

Research Paper

Export Status of Cereals and its Preparations from India: An Overview

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ABSTRACT

Rice is one of the major producing and exporting commodities of India along with wheat and other cereals. The present study seeks to examine the growth and instability in the export of cereals & its preparations in the last 30 years (viz. 1991-92 to 2019-20). This study is based on secondary data. The major analytical techniques like CGR and Cuddy Della Valle instability index were used to achieve the study's objective. The compound growth rate of rice, other cereal, and its preparations were found to be significant in growth during the study period. The instability index of *basmati* rice was low and the high value in rest of the commodities indicates high fluctuation in market price.

HIGHLIGHTS

- There is a significant growth in export of rice, other cereals and cereal preparations and instability index of cereals are high.

Keywords: export, rice, wheat, cereal preparation, CGR, Cuddy Della Valle instability index

Rice and wheat are major cereals and their production is closely related to food security and sustainable development of society (Singh *et al.* 2015). After independence, India was deficit in food production and had to import wheat for domestic consumption. During 1966-1967, (Sharma *et al.* (2014).

India is not only the largest producer (2nd) of the cereals as well as the largest exporter (5th) of cereals in the world. However, looking at the top exported cereals, India share is negligible in all categories except rice, although India is 2nd largest producer of wheat but major chunk of it goes to domestic consumption. Production of rice and wheat in the year 2020 was 118.87 MT and 107.59 MT respectively from which 7.10 % of rice and less than 1% of wheat was exported to the world.

Due to the high domestic consumption demand in 2008 the country imposed ban on export of cereals. The country has lifted the ban looking huge demand

in the global market subject to the condition, only limited amount of export were allowed which could not make any significant impact either on domestic prices or the storage stocks. Low supply from India emphasis the need of focused efforts to boost export and to increase cereal production as the population increasing which increases the domestic feed and export demand. NITI Ayog has recommended to export 25% of food production to prevent stockpile and to diversify the production towards nutri-cereals and boost export with focus on food processing.

Some of the new economic reforms during 1991-92 were introduced to boost up the economy of country, were abolishing market trade barriers, participation in private sector, decrease in the

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fiscal deficit, an increase in export and decrease in imports, etc. (Pooja Yadav, 2018). In view of this the study has been attempted with the objective to examine the growth and instability of cereals& its preparations in post reform periods.

METHODOLOGY

The time series secondary data on the export of cereals (basmati rice, non-basmati rice, wheat, other cereals) and cereal preparations from 1991-92 to 2019-2020 was collected from the database of APEDA(<https://agriexchange.apeda.gov.in/IndExp/PortNew.aspx>). Data was analyzed by using following analytical tools:

Compound Growth Rate

The compound growth rate has been carried out to examine performance of growth in the export of cereals & its preparations of India during the period 1991-92 to 2019-20 by fitting the exponential function on export quantity of cereals & its preparations. The following form of the exponential function was used -

$$Y = ab^t$$

Where, Y = export quantity

a = constant/intercept

b = regression coefficient

t = time variable in year

Then compound growth rate (r) was computed by using the relationship:

$$CGR(r) = (antilog\ of\ log\ b - 1) \times 100$$

The significance of growth rate was judge by student's 't' test

Instability index

The coefficient of variation (CV) was used to study the variability in the export. The CV or instability index was computed by using following formula:

$$CV = (standard\ deviation/mean)*100$$

The formula suggested by Cuddy and Della (1978) was used to compute the degree of variation around

the export, i.e., CV was multiplied by the square root of difference between the unity and coefficient of multiple determinations (R²).

$$Instability\ index = CV*\sqrt{1 - R^2}$$

R² = coefficient of determination

A high degree of instability index signifies violent variation and vice-versa in the export of the commodity. When the test statistics is not significant or R²<0, then CV is chosen to measure instability index.

RESULTS AND DISCUSSION

Basmati rice

Basmati rice constitutes significant part of total rice exported from India. Major importing countries are United Arab Emirates (UAE), USA and Oman with significant and found growth during the period of study and noticed to be rate of 14.34, 16.98 & 14.96 per cent, respectively. As evident from the result, the major importing countries shows significant growth rate except Saudi Arab & Kuwait showing high instability. Total rice export to all destinations from India have increased annually at 11.22 per cent per annum and growth was found to be highly significant (table 1).

Table 1: Growth and instability in export of basmati rice

Basmati rice	CAGR	Instability index
Saudi Arab	5.686***	14.352
UK	4.158	72.611
UAE	14.349***	81.058
Kuwait	9.233***	21.657
Oman	14.964***	79.372
France	5.635**	64.563
USA	16.986***	44.744
Total Export	11.229***	29.214

*** indicates significance at 1 percent level

Indian basmati rice is well recognized in international market due to its quality and there is a continuous increase in demand with the new emerging markets. India would have to take effective steps to enhance domestic production in area as well as productivity (Udhayakumar, M., & Karunakaran, K.R. (2020).

Non-Basmati rice

Only non-basmati rice exports to United Arab Emirates (UAE) show significant growth rate of 7.45 per cent per annum during the study period. Total exported rice from India has increased annually at 8.33 percent per annum and show compound growth rate. However, this is accompanied by a high degree of instability index in export on account of the national priorities of meeting domestic requirements and maintaining buffer stock (table 2).

Table 2: Growth and instability in export of non-basmati rice

Non-basmati rice	CAGR	Instability index
UAE	7.456***	53.379
Saudi Arab	0.551	54.285
Sri Lanka	11.901	176.381
South Africa	21.823	75.327
Bangladesh	21.330	111.672
Russia	18.273	114.157
Total Export	8.333***	54.228

*** indicates significance at 1 percent level.

The export markets for non-basmati rice are highly unstable and there is a year to year fluctuation in export markets (Anup Adhakari *et al.* 2011).

Wheat

The result revealed that very high instability were observed for all the major importers of Indian wheat. Due to export ban by India and imports for maintenance of buffer stock in 2008, wheat exports have shown high instability. Table 3 shows exports of wheat to Nepal show significant growth rate of 36.18 per cent where other destinations failed to exhibit significant growth rate. Although total wheat exports from India grew at an annual rate of 11.62 per cent per annum, this growth rate was not found to be significant.

Every year there is a subsequent growth in production and export of wheat. There is still a lot of scope for further export of wheat in international market. Government of India needs to concentrate in the improvement of infrastructures like warehousing, distribution and preservation, etc. and also it should give importance to provide marketing assistance to compete with our competitors (Gopalsamy, S. and Arul Kumar, M. 2020).

Table 3: Growth and instability in export of wheat

Wheat	CAGR	Instability index
Korea Rp	-4.562	245.991
U Arab Emts	14.161	151.107
Nepal	36.180***	119.650
Malaysia	10.495	192.038
Bangladesh	26.788	151.176
Yeman Republic	-2.631	185.976
Total Export	11.629	148.451

*** indicates significance at 1 percent level.

Other cereals

Sri Lanka and United Arab Emirates are the largest export destination for India with an average share of 16.48 and 11.64 per cent, respectively however Saudi Arab and Malaysia are also important markets for India. Only United Arab Emirates exhibit significant growth rate of 11.64 per cent per annum. In table 5 it can be seen that greater instability was noticed in other cereals export to all destinations. Other cereals exports to world grew at a rate of 14.05 per cent annually.

Table 5: Growth and instability in export of other cereals

Other Cereals	CAGR	Instability index
Saudi Arab	7.416	200.582
UAE	11.645**	130.542
Malaysia	5.023	183.553
Sri Lanka	16.483	174.731
Total Export	14.057***	91.403

*** & ** indicates significance at 1&5 per cent level.

Cereal Preparations

Major importing countries of cereal preparations are USA, United Arab Emirates, Bangladesh and Nepal in which USA and United Arab Emirates show average significant growth of 15.92 and 14.80 per cent with moderate instability whereas Bangladesh and Nepal also show significant growth rate with high instability. In table 6 it can be seen that the entire importing countries show significant growth rate. India show's a significant growth rate of 12.54 per cent annually with moderate instability index.

Table 6: Growth and instability in export of cereal preparations

Cereal Preparation	CAGR	Instability index
USA	15.923***	23.976
UK	5.643***	25.614
UAE	14.804***	28.228
Bangladesh	14.135***	46.059
Sri Lanka	8.102***	34.507
Nepal	15.382***	39.829
Total Export	12.540***	30.872

*** indicates significance at 1 percent level.

It is necessary that India focuses on export of cereal preparations and value added products (Sunny Thomas and Wahida Shekh, 2011).

CONCLUSION

The present study reveals that the export of basmati rice and non-basmati rice shows the significant growth during the period of 1991-92 to 2019-20 were 11.22 and 8.33 per cent respectively with high (54.23%) and moderate (29.24%) instability index, which shows fluctuation in export of basmati and non-basmati rice. Major rice importing countries were found to be UAE, Oman, USA for basmati rice and South Africa, Bangladesh, Russia and Sri Lanka were the importing countries of non-basmati rice from India. Export earnings of rice are a major source of foreign exchange with regard to agriculture which stabilizes the balance of payment of country (Satishkumar et al. 2016). The export of wheat shows non-significant growth over the time period. Among all major importing countries only Nepal showed high significant growth (36.18%) whereas other importing countries showed high instability in the export of wheat due to export ban in India. India has great potential of becoming one of the leading exporters of wheat since globalization and liberalization has brought unparalleled challenges and severe competition to the global market (Oladele and Kenamara, 2015). India need to improve the export strategies and increase the export of wheat (Archana Pandey, 2019). Other Cereals show significant growth rate of export from India (14.05%) but the importing countries were found to be non-significant growth with high instability index. Whereas cereal preparation showed significant growth of export from India over the period of study which was 12.50 percent

with moderate instability index which is (30.82%). All the major importing countries show significant rate of growth and moderate instability index except Bangladesh (46.05%) and Nepal (39.82%). To boost the growth and, increase the share of exports and reduce the instability of export the Government and the industries have to work in close unison and Government must pay more attention on the promotion of export processing units (Saraswati, 2014)

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