



MINISTRY of AGRICULTURE,  
IRRIGATION and LIVESTOCK



The World Bank

# Ministry of Agriculture, Irrigation and Livestock Horticulture and Livestock Project GRAPE VALUE CHAIN PROJECT (GVCP) Grape Exports to Pakistan and India

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## Executive Summary

Project staff and participants continued to focus on marketing activities this month. In spite of lower-than-expected market prices in Pakistan, our market tests of new product packaging for Afghan grapes are showing useful results. The improved packages, which feature better packaging, branding and grading are showing good returns to farmers and merchants. Farmers are receiving higher prices for graded grapes and merchants are receiving higher returns for the improved packaging and marketing ideas being tested. The newly discovered market channel to Karachi is showing the highest returns.

Fresh grape shipments this month from GVCP participating merchants totaled: 425mt and included 111mt to the Islamabad and Lahore markets, 29mt to India by air and 285mt to Karachi by refrigerated container. With our assistance, the merchant shipping to Karachi developed a wooden carton with smaller than traditional dimensions suited for use on the bottom layers of cartons in the shipping containers. These cartons are strong enough to support the weight of several layers of paper cartons of grape stacked on top of them during shipment to Karachi. This is the first time in recent years that a wooden carton has been used in Afghanistan for packaging only 7kg of grape. The smaller size carton assures that grapes inside are properly protected. Most of the grapes sent to Karachi have been treated with Gibberellic Acid (GIB) to increase the size of the berries, increasing their appeal to consumers and value to producers. One grape producer reported a 57% increase in farm-gate price and a 100% increase in the weight of his crop over what he would have expected without the use of the GIB. Another farmer reported a 60% increase in crop weight.

Our initial Action Plan envisioned test marketing of 400mt of grape, mainly, to the northern Pakistani markets in Islamabad and Lahore. Thus, the project has surpassed its 400mt goal due to the success of the new marketing channel to Karachi. This opportunistic shift in marketing strategy is in keeping with the Value Chain Approach which is based on providing assistance to value chain actors to test new solutions to marketing challenges or opportunities.

Some participating farmers became impatient with the pace of the fresh market and decided to convert their grapes into raisins. Project staff assisted them by providing training on the use of potassium carbonate (dipping oil) to speed the drying of the grapes. Some farmers have reported receiving higher prices for the raisins produced because of their light yellow color. Additionally, GVCP staff began a trial, with participating farmers, of an improved method of drying grapes.

Market prices in Pakistan continued to be lower than normal due to the large Afghan harvest and the low quality of the grapes. Shipments of fresh grape from Tajikistan and Uzbekistan to Pakistan added new volumes to the Pakistani market, providing additional competition for Afghan grapes and further pressure on prices. An unexpected 50% increase in the Pakistani duty and taxes for Afghan fruit on October 3<sup>rd</sup> further reduced merchants' profits and their incentive to push the grape deal. GVCP participating merchants stopped shipping to Pakistan on several occasions during the month to wait for the market to clear and prices to increase. However, because most of the full-time commercial Afghan fruit merchants had pre-purchased vineyards of Afghan grape prior to the harvest season, most decided to continue to ship to Pakistan in an attempt to at least recover their investments.

## Activities and Progress

### 1. Grape Export to Karachi

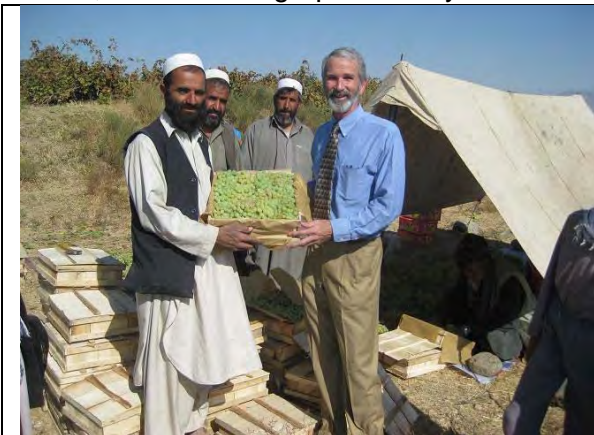
The export of Shamali grape to Karachi in refrigerated, 40' "reefers" has become the leading success of the GVCP to date. Most of these grapes were Kishmishi grapes treated with GIB. This achievement is a result of the good partnership developed between the merchant, Haji Abdul Quduz of Afghan Dost Company and our GVCP Marketing Specialist, Sharif Osmani. Haji Quduz approached our office with the idea of shipping grape to Karachi after he found out that there were numerous reefers in available in Kabul. Having being shipped from Karachi, there was a need for the reefers to be returned to Karachi. Most of the time, they were returning empty to Karachi due to the lack of cargo for the return trip. Haji Quduz hired one of these containers and asked the GVCP for assistance in filling it with fresh grape. GVCP staff supplied training on selection, grading and packing the grape. The first shipment resulted in a loss for the merchant for several reasons, the most important of which was the fact that Southern Afghanistan was still harvesting grape and supplying the Karachi market. Sharif Osmani helped Haji Quduz evaluate the situation with a simple income statement and an analysis of costs and prices. He explained that once the Kandahar grape harvest was completed, prices for fresh grape would increase. He also helped the merchant negotiate a 17% reduction in the rental price of the reefer. The result of the evaluation was encouraging and the merchant decided to try another shipment later in the season. This second shipment was profitable and the shipments have continued. GVCP staff have shared this information with the other merchants and at least one has announced his intention of shipping to Karachi in reefers next year. This marketing channel will be further tested next season with or without publically-funded projects such as GVCP. Therefore, this is a solid contribution of the GVCP to the development of the Shamali fresh grape industry.

The GVCP staff pushed the exporters to increase their exports to Karachi when it became obvious that the markets of Peshawar, Lahore and Islamabad were over-supplied with grapes and offering relatively low prices this season. The GVCP staff trained the merchant and his staff on improved field packaging techniques which have allowed the merchant to pack improved-quality grapes in the vineyard. The GVCP provided plastic harvest baskets, harvesting scissors or pruners, a tent to shade the grapes and training on trimming the poor quality berries off the grape clusters before packaging. The exporter also followed GVCP staff advice to pack only

high-quality grape into the cartons and avoid the traditional practice of packing lower quality grapes in the bottom of the box. In order to fill the reefer to capacity, the boxes of grapes must be stacked in 14 layers. Knowing that the paper cartons being used could not be stacked over ten boxes high, the GVCP Marketing Specialist and the exporter designed a wooden box strong enough to be used on the first four layers of the stack of boxes in the reefer. They also designed the box to hold only 7kg of grapes due to their concern that the traditional larger box used in Shamali and holding 14kg of grapes would not protect the grapes. Grapes in the 14kg box are often damaged during transport as the weight of the upper grapes crushes the grapes in the lower area of the box. The 7kg box has a shorter layer of grapes between the top and bottom so that damage between the grapes is lessened.

As the weather turned cooler, the export company (Afghan Dost Company) was able to move out of the Mir Bacha Kot (MBK) pack house because the MBK cool rooms were no longer needed. GVCP showed the exporter how to store the boxed grapes in shade at their Moshwani village location and to minimize storage time before shipment. Because the grapes would be sold quickly in Karachi, taking costly measures to increase the shelf-life of the grapes was not advised. Harvesting early in the morning when the grape temperatures were low (15°C), packing under shade to reduce heat build-up, storing the boxed grapes for only a short period (less than 12 hours) under shade and then shipping in a refrigerated container or “reefer” appear to be adequate for servicing the current Karachi market. Using these techniques, fifteen 40’ refrigerated containers of grape were exported to Karachi by Afghan Dost Company this month; the total weight of the grapes was 285mt. The exporter plans to continue shipping as long as quality grapes can be found in Shamali this season.

This new market channel is very important for the Shamali grape industry because it provides an additional outlet for Shamali grapes, especially important when the Pakistani markets are over-supplied. More important for the longer term growth of the industry, establishing this link to Karachi is an important step toward developing a profitable marketing channel to the port at Karachi. Once on-board a ship, the Shamali grape value chain actors will have access to world-class markets, such as Dubai and Mumbai. With improved production techniques to produce world-class quality grapes and the extension of the market connection established via the GVCP, the Shamali grape industry could market grapes on several, international markets.



Abdul Quduz & Zach Lea with the new 7kg wooden crate which was used for the first time by GVCP



Packing grapes for the Karachi market, using GVCP harvest hampers, shade tent & shears



Loading the grape to the reefer in ROP MBK center



Reefer truck loading for Karachi



Afghan Dost Co. grape stock in MBK



Night-time loading at Afghan Dost Co. assembly center

## 2. Kishmishi Grapes Treated with Gibberellic Acid (Gibberellin)

Mr. Sardar (Tel 0775-576-771) is one of the grape producers who sold grape to Afghan Dost Company for export to Karachi. He said after he applied GIB in his vineyard he received double production from each vine. Another farmer reported a 60% increase in crop weight. A study by the Perennial Horticulture Development Project, funded by the World Bank Horticulture and Livestock Project reports a 61% increase in weight and 28% increase in price of grapes treated with GIB when compared to grapes not treated with GIB.<sup>1</sup>

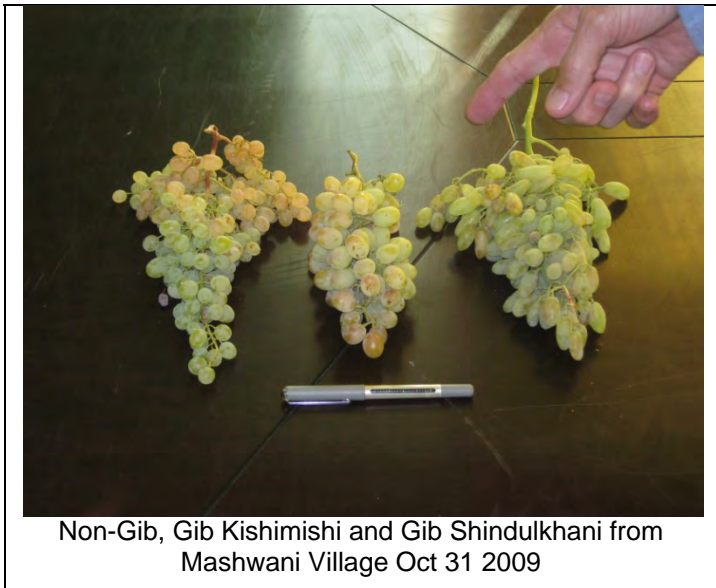
Mr. Sardar also reported that the grapes treated with GIB sold for 110Afs per *ser* (7kg) while grapes which he had not treated with GIB sold for 70Afs per *ser*. That is an increase in price of 57% for the GIB-grapes in comparison with the non-GIB-grapes. The combination of increased weight and price should result in the grape producer's revenue or income from his grapes increasing significantly. Assuming that the increase in price was 57% and the increase in weight was 60%; the increase in revenue from grapes treated with GIB would be more than double the revenue from grape not treated with GIB. This can be seen in the following equations.

$$\text{revenue} = \text{price} * \text{quantity}$$

<sup>1</sup> Gibberellin application on table grape (Keshmeshi) in the Shomali Plain (Guldara District), Kabul, Afghanistan 2008. PHDP, 2008. Contact Greg Cullen, [gjcullen@gmail.com](mailto:gjcullen@gmail.com)

$$\begin{aligned} \text{revenue} &= (1.57) * \text{price} * (1.60) * \text{quantity} \\ \text{revenue} &= (1.57) * (1.60) * \text{price} * \text{quantity} \\ \text{revenue} &= 2.51 * \text{price} * \text{quantity}. \end{aligned}$$

The difference in the fresh-grape-to-raisin conversion ratios for GIB-grapes and non-GIB-grapes appear to be another benefit of Gibberellin use. As the non-GIB grapes dry into raisins they lose 75% of their weight. GIB-grapes appear to lose only 71.4% of their weight. Four kilograms of non-GIB fresh grapes are required to produce one kilogram of raisins. Farmers using GIB are reporting that it takes only 3.4kg of GIB-grapes to produce a kilogram of raisins. To find the fresh-grape-equivalent price of non-GIB-grapes converted into raisins, we divide the raisin price by 4. For example, if raisins are selling at 857\$/mt, the fresh grape equivalent price is 214\$/mt or about 10.7Afs/kg. Use of GIB would require 3.4kg of the fresh grape. The fresh grape equivalent price of GIB-raisins selling at the same 857\$/mt would be 12.9Afs/kg: a 20% increase in fresh-grape-equivalent price.



Mr. Sadar converted the lower quality grapes from his vineyard into raisins. He reported that his GIB-raisins sold for 200Afs per ser (7kg) while his raisins made from grapes not treated with GIB sold for 300Afs per ser: a 33% reduction in price. Since the production of the non-GIB raisins was half of the production which he received from his GIB-treated grapes, he made better money from his GIB-treated grapes/raisins. The combined effect of a doubling of production plus a 14% increase in raisin weight due to the better conversion ratio (3.5/1 vrs 4/1) is a 1.28% increase in raisin weight. His revenue from GIB-raisins should be 53% higher than what he would have received from vines and grapes not treated with GIB:

$$\begin{aligned} \text{revenue} &= (.67) * \text{price} * (2.285) * \text{quantity} \\ \text{revenue} &= 1.53 * \text{price} * \text{quantity}. \end{aligned}$$

The table below gives a summary of the benefits we have observed about the use of Gibberellin. The data used in the table come from conversations with farmers. One farmer reported a doubling of yield due to Gibberellin; one reported a 60% increase. In the table, we have used 60% in keeping with the PHDP report. We have used the 57% increase in price for fresh GIB-grapes and 33% decrease in price for GIB-raisins reported by the farmer because it was verifiable: these were the differences in prices that he received from his buyer. The analysis of impact of Gibberellin on raisins uses the combined effect of an increase in weight of 60% and a better conversion of grapes to raisins.

<b>Farmer-Reported Impact of Use of Gibberellin on Kishmishi Grape in Shamali 2009</b>							
Fresh Grapes From GIB- Treated Kishmishi Grapes			Raisins from GIB-Treated Kishmishi Grapes				
Fresh	Price	Combined	Fresh	Raisin Weight	Price	Combined	

Weight Increase	Increase	Effect on Revenue	Weight Increase	Increase Due to Better Conversion Fresh to Raisins: 3.5/1 vrs. 4/1	Decrease	Effect on Revenue
60%	57%	151%	60%	14%	33%	23%

Here's the calculation for the increase in raisin revenue due to Gibberellin.

Treatment	Grapes	Raisins	Price	Revenue	Increase
No GIB	100	25	1.00	25	
GIB	160	45.71	0.67	30.63	23%

### 3. Export of Unchilled Kishmishi Grape to Islamabad and Lahore

As we mentioned in previous monthly reports, the major portion of the Shamali grape harvest is exported to the Peshawar market. After our trip to visit this market and those in Islamabad, the GCVP staff and participating merchants decided to test the idea of passing the Peshawar market ("marketing past Peshawar") to market directly in Islamabad and Lahore. According to our Action Plan, the targeted amount of the tests was to be 400mt. This quantity was supposed to be shipped by 6 different companies. Due to the depressed prices on the northern Pakistani markets, most of the participating merchants decided to wait for better market conditions before attempting the test of the Islamabad and Lahore markets. The 50% increase in import duties imposed by Pakistani Customs was a further disincentive to export this year. These companies are trying to export the grapes that they pre-purchased at the beginning of the production year. If they did not have these pre-purchased grapes, they would not be interested to export any grape this year to Peshawar, Islamabad or Lahore. Remember that these merchants are continuing to ship large volumes of grapes to Peshawar, using their traditional practices, despite the low or negative returns, because they have pre-purchased grape to market. The total amount of grapes shipped by participating merchants in these GVCP-promoted tests was 111mt during October. Some details of the trials by participating merchants follow.

- One of the participating merchants who did ship in October was Qasim Saeed Mir Company. They shipped to the Islamabad market after prices improved slightly. Their total export to Islamabad was 65mt. See the Islamabad commission agent invoices in Attachment 2.
- Alime Bakhshina was also one of those companies who exported past Peshawar to Lahore in October. This month, they shipped a total of 21mt, using the 7kg carton and stick-on label provided by the GVCP on a 50% subsidy. The company is not happy with the grape deal this year. Mr. Akim, president of this company, said that they had a lot of loss in the Peshawar market this year. He said because many of the smaller-scale, Afghan traders and farmers cannot sell their grapes to other merchants in Afghanistan; they are taking their grapes to Peshawar, packed 7kg in plastic bags. See photos of these grapes in Attachment 5: Photos. The volume of these poor-quality grapes has had a negative impact on the value of Afghan grapes in the Pakistani market. Mr. Akim said he appreciated that the GVCP that found another market [Karachi] for the Shamali grape with good opportunities. He said their company will work to export Shamali grape to Karachi next year.
- Khalid Shikeeb Company also exported 16mt to Islamabad. They said the result of the shipment was not very good because of the quality of the grape was not good enough this year. He reasoned that is why they are not making good profits this year.

- Idrees Moji Company exported 9mt to Islamabad using the 7kg cartons provided by the GVCP.

The table below shows the cost and returns for the grapes which were exported to Pakistani markets. The most interesting rows in the table are those showing the prices per

Kishmishi Grape Export Cost and Returns from Pakistani Markets in October 2009 (the figures are USD per metric ton)							
Materials and Services	7kg paper carton in Peshawar	7kg paper carton in Islamabad	14Kg wooden crate in Peshawar	13kg wooden crate in Islamabad	7kg carton in Karachi	7kg plastic bags in Peshawar	
Farm gate price (\$/mt)	198	215	178.5	215	215	142	
Packaging cost	85	85	51.59	51.59	85	68.6	
Harvesting and packing cost	14	15	10	12.89	28		
Truck rent from vineyard to Kotal village or MBK for loading to big truck	14	14	14	14	11.3		
Kabul municipality tax	2.91	2.91	2.91	2.91	2.91		
Transport of Kabul to Peshawar or Karachi	22.2	22.2	22.2	22.2	135		
Previous Paksitan Custom Duty	31	31	31	31	31		
New Custom Duty in Paksitan	46.49	46.49	46.49	46.49	46.49		
Clearing agent in Turkham	1.87	1.87	1.87	1.87	1.87		
Labor cost in Peshawar or Karachi	1.70	1.70	1.70	1.70	1.50		
Transport of Peshawar to Islamabad		25.80		17.20			
Market entry fee	0.13	0.20	0.13	0.20			
Market fee	0.41	0.57	0.41	0.57			
Commission agent fee	26.79	34.79	21.43	31.53	39.54		16.06
Total cost with old custom duty	398.01	450.04	335.74	402.66	551.12		
Total cost with new custom duty	413.50	465.53	351.23	418.15	566.61	226.66	
Revenue from sales (price per mt)	428.60	497.00	342.85	450.40	659.00	257.00	
Revenue minus costs with old custom duty	30.59	46.96	7.11	47.74	107.88		
Revenue minus costs & new custom duty	15.10	31.47	-8.38	32.25	92.39	30.34	
Margin (sales minus costs) in percentage	4%	7%	-2%	8%	16%	13%	

metric ton of the various packaging forms and the financial returns after expenses. The highest price and financial return are for the chilled grapes in Karachi. The next highest prices are paid for the new 7kg paper cartons which were the initial focus of our Action Plan. This shows the potential of these improved packaging types. Merchants expect that these prices will increase over time as the market becomes familiar with the quality of the grapes in these new packages. Note that the price in Islamabad is 16% higher and the price in Peshawar and the financial return after expenses is 50% higher. The traditional wooden crate packed with less grapes and higher quality grapes and with the exporter's sticker on the box also shows relatively good profits. See a photo of this package in Attachment 5: Photos. We want to reserve judgment on the 7kg plastic bag package until we learn more about the costs. Here we have only a global value for several of the costs. With the data we have now, the plastic bag looks to be relatively profitable; but, we doubt that the grape reach the consumer in good condition.

#### 4. Export of Unchilled Grape to India by Air

GVCP began working with Afghan Dost Company to export Shamali fresh grape to India. This month, the GVCP staff also introduced another company, Habibi Hassam, to the market channel. These two companies exported 29mt by air to the Delhi market this month. This brings the total exported by air to 40mt. Both companies made very good profits from these trial shipments. Please see the cost and revenue details of some of their shipments in Attachment 4.



Shamali grape ready for export to India by air



Grapes at MBK Market Center ready for export to India



Grape from vineyard in GVCP-provided harvest hampers

### **5. Marketing Labels Adoption by Others**

GVCP introduced labels to participating grape exporters, printing their company name address, contact numbers and email addresses on a colorful sticker that can be easily attached to fruit packing cartons and crates. Other companies are copying this idea and have made similar labels for their fruit export packaging. See the labels in Attachment 3.

### **6. Meeting with EPAA**

A meeting was held on with Mr. Mohammad Naseer Noori, Marketing and Product Development Officer, and Mr. Sayed Masoud Sadat, Marketing Assistant, of the Export Promotion Agency of Afghanistan (EPAA) to explain about the GVCP progress and discuss potential assistance from the EPAA for grape exporters. During the meeting, the GVCP Marketing Specialist requested the EPAA to provide available information on quantities and values of grapes and raisins exported annually from Afghanistan over the past several years.



### 7. Grape market price reporting

The grape market prices were provided to the Shamali farmers this month as well. These daily prices are posted on the signboard outside of the MBK Market Center. See photos below.



The ROP MBK center responsible is writing the daily prices



Farmers checking the grape market prices

## Lessons Learnt and Best Practices

The important lesson learnt from this month's activities is that value chain development programs must have the flexibility to respond to challenges and opportunities that arise in the market place. If the development program cannot adapt, resources will be wasted because planned tests or trials may not be possible and resources cannot be shifted into possible tests of new opportunities. In our case, we found that the unexpectedly large crop of Afghan grapes drove prices down to the point that our participating merchants were not making the profits they expected to make on their regular businesses and were not as willing to implement the market tests they had planned with us at the beginning of the season. At the same time, our continued discussions with merchants and continued observations of market conditions allowed us to discover new marketing opportunities to test. In our case, lower-than-expected air freight rates opened opportunities for shipping grapes to India that we had not foreseen when we developed the Action Plan with merchants.

A fortuitous meeting between our staff and a previously unknown merchant led to a trial shipment of chilled grapes to Karachi and the discovery of a profitable marketing channel. This shipment of chilled grapes in 40' refrigerated containers or "reefers" is quite new and has the potential of leading to the development of the export of Shamali grapes to the "world market" via the seaport at Karachi. A program designed with limited flexibility would not have been able to test this market channel unless it had been identified at the planning stage. It is important to note that this value chain development project was designed to respond to challenges and opportunities because it began with stakeholder meetings and research to identify the marketing ideas to be tested. Even with that amount of flexibility, what may turn out to be the most important discovery of this program was not identified until after the Action Plan was completed.

### Attachment 1: Sales Receipts Comparing Prices in Peshawar and Islamabad

The two sales receipts below show the difference in price of traditionally packaged and marketed grape on the Peshawar auction market and the GVCP-promoted package of first quality grapes, packaged in improved packaging and marketed directly to buyers in Islamabad. The traditionally packaged grape (14kg in wooden crate) sold for 400Rps/14kg or \$.34/kg while the promoted package (13kg in wooden crate with branding) sold for 488Rps/13kg or \$.45/kg. That is a 34% increase in price.

Note that the 7kg paper carton sold for 250Rps/7kg or \$.43/kg. We do not have an invoice for the improved 7kg package sold in Islamabad at this moment. However, one of the participating merchants reported that the improved 7kg package sold for \$.497/kg in Islamabad. That is a 16% increase in price.

**INSAN ULLAH & BROS.**  
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 2214900  
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اسان اللہ علی روائی

761 کلوگرام  
 15 روپے

م	ت	رغ	پے	مقدار	م
400	14	488	13	375	47060
					27000
					750
					100
					18585
					93495
265500				375	
93495					
172005					

**Ahlan Bash Samdani & Brothers**  
 Fruit Commission Agents Fruit Market, G.T. Road, Peshawar.  
 2560937, 243589, 2571976, 2569079

اللہ باش صمدانی اینڈ برادرز

4418  
 12882

تفصیل	حصہ	قیمت	مقدار	قیمت	حصہ	قیمت
خرچہ			409	10895		
کرایہ لاری			257	2860		
کشمہ ٹیوش			10895	2650		
کیشن			218	1098		
مزدوری			1089	30		
مادگیٹ						
کٹورنگ (M)						
ٹاگ وٹاز						
میزان خام				422600		
میزان تصفیت				131915		
بختہ فروش				291685		
میزان				131915		

**Attachment 2: New Labels Adopted by Merchants After Seeing GVCP Labels**

These are new labels now being used by merchants who have seen the labels printed by the GVCP and liked the idea.



### Attachment 3: Costs & Returns on Air Shipments to India

Costs and returns of 2.4mt unchilled Shundulkhani grape exported to India		
1	Grape farm gate value	\$1,214.00
2	Damaged grapes	\$121.40
3	Best quality cartons on 50% subsidy from ROP	\$400.00
4	Labor for harvest	\$96.00
5	Packers	\$48.00
6	Paper, plasters and ropes	\$8.00
7	Moving the grape from vineyard to truck	\$16.00
8	Transporting from MBK to Kabul Airport	\$40.00
9	Loading and unloading	\$8.00
10	Kabul ariport custom duty and clearnce charges	\$172.00
11	Air transport from Kabul to Dehli	\$480.00
12	India custom duty, transport to market and market charges	\$2,227.00
13	Total cost	\$4,830.40
14	Sold in Indian fruit market	\$5,382.00
15	Total gross profit	\$551.60

**Attachment 4: Selected Photos of GVCP Activity**



Grapes packed in 13 kg crate for Peshawar



Qasim Saeed Mir 13kg pack for Islamabad market



Grape packer, trained by GVCP



Difference between GIB and Non-GIB grape



Packing GIB-Kishmishi for Islamabad



Alim Bakhshina company grape carton for Islamabad market



Grapes being exported to Pakistan in plastic bags. Not recommended by the GVCP.



Grapes packed plastic bags for Peshawar market. Not recommended by the GVCP.



Grape, packed in field, arriving at MBK center for holding in cold store.



Packaged grape inside pre-cooler, being quickly cooled before moving to cold storage.



Checking temperature of grapes in cold store.



Grapes inside the refrigerated container on way to Karachi