Int.J.Curr.Microbiol.App.Sci (2020) *9*(5): 3319-3328

International Journal of Current Microbiology and Applied Sciences
***ISSN: 2319-7706* Volume 9 Number 5 (2020)**
Journal homepage: http://www.ijcmas.com

Original Research Article https://doi.org/10.20546/ijcmas.2020.905.395

Export Dynamics of Raw Cotton in India

J. D. Bhatt, S. M. Trivedi*, N. M. Thaker and K. A. Khunt

Post Graduate Institute of Agribusiness Management, Junagadh Agricultural University, Junagadh, 36200, Gujarat, India

**Corresponding author*

Keywords

Direction of change, Export, Growth, Instability, Raw cotton

Article Info

Accepted:
26 April 2020
Available Online:
10 May 2020

A B S T R A C T

Cotton is an important fibre crop of India which plays a foremost role in the country's economy by meeting the domestic and export demands. It contributes significantly to both agriculture and industry in terms of farm income, employment and export earnings. India is the world's largest cotton producer and second-largest exporter. However, the present level of exports is not consistent and exhibits high variations in volume and revenue earnings. In this study, the dynamics of changes have been measured in the export of raw cotton from India to different export markets. The compound growth rate, Coefficient of Variance (CV), Cuddy-Della Index and Markov chain analysis were used to analyse the secondary data of raw cotton export for the last 17 years. The result reveals that the export of Indian raw cotton was mainly focused on Bangladesh, Vietnam, Pakistan, China, and Indonesia. Though the export of raw cotton generates better returns, all the countries showed higher instability during the study period. The export of raw cotton from India is highly volatile and needs diversification.

Introduction

India's trade in many agricultural commodities has shown significant changes and dynamism during the last decades mainly after the initiation of economic policy reforms and trade liberalization. Cotton - the white gold enjoys a predominant position amongst all cash crops in India.

Cotton is an important raw material for the Indian textile industry, constituting about 65% of its requirements. Cotton is an important fibre crop of India which plays a foremost role in the country's economy by meeting the domestic and export demands. It contributes significantly to both agriculture and industry in terms of farm income, employment and export earnings.

Cotton production generates cash income for millions of rural households. Major players in cotton production and trade include China, India, the USA, the EU, and central Asian and African states. China's cotton output has fluctuated considerably, but it is the world's largest exporter of apparel and remains a potential market for raw cotton exporters.

More than 20 million rural households in China and 10 million in India and Pakistan produce cotton. India is the world's largest cotton producer and second-largest exporter.

However, the present level of exports is not consistent and exhibits high variations in volume and revenue earnings. In this study, the dynamics of changes have been measured in the export of raw cotton from India to different export markets.

Materials and Methods

The secondary data for the export of raw cotton for the last 17 years (2001-02 to 2017-18) was used to meet the objectives. To measure the growth rates and instability, the annual data about the quantity and value of export was used. The data were elicited from the websites of the Ministry of Commerce (www.commerce.nic.in), India Stat, DGFT and Cotton Corporation of India Ltd., (www.cotcorp.gov.in).

Five major raw cotton importing countries from India viz., China, Bangladesh, Vietnam, Pakistan, and Indonesia were considered for the analysis based on their volume of raw cotton import from India during the period 2001-02 to 2017-18.

The countries such as Turkey, Taiwan, Malaysia, Hong Kong, and Thailand were grouped under other countries category along with remaining minor importers of raw cotton from India. The direction of trade was examined using country-wise export data.

The compound growth rate was estimated using the exponential function as under:

$$Y = ab^{t}u_{t}$$

Where, Y = Export of raw cotton in terms of volume and value;

t = Time in years (1, 2, 3…. …n);
a = Constant; and
b = Regression coefficient

The exponential function was transformed to the semi-log model and estimated using ordinary least square (OLS)

Coefficient of variance (CV)

The coefficient of Variance (CV) is generally used to measure variability in any variable on account of its ease of use and interpretation, and it can be obtained by,

$$\text{CV } \% = \frac{\text{Standard deviation } (S)}{Mean\ (\overline{X})} \times 100$$

However, CV is most suitable when data has no trend as it does not account for the time trend. In the case of time series data (eg. Raw cotton export used in the study), there is always some trend; therefore, one has to be very careful to use CV as a measure of instability.

Cuddy-Della index

Instability indices were worked out using Cuddy-Della Index. The indices were originally developed by John Cuddy and Della Valle for measuring the instability in time series data.

This index is a better measure compared to the coefficient of variation, as it is inherently adjusted for trend, often observed in time series data.

$$\text{Instability Index} = \frac{\text{Standard deviation } (S)}{\text{Mean } (\overline{X})} \times 100 \times \sqrt{1 - r^2}$$

Where,

r^2 = Coefficient of determination adjusted for the number of degree of freedom

Markov chain analysis

The trade directions of cotton export from India was analysed using the first order Markow Chain approach. The dynamics in the direction of exports and changing patterns of trade in raw cotton from India to other countries over a period of time were analyzed by employing the first-order Markov Chain Model. Markov chain analysis is an extension of probability theory developed by Markov in 1907. This econometric analysis not only helps us to know the trend in sustaining the existing market, but also the shift in shares from one country to another over a period of time. Markov chain analysis is a way of analysing the current movement of variables to forecast their future movement. The estimation of the transitional probability matrix (P) was central to this analysis. The transition matrix is a rectangular array would summarize the transition probabilities for a given Markov process.

$$P = \begin{vmatrix} P_{00} & P_{01} & P_{02} \\ P_{10} & P_{11} & P_{12} \\ P_{20} & P_{21} & P_{22} \end{vmatrix}$$

Matrix P is called the probability matrix. The probabilities P_{ij} must satisfy

$$0 \leq P_{ij} \leq 1 \text{ and}$$

$$\sum_{i=1}^{n} P_{ij} = 1 \text{ for } I = 1,2, \ldots$$

The elements P_{ij} of the matrix P indicates the probability that export will switch from country i to country j with the passage of time in other words the matrix explains the switching behavior of cotton export of India among the major importing countries over period indicating the direction of the cotton trade. The row elements in the transitional probability matrix imply the probability of retention (Diagonal element of the row) in the volume of trade and extent of loss in trade (other than the diagonal element of the row) on account of competing countries. The column elements indicate the probability of retention of trade and the gain in the volume of trade from other competing countries.

The diagonal elements of the matrix measure the probability that the export share of a country will be retained. Hence, an examination of the diagonal elements indicates the loyalty of an importing country to a particular country's exports.

In the present context, the structural changes were treated as a random process with selected importing countries. The average exports to a particular country were considered to be a random variable which depends only on the past exports to that country, which can be denoted algebraically as r:

$$E_{jt} = \sum_{i=1}^{r} E_{it-1} \times P_{ij} + e_j$$

Where,

E_{jt} = Raw cotton exports from India to the j^{th} country during the year t.

E_{it-1} = Raw cotton exports to the i^{th} country during the period t-1.

P_{ij} = Probability that the cotton exports will shift from i^{th} country to j^{th} country.

e_{jt} = Error term independent of E_{jt-1}

t = Number of years considered for the analysis

r = Number of raw cotton importing countries

Thus, the expected export shares of India during a period 't' was obtained by multiplying the quantity of cotton exported to the selected countries during the previous period (t-1) with the estimated transitional probability matrix P.

The transition probabilities of the Markov Chain Model were estimated by Minimum Absolute Deviations (MAD) estimation procedure, which minimizes the sum of absolute deviations. The conventional Linear Programming Technique was used, as this satisfies the properties of transitional probabilities of non-negativity restrictions and row sum constraints in estimation. The Linear Programming formulation was stated as:

$$\text{Min } OP^* + I_e$$
$$\text{subject to}, XP^* + V$$
$$GP^* = 1$$
$$P^* \geq 0$$

Where, P* is a vector in which probability P_{ij} are arranged; O is a null vector; I is an appropriately dimensioned vector of areas; e is the vector of absolute error (| U |); Y is the vector of export to each country; X is a block diagonal matrix of lagged values of Y; V is the vector of errors; and G is a grouping matrix to add the row elements of P arranged in P* to unity.

These P* vectors were arranged to obtain the transitional probability matrix which indicated the overall structure of the transitions that had taken place in the system. Using the estimated transitional probabilities, the exports of raw cotton to various destinations were predicted by multiplying the same with the respective shares of the base year by using a software LINGO[2].

Prediction of the quantity of raw cotton exports was made by using:

$$B_t = B_0 \times T$$

$$B_{t+1} = B_{t+i-1} \times T$$

Where,
B_0 = Quantity of raw cotton exported in the base year;
$B_{(t+1)}$ = Quantity of raw cotton exported in next year (prediction);
T= Transitional probability matrix.

Results and Discussion

The growth in quantity exported and value gained out of raw cotton export from India for the period from 2000-01 to 2017-18 is depicted in Table 1. The results revealed that during the study period, the export of raw cotton was mainly focused on Bangladesh, Vietnam, Pakistan, China, and Indonesia. The growth rates of exports in terms of volume and value were found positive and highly significant. Quantity of raw cotton exported was growing at 20.44 percent per annum whereas value gained by raw cotton export was growing at 39.28 percent per annum. It indicates that the export of raw cotton generates better returns.

Among all the countries, the highest growth rate (51.75 %) in export volume was noticed for Bangladesh, followed by China (38.34 %), Vietnam (33.12 %), Indonesia (14.69 %), Pakistan (9.60 %) and other countries 6.59 %). The highest growth rate (58.46 %) in export value was also recorded for Bangladesh, followed by China (49.76 %), Vietnam (41.53 %), Indonesia (28.53 %), other countries (21.51 %) and Pakistan (21.04 %).

Bangladesh, Vietnam, Indonesia, and other countries registered positive and significant growth rates both in terms of export volume and export value. These findings are in a similar line with the findings of Beeraladinni *et al.,* (2016) who reported that countries such as Bangladesh, Pakistan, and Vietnam are scaling up their cotton imports from India to meet the requirement of their export-focused garment industries. China and Pakistan registered a positive but non-significant growth rate in terms of export volume and

positive and significant in terms of export value. These findings are in a similar line with the findings of Beeraladinni *et al.,* (2016). It indicates that the increase in the growth rate in export value to China and Pakistan may be only due to a rise in export price.

Managing and stabilizing export is a priority for exporting countries to maximize earnings. The results of instability analysis are presented in Table 2. The study revealed that all the countries showed higher instability in raw cotton export during the study period. China remains the most unstable market throughout the study period followed by Pakistan, Bangladesh, Indonesia, and Vietnam. Other countries that are importing smaller volume and value of Indian raw cotton were more stable markets compared to other traditional markets.

The transition probability matrix for raw cotton exports revealed that Bangladesh was the most reliable markets for India's raw cotton followed by China, Pakistan and other countries group (Malaysia, Taiwan, Thailand, Turkey, South Korea, and others) while the countries such as Vietnam and Indonesia were not reliable markets with zero percent retention of previous years market share (Table 3). However, Pakistan and other countries group have depicted low probability retention of 0.1575 and 0.2592 respectively indicated that they were poorly loyal importers of Indian raw cotton.

Bangladesh was one of the most stable markets among the major importers of Indian raw cotton as reflected by the probability of retention at 0.6589.It had retained 65.89 percent of the previous year's share of cotton export from India and of the remaining 34.11 percent of market share, 22.57 percent was directed to Vietnam, 4.26 percent to China, 0.81 percent to Indonesia and 6.48 percent to other countries.

India's raw cotton exports to China were retained to the tune of 46 percent while 25.16 percent of its market share was lost to other countries. It also lost 11.15 percent to Vietnam and 5 percent to Turkey. However, it gained 72.71 and 16.24 percent from other countries and Pakistan respectively.

Interestingly in the study period, with a retention share of 65.89 per cent Bangladesh turned out to be the most loyal partner of India, surpassing China (46.01 %) which was the only stable importer of raw cotton as indicated by Mahadevaiah *et al.,* (2005) and the most stable importer of Indian raw cotton as indicated by Beeraladinni *et al.,* (2016) in the past.

This may be due to the efforts of the Cotton Corporation of India (CCI) to scale up the export of raw cotton to Bangladesh. These findings are in a similar line with the findings of Beeraladinni *et al.,* (2016) who reported that Bangladesh has emerged as one of the major importers of raw cotton from India.

Though Pakistan's retention of its original share was only 25.92 percent, it was found gaining 53.59 percent share of Vietnam. Even though Indonesia is the fifth largest importer of cotton in the world and during 2017-18 its imports from India reached six percent of the market, but the transitional probability matrix shows zero retention which indicated Indonesia is the unstable raw cotton market for India.

These findings are in a similar line with the findings of Mahadevaiah *et al.,* (2005) and Beeraladinni *et al.,* (2016) who reported that Indonesia was the unstable raw cotton market for India. The cotton production in Vietnam meets only one percent of its domestic requirement and hence the country depends on imports to a larger extent for its growing textile industry (Table 4).

Table.1 Market wise growth rate of raw cotton exports from India

Sr. No.	Export Market	Export Volume		Export Value	
		CAGR (%)	SE	CAGR (%)	SE
1	Bangladesh	51.75***	1.44	58.46***	1.35
2	Vietnam	33.12***	0.85	41.53***	0.82
3	Pakistan	9.60	0.98	21.04***	0.90
4	China	38.34	4.51	49.76*	4.52
5	Indonesia	14.69*	1.37	28.53***	0.66
6	Other Countries	6.59**	0.86	21.51***	0.96
7	Overall	20.44***	1.03	39.28***	1.27

Note: ***, **, * indicate significant at 1 %, 5 % and 10 % levels respectively

Table.2 Market wise instability analysis of raw cotton exports from India

Sr. No.	Export Market	Export Volume		Export Value	
		CV (%)	CDV (%)	CV (%)	CDV (%)
1	Bangladesh	122.27	67.49	99.05	48.43
2	Vietnam	99.57	53.69	107.99	49.02
3	Pakistan	110.03	100.85^	99.57	70.92
4	China	115.35	108.00^	122.92	111.41
5	Indonesia	69.57	62.41	70.67	49.06
6	Other Countries	58.58	50.77	65.56	45.06
7	Overall	58.57	40.08	81.80	48.33

Note: ^ indicates insignificance of the estimated coefficients of Cuddy-Della Valle Index

Table.3 Transitional Probability Matrix for Export of Raw Cotton from India

Destination	Bangladesh	Vietnam	Pakistan	China	Indonesia	Others
Bangladesh	**0.6589**	0.2257	0.0000	0.0426	0.0081	0.0648
Vietnam	0.3663	**0.0000**	0.5359	0.0000	0.0978	0.0000
Pakistan	0.1782	0.1255	**0.2592**	0.1624	0.2748	0.0000
China	0.1364	0.0204	0.1182	**0.4601**	0.0133	0.2516
Indonesia	0.0000	0.0000	0.0000	0.0000	**0.0000**	1.0000
Others	0.0000	0.0000	0.1009	0.7271	0.0144	**0.1575**

Table.4 Observed and estimated shares (%) of raw cotton exports from India

Export Market	Bangladesh		Vietnam		Pakistan		China		Indonesia		Others	
	A	P	A	P	A	P	A	P	A	P	A	P
2005-06	6.74	14.54	2.86	3.46	5.95	12.20	58.58	44.06	4.06	3.06	21.80	22.67
2006-07	3.12	11.79	3.46	3.33	13.78	13.75	44.06	45.05	4.75	5.18	30.81	20.89
2007-08	11.79	17.88	3.33	5.93	19.69	13.63	39.41	36.81	5.18	6.65	20.60	19.10
2008-09	10.68	9.83	2.19	3.81	11.15	11.03	27.44	59.50	6.95	4.36	69.03	18.51
2009-10	8.33	15.96	3.67	4.33	11.03	13.06	52.46	40.94	4.36	4.45	20.15	21.27
2010-11	13.51	18.55	3.25	5.28	9.79	12.24	49.20	40.27	2.98	4.08	21.27	19.59
2011-12	9.12	17.35	1.87	3.78	1.30	11.35	76.38	42.83	1.58	1.77	9.74	22.92
2012-13	57.31	44.66	11.15	13.52	1.68	9.66	18.46	18.88	0.84	2.41	10.55	10.86
2013-14	56.63	43.43	8.29	13.52	2.84	8.74	18.88	21.17	0.15	2.49	13.22	10.65
2014-15	38.67	35.43	13.52	10.10	6.39	13.32	28.28	23.44	2.49	3.92	10.65	13.79
2015-16	33.99	33.13	8.90	12.13	33.79	15.67	10.65	18.19	3.92	10.70	8.74	10.18
2016-17	39.25	35.60	12.19	11.19	15.67	13.73	18.19	19.69	4.93	6.20	9.76	13.59
2017-18	35.60	33.59	18.27	9.91	13.73	16.12	7.28	20.81	6.25	6.22	18.86	13.36
2018-19		31.47		10.03		13.29		23.34		6.14		15.73
2019-20		29.96		9.24		13.17		25.68		5.42		16.53
2020-21		28.98		8.94		13.07		27.25		5.34		16.43
2021-22		28.41		8.73		13.06		27.84		5.30		16.66
2022-23		28.04		8.62		13.04		28.26		5.28		16.77

Table.5 Actual and Predicted Quantity of raw cotton exports from India to its major trading partners (Qty. in metric tonnes)

Export Market	Bangladesh		Vietnam		Pakistan		China		Indonesia		Others	
	A	P	A	P	A	P	A	P	A	P	A	P
2005-06	44660	96339	18960	22922	39411	80823	388045	291870	26878	20285	144418	150133
2006-07	39156	147854	43399	41760	172775	172333	552419	564810	59599	64949	386306	261947
2007-08	184651	279896	52174	92908	308245	213363	617112	576372	81077	104142	322495	299073
2008-09	56968	52410	11696	20314	59441	58817	201620	372476	37046	23246	368049	98710
2009-10	115545	221370	50936	60095	153049	181225	727869	567959	60502	61675	279539	295116
2010-11	190378	261371	45752	74383	137942	172479	693310	567449	42037	57452	299695	275980
2011-12	189728	360923	39001	78551	27014	236206	1589038	891058	32926	36814	202720	476874
2012-13	984279	767068	191462	232196	28890	165864	317094	324298	14499	41441	181208	186567
2013-14	1101952	845089	161250	263084	55279	170122	367317	411978	2936	48449	257222	207233
2014-15	389517	356877	136185	101780	64397	134178	284918	236132	25070	39494	107240	138866
2015-16	453940	442440	118830	161960	451290	209273	142280	242984	52370	142859	116764	135958
2016-17	386580	350635	120070	110251	154350	135239	179150	193883	48590	61044	96155	133843
2017-18	403600	380788	207130	112292	155690	182692	82500	235930	70890	70480	213844	151471
2018-19	-	356768	-	113656	-	150713	-	264588	-	69576	-	178354
2019-20	-	339652	-	104806	-	149254	-	291107	-	61498	-	187338
2020-21	-	328492	-	101301	-	148174	-	308875	-	60575	-	186237
2021-22	-	322087	-	99008	-	148005	-	315600	-	60066	-	188887
2022-23	-	317915	-	97679	-	147796	-	320321	-	59871	-	190072

Note: A - Actual exports; P - Exports predicted using TPM approach

India is the second leading supplier of cotton to Vietnam after the United States and it is one of the very few countries in Asia that have expanded their yarns spinning sector in recent years (Dao, 2013, as cited in Beeraladinni *et al.*, 2016). But the transitional probability matrix shows zero retention which indicated Vietnam is the unstable raw cotton market for India. 53.59 and 36.63 percent of its share was lost to Pakistan and Bangladesh respectively. However, Vietnam at the same time gained from Bangladesh (22.57 %) and Pakistan (12.55 %).

The other countries group is the poorly stable markets of Indian raw cotton as indicated by the 15.75 percent of retention share. These countries gained mainly from Indonesia (100 %) and lost their share to China (72.71 %).

Export market projection

The actual and predicted export volume of Indian raw cotton to its major importers from 2005-06 to 2017-18 and the projections up to 2022-23 are given in Table 5. The estimation of the future export share of the high export price destination China found increasing while Bangladesh found slightly decreasing. However, the export share of Vietnam, which emerged as one of the major importers of raw cotton from India during 2014-15, found decreasing.

Exports share of Bangladesh increased from 6.74 percent to 35.60 percent over the period 2005-06 to 2017-18. This is largely due to strong demand from new generations spinning mills of Bangladesh. The share of Bangladesh was decreased to 9.12 percent in 2011-12 due to the Indian ban on cotton exports but after lifting the ban, it reached 57.31 percent in the year 2012-13. It is interesting to note that Bangladesh has emerged as one of the major importers of raw cotton from India in recent years as its share increased to 30.32 percent during 2014-15. However, the projections showed a decreasing trend. This result is in a similar line of Beeraladinni *et al.*, (2016).

The Indian raw cotton exports to China from 2005-06 to 2017-18 revealed various ups and downs. The actual share of China in raw cotton exports had decreased and reached to 14.82 in the year 2008-09. However, during 2009-10 the raw cotton export share of China increased compared to previous year export share due to the implementation of VisheshaKrishi Gram UpajYojana (VKGUY) to encourage cotton exports and liquidate burdensome cotton stock from the domestic market.

Again in the year 2010-11, the raw cotton exports to China decreased as the Government of India had imposed quantitative restrictions on the export of raw cotton. When these restrictions were lifted in August 2011, the raw cotton exports to China increased to an all-time high of 76.38 percent in 2011-12.

China's restrictive import policy and its accumulated stock have adversely impacted India's export in the following years and reached to 7.28 percent in the year 2017-18. However, the projections showed an increasing trend (Table 5). This result is also in a similar line of Beeraladinni *et al.*, (2016). The export of Indian raw cotton was mainly focused on Bangladesh, Vietnam, Pakistan, China, and Indonesia.

The growth rates of exports in terms of volume and value were found positive and highly significant. Quantity of raw cotton exported was growing at 20.44 percent per annum whereas value gained by raw cotton export was growing at 39.28 percent per annum. It indicates that the export of raw cotton generates better returns. All the countries showed higher instability in raw cotton export during the study period. China remains the most unstable market throughout the study period followed by Pakistan, Bangladesh, Indonesia, and Vietnam. Other countries that are importing smaller volume and value of Indian raw cotton were more stable markets compared to other traditional markets. Bangladesh and China were reliable markets for India's raw cotton while

countries such as Vietnam and Indonesia were not.

However, Pakistan and other countries (Malaysia, Taiwan, Thailand, Turkey, South Korea, and others) were not much dependable importers of Indian raw cotton. The raw cotton export share of India in recent years to China declined and reached the lowest 7.28 percent in 2017-18 due to China's restrictive import policy. However, the estimation of future export shares of the high export price destination China found increasing while Bangladesh found slightly decreasing.

Thus, the export of raw cotton from India is highly volatile and needs diversification. While, addressing the textile conclave at the Vibrant Gujarat 2019, ED of Arvind Ltd. KulinLalbhai has said that India is a cotton-rich country, and hence, can dominate the cotton value chain, there is a need to look beyond cotton. The industry needs to export yarn and fabric as well and scale up apparel manufacturing.

Policy recommendation

India is the world's largest cotton producer and second-largest exporter but the Indian raw cotton export market is highly volatile. Therefore, the government should promote diversification from the export of raw cotton to the export of cotton yarn, fabrics, and apparel. Moreover, the benefits of an export promotion policy should be extended evenly across the entire value chain instead of a few products.

References

Beeraladinni D, Lokesha H and Deshmanya J, *Indian J. Econ. Dev.*, 12(2016) 603.

Commodity Profile for Cotton, Department of Agriculture, Cooperation and Farmers Welfare, Ministry of Agriculture and Farmers Welfare, Government of India, (2017).

Cuddy J D A and Valle P A D, *Oxf. Bull. Econ. Stat*, 40 (2009) 79.

http://pib.nic.in/newsite/mberel.aspx?relid=159082, (24/01/2019).

https://cotcorp.org.in/Achievements.aspx, (12/01/2019).

https://economictimes.indiatimes.com/industry/cons-products/garments-/-textiles/indian-textile-industry-must-look-beyond-cotton-kulin-lalbhai-arvind-ltd/articleshow/67611726.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst, (24/01/2019).

https://gca.org.pl/wp-content/uploads/2017/11/e_Statement_FINAL.pdf, (24/01/2019).

Joshi D, Singh H P & Gurung B, *Econ. Aff.*, 60(2015) 257.

Kusuma D K and Rudrapur S, *Agric. Update*, 11 (2016) 70.

Mahadevaiah G S, Ravi P C and Chengappa P G, *Agricultural Economics Research Review* 18 (2005) 253.

Samuel J, Impact of WTO on the Production and Export of Indian Cotton – An Econometric Analysis, Ph.D. Thesis (Unpublished), Department of Agricultural Economics, Dharwad University of Agricultural Sciences, Dharwad, 2011.

shenglufashion.com/2018/08/16/wto-reports-world-textile-and-apparel-trade-in-2017/, (24/01/2019).

Tejaswi P B, Naik B K, Kunnal L B and Basavaraj H, *J. Agric. Sci.*, 19 (2006) 71.

How to cite this article:

Bhatt, J. D., S. M. Trivedi, N. M. Thaker and Khunt. K. A. 2020. Export Dynamics of Raw Cotton in India. *Int.J.Curr.Microbiol.App.Sci.* 9(05): 3319-3328.
doi: https://doi.org/10.20546/ijcmas.2020.905.395