

PROBLEMS & PROSPECTS OF RICE (BASMATI AND NON-BASMATI) PRODUCTION AND EXPORTS IN INDIA

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Abstract

India is popular for its rice cultivation all over the world. As per the statistical analysis, rice production in India covers around 46 per cent of the total food crop production. It is also seen that other countries also have demand the rice from India. Hence, starting a rice export business would be a profitable and feasible business option. India is one of the important countries in the world in export of rice. India's exports are expected to go up further during current financial year. Hence, Indian rice exports are set to reach second place in the world markets after Thailand edging out Vietnam in the process as per the report of the Food and Agricultural Organisation. Rice has been a major element in the exports from India all these years. In the year 1999, around 25 per cent of the total agricultural exports in India were rice. Countries like Myanmar, China, Japan, Vietnam etc also are some of the rice production giants. However, the ever-growing demand for the rice across the globe gives a good scope for the rice export business from India. The main object of the study is to examine the growth performance and trade patterns of Indian products during 1990-1991 to 2015-2016. The article mainly analysed about agricultural trend of rice exports in India. Rice exports have played an increasingly important role in India's economic growth in the last twenty five years. It concludes with key policy changes which could have a bearing on the current trends seen in these sectors.

Keywords: *Agricultural production, Agricultural trade, Growth rate, Rice exports.*

Introduction

Rice is one of the important cereal food crops of India. Rice contributes about 43 per cent of total food grain production and 46 per cent of total cereal production in the country. It continues to play vital role in the national exports. The percentage share of rice in total national export was 4.5 per cent during 1998-1999. The percentage share of agriculture export in total national export was 18.25 per cent, whereas the percentage share of rice export in total agriculture export was 24.62 during 1998-1999. Thus, rice export contributes nearly 25 per cent of total agriculture export from the country. In recent year the percentage share of rice in total national export was 12.3 per cent during 2015-2016. The percentage share of agriculture export in total national export was 12.68 per cent, whereas the percentage share of rice export in total agriculture export was 17.39 during 2015-2016. Thus, rice export contributes nearly 17 per cent of total agriculture export from the country.

Rice is also an important cereal food crops in South East Asia. Thailand, Vietnam, Mynammar, China and Japan are the important countries besides India growing rice. Among the exporting countries Thailand, Vietnam, India and Pakistan are the important countries exporting rice in sizeable quantity. Thailand ranks first in the export of rice in the world followed by Vietnam and India. However, India is likely set to be second largest rice exporter in the world during the current financial year. China and Indonesia are likely to boost their import of rice, which will facilitate to India to increase its rice export. Besides, the Govt. of India has also fixed high target of export of rice from India including broken rice. The Govt. of India has also fixed the export price of rice quite competitive in the international market. These measures are expected to contribute in boosting the export of rice from India.

The Govt. has also created four zones in addition to earlier 28 zones to boost the export of agriculture products from the country, these new zones are -

- Apple zone in Himachal Pradesh
- Mango zones in Andhra Pradesh
- Flower zone in Tamil Nadu
- Basmati rice export zone in Punjab.

With the creation of these four new zones the exports of agriculture products from the country have risen to 32 zones, which will cover the export of various agriculture products in the country. Therefore, the special emphasis is being laid down to strengthen these zones for increasing agricultural products including export of basmati rice from India. The basmati export zone has been set up in Punjab to tap the potential of basmati rice to increase its export in the international market. In fact Indian basmati rice is well recognized in the international markets because of its quality. Keeping in view the export potential of basmati rice, the Govt. of India has launched aggressive export promotion policy to further develop the basmati rice by adoption of improved production technology including improved high yielding new seeds. The scheme for export of basmati zone will cover Gurdaspur, Amritsar, Kapurthala, Jalandhar, Hoshiarpur and Nawanshahar districts of Punjab.

The estimated outlay of the scheme is Rs.23.3 crore, in which the centre's share would be Rs.11.85 crore, the share of State Govt. of Punjab would be Rs.1.85 crore. Balance amount Rs.9.6 crore will be met from private entrepreneurs. The aim of this programme is to increase export of basmati rice in particular and overall export of rice in general.

Objectives

The specific objectives of the study as follows:

1. To study about the production of rice in India.
2. To identify the value of agricultural exports in India's foreign trade.
3. To identify the trend and growth analyse of rice exports in India's agricultural trade.

Methodology

The secondary data has been used for the study purpose. The pertaining to different aspects in rice exports were collected for 26 years from 1990-1991 to 215-2016 and the collected data are used to analyse the influence on the value of exports of rice in India. The various publications and reports such as hand book of statistics on the Indian Economy, Economic survey, RBI Bulletin ect., have been referred for collection of data. To analysis the collected data a master sheet was prepared various cross tables have been prepared percentage analysis, Simple linear regression model, compound growth rate and semi log model was used to exports of rice in India.

Agricultural Production of Rice in India

- There are two varieties of rice: Indica and Japonica. Over 40,000 sub-varieties have been derived from these two varieties. Basmati is an Indica variety.
- Indica rice is long-grain rice and is usually grown in hot climates. This rice is fluffy and doesn't stick together on cooking. Japonica is a short-grain variety of rice (fat and round grain) which is mainly characterized by its unique stickiness and remains moist, which helps it to be eaten with chopsticks.
- In India rice production was increased from 74.29 million tonne in 1990-1991 to 93.34 million tonne in 2001-2002 and 71.82 million tonne was decreased in 2002-2003. In 2003-2004 was 88.53 million tonne in 2003-2004 to 95.98 million tonne in 2010-2011 and it stood was 102.6 million tonne in 2015-2016.
- Rice can be consumed in three forms i.e. white rice, brown rice and parboiled rice. White rice is the polished rice because both the outer layers i.e. husk and bran is removed. In brown rice only the husk is removed while the bran layer remains. Brown rice is more nutritive than white rice and has a higher fiber and vitamin B content. Parboiled rice undergoes an additional process of boiling and steaming to capture the nutritive value of bran in the rice. Parboiled rice has good demand in Middle East.

Table: 1 Agricultural Production of Rice in India from 1950-1951 to 2014-2015

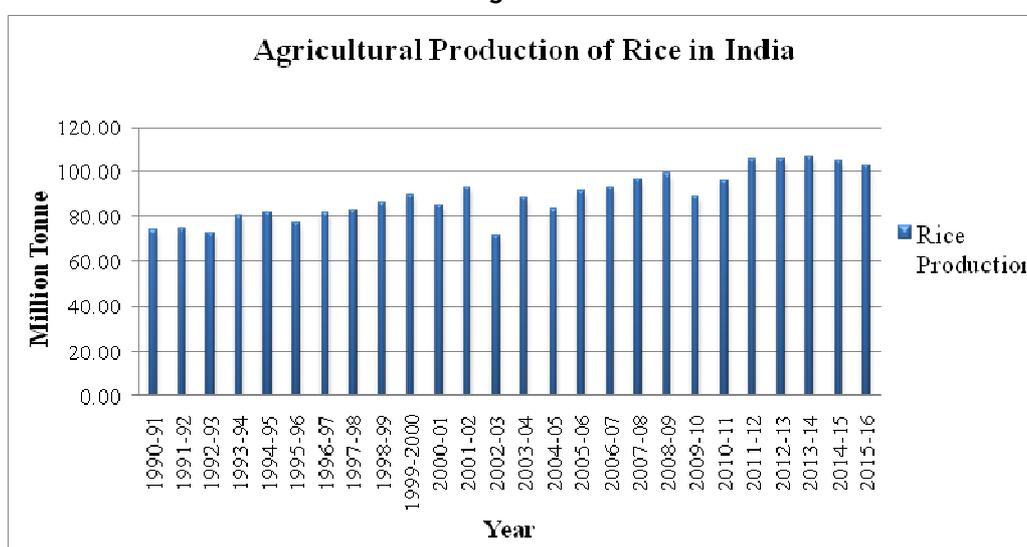
(In Million Tonne)

Year	Rice Production	Year	Rice Production
1990-1991	74.29	2003-2004	88.53
1991-1992	74.68	2004-2005	83.13
1992-1993	72.86	2005-2006	91.79
1993-1994	80.3	2006-2007	93.35
1994-1995	81.81	2007-2008	96.69
1995-1996	76.98	2008-2009	99.18
1996-1997	81.73	2009-2010	89.09
1997-1998	82.54	2010-2011	95.98
1998-1999	86.08	2011-2012	105.3
1999-2000	89.68	2012-2013	105.24
2000-2001	84.98	2013-2014	106.54
2001-2002	93.34	2014-2015	104.8
2002-2003	71.82	2015-2016	102.6

Source: Ministry of Agriculture, Govt. of India, www.indiastat.com

- Asia produces close to 90 per cent and consumes more than 80 per cent of the total worldwide rice production.
- China, India and Indonesia are the three largest rice producers in the world. Together these three countries produce and consume more than 60 per cent of total worldwide rice.
- In 2012 the top 3 rice exporting countries were India, Thailand and Vietnam (60 per cent of the total export).

Figure: 1



India's Exports of Rice

India is the world's second largest producer of Rice. India export basmati rice and non-basmati rice to various countries in the world. Basmati and non-basmati rice are the major items of agricultural exports of India. Any rice other than basmati rice is named as non- basmati rice. In the world it has been reported that there are 10000 varieties of rice and out of which the maximum number are in India. Basmati rice, known as the 'King of Rice' is the gift of India and Pakistan to the World.

As regards rice, India became net exporter in the middle of 1970s. But the real spurt in rice exports occurred in early 1990s when liberal export policies were launched. Table 2 indicates that the share of exports of rice increased from 7.61 per cent in the year 1990-1991 to 12.35 per cent in 1999-2000, the value of rice exports also increased from Rs: 461.60 crores in 1990-1991 to the value of Rs: 3125.90 crores in 1999-2000. In the first decade, export of rice was almost static with slight fluctuations over the previous years. The government also allowed exports of food grains and other agricultural commodities on

a quota basis, with a positive response. Liberalisation of export of rice in mid-1990s provided impetus to its export.

Table: 2 Rice Export in India during 1990-1991 to 2015-2016

Rs: In Crore

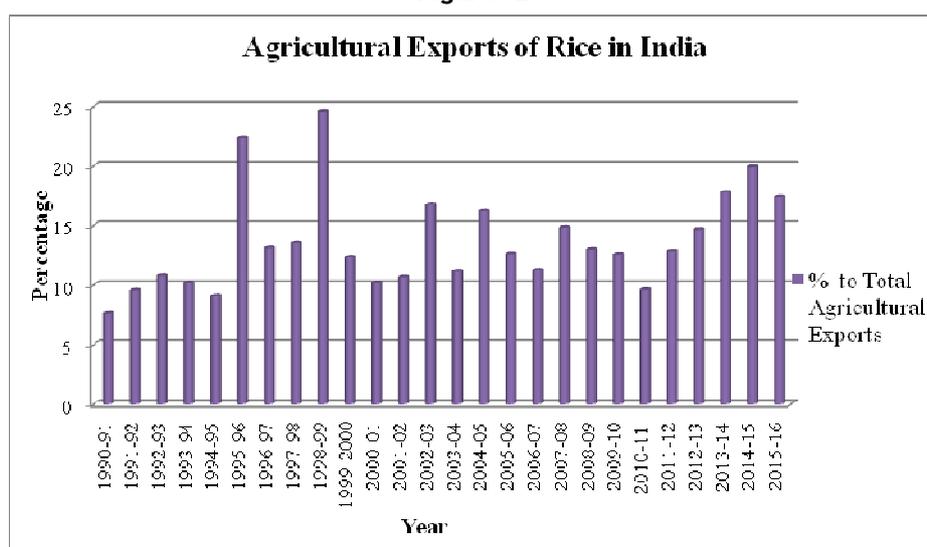
Year	India's Agricultural Exports	Rice Exports	Per cent share of rice exports
1990-1991	6063.99	461.6	7.61
1991-1992	7877.47	755.6	9.59
1992-1993	9040.4	975.6	10.79
1993-1994	12586.75	1286.7	10.22
1994-1995	13222.76	1205.8	9.12
1995-1996	20397.74	4568.1	22.4
1996-1997	24161.29	3172.4	13.13
1997-1998	24843.45	3371	13.57
1998-1999	25510.64	6280.8	24.62
1999-2000	25313.66	3125.9	12.35
2000-2001	28657.37	2932.2	10.23
2001-2002	29728.61	3174.1	10.68
2002-2003	34762.54	5831.2	16.77
2003-2004	37266.52	4168	11.18
2004-2005	41694.27	6768.9	16.23
2005-2006	49269.85	6221.3	12.63
2006-2007	62411.42	7035.9	11.27
2007-2008	79198.51	11754.6	14.84
2008-2009	85951.7	11164.4	12.99
2009-2010	89441.28	11254.9	12.58
2010-2011	120185.48	11586.06	9.64
2011-2012	187609.33	24108.72	12.85
2012-2013	230414.13	33858.2	14.69
2013-2014	264428.51	47087.03	17.81
2014-2015	241090.37	48028.26	19.92
2015-2016	217360.3	37800.31	17.39

Source: Ministry of Agriculture, Govt. of India, www.indiastat.com

As a result, the share was 24.62 per cent non-basmati rice export at the top during 1998-1999. In the second decade export of rice rose from 10.23 per cent in 2000-2001 to 12.58 per cent in 2009-2010. The value of export of rice was Rs: 2932.20 crores during 2000-2001, it has risen to Rs: 11254.90 crores in 2009-2010 because of increased international demand for these commodities. Also, the Centre had signed free trade agreements with a number of agricultural product-deficient countries. Thereafter the share has increased from 9.64 per cent in 2010-2011 to 17.39 per cent in 2015-2016 and the value

of exports from Rs. 11586.06 to Rs. 37800.31 in the same period. The lowest share was 7.61 per cent in 1990-1991 and the highest share was 24.62 per cent in 1998-1999.

Figure: 2



It is observed from the table that, the post liberalization period was not only marked by high level of production but also higher level of exports in respect rice. Rice is exported to more than 80 countries mainly to Gulf and European Countries. The Indian rice varieties have special pleasant aroma, long slender grain with soft texture on cooking. Indian parboiled rice has good demand in countries like, Saudi Arabia, Kuwait, Russia, Bangladesh, Singapore etc; whereas in some African countries, consumers prefer yellow tinted parboiled rice. India also exports non-Basmati rice, brown rice, and broken rice to many countries.

Results of the Trend Analysis: Rice Exports of India

The result of the estimated regression coefficient is presented in the table 3. In order to identify the products determining it, a regression by keeping rice exports as dependent variable and time as independent variable is tried.

Table: 3 Trend and Growth Rate of Rice Exports in India

Model	a	b	SE of b	t	Sig of t	R Square	f	C.G.R
Linear	8826.511	1502.755	225.623	6.660	0.000	0.649	44.362	-
Semi Log	6.518	0.158	0.010	15.464	0.000	0.909	239.125	17.10

Source: Computed data based on Ministry of Agriculture, Govt. of India, www.indiastat.com

It is evident that in the linear model, the estimated value of regression co-efficient for the India's rice exports is 1502.755. It denotes that the total value of India's rice exports increased at the rate of Rs: 1502.755 crores per year from 1990-1991 to 2015-2016 and it has been found that the regression is significant in terms of its 'F' value which is calculated to be 44.362. The "t" value indicates that the regression coefficient is statistically significant at one per cent level. Moreover, as the R-square value calculated is 0.649, the regression equation is reliable to the extent of 64.90 per cent. There has been a positive trend in the total value of India's rice exports during the year 1990-1991 to 2015-2016. In the semi log linear regression model, the estimated regression coefficient is 0.158. This implies that the export of rice increased by the 15 per cent per year. This coefficient is also statistically significant at one per cent level the value of R square is 0.909. The compound growth rate works out to 17.10 per cent.

Problems of Rice Export from India

India is facing stiff competition in the world markets for export of rice. Besides, there are many domestic problems for rice exporters. If these internal problems are relaxed to the extent possible, the exporters may find easy way to boost rice export and such measures will go a long way to sustain the exports. Some of the major problems are discussed in this chapter below: -

- As per the state Govt. policy, various taxes are imposed on rice exports, such as the states are imposing Purchase Tax (on indirect export), Market Fees, Rural Development Fund, Administrative Charges etc. These taxes are rendering the pricing of rice internationally in competitive. Thus, Indian rice becomes costlier in the international market as compared to other competing countries in the world and Indian rice exports get setback many times. In fact, in Pakistan rice meant for exports specially the branded ones, duties are extremely low or duty free.
- There is lack of proper infrastructural facilities. Many times exporters, when they carry their stock to sea port and if the stock is not loaded due to some reason or the other, exporters do not find godown or proper place to store their stocks properly and safely at sea port, exporters have to face lot of difficulties, besides, it adds additional expenditure to the exporters.
- Due to increase in the cost of inputs used for paddy cultivation the production cost goes up and the Minimum Support Price (MSP) for paddy is enhanced every year by the govt. of India to safeguard the interest of the growers. When paddy is converted to rice, it becomes costlier and thus makes it internationally uncompetitive.
- Rice production meant for export purpose is having subsidy in other countries, which reduces the cost of production and thereby reducing the cost of rice. Therefore, the export price of rice of such countries is more competitive in the international markets compared to Indian rice.

- The major rice producing nations have decreased the price to capture the international markets but Indian rice prices are inelastic due to relatively high cost of production and become uncompetitive in the international markets. Much of basmati rice export prospects have been lost in the recent part to other competing countries like Pakistan etc because of high prices.
- Rice mills have not been fully modernized to ensure high milling recovery and reduce the percentage of broken rice. The conventional rice mills are having Rubber Roll Sheller in which percentage of broken rice is more than the modern rice mills that are having under Runner Sheller. Hence, head rice obtained from milling of conventional mills becomes costly due to recovery of higher percentage of broken rice. Therefore, conventional mills are required to be modernized to get recovery of higher percentage of head rice suitable for export.
- Lack of proper arrangements for production of sufficient quantity of quality seeds needed for cultivation of rice for export purposes.
- The export is also suffering much due to the competition from other exporting countries like Thailand, Vietnam and Pakistan because the cost of production in these competing countries is low as compared to the cost of production in India. Infact, trade segment believes that Indian rice can face the global competition if subsidy is provided.
- In these days basmati rice is facing aroma problem, because intensity of aroma in traditional basmati varieties is not so high as it used to be. Infact, basmati varieties are highly prone to lodging and lodging affects the natural grain development. In such situation both aroma and linear kernel elongation are affected.
- Post harvest handling of produce is another important aspect. Generally, farmers are harvesting the crop at different moisture levels and keeping the produce at higher moisture level for a longer period will impair the intensity of aroma.
- In absence of genetically pure seed of basmati varieties, in majority of basmati rice fields, a variation in plant height, grain size and maturity of the crop is found. This is one of the major reasons for poor quality of basmati rice. Infact, at the time of rice processing the grain size can be taken care of, but it is a waste. However, using good quality seed the loss can be converted into profit.

Export Promotion Policy

India is facing stiff competition in the world markets for the export of rice. Thailand, Vietnam and Pakistan are the competitors for India in the export of rice. Thailand is occupying first position in the international markets due to its better quality and low price. Vietnam was the world's second largest exporter of rice but currently the demand for Vietnamese rice has steeply declined in the international markets. Therefore, Indian rice exports are set to reach second place after Thailand, edging out Vietnam as per report of Food & Agricultural Organisation (FAO).

There is also good scope for India to take advantage of the new trade policy for sustaining the export of rice. This can be achieved if production is made keeping in view the demand of international markets by increased investment in Research and Development coupled with realistic export policy. The following export policies may be taken in to account to sustain the export of rice in future:

- Production of quality seeds and ensuring its availability to farmers at subsidized rates.
- Low cost production technology may be developed to reduce the cost of production and making Indian rice more competitive in the international markets.
- Survey may be conducted to identify contiguous zones for cultivation of export quality rice.
- Quality of rice may be maintained keeping in view the requirements of the international markets.
- Breeding programme may be initiated to develop high yielding export quality rice both for basmati and non-basmati rice to enable the exporters to compete in the world's markets.
- Production, procurement and processing of basmati rice may be organized in a systematic manner for maintaining its quality for export purposes.
- Conventional rice mills may be modernized to ensure high milling recovery of head rice and effective availability of by- products for better and profitable utilization both for industrial and feed purposes.
- Intelligence wing may be set up to keep watch over the requirement of various rice importing countries so that Research & Development may be strengthened accordingly to produce quality rice for export purposes.
- Export friendly trade policies may be adopted with improvement of infrastructure facilities for promoting export.
- Sufficient export facilities may be made available to the exporters at Sea Port.

Suggestions for Sustaining Rice Export

Rice export constitutes a considerable share in the national exports. India is likely to be major exporters next to Thailand during 2003 and its influence on the global rice trade will be significant. Keeping in view the importance of rice in the national export items, concerted efforts are required to be made to further promote the export of rice. There is a good scope for India to take advantage of the new trade opportunities for promoting the export of rice. This can be achieved if production is made as per the requirements of international markets by increased investment in Research and Development coupled with export friendly trade policies.

The following are few of the measures suggested to sustain the export of rice in future:

- Breeding programme may be initiated to develop high yielding export quality rice (Basmati, Non-Basmati, Long Grain Rice, etc.) to enable the exporters to sustain their export in future.
- Survey may be conducted to identify export quality belts/zones for production of rice to meet the requirement of exports.
- Extension activities may be strengthened to educate the cultivators for production of quality rice to match the standards of international markets.
- Low cost production technology may be developed to bring down the cost of production to enable the exporters to compete with competing countries in the international markets.
- Proper arrangements may be made for procurement and processing of rice export purpose as per the requirement of international markets.
- Proper arrangements may be made for production of pure quality seeds and making them available to the farmers at subsidized rates.
- In case of basmati varieties, crop should not be allowed to lodge and there should be proper water management in the field. If these are not attended properly, such situation may affect both aroma and linear kernel elongation.
- Post harvest operation is also very important. After harvesting, if produce is allowed to remain at higher moisture level for a longer period, it will impair the intensity of aroma.

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