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GROWTH TRENDS AND INSTABILITY IN EXPORT OF AGRICULTURAL CROPS FROM INDIA: AN ECONOMIC ANALYSIS

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ABSTRACT

India is the largest producer and exporter of cereal products in the world. The present paper analyse the growth trends and instability in export of agricultural crops from India with the objectives to examine growth trends and instability in export of agricultural commodities from India and to identify the major destination of India for exporting of agricultural commodities from India. To fulfill the objectives secondary data from 2010-11 to 2023-24 has been utilized for analysis using the statistical tools like Compound Annual Growth Rates, Coefficient of Variation and Cuddy Della Valle's Instability Index. The study revealed that during the period the export of some commodities in terms of quantity like maize and other cereals show a negative growth rate. In terms of value other cereals also showed negative growth. The export growth rates of foodgrain such as basmati rice, non-basmati rice, wheat and millets are positive in case of quantity. The quantity of export of agricultural cash crops such as coffee, sugar and groundnut has shown positive growth rate while tea, cashew and cotton have shown a negative growth rate. Other cereals have shown the highest instability index value indicating the highest instability and variability among others in both cases quantity and value term. In term of value, cotton has shown the high level of instability index value indicating the highest instability and variability among others. India's key markets for cereals crops are Saudi Arab, Benin, Vietnam, Nepal, United Arab Emirates, Russia and Bangladesh, while cash crops are mainly exported to the United Arab Emirates, Italy, Sudan, Indonesia and Bangladesh.

KEYWORDS: *Agriculture, foodgrain, cash crop, export, growth, instability*

1. INTRODUCTION

India's agricultural sector has long been a cornerstone of its economy, with exports of agricultural commodities playing a pivotal role in global trade. Over the past decade, India's agricultural exports have seen significant growth, driven by a combination of factors including favorable government policies, advancements in farming technologies and increased global demand for key commodities such as rice, spices, cotton and oilseeds. The country diverse climate and vast agricultural resources enable the production of a wide variety of crops, making it a leading exporter of key commodities such as rice, wheat, spices, cotton, tea, coffee and sugar. This surge in exports has not only enhanced the sectors contribution to the national GDP but has also helped improve the livelihoods of millions of farmers and rural communities. However, the growth trajectory is influenced by various internal and external factors such as fluctuating global prices, climate variability, trade barriers and evolving international standards. Understanding the dynamics of India's agriculture exports, including the drivers of growth performance metrics and the associated challenges is critical for formulating sustainable strategies. This paper seeks to examine the key trends and growth of agricultural commodities, instability and variability in export from India.

India is the largest producer and exporter of cereal products in the world. In 2023-24, India's cereal exports reached Rs. 90,961.67 crore (or 10,984.27 million USD). Rice, including both basmati and non-basmati types made up 95% of these exports in terms of value. India is the top producer of millets accounting for 38.40% of the world's production, the second largest producer of rice (25.27% of global production), wheat (13.33% of global production) and the fifth largest producer of maize (2.9% of global production). Important cereals grown in India include wheat, rice, sorghum, millet (bajra), barley and maize. According to the Ministry of Agriculture Third Advanced Estimate for 2023-24, India's production of rice was 136.7 Million tones, wheat was 112.92 million tones, and millet (bajra) was 10.66 million tones. The total cereal production in India for 2023-24 was 304.36 million tonnes (APEDA). Jha et al (2019) identified key challenges in the horticulture sector, highlighting the need to boost productivity through research and development, increase the share of value-added products, diversify export destinations, and improve infrastructure such as cold storage and rural roads. The authors stressed the importance of strengthening public sector research while addressing the limitations faced by smallholder farmers, who make up a substantial portion of the producers. Ramesh el al (2017) in their study, it was observed that the quantity of horticultural produce imported in to India increased significantly during the post-National Horticulture mission (NHM) period, rising from 0.67% to 4.23%. However, in terms of value imports experienced a decline, dropping from 0.51% to -3.34%. Despite being a major producer of horticultural crops, the growth in import volumes did not

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correspond with an increase in value, indicating a contrasting trend. This rise in imports can be attributed to the growing population and heightened awareness of the nutritional benefits associated with these crops. (Shanthanagaraju and Shanmugam (2023) in their study it was observed that there were positive growth trends in horticulture export with significant potential for further sectoral expansion. The authors stressed that the key role of the government in developing infrastructure, promoting research, and incentivizing farmers to capitalize on this potential for sustained growth in horticultural exports.

1.1 Objectives of the study

- To examine growth trends and instability in export of agricultural crops from India.
- To identify the major destination of India for exporting of agricultural commodities from India.

2. DATA RESOURCES AND METHODOLOGY

The study relies based on secondary data and the required data is collected from Agricultural and Processed Food Products Export Development Authority APEDA. Data collected to analyzing export performance of export of agriculture crops from India. The study used time series data on the quantity and value of exports of agricultural crops from India, for a period of 2010-11 to 2023-24. In order to achieve the objectives of the study, following statistical measures such as percentages, compound annual growth rates (CAGR), standard deviation (SD), coefficient of variation (CV) and Cuddy Della Valle's Instability Index (CDVI) has been applied to show the trends and instability and variability in export of agricultural crops from India.

2.1 Compound Annual Growth Rate

The compound growth rate has been carried out to identify the growth rate in the export of agricultural commodities of India during the period 2010-11 to 2023-24.The compound annual growth rates (CAGR) has been computed by using the formula;

$$Y = AB^t$$

Where Y = dependent variable, t = time

By taking logarithms of both sides of the equations it takes the form: Log Y = Log A + t Log B.

If we put Log A = a and Log B = b, then equation becomes

Log Y = a + bt, which is linear function with independent variable t and dependent variable Log Y. The compound growth rate calculate as (antilog b – 1) × 100 and represent uniform rate of change from year to year.

2.2 Instability Analysis

Instability in export of agricultural commodity from India has been estimated by using Coefficient of Variation and Cuddy-Della Valle Index. Although Coefficient of Variation (C.V) is the simplest measure of instability, it over-estimates the level of instability in time series data which are characterized by long-term trends. CV is calculated as follows:

$$\mathbf{CV= \frac{Sandard\ Deviation}{Mean} X100}$$

Cuddy-Della Valle Index (%) with an objective to know that, up towhat extent risk is occurred in the selected variables. The Cuddy Della Valle Index de-trends shows the exact direction of the instability. Therefore, it is a better measure to capture instability in export of agricultural commodity from India. The Cuddy-Della Valle Index is calculated as follows:

$$\textbf{Cuddy-Della Valle Index} = \frac{\textbf{Sandard Deviation}}{\textbf{Mean}} \text{ X } \mathbf{100} \text{ X } \sqrt{\mathbf{1 - R^2}}$$

Where, C.V. was the Coefficient of Variation in per cent, and $\mathbf{R^2}$ was the coefficient of determination from a time trend regression adjusted for its degrees of freedom.

A low value of this index indicates low instability in the selected variables. The ranges of CDVI are given as follows;

- Low instability = 0 to 15 (%)
- Medium instability = 15 to 30 (%)
- High instability = 30 and above (%)

3. RESULTS AND DISCUSSION

3.1 Growth trends and instability in the export of foodgrain and pulses crop from India in terms of quantity and value

The growth trends and instability in export of foodgrain and pulses in terms of quantity has been presented in Table 1. The export growth rates of foodgrain such as basmati rice, non-basmati rice, wheat and millets are positive with a value of 4.07%, 21.50%, 18.84%, and 24.62%, respectively. The growth rate in export for pulses has been found be positive. However, the export growth is not uniform and is fluctuating over the years. For example, maize and other cereals show a negative growth rate with -5.15% and -26.05%, respectively. The quantity exported of foodgrain such as basmati rice, non-basmati rice, wheat and millets during the year 2010-11 was 2370.66, 100.69, 0.39 and 3.54 thousand tonnes which increased to 5242.05, 11116.53, 188.29 and 146.29 thousand tonnes in 2023-24 respectively, while quantity exported of maize and other cereals during the year 2010-11 was 3010.42 and 10.00

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thousand tonnes which decreased to 1442.67 and 9.47 thousand tonnes in 2023-24. The quantity export growth for the pulses found to be positive with a value 8.44 percent per annum. The coefficient of variation of basmati rice, non-basmati rice, maize, wheat, millets, other cereals and pulses in terms of quantity is 17.61, 56.69, 63.64, 116.69, 56.34, 173.03 and 58.48 percent respectively. Other cereals have shown the highest CV value indicating the highest variability and basmati rice has shown lowest CV vale indicating lowest variability among others. The value of instability index of basmati rice, non-basmati rice, maize, wheat, millets, other cereals and pulses in terms of quantity found to be 9.26%, 44.93%, 64.04%, 116.41%, 44.58%, 144.34 and 43.71%, respectively. Other cereals has shown the highest instability index value indicating the highest instability and variability among others while basmati rice has shown the lowest instability value indicating low level of instability and variability among others.

Table 1: Growth trends and instability in export of foodgrain and pulses crop from India in terms of quantity (in'000'MT)

Year	Basmati Rice	Non Basmati Rice	Maize	Wheat	Millet	Other Cereals	Pulses
2010-11	2370.66	100.69	3010.42	0.39	3.54	10.00	209.01
2011-12	3178.17	3997.72	3855.72	740.75	5.81	45.24	174.63
2012-13	3459.90	6687.99	4788.33	6514.81	16.32	268.38	202.75
2013-14	3757.27	7133.18	3954.24	5562.37	216.42	441.28	345.28
2014-15	3702.26	8274.05	2825.61	2924.07	257.39	430.81	222.26
2015-16	4045.82	6464.57	697.95	666.67	188.99	80.99	256.05
2016-17	3985.20	6770.80	566.35	265.61	166.94	1.49	136.97
2017-18	4056.76	8648.49	705.51	322.79	156.27	1.34	180.19
2018-19	4414.58	7599.67	1051.86	226.22	219.40	5.75	289.62
2019-20	4454.66	5040.71	370.07	217.35	129.01	2.40	235.70
2020-21	4630.46	13095.13	2879.20	2088.49	146.99	2.93	296.17
2021-22	3948.16	17262.24	3690.47	7239.37	158.51	3.05	410.38
2022-23	4558.97	17786.09	3453.68	4693.26	169.05	3.80	775.02
2023-24	5242.05	11116.53	1442.67	188.29	146.29	9.47	626.65
Average	3986.07	8569.85	2378.01	2260.75	141.50	93.35	311.48
SD %	701.98	4858.42	1513.43	2638.15	79.71	161.54	182.16
CV %	17.61	56.69	63.64	116.69	56.34	173.03	58.48
CDVI %	9.26	44.93	64.04	116.41	44.58	144.34	43.71
CAGR %	4.07	21.50	-5.15	18.84	24.62	-26.05	8.44

Source: *APEDA, https://agriexchange.apeda.gov.in*

Growth trend and instability in export of foodgrain and pulses in term of value shown in Table 2, the growth rate of export in terms of the value of basmati rice, non-basmati rice, maize, wheat, millets and pulses are positive with values 7.69%, 24.71%, 0.19%, 23.18%, 28.80% and 12.17%, respectively. However, it has been showing a negative growth rate with a value -15.18% in case of other cereals. Here coefficient of variation for basmati rice, non-basmati rice, maize, wheat, millets, other cereals and pulses are 34.36%, 62.33%, 65.36%, 121.38%, 54.37%, 164.67% and 71.00% respectively. The export value of foodgrain and pulses has significant increase during 2010-11 to 2023-24. The value of instability index of basmati rice, non-basmati rice, maize, wheat, millets and pulses in terms of value is 19.25%, 46.15%, 68.03%, 119.17%, 37.75%, 157.57% and 37.17%, respectively. In term of value other cereals has shown the highest instability index value indicating the highest instability and variability among others while other basmati rice shown the lowest instability value indicating low level of instability and inconsistency of export of fresh fruits and vegetables among others.

Table 2: Growth trends and instability in export of foodgrain and pulses crop from India in terms of value (Rs. In crore)

Year	Basmati Rice	Non Basmati Rice	Maize	Wheat	Millet	Other Cereals	Pulses
2010-11	11354.63	231.29	3359.46	0.70	8.55	12.6	870.04
2011-12	15449.6	8659.13	5157.51	1023.27	18.23	64.27	1067.93
2012-13	19409.39	14448.81	7096.34	10529	39.6	440	1285
2013-14	29299.96	17749.96	5983.66	9261.61	448.21	708.7	1747.63
2014-15	27597.89	20428.54	4037.51	4991.84	540.53	683.49	1219.08
2015-16	22718.6	15483.39	1162.01	1061.77	418.83	121.65	1658.09
2016-17	21512.91	16929.88	1030.13	447.85	390.89	4.75	1278.79
2017-18	26870.17	22967.82	1228.46	624.37	370.07	3.63	1473.26
2018-19	32804.3	21185.28	1872.51	424.95	542.5	11.74	1822.58

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2019-20	31025.88	14364.66	1019.3	439.14	425.69	12.45	1533.74
2020-21	29849.89	35476.61	4675.78	4037.6	435.8	15.15	2116.69
2021-22	26416.54	45652.35	7615.42	15840.34	469.36	17.44	2834.29
2022-23	38524.11	51088.72	8987.13	11826.9	608.11	27.4	5397.86
2023-24	48389.18	37804.48	3660.1	470.83	587.73	49.35	5689.4
Average	27230.22	23033.64	4063.24	4355.73	378.86	155.19	2142.46
SD %	9355.50	14356.75	2655.90	5308.90	205.99	255.55	1521.04
CV %	34.36	62.33	65.36	121.88	54.37	164.67	71.00
CDVI %	19.25	46.15	68.03	119.17	37.75	157.57	37.17
CAGR %	7.69	24.71	0.19	23.18	28.80	-15.18	12.17

Source: *APEDA, https://agriexchange.apeda.gov.in*

Fig: 1. Growth rate in the export of foodgrain and pulses crops from India in terms of quantity and value

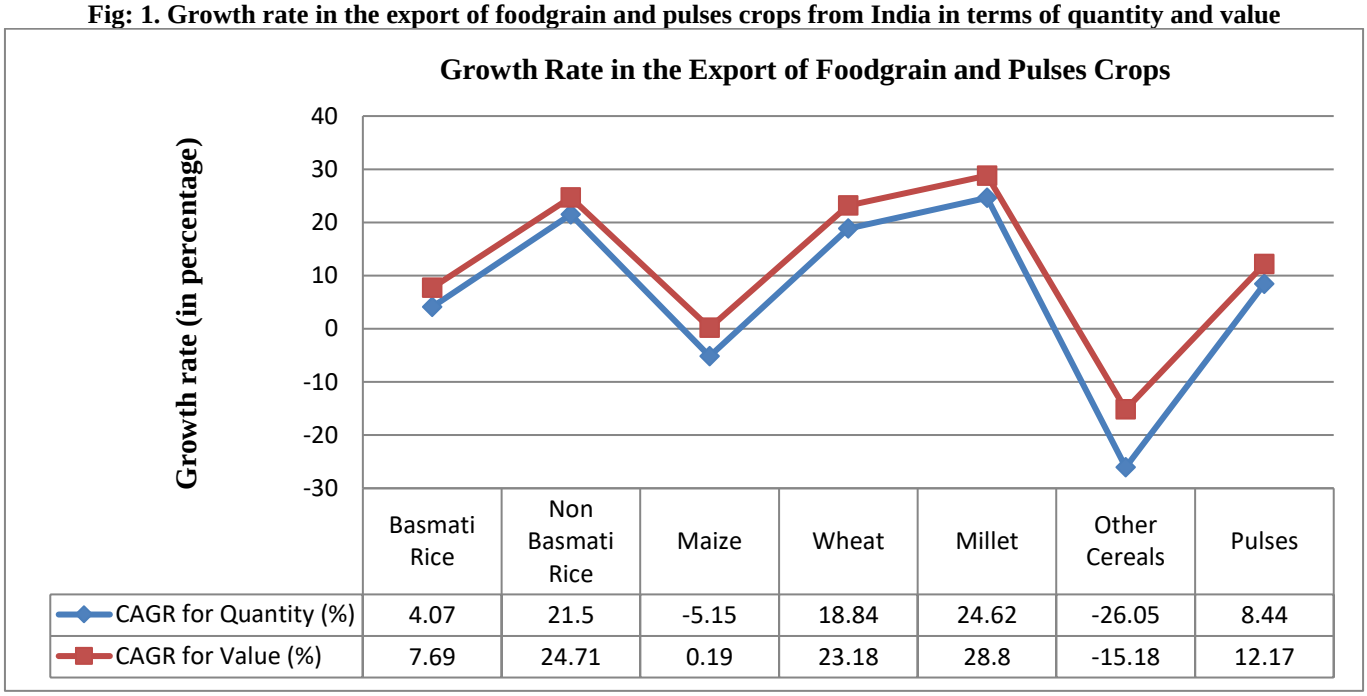
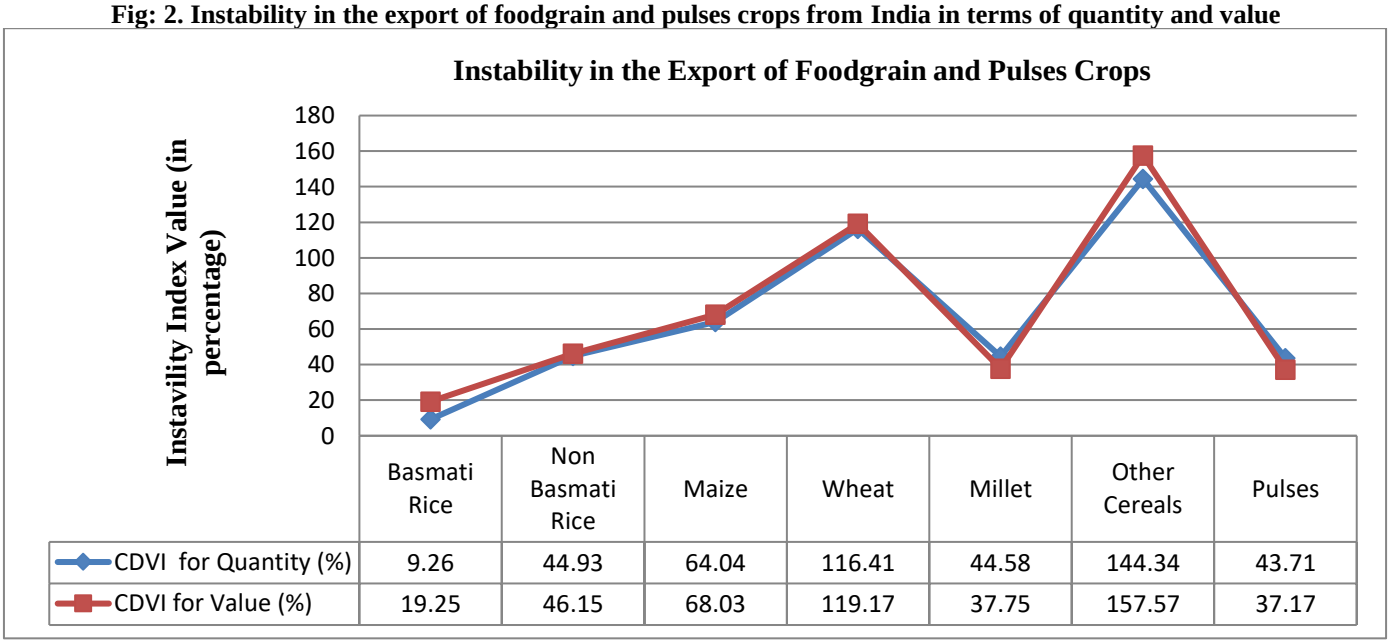


Fig: 2. Instability in the export of foodgrain and pulses crops from India in terms of quantity and value



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3.2 Growth trend and instability in exports of agricultural cash crops from India in terms of quantity and value

Table 3 indicates that the quantity of export of agricultural cash crops such as coffee, sugar and groundnuts has shown positive growth rate with 1.81%, 12.30% and 0.81% respectively. However, tea, cashew and cotton have shown a negative growth rate of -0.51%, -4.47% and -9.97% respectively. The quantity exported of cashew during the year 2010-11 was 92.36 thousand tonnes which decreased to 65.80 thousand tonnes in 2023-24 while quantity exported of tea, coffee, sugar and groundnuts during the year 2010-11 was 238.15, 231.00, 1733.87 and 433.76 thousand tonnes which increased to 260.71, 297.91, 4360.62 and 680.69 thousand tonnes in 2023-24. The quantity exported of cotton during the year 2013-14 was 1947.70 thousand tonnes which decreases to 573.10 thousand tonnes in 2023-24. The value for the coefficient of variation of tea, coffee, sugar, cashew, groundnut and cotton are 8.96%, 12.47%, 70.88%, 23.32, 19.05 and 70.92%, respectively. The value of instability index of tea, coffee, sugar, cashew, groundnut and cotton in terms of quantity is 9.06%, 10.32%, 46.99%, 13.84%, 19.51% and 53.10%, respectively. Cotton have shown the high level of instability index value indicating the highest instability and variability among others while tea have shown the lowest instability value indicating low level of instability and inconsistency of export of processed fresh fruits and vegetables among others.

Table 3: Growth trends and instability in export of agricultural cash crops from India in terms of quantity (in'000'MT)

Year	Tea	Coffee	Sugar	Cashew	Groundnut	Cotton
2010-11	238.15	231.00	1733.87	92.36	433.76	NA
2011-12	271.98	276.52	2749.33	107.81	832.62	NA
2012-13	268.80	254.02	2793.67	104.09	535.64	NA
2013-14	249.91	253.14	2476.88	120.74	509.75	1947.70
2014-15	215.21	220.48	1952.70	134.57	708.38	1142.53
2015-16	246.85	254.05	3824.01	103.13	536.82	1346.50
2016-17	244.46	288.16	2545.06	92.18	725.11	1000.02
2017-18	272.89	317.83	1758.04	90.06	503.16	1097.44
2018-19	270.27	282.87	3986.74	78.17	488.23	1143.11
2019-20	254.77	257.02	5760.07	84.33	664.44	658.98
2020-21	212.66	245.21	7518.19	70.09	638.55	1214.20
2021-22	208.56	333.10	10459.12	75.45	514.18	1258.63
2022-23	241.05	316.09	11754.69	59.58	669.11	318.49
2023-24	260.71	297.91	4360.62	65.80	680.69	573.10
Average	246.88	273.39	4548.07	91.31	602.89	835.76
SD %	22.11	34.08	3223.66	21.30	114.85	592.69
CV %	8.96	12.47	70.88	23.32	19.05	70.92
CDVI %	9.06	10.32	46.99	13.84	19.51	53.10
CAGR %	-0.51	1.81	12.30	-4.47	0.81	-9.97

Source: *APEDA, https://agriexchange.apeda.gov.in*

Growth trend and instability in export of agricultural cash crops in term of value shown in table shown in Table 4, the export growth rates of agricultural cash crops such as tea, coffee, sugar and groundnut are positive with a value of 4.37%, 6.81%, 14.43%, and 5.07%, respectively. However, it has been showing a negative growth rate with a value -2.53% and -4.92% in case of cashew and cotton respectively. Therefore, sugar has earned maximum foreign exchange value from among the category of export of agriculture cash crops. The exported value of cashew and cotton during the year 2010-11 was Rs. 2818.87 and 13162.4 crore which decreased to Rs. 2808.8 and 9249.75 crore in 2023-24, while the exported value of tea, coffee, sugar, and groundnut during the year 2010-11 was Rs. 3354.34, 3009.91, 5472.99 and 2178.41 crore which increased to Rs. 6843.13, 10644.8, 23390.5 and 7135.12 crore in 2023-24. The value of instability index of tea, coffee, sugar, cashew, groundnut and cotton in terms of value is 7.56%, 16.72%, 50.97%, 24.57%, 23.69% and 32.79%, respectively. Sugar has shown the high level of instability index value indicating the highest instability and variability among others. Tea has shown the low level of instability index value indicating the lowest instability among other processed fruits and vegetables.

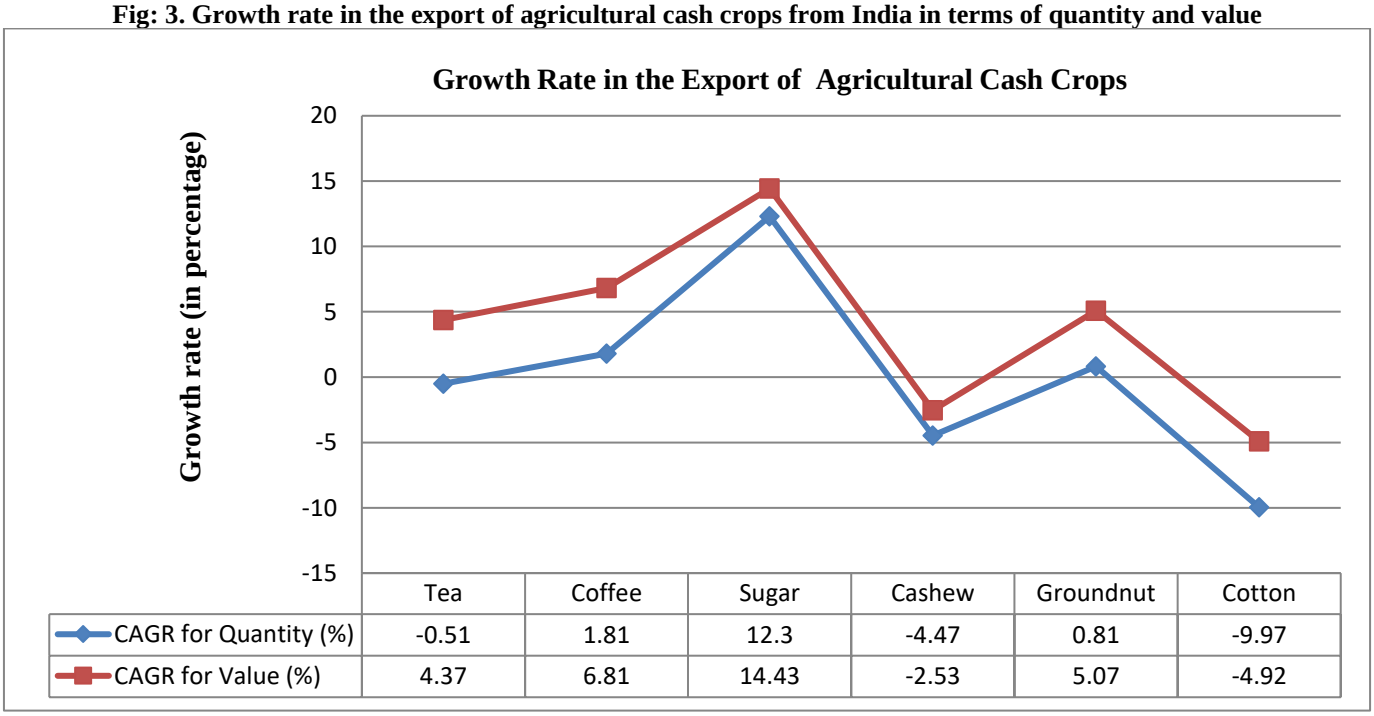
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Table 4: Growth trends and instability in export of agricultural cash crops from India in terms of value (Rs. in crore)

Year	Tea	Coffee	Sugar	Cashew	Groundnut	Cotton
2010-11	3354.34	3009.91	5472.79	2818.87	2178.41	13162.4
2011-12	4078.46	4534.62	8766.4	4390.16	5246.45	21624.2
2012-13	4718.79	4711.07	8575.98	4067.21	4065.36	20276.5
2013-14	4873.34	4789.28	7176.15	5095.49	3187.66	22337.8
2014-15	4166.14	4960.38	5321.9	5565.77	4675.24	11642.6
2015-16	4718.56	5102.23	9767.92	5024.77	4038.57	12815.9
2016-17	4925.7	5651.33	8668.86	5303.37	5453.18	10948.3
2017-18	5396.39	6245.55	5228.73	5945.35	3384.42	12155.8
2018-19	5828.1	5721.98	9518.26	4579.17	3295.54	14627.6
2019-20	5850.67	5236.76	13969.8	4018.13	5096.39	7542.91
2020-21	5602.81	5339.52	20669.7	3112.22	5381.45	13968.3
2021-22	5593.85	7613.66	34348.5	3377.4	4697.1	21007
2022-23	6582.14	9190.81	46309.4	2868.72	6735.1	6218.35
2023-24	6843.13	10644.8	23390.5	2808.8	7135.12	9249.75
Average	5180.89	5910.85	14798.92	4212.53	4612.14	14112.69
SD %	967.05	1992.84	12330.20	1085.39	1376.74	5273.64
CV %	18.67	33.71	83.32	25.77	29.85	37.37
CDVI %	7.56	16.72	50.97	24.57	23.69	32.79
CAGR %	4.37	6.81	14.43	-2.53	5.07	-4.92

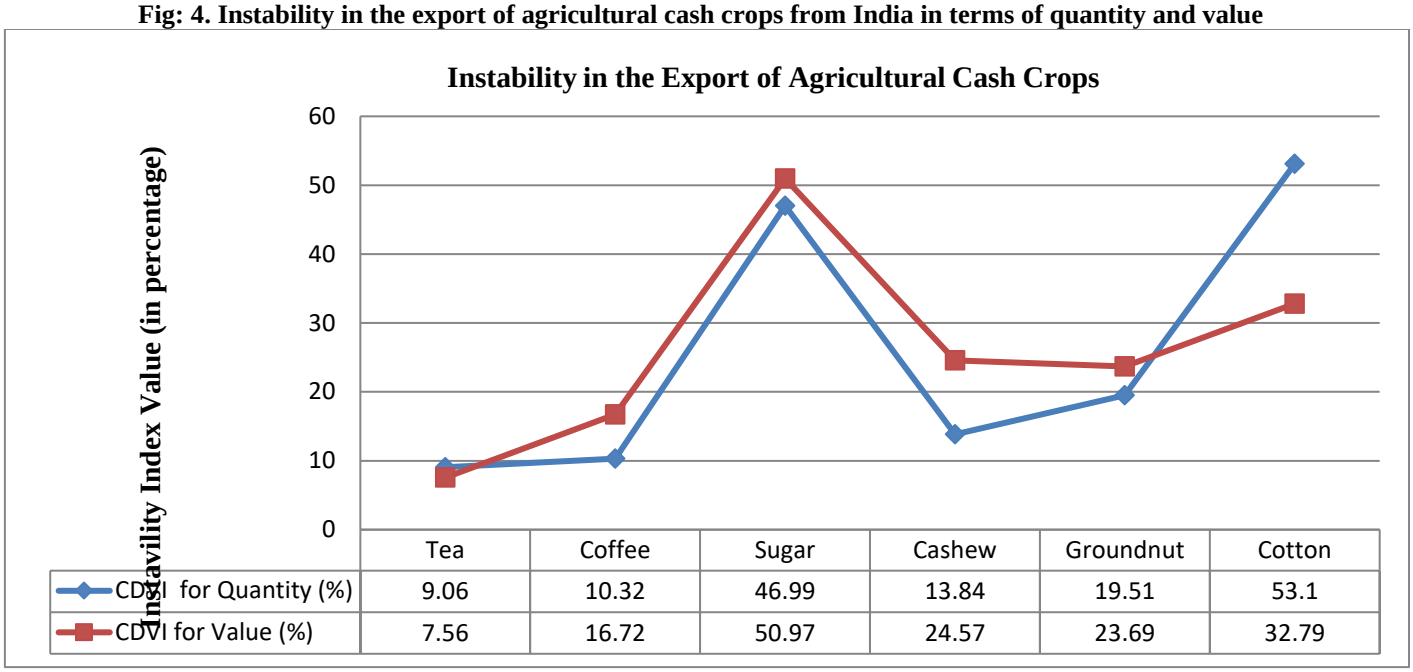
Source: *APEDA, https://agriexchange.apeda.gov.in*

Fig: 3. Growth rate in the export of agricultural cash crops from India in terms of quantity and value



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Fig: 4. Instability in the export of agricultural cash crops from India in terms of quantity and value



3.2. Major countries and share percentage of exports of foodgrain and pulses and agricultural cash crops from India, 2023-24

The Major countries where India exported maximum foodgrain and pulses and agricultural cash crops are presented in Table 5 and 6. One of the major trading partners for exports of basmati rice, non basmati rice, maize, wheat, millets, other cereals and pulses are Saudi Arab, Benin, Vietnam, Nepal, United Arab Emirates, Russia and Bangladesh respectively. The maximum share of exports of agriculture cash crops like tea, coffee, sugar, cashew, groundnut and cotton go to the United Arab Emirates, Italy, Sudan, United Arab Emirates, Indonesia and Bangladesh respectively in 2023-24.

Table 5: Major countries and share (%) of exports of foodgrain and pulses crops from India, 2023-24

Countries	Country 1	Country 2	Country 3	Country 4	Country 5
Basmati Rice	Saudi Arab (21.47%)	Iraq (15.19%)	Iran (11.63%)	Yemen Republic (5.86%)	U A E (5.72%)
Non Basmati Rice	Benin (11.21%)	Guinea (8.18%)	Togo (6.10%)	Vietnam Soc Rep (5.80%)	Cote D Ivoire (5.41%)
Maize	Vietnam Soc Rep (44.20%)	Nepal (23.61%)	Bangladesh Pr (16.44%)	Malaysia (2.25%)	Thailand (2.48%)
Wheat	Nepal (99.24%)	UAE (0.36%)	Iraq (0.20%)	Mongolia (0.14%)	Korea Rp (0.03%)
Millet	UAE (0.17%)	Saudi Arab (0.09%)	Nepal (0.09%)	USA (0.06%)	Senegal (0.05%)
Other Cereals	Russia (23.24%)	UAE (16.56%)	Bangladesh Pr (14.51%)	USA (5.61%)	Malaysia (5.35%)
Pulses	Bangladesh Pr (22.84%)	China P Rp (12.99%)	UAE (11.55%)	USA (9.21%)	Sri Lanka Dsr (4.76%)

Source: *APEDA, https://agriexchange.apeda.gov.in*

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Table 6: Major countries and share (%) of exports of agricultural cash crops from India, 2023-24

Countries	Country 1	Country 2	Country 3	Country 4	Country 5
Tea	UAE (15.90%)	Iraq (10.71%)	USA (9.40%)	Russia (9.34%)	UK (5.38%)
Coffee	Italy (16.19%)	Germany (9.86%)	Russia (5.90%)	Belgium (5.73%)	UAE (5.48%)
Sugar	Sudan (18.35%)	Sri Lanka Dsr (8.80%)	Libya (8.24%)	Somalia (7.09%)	Djibouti (6.99%)
Cashew	UAE (28.34%)	Japan (12.93%)	Netherland (9.38%)	Spain (8.95%)	Saudi Arab (8.66%)
Groundnut	Indonesia (31.20%)	Vietnam Soc Rep (19.96%)	Philippines (8.20%)	Malaysia (7.78%)	Thailand (6.12%)
Cotton	Bangladesh Pr (56.76%)	China P Rp (19.95%)	Vietnam Soc Rep (12.29%)	Taiwan (2.69%)	Indonesia (1.95%)

Source: *APEDA, https://agriexchange.apeda.gov.in*

4. CONCLUSIONS

However India is world's largest producer of agricultural crops but the export volumes instead shown fluctuating trend over the years. During the period 2010-11 to 2023-24 the export of some commodities in terms of quantity like maize and other cereals show a negative growth rate and in terms of value other cereals also showed negative growth. During the study period the quantity of export of agricultural cash crops such as coffee, sugar and groundnut has shown positive growth rate while tea, cashew and cotton have shown a negative growth rate. The value of instability index of basmati rice, non-basmati rice, maize, wheat, millets, other cereals and pulses in terms of quantity found to be 9.26%, 44.93%, 64.04%, 116.41%, 44.58%, 144.34 and 43.71%, respectively. Other cereals has shown the highest instability index value indicating the highest instability and variability among others while basmati rice has shown the lowest instability value indicating low level of instability and variability among others. The value of instability index of tea, coffee, sugar, cashew, groundnut and cotton in terms of quantity is 9.06%, 10.32%, 46.99%, 13.84%, 19.51% and 53.10%, respectively. Cotton have shown the high level of instability index value indicating the highest instability and variability among others while tea have shown the lowest instability value indicating low level of instability and inconsistency of export of processed fresh fruits and vegetables among others. India's key markets for cereals crops are Saudi Arab, Benin, Vietnam, Nepal, United Arab Emirates, Russia and Bangladesh, while for cash crops are mainly exported to the United Arab Emirates, Italy, Sudan, Indonesia and Bangladesh. However, fluctuations and instability in the export of agricultural commodities from India are driven by various factors, including unpredictable weather conditions volatile global markets, changing government policies and infrastructure challenges. These fluctuations affect farmers' incomes and create uncertainty in trades' partnerships. To mitigate these challenges, India needs to invest in modern agricultural practices, enhance storage and transportation infrastructure and adopt consistent export policies. Strengthening market linkages and exploring value-added products can also stabilize exports, ensuring better economic resilience for the agricultural sector in global trade.

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