

An Overview of Production and Export Trade Performance of Raisins in Afghanistan

Rafiq Atif, Noorulhaq Noori, G. N. Nagaraja

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Abstract The present study examines the trend in production and export of grapes in Afghanistan. The secondary data on area, production and export of grapes were obtained from Afghanistan statistical year book, Ministry of Agriculture, Irrigation and Livestock of Afghanistan, Central Statistics Organization, FAO and FAOSTAT. Results of analysis revealed that production of grapes in Afghanistan increased from 3,60,000MT in 2007 to 8,74,541 in MT 2016. The area harvested has also increased from 55,000 hectares in 2007 to 82,450 hectares in 2016. The compound annual growth rate CAGR in area was 4.43% for the same period and the CAGR of production was 11.80%. Mostly grape is produced in Kandahar province in 2016. Afghanistan is the 8th largest raisins (dried grape) producing country in the world in 2015 with the contribution of 2.54% share of all producer. Afghanistan is the 7th largest exporter of raisins in the world in 2016 with the contribution of 3.95% share of all exports. Afghanistan exported 19,171.73 MT raisin in 2016-17 and India is the preferred export desti-

nation country accounting for 63.78% share by quantity followed by Pakistan with 14% share.

Keywords Raisins, Afghanistan, Production, Export, CAGR.

Introduction

Raisins are Afghanistan's top agricultural export, contributing 17% of all licit agricultural export value. Afghanistan's high evaporation rate (low rainfall / humidity combined with high temperature) creates the world's most favorable climate for raisin production, followed closely by Iran and California (Jalal 2012).

Raisins are economically one of the largest parts of the horticultural crops in Afghanistan. In Afghanistan, grapes are dried directly in the sun [black and red raisins Aftabi (Sun-dried)] and those that dried in kishmishkhana (mudbrick drying house) away from direct sun-light the green raisins (kishmish) (Fig. 1). Kishmishkhana can be quite long but usually 3 meters wide (Chinnappa and Jadhav 2012).

Global raisin production for 2017/18 is forecast to ease 2% to 1.2 million metric tonnes as modest gains in China are more than offset by lower output in Turkey, United States and Iran. As a result of reduced available supplies, total ending stocks are expected to plunge 22% to 84,000 tons, an 8-year low. Global exports are forecast unchanged at 779,000 tonnes, as lower shipments from Turkey and the United States are offset by Argentina, Iran and Afghanistan

Rafiq Atif ^{1*}, Noorulhaq Noori², Dr. G. N. Nagaraja³

^{1*} & ²MBA (Agribusiness Management) Students,

³Professor

Department of Agricultural Marketing, Cooperation and Business Management, University of Agricultural Sciences, Bengaluru 560065, India

e-mail: rafiq.atif88@gmail.com

*Corresponding author



Fig. 1. Kishmishkhana, Kandahar province, Afghanistan.

(McChesney 2010).

Afghan sun-dried, dark, raisins (aftabi) are dried in direct sunlight and receive lower prices than shade-dried, green raisins (kishmish). Thus, growers dry sun-dried raisins on the ground (or any other available space) are produced from “trimming waste, shattered berries, wasp-damaged, spillage and left-over fruit” that could not be shade-dried (Mulani and Rajeshirke 2016).

Raisins are growing and producing in all provinces of Afghanistan but the leading producing province is Kandahar with (27%) production. Afghan growers typically directly sell their own raisins at local wholesale markets. The median landholding of an Afghan who grows grapes, often in a vineyards or bagh-i-angur surrounded by mud walls, is one jerib or 0.5 acre (0.2 ha) (Soltani and Saghaian 2012).

Materials and Methods

The secondary data on area, production and export of raisins were obtained from Afghanistan statistical year book (Afghanistan Government of the Islamic Republic 2014), Ministry of Agriculture, Irrigation and Livestock of Afghanistan and, some other reliable sources. The time series data on area and production of raisins in Afghanistan was analyzed using compound annual growth rates (CAGR) using the formula :

$$Y_t = AB^t u_t \quad \text{..... (1)}$$

Where, Y_t = Area (production) during time t , A =

Constant, t = Time period, u_t = Error term, $B = (1 + g)$, where g = growth rate. By taking the logarithm, equation (1) was reduced to the following form.

$$\text{Log } Y_t = \text{Log } A + t (\text{Log } B) + \text{Log } u_t \quad \text{.....(2)}$$

Where $\log A$ and $\log B$ were the parameters of the function obtained by ordinary least square (OLS) method. Once the above equation is estimated, g can be computed as :

$$g = [\text{Antilog } (b) - 1] \times 100 \quad \text{.....(3)}$$

Descriptive statistics were used to describe the basic features of data gathered from various sources. They provide simple summaries about the sample and following measures like averages, ratios, percentages.

Results and Discussion

The harvested area of grapes in Afghanistan increased from 55,000 hectare in 2007 to 82,450 hectare in 2016 by registering a CAGR of 4.43% (Table 1). The production of grapes in Afghanistan increase from 3,60,000 (MT) in 2007 to 8,74,541 (MT) in 2016 by registering a CAGR of 4.43% (Table 1). The productivity of grapes in Afghanistan decrease from 6546 (kg/ha) in 2007 to 6494 (kg/ha) in 2010, but from 2010 to 2016 the productivity of grapes increase significantly from 6494 (kg/ha) to 10,607 (kg/ha) with 7.06% CAGR.

The raisins export growth from Afghanistan furnished in (Table 2). The quantity of raisins from Afghanistan increase from 18.262 MT in 2007 to

Table 1. Growth in area, production and productivity of grapes in Afghanistan. Source: FAOSTAT.

Sl. No.	Year	Harvested area (ha)	Production (MT)	Productivity (kg/ha)
1.	2007	55,000	3,60,000	6546
2.	2008	57,600	3,64,000	6319
3.	2009	60,832	378,000	6214
4.	2010	61,132	3,97,000	6494
5.	2011	61,558	4,92,464	8000
6.	2012	61,690	5,90,065	9565
7.	2013	62,118	6,10,570	9829
8.	2014	78,405	7,44,847	9500
9.	2015	78,681	8,05,072	10232
10.	2016	82,450	8,74,541	10607
CAGR (%)		4.43***	11.80***	7.06***

19,172 in 2016 but the CAGR shows that the compound annual growth rate is non-significant. The export value of raisins from Afghanistan increase from 17,861 thousand USD in 2007 to 56,621 thousand USD in 2016. The compound annual growth rate of export value of raisins from Afghanistan is significant.

Among the top 10 raisins producing countries in the world during 2015, Turkey was in the lead with a contribution of 29.63% of share followed by USA and Iran which share accounted for 27.91% and 10.28%, respectively (Table 3). Afghanistan produced 30,281 (MT) grapes in 2015 which is accounted for 2.54% share of the world and stood in the 8th position

Table 2. Raisin exports growth rate from Afghanistan. Source: FAOSTAT.

Sl. No.	Year	Quantity (MT)	Value (1000 USD)
1.	2007	18262	17861
2.	2008	27128	30427
3.	2009	32814	53359
4.	2010	24071	52527
5.	2011	28406	59693
6.	2012	20627	40597
7.	2013	18929	37377
8.	2014	35956	80604
9.	2015	26767	80248
10.	2016	19172	56621
CAGR (%)		- 0.15 ^{NS}	11.41**

Table 3. Top raisins (dried grape) producing countries (2015). Source: <https://www.worldatlas.com/articles/top-raisin-dried-grape-producing-countries.html>.

Sl. No.	Country	Production (MT)	% Share	Cumulative percentage
1.	Turkey	3,53,167	29.63	29.63
2.	United States	3,32,760	27.91	57.54
3.	Iran	122,595	10.28	67.83
4.	Greece	72,861	6.11	73.94
5.	Chile	51,128	4.29	78.23
6.	South Africa	37,049	3.11	81.33
7.	Uzbekistan	32,893	2.76	84.09
8.	Afghanistan	30,281	2.54	86.63
9.	Australia	26,041	2.18	88.82
10.	Argentina	19,543	1.64	90.46
Top 10 total		1,078,318	90.46	
World total		1,192,070	100.00	

among world top grapes producing countries. The cumulative percentage of producing share of eight countries was 86.63%, while the top ten countries contributed for 90.46% of the world production (Table 3). The top ten grapes producing countries during 2015 accounted for 10.78 lakh MT and world production was 119 lakh MT.

Among the top 10 grapes exporter countries in

Table 4. Top 10 countries by raisins export. (2016-17). Source: <https://www.worldatlas.com/articles/top-raisin-dried-grape-producing-countries.html>.

Sl. No.	Country	Exports (MT)	Percentage share	Cumulative percentage
1.	Turkey	2,35,000	30.17	30.16
2.	United States	1,30,000	16.69	46.85
3.	Iran, Islamic Republic	125,000	16.05	62.90
4.	Chile	62,500	8.02	70.92
5.	South Africa	37,200	4.78	75.70
6.	China	35,000	4.49	80.19
7.	Afghanistan	30,800	3.95	84.14
8.	Argentina	29,000	3.72	87.86
9.	Uzbekistan	18,000	2.31	90.18
10.	EU-27	8,000	1.03	91.20
Top 10 total		710,500	91.21	
World total		779,000	100	

Table 5. Raisin export destination from Afghanistan (2016-17). Source: Central Statistics Organization of Afghanistan (CSO).

Sl. No.	Countries	Quantity (MT)	Percentage share	Value ('000USD)	Percentage share
1.	India	12228.14	63.78	35724.38	63.09
2.	Pakistan	2777.64	14.49	8471.72	14.96
3.	Kazakhstan	1330.78	6.94	3853.56	6.81
4.	Russia	1124.95	5.87	3363.53	5.94
5.	Turkey	961.45	5.01	2866.28	5.06
6.	United Arab Emirates	320.34	1.67	1010.44	1.78
7.	Saudi Arabia	85.82	0.45	291.99	0.52
8.	Iran	77.87	0.41	209.32	0.37
9.	Germany	69.96	0.36	245.59	0.43
10.	Canada	68.56	0.36	207.29	0.37
11.	United kingdom	24.47	0.13	60.10	0.11
12.	Iraq	22.32	0.12	76.28	0.13
13.	Tajikistan	21.08	0.11	47.96	0.08
14.	USA	18.09	0.09	59.59	0.11
15.	Lithuania	9.00	0.05	27.00	0.05
16.	Belgium	8.15	0.04	31.52	0.06
17.	Turkmenistan	7.73	0.04	24.72	0.04
18.	Thailand	5.71	0.03	12.56	0.02
19.	Sweden	3.73	0.02	14.47	0.03
20.	Portugal	3.46	0.02	13.41	0.02
21.	Australia	2.48	0.01	9.42	0.02
	Total	19171.73	100.00	56621.14	100.00

the world during 2016-17, Turkey was in the lead with a contribution of 30.17% of value share followed by USA and Iran which share accounted for 16.69% and 16.05% respectively (Table 4). Afghanistan exported 30,800 (MT) grapes in 2016-17 to different countries which accounted for 3.95% share and stood in the 7th position among world top raisin exporting countries. The cumulative percentage of export value share of seven countries was 84.146%, while the top ten countries contributed for 91.207% of the world export. The top ten grapes exporting countries accounted for 7,10,500 MT in 2016 and world exports was 7,79,000 MT for the year.

The detail of raisin export destination from Afghanistan 2016-17 is furnished in (Table 5). Afghanistan exported 19171.73 MT of raisins valued at 56621.14 thousand USD in 2016-17. The major destination country for Afghanistan's raisins exports was India with a share of 63.78% of quantity and 63.09% of value, followed by Pakistan and Kazakhstan. The share of these three countries in raisins exports from Afghanistan was 84.86% (Table 5).

Conclusion

The compound annual growth in grape area was 4.43%. The CAGR of production of grape in Afghanistan was 11.80%. Productivity of grapes in Afghanistan indicates a positive percentage of CAGR which is 7.06. The area and production and productivity increased from 2007 to 2016. More than 24% of grape is produced in South of Afghanistan in Kandahar Province. The quantity of raisins from Afghanistan increase from 18,262 MT in 2007 to 19,172 in 2016 but the CAGR shows that the compound annual growth rate is non-significant. The export value of raisins from Afghanistan increase from 17,861 USD in 2007 to 56,621 USD in 2016. The compound annual growth rate of export value of raisins from Afghanistan is significant. Afghanistan was in 8th position of top raisins (Dried Grape) producing countries in 2015 whereas ; Turkey and USA were the leading producing countries. Afghanistan was in the 7th position of raisins exporting countries in the world in 2016-17 whereas, Turkey and USA were the leading exporters. The major destination of Afghanistan raisins export was India in 2016-17 with the contribution of almost 63.78%.

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