

## Economic Aspects of Basmati Rice in Pakistan

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### Abstract

Agriculture, industry and commerce are the main sector on which economy of the country relies. The major cash crops of Pakistan are cotton, wheat, rice and maize. Rice is the second most important crop which makes economic prosperity of the growers/farmers as well as earns billions of rupees through its export for country. Rice played a key role in the agro-based and occupied a prominent position in agricultural economy of the country. Pakistan is the 11th largest producer and 4th largest exporter of rice. Rice accounted for 3.2% of the value added in agriculture and 0.7% of GDP in Pakistan. Two types of rice were under cultivation in Pakistan. Basmati rice was famous in the country due to its excellent cooking quality and good marketing value at national and international levels. Rice was cultivated on an area of 2.847 million hectares during the period 2014-15 showing an increase of 3.1% over last year. Production of rice during the same period was estimated at 6.9 million tons, which was 1.5% higher than last year's production 6.7 million tons. During the same period, rice export earned foreign exchange of USD 1.848 billion. The importance of Basmati rice as well as export impacts were observed in the review.

**Keywords:** Rice; Basmati; Economics; Export; Pakistan

### Introduction

Economy of every country depends on three sectors i.e. agriculture, industry and commerce. These three are strongly related with each other as the progress or revert of one sector effects the other two. Pakistan is an agricultural country thus agriculture outputs have much importance than any other sector. Importance of agriculture sector is manifold as it provides feeds, raw material for industry and is a base for foreign trade.

Rice is the second most important crop which makes economic prosperity of the growers/farmers as well as earns billions of rupees through its export for country. Rice plays a key role in the agro-based and occupies a prominent position in agricultural economy of the country. Pakistan is the 11th largest producer and 4th largest exporter of rice. Rice accounts for 3.2% of the value added in agriculture and 0.7% of GDP in Pakistan [1].

### History of Basmati Rice

The name Basmati has been derived from the combination of two Hindi words: BAS which translates into fragrant and MATI meaning "Queen" so, collected meaning "Queen of Fragrance". It is said that Basmati Rice was only instigate and identified in Asia for many years. This type of rice has been grown in the foothills of the Himalayas for numerous of years. Some sources indicate that the primogenital grain samples found from Mohanjodaro in Pakistan. The elite producers of Basmati Rice in Asia are India, Pakistan and Bangladesh. This extremely fragrant rice is Pakistan's gift to the entire world. Basmati rice is full from balance nutrients and high energy caloric food. About 72-75% carbohydrate present in the form of rice starch and 7% in the form of aryznine or glutelin. It also contains about 80% protein and certain minerals like phosphorus and enzymes [2].

### Yearwise Comparison of Rice in Pakistan

The area, production and yield of rice in Pakistan are given below (Table 1):

Year	Area (ha <sup>*</sup> )	Production (tons <sup>**</sup> )	Yield (kg/ha)
2000-01	2376.6	4802.6	2021
2001-02	2114.2	3882.0	1836
2002-03	2225.2	4478.6	2013
2003-04	2460.6	4847.6	1970
2004-05	2519.4	5024.7	1994
2005-06	2621.4	5547.2	2116
2006-07	2581.2	5438.4	2107
2007-08	2515.4	5563.4	2212
2008-09	2962.5	6951.9	2347
2009-10	2883.1	6882.8	2387
2010-11	2365.3	5386.2	2277
2011-12	2571.2	6160.4	2396
2012-13	2312.0	5541.4	2397
2013-14	2760.1	6732.4	2439
2014-15	2846.9	6900.8	2424

**Table 1:** Area, Production and average yield of Rice for Pakistan [3]; \*Area in thousand hectares; \*\*Production in thousand tons.

Rice was cultivated on an area of 2.847 million hectares during the period 2014-15 showing an increase of 20% over last year. Production of rice during the same period was estimated at 6.9 million tons, which is 1.5% higher than last year's production 6.7 million tons. During 2000-2001, the area, production and yield of rice increased by 20%, 44% and 20% respectively as compared to 2014-15.

### Export Status of Rice from Pakistan

Pakistani fine rice well-known as Basmati is very famous in all around the world. It enjoys monopoly in the international market, due

to its quality characteristics, strong aroma, taste and texture and grain elongation on cooking and the world is ready to pay a premium for this. It supports the case for the crop to be protected as Geographical Indication (GI) and exports to be enhanced. Basically basmati has traditionally been an export crop in Pakistan [4,5]. In recent periods, 60% of the total annual production of 2 million tons produce has been traded abroad and generating about 2 billion USD for the national economy. The change in basmati export from last fifteen years can be analyzed from the Table 2.

Years	Basmati		Non-Basmati		Total	
	Quantity (MT)	Value (million USD)	Quantity (MT)	Value (million USD)	Quantity (MT)	Value (million USD)
2000-2001	347,074	170.834	1,792,224	291.2143	2,139,298	462.048
2001-2002	410,425	197.447	1,134,065	189.71	1,544,490	387.158
2002-2003	483,777	252.234	1,103,256	194.114	1,587,033	446.348
2003-2004	593,320	315.222	1,006,400	212.777	1,599,720	528
2004-2005	656,117	360.919	2,076,396	493.931	2,732,513	854.851
2005-2006	741,998	423.622	2,849,740	678.47	3,591,738	1102.093
2006-2007	771,099	474.507	2,221,236	569.863	2,992,335	1044.372
2007-2008	850,638	826.156	1,671,055	781.123	2,521,693	1607.28
2008-2009	924,358	1018.78	2,005,703	1025.745	2,930,061	2044.526
2009-2010	1,050,052	866.659	3,557,501	1399.147	4,607,553	2265.808
2010-2011	1,137,943	952.694	2,563,664	1138.453	3,701,607	2091.147
2011-2012	968,941	844.216	2,755,905	1237.022	3,724,846	2081.238
2012-2013	630,035	626.691	2,858,978	1210.894	3,489,013	1837.586
2013-2014	733,860	846.24	2,627,899	1051.579	3,361,759	1897.82
2014-2015	676,630	681.549	3,054,680	1167.152	3,731,310	1848.701

**Table 2:** Export of rice from Pakistan year wise [6].

The export of Basmati from Pakistan has declined by 40% in the past four years, from 1.1million tons in 2011 to 676,630 tons in 2015. As a consequence, the domestic market has been overcome by an uncontrollable excess, with an accumulated surplus of 1 million tons. This has decreased the domestic price of rice by 50%, from Rs 4500/maund in 2012 to Rs 2200/maund in 2015. A continuous decline in the export of basmati rice is having a harmful effect on the country's economy. It has increased country poverty with frequently terrible consequences for small farmers. Continuously down position of rice in the international market results in a low price for exports, while the domestic price of rice is high because of the high cost of production.

### Major Pakistani Basmati Rice Importing Countries

The major Pakistani Basmati rice importing countries are given in the Table 3. The main basmati rice Importing countries from Pakistan in the years 2013-14 and 2014-15 are Canada, Germany, U.K, Yemen, Oman, UAE, Saudi Arabia, Iran, Iraq, Belgium, USA and KSA. The statistics from the above Table 3 showed that the exports of Pakistani

Basmati rice have increased in Canada, Germany, Oman, Kenya, etc. in the year 2014-15. On the other hand, exports of our Basmati rice have declined in U.A.E, Yemen, Iraq, Belgium, KSA, etc. in the same period.

S No	2013-2014		2014-2015	
	Country	Basmati export Quantity (MT)	Country	Basmati export Quantity (MT)
1	UAE	159,314.95	Canada	8,910.11
2	U.K.	86,520.14	Germany	8,291.59
3	Yemen	56,227.70	U.K.	76,486.23
4	Oman	52,167.15	Oman	70,972.97
5	KSA	50,858.79	Kenya	6,613.02
6	Belgium	39,267.61	KSA	44,446.57
7	Azerbaijan	28,623.72	Mauritius	4,832.09

8	Spain	19,972.32	Iraq	4,206.95
9	USA	19,897.49	Kuwait	4,119.11
10	Qatar	19,303.69	Belgium	39,154.15
11	Italy	18,600.47	Yemen	38,892.38
12	Australia	16,725.82	Spain	32,430.96
13	Bahrain	14,758.16	Azerbaijan	30,090.20
14	France	12,894.81	Turkmanistan	3,493.26
15	Netherlands	11,607.69	Maldives	3,100.44
16	Malaysia	11,217.52	Sweden	2,937.83
17	Turkey	9,515.91	Russia	2,794.71
18	Canada	7,598.68	South Africa	2,766.62
19	Germany	7,516.69	New Zealand	2,485.28
20	Kenya	7,325.06	Lebnon	2,407.94
21	Iran	6,511.19	Iran	2,234.03
22	Sri Lanka	6,434.85	Portugal	2,100.00
23	Iraq	6,120.67	Bangladesh	2,096.30
24	Mauritius	5,949.48	Denmark	2,034.98
25	Kuwait	5,825.07	Italy	19,938.02

**Table 3:** Main importing countries of Pakistani Basmati rice Source [7].

### Major Basmati Sowing Area in Punjab

Pakistan is famous for growing and exporting long grain Basmati rice. It is completely grown in certain parts of the Punjab [8]. The main growing areas of Basmati are Districts Gujranwala, Hafizabad, Sheikhupura, Sialkot, Narowal, Hafizabad, Nankana Sahib, Chiniot, Gujrat, Mandi Bahaudin and Kasur. It was cultivated on an area of 3.26 million acres during the period 2014-15 showing an increase of 10.7% over last year. Production of Basmati rice during the same period was estimated at 2.34 million tons, which is 13.6% higher than last year's production 2.06 million tons. The area, production and yield of Basmati rice for the last fifteen years are given in Table 4.

Year	Area*	Production**	Yield (kg/ha)
2000-2001	1113.7	1601	1438
2001-2002	1293.8	1913.8	1479
2002-2003	1316.8	2175.5	1652
2003-2004	1426.1	2309.2	1619
2004-2005	1466.5	2347.9	1601
2005-2006	1534.9	2641.8	1721
2006-2007	1474.2	2493.6	1691
2007-2008	1377.1	2453.1	1781
2008-2009	1548.3	2601.6	1680
2009-2010	1414	2475.4	1751
2010-2011	1333.8	2365.2	1173
2011-2012	1121	1889.1	1685
2012-2013	995.1	1758	1767
2013-2014	1172.8	2019.5	1722
2014-2015	1297.4	2303.2	1775

**Table 4:** Area, Production and Yield of Basmati Rice in Punjab [9]. \*Area in thousand hectares; \*\*Production in thousand tons.

Punjab is the leading rice growing province with about 61% of rice area and about 46% of total rice production of the country. In Punjab, approximately 78% of the total rice area is under Basmati varieties. During 2000-2001, the area, production and yield of rice increased by 16.5%, 44%, 23.4% respectively as compared to 2014-15.

### Percentage Area under Different Rice Varieties in the Punjab from 2010-11 to 2014-15

The data in the Table 5 was provided by Directorate of Crop Reporting Services, Lahore regarding the percentage area under different rice varieties cultivated under rice crop in Punjab.

Variety	2010-2011		2011-2012		2012-2013		2013-2014		2014-2015	
	Area	% Change	Area	% Change	Area	% Change	Area	% Change	Area	% Change
BASMATI										
385	103	2.36	121	2.86	74	1.75	78	1.74	49	1.09
370			3	0.07	2	0.05	2	0.04	7	0.16
PAK6219 (KARNAL)	9	0.21	38	0.9	1	0.02	17	0.38	29	0.64
SUPER	2946	67.48	2413	56.96	2086	49.33	2291	51.25	2301	51
PS-2(KAINAT)	131	3	113	2.67	196	4.63	530	11.86	784	17.38
2000	25	0.57	15	0.35	13	0.31	9	0.2	29	0.64

SHAHEEN	2	0.05	2	0.05	1	0.02	1	0.02	2	0.04
OTHERS	80	1.83	65	1.53	86	2.03	19	0.43	5	0.11
TOTAL	3296	75.5	2770	65.39	2459	58.14	2947	65.92	3206	71.06
IRRI										
6	218	4.99	183	4.32	147	3.48	164	3.67	147	3.26
9	86	1.97	96	2.27	141	3.33	110	2.46	99	2.19
KS-282	95	2.18	82	1.94	107	2.53	47	1.05	62	1.37
KSK133							106	2.37	95	2.11
OTHERS	52	1.19	92	2.17	124	2.93	41	0.92	20	0.44
TOTAL	451	10.33	453	10.7	519	12.27	468	10.47	423	9.37
OTHERS										
386	415	9.51	685	16.17	870	20.57	623	13.94	437	9.69
PULMAN								0		0
SATHI								0		0
SUPER FINE	62	1.42	46	1.09	66	1.56	102	2.28	141	3.13
SUPRA	107	2.45	54	1.27	79	1.87	79	1.77	45	1
SUPREE					212	5.01	239	5.35	244	5.41
OTHERS	35	0.79	228	5.38	24	0.58	12	0.27	16	0.34
TOTAL	619	14.17	1013	23.91	1251	29.59	1055	23.61	883	19.57
G.TOTAL	4366	100	4236	100	4229	100	4470	100	4512	100

**Table 5:** Percentage area under different rice varieties in Punjab from 2010-11 to 2014-15 [9].

During the crop year 2010-11, the variety Super Basmati is one largest that covered 67% of area cultivated under rice crop in Punjab. While in the crop year 2014-15, the most famous rice variety Super

Basmati was seen covering 51% area cultivated under rice crop in the Punjab Province.

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Price (US D/ton)	471.89	515.63	677.19	1079	937.29	879.15	1060.3	1099.4	1372.2	1323.9

**Table 6:** International price of Pakistani Basmati rice from 2005 to 2014 [10].

### Comparison of International Rice Prices

The international prices of Pakistani basmati rice in different periods can be seen in the Table 6.

The trend of international price of Pakistani basmati rice is increasing gradually due to higher demand for basmati from Iran, Saudi Arabia and West Asia is helping farmers in Pakistan get good price for their produce [11].

### Reasons for Decrease in Export of Rice

Pakistani rice especially Basmati is very popular in all around the world but mixing of inferior varieties affects the quality of rice which results in loss of market and reputation. The use of poor technology for

harvesting, threshing and milling results in huge quantity of broken rice and deteriorate quality. Mostly exporting companies of Pakistan are not labeling their products and selling rice without any brand name. As a result, the exporters/traders do not get good price of even high quality product. Due to availability of stocks in the importing countries, demand of rice has decreased considerably. Pakistan is selling rice in bulk quantity. Pakistani exporters are not selling rice in packing of 1 Kg, 2 Kg & 5 Kg which results in lower price. Cultivation of unapproved varieties by the farmers should be discouraged because it results poor quality of the produce. Electricity shortages have also increased the cost of production because some rice mills are operating at only half their capacity, and gas shortages make the drying process longer. Power tariffs are on higher side which makes the tube-well irrigation expensive. The storage capacities for exports are in sufficient.

Prices of fertilizers and pesticides are on higher side. Proper machinery is not being used by the farmers in harvesting and threshing, which results in damage to the quality of rice. Old traditional system to dry the paddy rice on open space is still in practice.

## Conclusion

It was concluded from all above discussion and statistics of rice, the basmati trade has played a major role in the improvement of rural poverty as more of the area of Pakistan especially in Punjab province occupied by basmati. Unfortunately, national and international markets of our Basmati and other rice are badly affected due to country crises like high Power tariffs, shortage of gas and electricity, water shortage and high cost of production. Our farmers cannot get the good prices of their rice in the national and international market in the presence of these crises. The market crashes are also discouraged the farmers from growing basmati and this will decrease the area under rice cultivation with awful consequences for country incomes and the economy as a whole. Consequently, our rice export is facing a declining trend continuously and we are pushing back in the race of rice market. The seed production and distribution are important amongst the factors which determine the pace of agricultural development of a country/region. The production and distribution of seed is a complex process involving farmers, growers, Government agencies, research institutions and other stake holders. Use of quality seed only can enhance the productivity by 15-20%. Quality seed plays a pivotal role in boosting agricultural production both in market oriented and subsistence farming system. Seed has the unique position among various agricultural inputs because the effectiveness of all other

inputs mainly depends on the potential of the seeds. Seed is a high technology product and is an innovation most readily adapted. Improving access to good quality of seed is critical requirement for sustainable agricultural growth and food security. Effective use of improved/certified seed can result in higher agricultural production and increases the net income.

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