Agro Economist - An International Journal
Citation: AE: **8**(01): 57-62, June 2021
DOI: 10.30954/2394-8159.01.2021.9

AAEBM
ASSOCIATION OF AGRICULTURAL ECONOMICS & AGRI-BUSINESS MANAGEMENT

Magnitude, Direction and Determinants of Basmati Rice Export of India

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Received: 21-02-2021 **Revised:** 24-04-2021 **Accepted:** 29-05-2021

ABSTRACT

International trade is important for sustainable and speedy development of an economy. India is world's second largest producer of rice and largest exporter of basmati rice in the world. In India, Basmati rice is largest agricultural export commodity. The Compound annual growth rate of export of basmati rice was 7% per annum in physical term and in monetary term its growth was 12%. The export of basmati rice from India has crossed the value of more than ₹ 32000 crore annually in year 2018-19. In a period from 2010-11 to 2019-20, the highest annual import of Basmati rice from India was done by Iran that was 28.5 % followed by Saudi Arabia (21.9%), UAE (11.48%), Iraq (8.25%) and Kuwait (6.02%). The price of Basmati rice during the 2010-11 to 2019-20 has moved between ₹ 47.90 per kilogram to ₹ 77.98 kg per kilogram. The important determinants in promotion of trade in basmati rice were availability of high yielding varieties and inputs, improvement in production technology, availability of different market agencies for purchase, stability in economy, increase in international demand and good trade relations with trading counties.

Keywords: Export of Basmati Rice, Direction of trade, Determinants of trade, growth rate

International trade plays an important role in the economic development of a country. The participation of India in international trade is largely confined to primary products, especially of the agricultural sector. Indian trade policy for agricultural commodities is guided by the twin objectives of ensuring national food security and building export markets for enhancing the farmer's income. Rice (*Oryza sativa* L.) is a staple food crop of more than half of the inhabitants across the globe. India is an important centre of rice cultivation. India ranks first in area and second in production of rice at global level. Rice has shaped the culture, diets and economics of thousands of millions of people. For more than half of Because of the importance of this crop for the survival of mankind, United Nation declared 2004 as International Year of Rice. Aromatic rice constitutes a small but special group of rice which is considered best in quality. Aromatic rice is known for its nut like scent and taste which is caused by the chemical compound 2-acetyle-1pyrroline. "Basmati" is long grain aromatic rice grown for many centuries in the specific geographical area, at the Himalayan foot hills of Indian sub-continent,

How to cite this article: Kumar, V., Yadav, A., Kumar, A. and Singh, D. (2021). Magnitude, Direction and Determinants of Basmati Rice Export of India. *Agro Economist - An International Journal*, **08**(01): 57-62.

Source of Support: None; **Conflict of Interest:** None

blessed with characteristics extra- long slender grains that elongate at least twice of their original size with a characteristics soft and fluffy texture upon cooking, delicious taste, superior aroma and distinct flavour, Basmati rice is unique among other aromatic long grain rice varieties. Broadly speaking, aromatic rice can be classified into three categories- (1) Basmati (2) Jasmine and (3) Non-basmati/Nonjasmine. The aromatic basmati rice of Indian Subcontinent clinches a good premium and gets higher price than high quality non-basmati rices. In Hindi, basmati means "queen of fragrance" and the nutty, sweet smell of basmati rice is unmistakable. Basmati is a necessary element in Biryani dishes and is the preferred type of rice served with north Indian meals. It is most preferred especially for Biryani and Pulao preparation on special occasion and is sold at high premium value in the national and international market. In comparison to non-Basmati rice, Basmati rice cultivation consumes less water. This is the reason that some states such as Punjab encourage the farmers to grow more Basmati.

Typically, the delicately curved, long grained, highly aromatic rice which elongate and cook soft and fluffy were the ones which were traditionally categorized as basmati. Basmati Rice enjoys privileged treatment both in domestic and international markets, generating three times higher price. Agro-climatic condition of the specific geographical area, agronomic practices, plant nutrition, and method of harvesting, processing and aging attributes these characteristics features to basmati rice. Basmati Rice verities give aroma pleasant flavour after cooking. Indian basmati rice is known for its extra-long superfine slender grains with a length to breadth ratio of more than 3.5. The main varieties of Basmati rice as notified under the seed act. 1966 are Basmati-386, Basmati-217, Ranbir basmati, Karnal- local/Taraori Basmati, Basmati-370, Type-3 (Dehradoon Basmati), Pusa Basmati-1, Pusa Basmati-1121, Punjab Basmati-1, Haryana Basmati-1, Mahi Sugandha, etc. Basmati Rice is always aged. It means the grains have to be aged for a long time in the storage units approximately, 18-24 months. This is very time-consuming process and requires particular conditions for ageing and warehousing. This adds to the overhead cost of the Rice. After packaging, Basmati Rice is available in markets in different brands e.g. Dawat, Lal Qila, India Gate, Kohinoor, Sungold etc. with a very high price value even up to ₹ 180-200/Kg. (Bera, 2020).

India is world's second largest producer of rice and largest exporter of basmati rice in the world. Total paddy production in the year 2018-19, was 115.6 million tonnes and basmati rice output was 5.31 million tonnes. Basmati rice export is projected to hit a record level of ₹ 30000 crore. In 2014-15, the total area under Basmati cultivation was 2.1 million hectares

The largest exported basmati variety is Pusa 1121 and the procurement price was ₹ 35000-38000 a tonne in the year of 2018-19 which was 8.5% higher than the price in 2017-18 (Kar *et al*. 2020). The areas of Basmati Rice production in India are in the states of J & K, Himanchal Pradesh, Punjab, Haryana, Delhi, Uttarakhand and western Uttar Pradesh.

Basmati rice is India's largest agricultural export commodity. Nowadays, the aromatic rice is becoming more popular in Middle East, United States and Europe. India, Pakistan and Thailand are the major exporters of aromatic rice The major destination of Basmati rice export in the world are Saudi Arabia, Iran, UAE, Traq, Kuwait, U.K, USA, Yemen Republic, Oman, Canada. In recent years, the African countries have also shifted to Indian non-basmati rice because of price competitiveness (Chandrashekhar, 2013). The major markets for Indian basmati rice would be Iran and Saudi Arabia, whereas for Indian non-basmati rice, the major markets would be Nigeria and South Africa (Adhikari *et al*. 2016).

MATERIALS AND METHODS

Data on export quantity, value and major exporting countries are collected from DGCIS *(Directorate General of Commercial Intelligence and Statistics), Kolkota* and APEDA (Agricultural and processed Food Products Export Development Agency) (https://agriexchange.apeda.gov.in) and other reports of Government of India. The data on quantity and value of export and major exporting counties were collected for duration 2010-11 to 2019-20. The compound annual growth rate was calculated to find the change in 10 years (2010-11 to 2019-20) for explanation of results. Formula for compound annual growth rate was taken as:

Compound decadal growth rate (r) = $\left(\frac{xi}{yi}\right)^{1/9} - 1$

Where, *Xi* is year 2019-20 and *Yi* is year 2010-11

RESULTS AND DISCUSSION

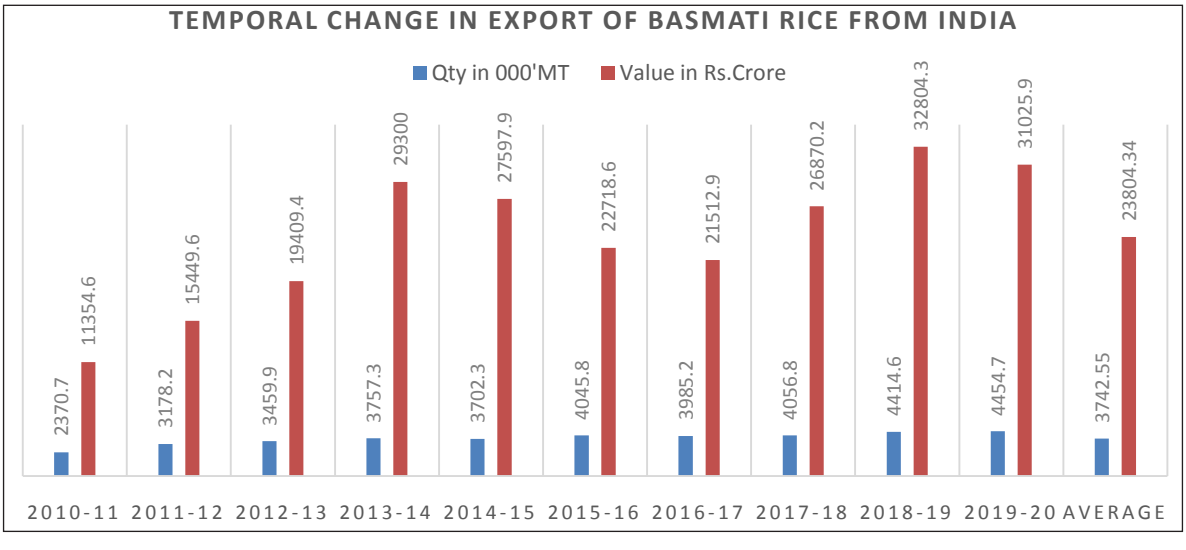
The annual export of Basmati rice and its value is presented in Fig. 1. In the year 2010- 11, the quantity exported of basmati rice and its value was 2370.7 thousand tonne and ₹ 11354.6 crore respectively. By the 2019-20, the exported quantity and its value rose to 4414.6 thousand tonne and ₹ 31025.9 crore. The average quantity exported annually of Basmati rice was 3742.55 thousand tonne and its value was ₹ 23804.34 crore. The Compound annual growth rate of export of basmati rice was 7% per annum in physical term and in monetary term its growth was 12% that showed there is higher prices offered and due to inflation also. The export of basmati rice from India has crossed the value of more than 32000 crore annually in year 2018-19 (Fig. 1). The total rice export in terms of quantity, value, and unit value grew at a positive and significant growth rate which may be due to higher demand of basmati rice in the international market, consistent policies for export of basmati rice, higher international price, and increased domestic production making comfortable stock of rice in the central pool (Gangwar and Rai, 1995; Shende *et al.* 1998).

Direction of trade: The lead importers of Basmati rice from India are Iran, Saudi Arabia, UAE, Iraq and Kuwait. From 2010-11 to 2019-20, the highest annual export of Basmati rice was recorded by Iran (Fig. 2) that was 28.5 % followed by Saudi Arabia (21.9%), UAE (11.48%), Iraq (8.25%) and Kuwait (6.02%). The direction of trade is needed to be expanded.

The price of Basmati rice during the 2010-11 to 2019-20 has moved between ₹ 47.90 per kilogram to ₹ 77.98 kg per kilogram. Basmati rice sometimes received three times higher price than normal rice in international market (Fig. 3).

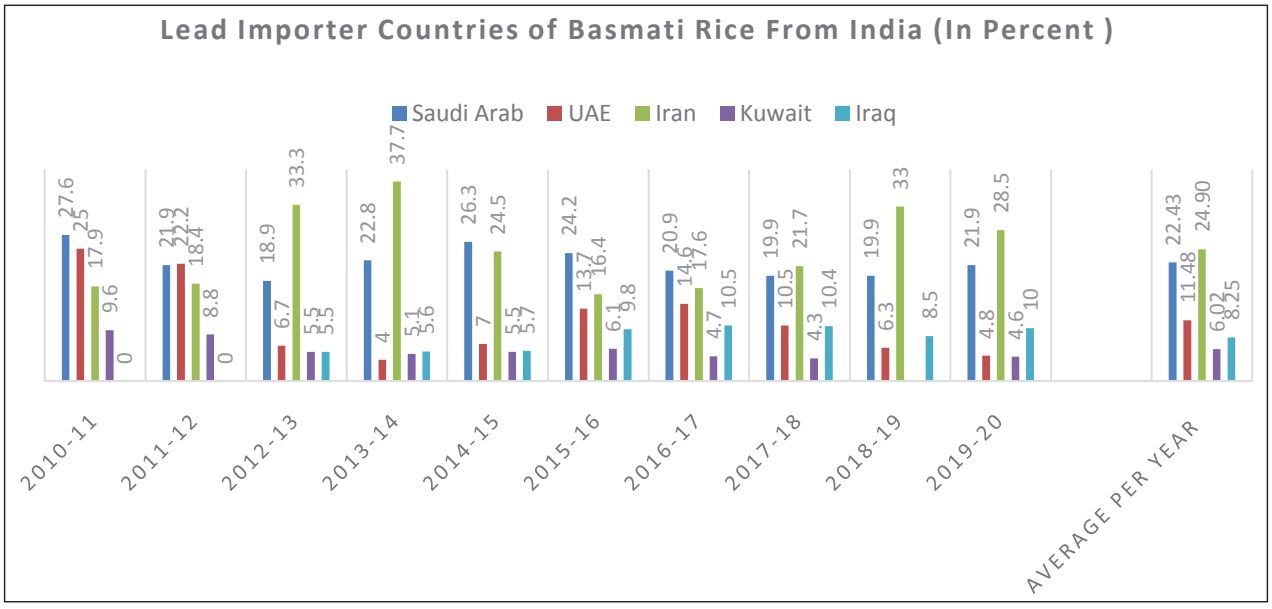
Determinants of trade in Basmati rice

There are number of factors that determine the progress of trade in Basmati rice in India. In the international market, rice is traded under two main groups, fragrant and non-fragrant. The fragrant rice in India dominates the trade with its basmati rice. For promoting rice export, policy requirements to be implemented include, disseminating information to farmers on export potential and price trends, encouraging advanced irrigation facilities, facilitating technology advancement for managing insects, pests and diseases, enhancing quality milling capacities to improve the yield per ton, promoting Indian Basmati rice brand in the international market and so on (Bano *et al*. 2017).



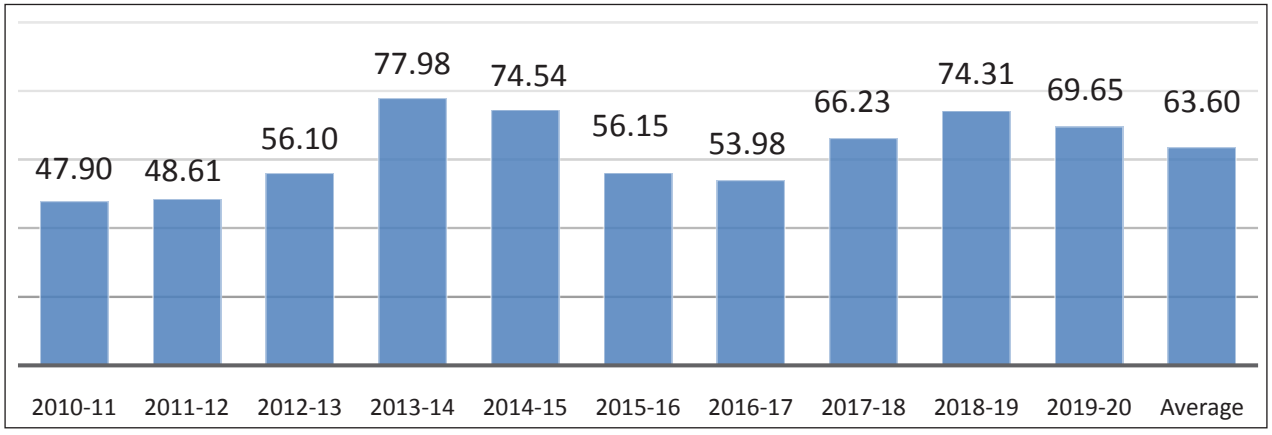
Source: *DGCIS (Directorate General of Commercial Intelligence and Statistics), Kolkata and APEDA*

Fig. 1: Temporal change in export of Basmati Rice from India



Source: *DGCIS (Directorate General of Commercial Intelligence and Statistics), Kolkata and APEDA*

Fig. 2: Temporal change in export of Basmati Rice from India



Source*: DGCIS (Directorate General of Commercial Intelligence and Statistics), Kolkata and APEDA*

Fig. 3: Temporal movement of export price of basmati rice in India (₹/kg)

Spread of Improved varieties

Main problems of Basmati rice is low yield when compared with the other rice varieties because of (i) lack of technology advancement regarding efficient harvest of basmati rice and control of insects, pests and diseases, (ii) lack of irrigation facilities, and (iii) lack of access to information on basmati rice export potential and price trends. The high yielding, resistant, less input consuming varieties are required to be provided at reasonable rate and in time to farmers (Abolagba *et al.* 2010).

Availability of Inputs and improvement of technology

The timely availability of different inputs are precondition for successful trade in basmati rice. Lack of credit for crop production was the most important constraint which ranked first with Garrett score of 69.07 followed by labour scarcity (68.83), scarcity of water for irrigation (65.62), difficulty in meeting quality requirements (63.33) and, and distance from the company (62.96) (Kar *et al.* 2020) Kumar and Prakash Kumar (2008) also confirmed

that lack of credit for crop production, scarcity of water for irrigation and difficulty in meeting quality requirements were the major constraints faced by contract farmers. The price of fertilizer needs to be reduced through ensuring a check on non-occurrence of black marketing and further ensuring transmission of fertilizer subsidies to the farmers, this would be a step towards increased profitability of the crop and hence encourage production through optimal input application. Technology can improve productivity and profitability, these can include introduction of high yielding disease resistant Basmati varieties and mechanization, tubewell availability may be improved in areas where the water table makes it technically and environmentally feasible, following sustainable agriculture approach (Niazi and Farooq, 2019).

Domestic consumption of basmati rice

The domestic consumption of rice shows a negative and significant effect on its export from India. When domestic consumption increases, smaller surpluses are available for exports, and ultimately its export decreases. Bilal and Rizvi (2013) have endorsed the same view. But, in recent years, a drastic change has been seen in the food habits of people. The consumption of cereals is decreasing in India because of increasing preferences for processed foods, vegetables and high protein food items (Chopra *et al.* 2014).

Adoption of successful Marketing models

There are various marketing models, and among these are contract farming including those led by an individual, or by farmer groups, or by cooperatives, and by various types of private processing sectors that develop backward and forward linkages with growers. Contract farming has been proved to help the farmers to adopt improved technology and higher productivity and quality production which boost export and is a fair and equitable rewarding system for the farming community. It provides technology and certain quality inputs to the farmer and scientific advice for efficient farming. It helps in transparent system of marketing with premium price to the farmers. It helps farmers to receive higher prices. Contract farming can also boost production and trade in basmati rice. The impact of contract farming on yield of basmati rice was found to be positive. The total income was more for contract farmers than non-contract farmers. Total input costs were slightly higher on contract farm than non-contract farm. Major factors responsible for farmers' participation in the contract farming were found to be company guidance for scientific method of cultivation, higher price for produce received from contracting firm, assured purchase by contracting firm and age of the farmer. The agricultural marketing and agri-business system needs institutions and innovations, to create and develop different marketing strategy for further increase in agricultural production (Kar *et al.* 2020).

International factors and trade policy

The different international factors as Export price, exchange rate, international demand, international standards for quality, multilateral trade relation are another important factors in trade determination. Special emphasis should be given to the problems and prospects of Basmati rice trade, policy, marketing, and future research programs. The new multilateral trade regime coupled with the policy changes adopted by the most nations aiming towards globalization, provided new opportunities as well as posed several challenges for expanding trade in agricultural products. India too has been able to derive significant benefits from the changed global environment. Since global trade environment is highly dynamic and export is influenced by both micro and macro policies, it is important to understand the product-specific dynamics to improve the rice trade. Indian rice exports had a fabulous performance during export performance of agricultural commodities. India faces competition in export of non-basmati rice from Thailand and Vietnam in international market due to better quality of rice from these countries, and from Pakistan for basmati rice. It is also found that export of rice from India is highly price sensitive. In order to sustain in the international market, Indian export price needs to be competitive besides meeting quality and sanitary and phyto-sanitary standards (Adhikari *et al*. 2016).

Price stabilisation of basmati rice in India: It is suggested that in order to increase the supply of Basmati rice, its own price needs to be stabilised, for the farmers to keep investing and increase basmati production in future. This could be achieved through

a combination of improved market efficiency; international market intelligence and introduction of crop insurance (Niazi and Farooq, 2019).

CONCLUSION

Basmati rice is India's largest agricultural export commodity. The total rice export in terms of quantity, value, and unit value grew at a positive and significant growth rate. The Compound annual growth rate of export of basmati rice was 7% per annum in physical term and in monetary term its growth was 12% that showed there is higher prices offered and due to inflation also. The export of basmati rice from India has crossed the value of more than ₹ 32000 crore annually in year 2018-19. From 2010-11 to 2019-20, the highest annual export of Basmati rice was done by Iran that was 28.5 % followed by Saudi Arabia (21.9%), UAE (11.48%), Iraq (8.25%) and Kuwait (6.02%). The price of Basmati rice during the 2010-11 to 2019-20 has moved between ₹ 47.90 per kilogram to ₹ 77.98 kg per kilogram. For promoting rice export, policy requirements to be implemented include, disseminating information to farmers on export potential and price trends, encouraging advanced irrigation facilities, facilitating technology advancement for managing insects, pests and diseases, enhancing quality milling capacities to improve the yield per ton, promoting Indian Basmati rice brand in the international market.

REFERENCES

Adhikari , A., Sekhon, M.K. and Kaur, M. 2016. Export of Rice from India: Performance and Determinants. *Agricultural Economics Research Review*, **29**(1): 135-150

Abolagba, E.O., Onyekwere, N.C., Abonkpolor, B.N. and Umar, H.Y. 2010. Determinants of agricultural exports. *Journal of Humane Ecology*, **29**(3): 181-184.

Bano, D.A., Singh, S.P. and Waza, S.A. 2017. Aromatic Rice in India: Its Production and Export. *Indian Farmer,* 4(3): 253-257.

Bera, A. 2020. Basmati Rice: A New Hope for Farmers. *Agriculture and food: e-Newsletter*, **2**(5): 819-821.

Bilal, M. and Rizvi, S.B.H. 2013. Determinants of rice exports: An empirical analysis of Pakistan. *Journal of Global and Scientific Issues*, **1**(4): 5-16.

Chandrashekhar, G. 2013. India returns to world rice market with a bang. *The Hindu*, Business Line, May 9, 2013.

Chopra, S., Toor, M.S. and Vatta, K. 2014. Pattern of changing consumption in India: An analysis. *Indian Journal of Agricultural Development and Policy*, **24**(2): 51-58.

Gangwar, A.C. and Rai, K.N. 1995. Emerging agricultural export opportunities in India. *The Bihar Journal of Agricultural Marketing*, **3**(4): 370-377.

Kar, A., Shegiwal, E., Kumar, P. and Prakash, P. 2020. Impact of contract farming on basmati rice (*Oryza sativa*) in India. *Indian Journal of Agricultural Sciences,* **90**(7): 1282–1285.

Kumar, J. and Kumar, P. 2008. Contract farming: problems, prospects and its effect on income and employment. *Agricultural Economics Research Review,* **21**: 243–250.

Niazi, M.A. and Farooq, U. 2019. Supply Response of Basmati Rice in Pakistan. *Sarhad Journal of Agriculture,* **35**(4): 1192-1197.

Shende, N.V., Deoghare, B.L. and Shende, T.K. 1998. Rice exports: Present status and future prospects. *Indian Journal of Agricultural Marketing*, **12**(1&2): 3-5.