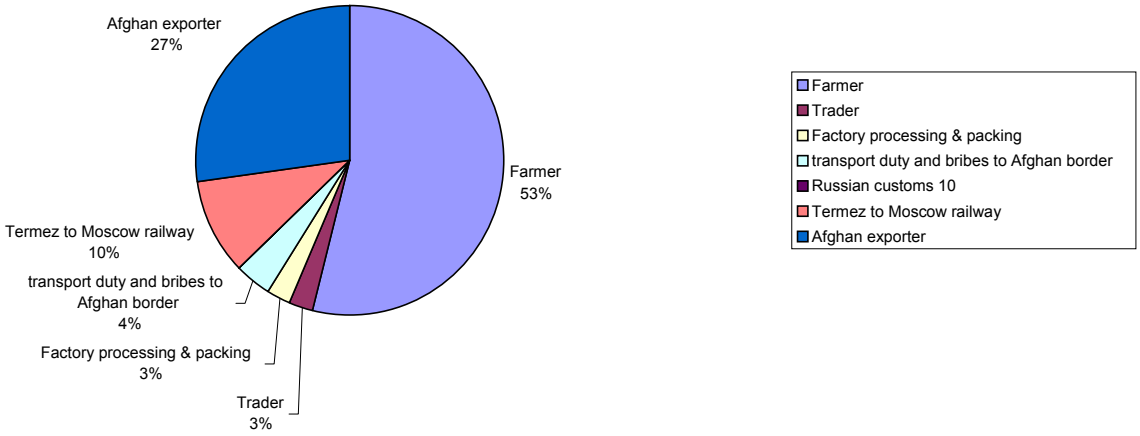
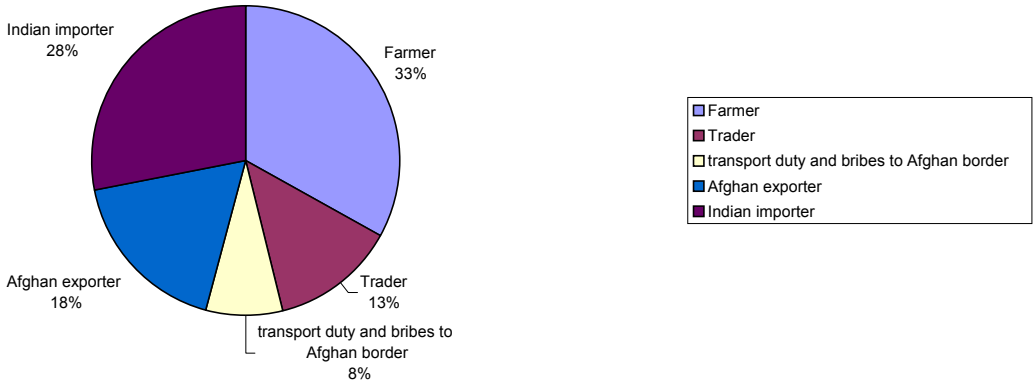


Figure 3 Share of final price of Shundukhani kishmish exported from Kandahar to India



4.2 Availability of market information

The market is reasonably integrated across the country, which implies adequate market information systems, although it is not clear exactly how these function, nor how far down the chain the information is shared. There is also much deliberate exaggeration about prices and demand, not only within national and regional markets systems, but also within international trading processes. Certainly farmers know their local prices, but may not be aware of prices in other provinces. However, raisins are traded across the country and medium-sized traders or the commission agents of exporters will travel widely to purchase stock to fulfil orders. One can, for example, find black seedless raisins from Maimana or Mazar in Kandahar, and Kandahari kishmish in Mazar.

Anecdotal evidence suggests, however, that there are occasional oddities in the markets which reflect poor information. For example, last November in Mazar there were green Kandahari kishmish that were cheaper than the lower quality local green kishmish from Saripul.

4.3 Credit

There is some credit available to some farmers in the form of a higher price paid for delayed repayment on a purchased input. The price of the input varies depending on the duration of the repayment period. For example, a fertilizer dealer may sell a 50kg bag for a cash price of 250 Afs or he may take payment 6 months later for 300 Afs. This is pretty expensive credit in reality but does not break the Islamic injunctions on usury. At present that is the only kind of credit readily available for grape growers. They may be able to secure loans on an individual basis for expenses such as well drilling or purchase of a water pump, but this is very unusual. Instead, stories are common of what farmers have to sell so they can pay cash for their equipment and inputs. What is obscure, however, are the many possible terms of credit that might exist between Afghans who have a reasonably trusting relationship. Loans are made by friends and families routinely but there are many stories of the huge problems that emerge and indurate over years when the borrower defaults.

At the next level up in the raisin and fresh fruit trade, after a packer/shipper takes possession of produce from a farmer, he may send the produce to a distant market himself, or may engage a commission agent or broker to do so. The commission agent will sell the produce, retain a percentage (this varies but is around 5%) and return the proceeds to the farmer. There are many disputes that arise from this arrangement as well. It is essentially short term credit from the farmer or from the packer shipper to the commission agent. The commission agent may invest the proceeds of the sale of his clients' crops and, depending on his capacity to withstand their demands for repayment, slowly return the money to the original party from whom he received the produce.

In general, traders rely on their own re-circulating capital to finance their business. When they conduct cross-border transactions, they either use the hawalla system, or operate through their own trading partners, and import goods to repatriate the money.

There are, therefore, many arrangements for credit and there is little apparent uniformity. More than anything else, discussions of credit centre on the tales of enormous loss or egregious fraud, rather than on a smoothly working system from which everyone can benefit.

This situation will remain as long as there are so many risks in the supply and value chain and so few avenues of legal recourse.

5. Government regulation of the raisin market

"We don't have any government and they don't care about the raisin business. The custom and excise authorities are serious about their own benefits and are not serious about trade. They collect duty from us, and that's all." (Mazar raisin trader, interview March 2004)

Unlike the cotton business, the Afghan government has no commercial interest in the raisin trade. It therefore has a hands-off approach to the industry. However, there is a disparity between the level of regulation of the industry claimed by government, and the experience of those working in the raisin trade. Their actual experience reveals that there are few government controls on the raisin or fresh grapes markets, no gazetted grades or standards, no cleanliness rules, no public health inspections, no price supports, and no availability of technical assistance.

However, there are government-related structures with a mandate for involvement in the export of raisins. The Afghan Raisin Export and Other Dry Fruit Export Promotion Institute is a non-profit body, located institutionally within the Ministry of Commerce (MoC). It has offices in Kabul, which are equipped with a small laboratory recently fitted out by the Japanese government, as well as offices in Kandahar, Mazar and Jalalabad. Its role is to provide services to producers and regulate the quality of exports. It issues a certificate of 'quality control' after carrying out laboratory tests (a copy of this certificate can be seen in annex B), a procedure for which it charges 50 Afs/mt. It also claims to grant an export licence for every shipment, although the exact division of responsibility between the Institute and the Ministry of Commerce is not clear. Additionally it claims to carry out inspections at factories at various stages during both processing and the loading of goods.

Provincial departments of the Ministry of Agriculture and Animal Husbandry (MAAH) also provide a certification service to exporters of raisins. When a trading company has its consignment ready to be shipped for export, this department sends a representative to the processing plant where he checks the quality of produce. The cost of the phyto-sanitary certificate is said to be 50 Afs. Although laboratory testing is rare or non-existent, traders are compelled to obtain a certificate from this department. Without this certificate, customs does not allow the consignment to leave the country. However, the extent to which this regulation is enforced is difficult to judge. Nevertheless, almost all traders interviewed during this research said they obtained the certificate. MAAH also signs a weigh bill for exporters, and therefore, in a way, collects export data, although there is likely to be a measure of under-reporting.

In fact, there are a number of export documents that a shipment of raisins requires, with charges related to all of them, and the additional possibility that 'informal' charges will be levied at every stage. As with all procedures related to export and import, it is not exactly clear what the current charges and procedures are and the extent to which they are uniform across the country. Box 5 details the requirement on a trader and typical charges levied on a shipment of raisins from Mazar, through Hairaton port. These include various informal taxes.
Informal taxes are also levied on actors at early stages in the 'chain'. For example, sometimes a local warlord collects taxes from the grower in the local markets. Additionally,

middlemen may pay a fee to local power-holders when they bring the product to the wholesale market. In Mazar, this is currently $40/ton (interview, March 2004).

Box 5: Typical charges levied on a trader and his shipment of raisins from Mazar, through Hairaton

The Afghan side:

'Government' charges:

- Trading licence to be renewed annually at a cost of 3,500 Afs. A new, simplified and more transparent process for this was introduced in April 2004
- Phyto-sanitary certificate from MAAH in duplicate or triplicate –40-60 Afs
- Certificate from Raisin Export Institute –50 Afs/ton
- Export tax – temporarily removed by Presidential Decree on September 24, 2002, but a 0.5% tax has been temporarily re-imposed on all export and import operations and must be paid to Ministry of Finance (MoF) bank account in Mazar. Some exporters firmly assert that they are still paying a 2.5% export tax
- Export license 0.018% payable to MoC
- Income tax of 20% on trading profits payable to MoF
- Sales tax of 2.5 % payable to MoF
- Additional 'local government' taxes and payments at checkpoints
- Other additional taxes, for example, in the North, a 'security tax' of 0.5% of the market price of the raisin is levied. This is supposed to be refundable, but is never actually refunded.

Additionally, total bribes and port handling fees payable on export are estimated at US$8.00/ton

The Uzbek side:

Traders assert that if the trade is legal and all the relevant documents are in order, then there is no import duty. If documentation is not in order, then a 20% charge is levied by the Uzbek government. Bribes on this side are about $4.00/ton

6. Current and potential exports

6.1 Recent exports

Data on raisin exports from Afghanistan are incomplete, scarce, and the veracity of existing data is unclear. For example, little or no data exists on the raisins that find their way to the Pakistani market, but most of the available data are for exports to Russia and European countries. Nonetheless, this data reveals significant shifts over the last few years.

Figures 4 and 5 show raisin exports as a percentage of total exports from Afghanistan.

Figure 4: Raisin exports as a % of total exports from Afghanistan, 1995-2003

	1995/ 96	1996/97	1997/ 98	1998 /99	1999/ 00	2000 /01	2001 /02	2002/03 (est)
Total exports	**166,060**	**128,256**	**144,369**	**159,225**	**166,241**	**137,312**	**68,541**	**100,110**
Dried fruit exports	1,824	1,292	304	2,909	9,282	16,381	23,328	57,935
Red raisin (aftabi)	925	772	208	2,018	5,470	11,401	1,116	17,245
Green raisin (kishmish)	31	8	25	63	262	47	11	3,287
Black raisin	-	-	-	9	79	2	-	428
Big raisin	-	-	-	-	-	-	-	75
Abjosh raisin	-	-	-	14	4	-	-	1,413
Total raisin	956	780	233	2,104	5,815	11,450		22,448
Raisin exports as % of total exports	**0.6**	**0.6**	**0.2**	**1.3**	**3.5**	**8.3**	**1.6**	**22.4**

Source: Central Statistics Office (CS0), 2003

Figure 5 : Raisin exports as a proportion of total Afghan exports

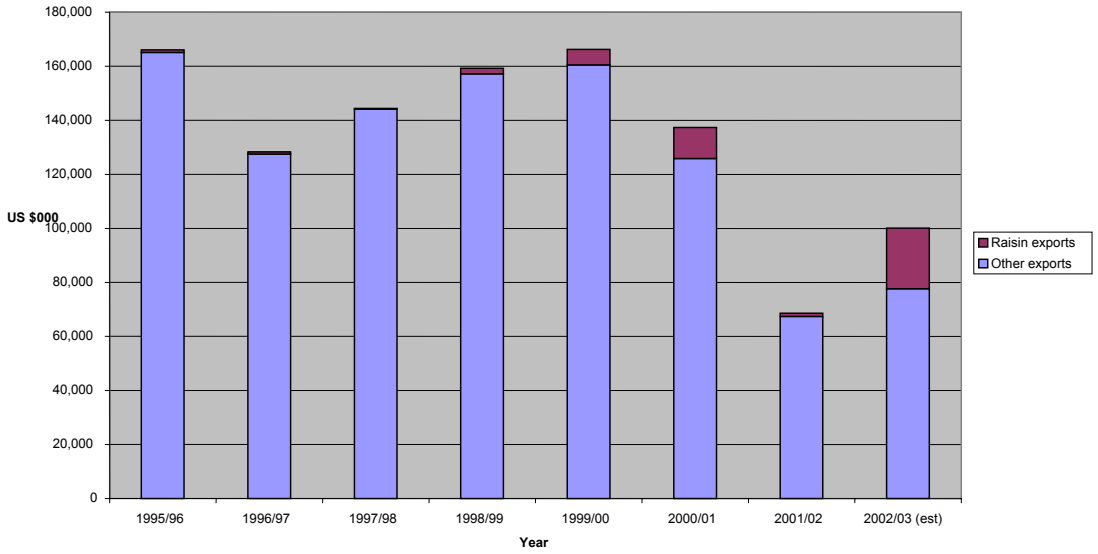
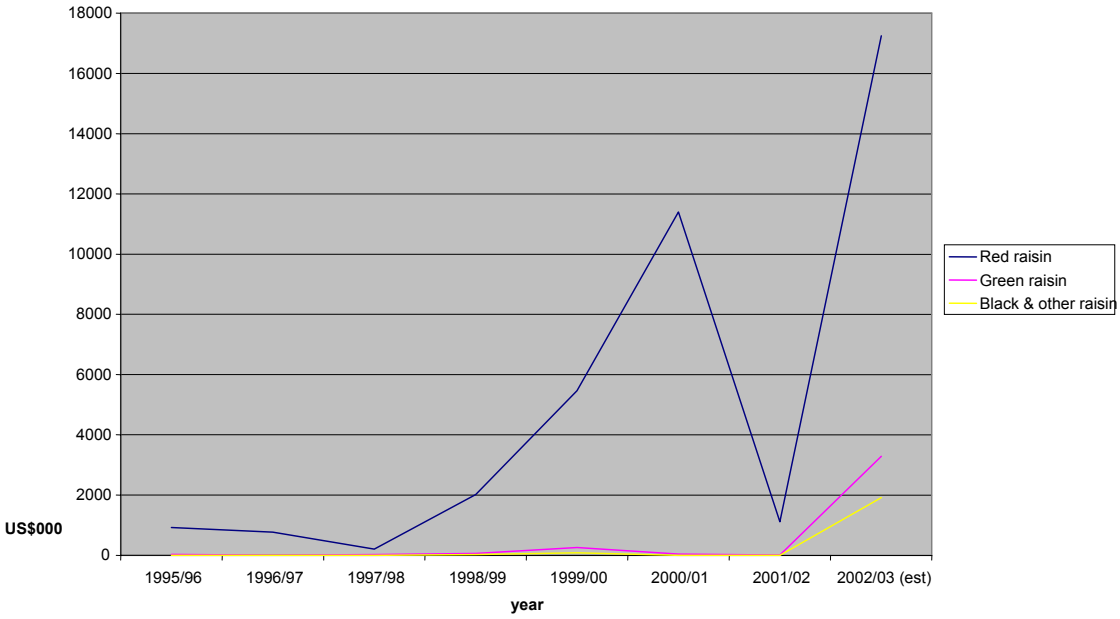


Figure 6 illustrates the breakdown of exports by product. The overwhelming dominance of red raisins (aftabi) is notable.[9] However, it is not clear whether this is entirely due to the lack of data on Pakistani export routes (through which most of the kishmish passes), as well as the more formalized nature of aftabi exports because of the need for factory processing, or whether it reflects the actual picture.

Figure 6: Raisin export by type (by price)



The figures also illustrate the increases in export from 1997/98, with a significant fall 2001/02, but then sharp recovery in 2002/03. While these shifts might reflect changes in the political situation, they do not illustrate what might be expected given the severe drought, which reached its peak during a period of supposed high export (2000/01). Unfortunately, it is not possible to assess whether in fact exports did increase during this period (and therefore this surprising finding must be explained) or whether the data is unreliable.

6.2 Destinations

World raisin exports have remained relatively stable for the last few years. The total volume of exports is 400-450,000 mts annually. The largest exporters of raisins are Turkey, USA, Chile, South Africa, Greece and Argentina. Among the biggest importers are the UK, Netherlands, Germany, Russia, Canada and Japan. Up to 100,000 tons of raisins were imported into the UK in 2002.[10]

[9] A comparison of exports by volume (rather than price) produces a similar picture

[10] United States Department of Agriculture "The U.S. and World Situation: Raisins" USDA, June 2003, http://www.fas.usda.gov/htp/horticulture/dried%20fruits/2004%20Raisins%20charts%20presentation.pdf

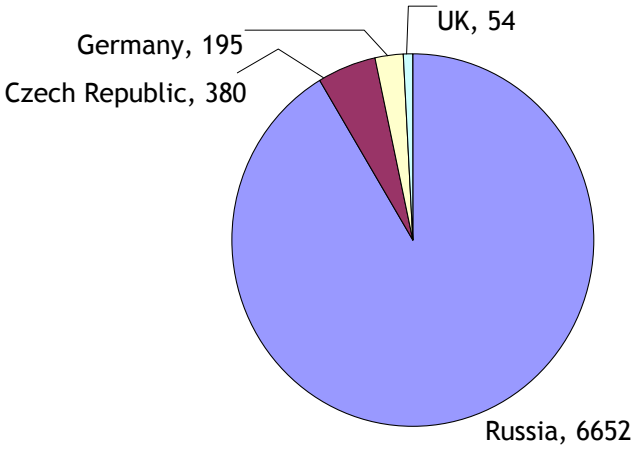
As discussed above, different Afghan raisin products have different end destinations. Kishmish, a more valuable product than aftabi, sell almost entirely in Pakistan and India. The sorted kishmish from the Kandahar bazaar, for example, is entirely sent to India. The Indian dried fruit market is huge, US$1 billion and growing at 20% annually, with a demand-supply gap of over 30 million tons. Aided by the liberalisation of the Indian economy and removal of taxes on dried fruit imports, this gap is increasingly being filled by imports. This market has so far been relatively unpenetrated by the marketing of Western sundried raisins, although there are signs that this is changing. Moreover, Indian traders are increasingly favouring imports from California because of their reliability and quality, despite the higher transport costs.[11]

Aftabi also sell in South Asia, but their main markets are in Russia and other parts of the former Soviet Union, and, if the quality is good, in Europe. However, the current market niche of Afghan aftabi is in the less discriminating markets of Russia, Eastern Europe, and South Asia where there is not as much competition from higher priced Western sun dried raisins. There does appear to be a fundamental mismatch between the quality of the product, which is treated as a tertiary product by Afghan producers, and the fact that it is considered potentially the highest value product internationally. However, a premium can only be obtained on this product by entering the same market that is held by American sun-dried raisins, and to do this an Afghan producer would have to outsell the Western product in quality, consistency and reliability. Some types of aftabi, such as the very small black seedless raisins also have a good market in Western Europe in the baking industry. They come from a very small grape available in Mazar, and are a cheaper substitute in international markets to the small Greek dried Zante currants.

Lower quality aftabi are also bought from the wholesale market in Pakistan from where they may be washed and turned to paste for industrial food use, or might be exported to Russia and its neighbours for fermentation and distillation into brandy. However, little or no data exist on this export route. Figure 7 below provides details of destination for a number of leading exporting companies.

[11] Source: Asia Times “India Nuts for Californian Dried Fruit” 24 April 2004

Figure 7: Export of raisins by destinations (2002/03) (in mts)



Source: Raisin and other Dried Fruit Export Promotion Institute, Kabul

7. Conclusions and the way forward

Afghan raisins are distinctive. They are a product of the very arid environment in which they are produced. The hot, bright days of August and September bring about very high sugar percentages (up to 25% sugar) in the grape berries. However, as this study has shown, the quality of the goods, as well as the structure of marketing, limits both the current export potential, and the value returned to different actors in the chain, particularly the producer. Constraints identified by others to greater output of a higher quality product include:

- outdated production approaches
- lack of both knowledge and inputs producing low yields
- lack of capacity and facility for on-farm processing
- the establishment of farmer marketing associations
- lack of investment in factory processing facilities
- poor packing and marketing internationally[12]

The study has also shown, when read together with its companion case studies (carpets and construction materials), that the functioning of markets is preventing greater competition in these trading processes, reinforcing existing structures of control and power, and increasingly limiting the benefits gained from expanding markets to those who already dominate trading in Afghanistan.

Suggestions about more general interventions to influence structures and processes of trading are provided in the accompanying synthesis note. However, in the case of raisins, there are three stages of the commodity chain where intervention could realistically be targeted: helping farmers to increase production of high quality raisins and to sell them at a higher price; improving processing and packaging; and facilitating export.

[12] Kemal-Ur-Rahim, K. Ibid

Interventions at the farm

This research was not tasked with a horticultural assessment. However, a detailed horticultural and marketing assessment of raisins is currently being conducted by a consortium of UCD, Agland Investment and Roots of Peace, funded by RAMP. Undoubtedly these studies will produce useful new insights into production quantity and quality issues, as well as considering how farmers can be encouraged to adopt new approaches.

The adoption of value-adding practices is related to the incentives received by farmers. Farmers lack access to the markets for their products and are therefore dependent on middlemen and traders. As this study has shown, the farmers benefit least from higher value and specialist products, and this reduces their incentive to produce higher-value goods. The RAMP-funded consortium has also been tasked with developing mechanisms, including farmer marketing associations, to enable a greater proportion of value to be returned to the producer. This is undoubtedly one of the critical areas of intervention. There should also, undoubtedly be detailed consideration of the role that credit could play in enabling farmers to invest in new technology to improve the cost-effectiveness and quality of their production (for example, investment in wire trellises and drip irrigation, see annex A).

Improving processing and packaging

Improved processing and packaging would enable Afghan exporters to sell in more discerning markets in Europe. It would also forestall the possibility (of which there are early signs) that two currently important markets, Russia (for aftabi) and India (for kishmish), may start to reject Afghan products unless their quality improves.

The example of CADG's work in Kandahar has shown that improvement in processing and packaging can be successfully carried out in-country, enabling export to more lucrative markets. Support to more innovative initiatives like this would both boost exports, and provide more examples which others could follow.

Facilitating export

This study has also highlighted the costs and the risks to the trader of the export process itself. This is, perhaps, one of the greatest constraints to the development of export potential, and those who succeed in trading raisins (as any commodity) are those with the contacts and influence to manipulate the current structures.

The international community is already supporting a raft of measures to reform processes and procedures within Afghanistan.[13] These include reform of the MoC and MoF, changes in the tax regime and trading licence requirements, as well as substantial reform of the customs service. It is too early to assess the effect of these reforms (many of which are still being

[13] These are discussed in detail in World Bank (Nov 2003) "Technical Annex for a proposed…Emergency Customs Modernization and Trade Facilitation Project)" and TISA and International Agencies (Jan 2004) "Securing Afghanistan's Future: Accomplishments and the Strategic Path Forward" Trade and Investment and the Public Sector: Technical Annex

rolled out across the country). At the time of this research, the reforms were causing considerable confusion and allowing some to exploit this uncertainty for their own gain. Simple and transparent procedures and requirements are certainly fundamental to allowing greater competition within markets. However, it is essential that information about the reforms is widely disseminated, as well as information about complaints procedures. This will reduce the opportunities for rent-seeking among officials, and enable a wider group of traders to participate more equitably in export processes.

Raisin traders, however, also incur significant risks to their consignments outside Afghanistan, especially in Pakistan. Many of these issues can only be dealt with by greater inter-governmental cooperation. It is important, therefore, that the international community continue to support the TISA in its negotiations in these areas.

Annex A: Grape production systems compared: jui vs wire trellises.

In an attempt to improve production efficiency as well as conserve water, CADG in Kandahar has recently conducted demonstrations of wire trellises and drip irrigation with Afghan grapes, comparing the results with traditional Afghan vine spacing and irrigation.

This exercise has resulted in the following cost estimates.

Costs are for the 3 years required to attain economically significant yields

	Cost in $US per Hectare	
Activity or Expense	Jui System & Flood Irrigation	Wire Trellised & Drip Irrigation
Land Preparation Labour	800.00	400.00
General Labour	283.00	283.00
Trellis posts and wire	0.00	150.00
Drip Irrigation System	0.00	2,000.00
Establishment of Well and Pump	2,000.00	2,000.00
Operation and Maintenance	0.00	1,339.00
Total 3 year Costs	3,083.00	6,172.00

For some comparison, the University of California, Davis estimated that California raisin vineyards cost about $7400/ha in establishment costs in the San Joaquin Valley in 1997.[14]

At first glance, it appears that the Afghans may have some advantages in resisting the trellis technology. Their fresh grape yields of around 9kg per vine with around 1900 vines per hectare yielding 17,100 kgs per hectare is competitive with yields of fresh raisin grapes in the San Joaquin Valley in California

> **"…Yields**. Raisin vineyards begin bearing an economic crop in the third year after planting and reach maturity in the fourth year. A yield of 1.5 ton per acre is used in the third year and 2 tons per acre in subsequent production years using a drying ratio of 4.1 to 4.5:1 (green fruit to raisin grapes). Two tons per acre is the industry average while recognizing that newly established vineyards often yield higher…"

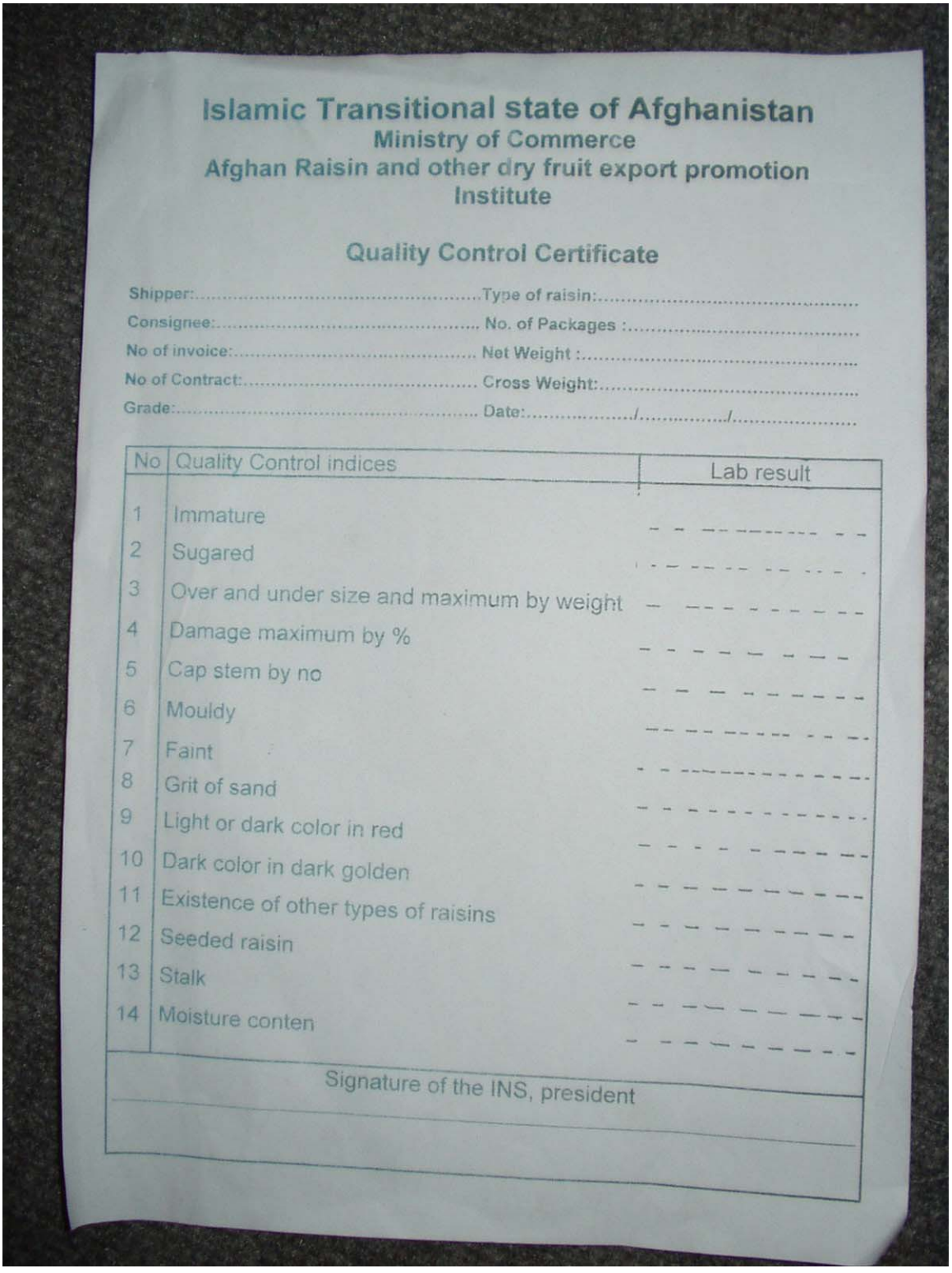
The fresh crop in the San Joaquin Valley from which these raisins were dried at the 4.5:1 ratio would have been about 2000lbs x 4.5 = 9,000lbs of fresh grapes per acre or around 10 metric tons per hectare.

However, it is important to note that there are many factors left out of both sides of this rough comparison of grape production systems. The above comparison is presented to highlight the importance of getting more reliable production data from Afghanistan. More reliable, replicable production data from Afghan vineyards would help provide a solid foundation for future interventions in grape and raisin production. Indicative data will be

[14] UC Cooperative Extension 1997 San Joaquin Valley Thompson Seedless Raisin Vineyard Cost and Return Study (http://www.agecon.ucdavis.edu/outreach/crop/cost-studies/97Raisins.pdf)

available at the end of the 2004 season when the first, small crop of grapes will be harvested from CADG's small trellised vineyard demonstration plot in Kandahar.

Annex B. Government certificate of raisin quality



Islamic Transitional state of Afghanistan
Ministry of Commerce
Afghan Raisin and other dry fruit export promotion Institute

Quality Control Certificate

Shipper:.....Type of raisin:.....
Consignee:..... No. of Packages :.....
No of invoice:..... Net Weight :.....
No of Contract:..... Cross Weight:.....
Grade:..... Date:...../...../.....

No	Quality Control indices	Lab result
1	Immature	
2	Sugared	
3	Over and under size and maximum by weight	
4	Damage maximum by %	
5	Cap stem by no	
6	Mouldy	
7	Faint	
8	Grit of sand	
9	Light or dark color in red	
10	Dark color in dark golden	
11	Existence of other types of raisins	
12	Seeded raisin	
13	Stalk	
14	Moisture conten	

Signature of the INS, president

References

Kemal-Ur-Rahim, K. (2003) " A review of the horticultural marketing and post-harvest conditions". Kabul, FAO.

Pain, Adam, "Understanding Village Institutions: Case Studies on Water Management from Faryab and Saripul", Kabul, AREU .

TISA and International Agencies (Jan 2004) "Securing Afghanistan's Future: Accomplishments and the Strategic Path Forward" Trade and Investment and the Public Sector: Technical Annex

World Bank (Nov 2003) "Technical Annex for a proposed…Emergency Customs Modernization and Trade Facilitation Project" Kabul