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## **An Empirical Analysis of Indian Agriculture Trade**

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### **Abstract**

India is an agro based county; most of the rural population depends on it for their survival. Agriculture plays a significant role in country's economy. According to census 2011, about 54.6% of the total workforce is engaged in agriculture and allied sectors and the share of Gross Value Added (GVA) of this sector is 17.1% in county's economy for the year 2017-18 (at current prices). This sector also plays a vital role in Indian trade. Agricultural trade is aiding farmers to increase their incomes, and is also a major source of foreign exchange for the rural areas as well as for the country. The agricultural trade helps farmers, producers, and traders to utilize a wider international market and increase their income. Investments in trade have increased farmers' income which result in increased production and productivity in the agriculture sector. The Agricultural and Processed Food Products Export Development Authority (APEDA) plays an important role in strengthening India's export potential along with encouraging better price realization. Government takes many measures for export promotion and import reduction in agricultural trade policy and foreign trade policy of India. FDI also play an important role in agri-trade development via developing infrastructure, agricultural inputs and cold storage and warehousing.

**Key words:** Agriculture trade, Agriculture export, Agriculture import, FDI

India is an agro based county; most of the rural population depends on it for their survival. Agriculture plays a significant role in country's economy. According to census 2011, about 54.6% of the total workforce is engaged in agricultural and allied sector and the share of Gross Value Added (GVA) of this sector is 17.1% in county's economy for the year 2017-18 (at current prices). This sector also plays a vital role in Indian trade, so for the growth and development of this sector Indian Government is taking several measures to develop this sector in sustainable manner. For increasing production, productivity and share in Indian trade Government of India improves soil fertility through the Soil Health Card Scheme and improve system to enhanced water efficiency through Pradhan Mantri Krishi Sinchai Yojana (PMKSY), and support organic farming through Paramparagat Krishi Vikas Yojana (PKVY).

Agricultural trade is helping farmers to increase their incomes, and is also a major source of foreign exchange for the rural areas as well as for the country. The agricultural trade helps farmers, producers, and traders to utilize a wider international market and increase their income. Investments in trade have increased farmers income which results in increased production and productivity in the agriculture sector. There are some issues like post-harvest losses, inaccessibility of necessary infrastructure like cold storage, improper monitoring of fertilizer and pesticides usage, and lack of the latest farm technology which are needed to eradicate to boost India's agricultural trade. The Agricultural and Processed Food Products Export Development Authority (APEDA) was established by the Government of India in 13th February, 1986 for the export promotion and development. The listed products in APEDA includes meat products, dairy products, floriculture products, horticulture, medicinal



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plants, etc. for export. It plays an important role in strengthening India's export potential along with encouraging better price realization APEDA provided financial assistance for infrastructure development, quality improvement, and market promotion.

### **Objectives of Study**

The main purpose of the present research study is to do an empirical analysis on the agricultural trade of India. To fulfill the main purpose, other objectives are as follows-

- To analyze the share of Indian agricultural trade in world agricultural trade and agricultural GDP of India.
- To analyze the trend and pattern of Agriculture exports of India.
- To analyze the trend and pattern of Agriculture imports of India.
- To examine the impact of agriculture trade in Indian economy
- To study various measures for export promotion and import reduction in agricultural trade in India

### **Research Methodology and Data Collection**

The present study is entirely based on secondary data and data were obtained from the various reports of NSSO, different publications of Government of India, NCEUS, NSS Survey, various Economic Surveys and Internet. The data collected was further tabulated and was subjected to statistical analysis as per the objectives of the study. Tabular analysis and graphical representation have been used for analysis of the data.

### **Share of Indian agricultural trade in World agricultural trade**

India has a leading position in global agriculture trade. In agricultural trade, India is among the 15 leading exporters in the world. India is an important exporter in agriculture commodities like rice, meat, spices, raw cotton and sugar. India has developed export determination, in some agriculture commodities like basmati rice, guar, gum and castor oil. According to trade data of WTO, the share of India in agricultural export and import in the world were 2.69 per cent and 1.31 per cent respectively in 2013; 2.46% and 1.46 % respectively in 2014 and in 2015 the share of India's agricultural exports and imports in the world agriculture trade were 2.26% and 1.74% respectively. As per WTO's Trade Statistics, the share of India's agricultural exports and imports in the world agricultural trade in 2017 was 2.27% and 1.90%, respectively.



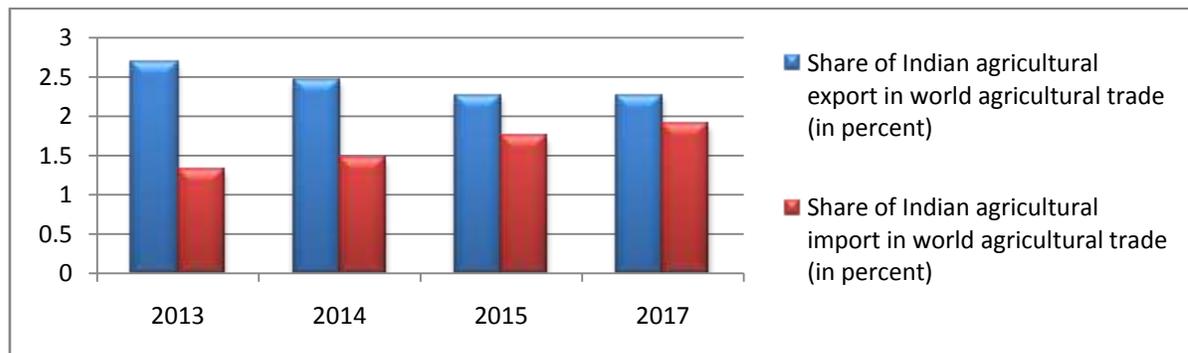
**Table -1**  
**Share of Indian agricultural trade in World agricultural trade (in percent)**

Year	Share of Indian agricultural trade in World agricultural trade (in percent)	
	Export	Import
2013	2.69	1.31
2014	2.46	1.46
2015	2.26	1.74
2017	2.27	1.90

**Source:** WTO's Trade Statistics of various years

As table-1 show that the percent share of Indian agricultural exports in World agricultural trade has slightly declined continuously, in 2013 it was 2.69 percent in year 2017 it is only 2.27 percent, between 2013 to 2017, it was a decline of about 0.42 percent and the percent share of Indian agricultural imports in World agricultural trade is showing increasing trend. In 2013, it is only 1.31 percent which increased up to 1.90 percent in 2017. The percent share of Indian agricultural imports in World agricultural trade is increased from 2013 to 2017 about 0.59 percent. As shown in figure -1:

**Figure -1**  
**Share of Indian agricultural trade in World agricultural trade (in percent)**



**Source:** WTO's Trade Statistics of various years

Agricultural exports as a percentage of agricultural GDP is 13.56 percent in 2012-13, which has come down to 8.71 percent in 2015-16, agricultural exports as a percentage of agricultural GDP have increased from 8.71 percent in 2015-16 to 9.00 percent in 2017-18 and 9.9 percent in 2018-19. During the same period from 2012-13 to 2015-16 agricultural imports as a percentage of agricultural GDP has also decreased from 5.71 percent to 5.68 percent. It further declines to 5.47 percent in 2017-18 and 4.9 percent in 2018-19.

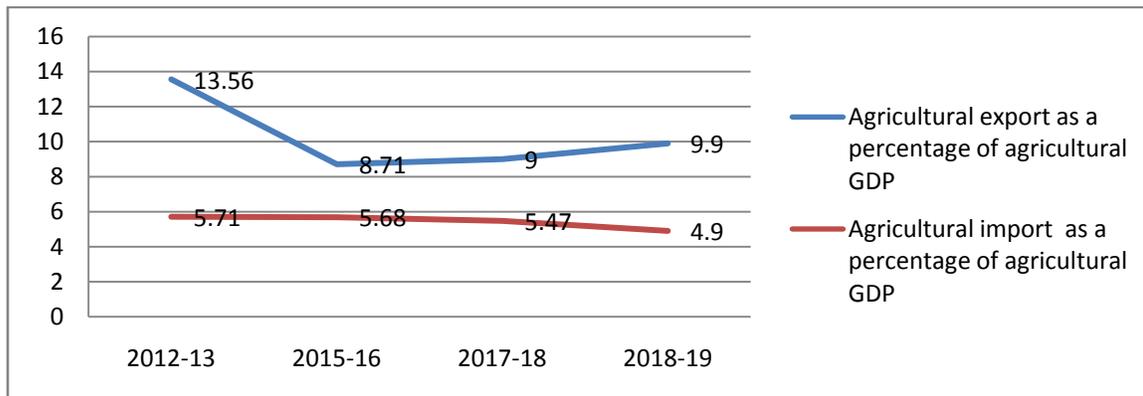


**Table-2**  
**Agricultural trade as a percentage of agricultural GDP**

Year	Agricultural export as a percentage of agricultural GDP	Agricultural import as a percentage of agricultural GDP
2012-13	13.56	5.71
2015-16	8.71	5.68
2017-18	9.00	5.47
2018-19	9.90	4.90

Source: [www.agricoop.nic.in](http://www.agricoop.nic.in)

**Figure- 2**  
**Agricultural trade as a percentage of agricultural GDP**



Source: Compiled from table -2

The table-2 and the figure-2 shows the trend of Agricultural trade as a percentage of agricultural GDP. Share of agricultural exports as a percentage of agricultural GDP was declined from 2012-13 to 2015-16, but it shows increasing trend from 2015-16 to 2018-19 continuously. In the case of imports, the share of agricultural imports as a percentage of agricultural GDP has continuously declined gradually from 2012-13 to 2018-19.

### **Trend and pattern of agriculture trade in India**

Since, India has various climatic conditions in different states, hence the country has large and diverse form of agriculture, and is leading in the production of rice, wheat, sugarcane, castor seeds, groundnut, millet, sesame seed, fruits and vegetables among the world. Therefore, any changes in its balance sheet for key commodities will have a potentially large impact on world markets. Over the years, India has competed in the export of certain specialized agriculture products viz. basmati rice, spices, and non-basmati rice, castor oil, and oil meals. Export of agricultural products has provided producers a wider international market to sell their products and help them to take advantage of international market which in turn has incentivized their domestic production. Export of commodities boost producers to increase in area coverage which leads to the increase in growth rate of production.



### **Trend and pattern of Agriculture exports of India**

India has homogeneously maintained a trade surplus in agricultural commodities over the years. Agricultural exports of India has increased from Rs. 38,078 crores in 2004-05 to Rs. 2,74,575 crores in 2018-19, recording an increase of nearly 7 times in the 15 years span. Agricultural exports of India increased from Rs. 2,15,396 crores in 2015-16 to Rs. Rs. 2,74,575 crores in 2018-19 noting a growth of nearly 27.47%. Agricultural and allied exports in India is Rs. 2,26,652 crores in 2016-17 which increased remarkably from 2,50,273 crores in year 2017-18. During 2017-18 agricultural commodities that have reported higher exports were rice (basmati), rice (non-basmati), raw cotton, guar, gum meal, oil meals, castor oil etc. Major commodities which shows high growth in the year 2018-19 were sugar (82%), oil meals (50%), Basmati Rice (22%), raw cotton (20%), spices (16%) etc.

**Table-3**

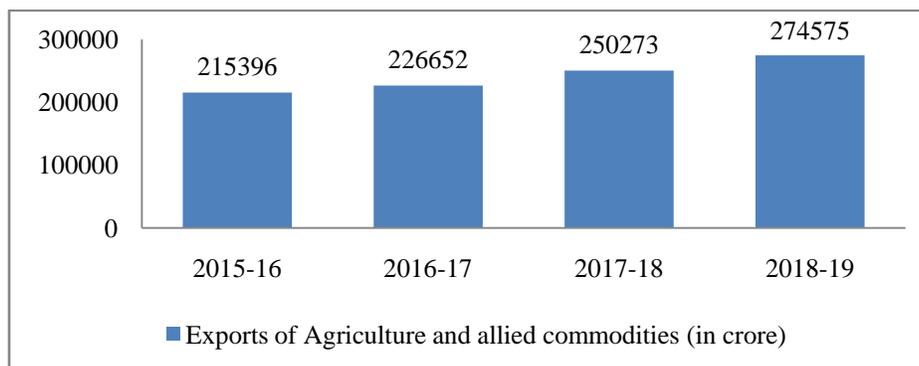
**Exports of Agriculture and allied commodities (in crore) and annual growth rate**

Year	Exports of Agriculture and allied commodities (in crore)	Growth Rate
2015-16	2,15,396	-
2016-17	2,26,652	5.23
2017-18	2,50,273	10.42
2018-19	2,74,575	9.71

Source: [www.agricoop.nic.in](http://www.agricoop.nic.in)

**Figure -3**

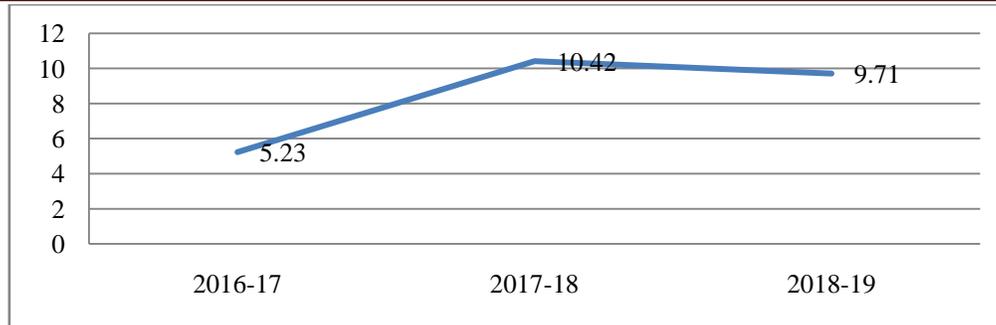
**Exports of Agriculture and allied commodities (in crore)**



Source: Compiled from table -3

**Figure-4**

**Annual growth rate of Agriculture and allied Exports**



Source: Compiled from table -3

Annual growth rate of agriculture and allied commodities exports is shown in figure- 4. Annual growth rate of agriculture and allied commodities exports is about 5.23 percent in year 2016-17, which become approx. double to 10.42 percent and shows impressive growth in year 2017-18, however it came slightly down to 9.71 percent in 2018-19.

**Commodity-wise analysis of agricultural export**

India export mainly basmati and non-basmati rice, cotton, castor, tea, coffee, oil, sugar, cashew etc. India’s export of basmati rice values to 22719 crores in 2015 which slightly decreased to 21513 crores in 2016-17 and then further increased in 2017-18 and reached to 32804 crores in 2018-19. Spices values to 16630 crores in 2015 which increased to 19111 crores in 2016-17; 20085 crores in 2017-18 and reached to 23218 crores in 2018-19 in Indian export. India’s exports of fresh vegetables values to 5237 crores in 2015 which increased to 5791 crores in 2016-17; 5298 crores in 2017-18 and 5668 crores in 2018-19. India’s agricultural export commodities in terms of value for the year 2015-16 to 2018-19 are given in Table-4 below:

**Table -4**  
**Export of agricultural commodities (In crore)**

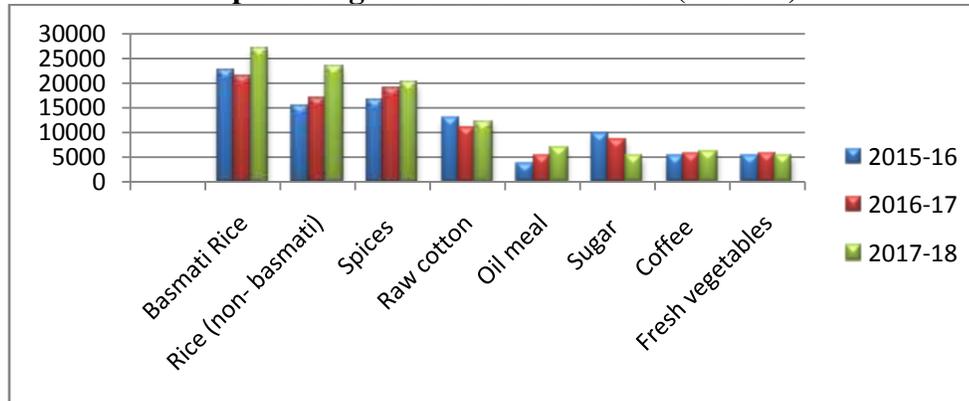
Commodity	2015-16	2016-17	2017-18	2018-19	Growth Rate (2015-2019) (In percent)
Basmati Rice	22719	21513	26871	32804	44.39
Rice (non- basmati)	15483	16930	23437	21185	36.83
Spices	16630	19111	20085	23218	39.61
Raw cotton	12821	10906	12200	14628	14.09
Oil meal	3599	5410	7043	10577	193.89
Sugar	9825	8660	5226	9519	-3.11
Coffee	5125	5646	6245	5722	11.65
Fresh vegetables	5237	5791	5298	5668	8.23
Total Agri And Allied Exports	2,15,396	2,26,652	2,50,273	2,74,575	27.47

Source: Department of commerce, government of India



Figure-5

Export of agricultural commodities(Incrore)



Source: Compiled from table-4

Table-4 shows growth rate of different agricultural commodities exports in between 2015 to 2019. Exports of the oil meal is showing very impressive growth rate of about 193.89 percent in between year 2015 to 2019; followed by basmati rice 44.39 percent; spices 39.61 percent; non-basmati rice 36.83 percent; raw cotton 14.09 percent; coffee 11.65 percent and fresh vegetable 8.23 percent. Only sugar shows negative export growth rate. Table-4 shows that export of all commodities has increased except sugar during analysis period of 2015 to 2019.

Major destinations of exports for India's Agri and allied commodities are United States of America, Vietnam, United Arab Emirates, Bangladesh, Saudi Arabia, Iran, China, Malaysia, Indonesia, Nepal, the Netherlands, Japan, Pakistan, Thailand and United Kingdom. India exports fresh and processed food to more than hundred countries over the world. The increase in exports has been allocated to the increased demand from other countries.

**The share of agricultural exports in India's total exports**

The share of agricultural exports in India's total exports has decreased from 12.56 percent in 2015-16 to 12.27 percent in 2016-17; it shows increasing trend with 12.80 percent in 2017-18. The share of agricultural exports in India's total exports remained in the range of 12% but showed a decrease to 11.9% in 2018-19.

Table -5

The share of agricultural exports in India's total exports

Year	The share of agricultural exports in total exports of India
2015-16	12.56
2016-17	12.27
2017-18	12.80
2018-19	11.90

Source: [www.agricoop.nic.in](http://www.agricoop.nic.in)



### **Trend and pattern of Agriculture imports of India**

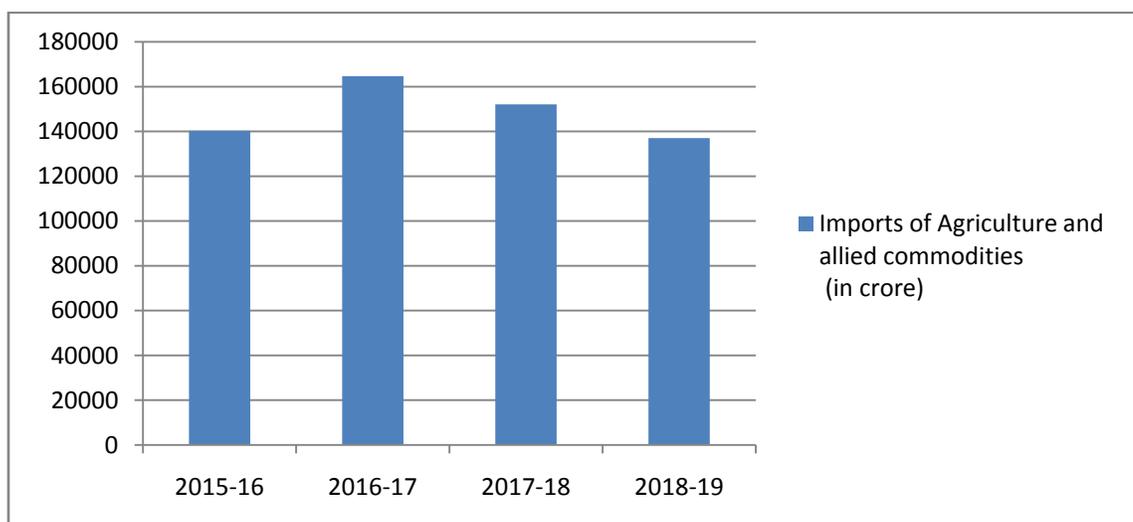
India's Agri and allied commodities imports is 140311 crores in 2015-16 which have increased significantly to Rs. 1,64,681 crores in 2016-17 but it further decreased to Rs.1,52,061 crores in 2017-18 and to Rs 1,36,990 crores in 2018-19, thereby registering a fall of nearly 2.37 percent in between year 2015 to 2019. As compared to the previous year, the Agri and allied imports in the year 2018-19 fell by 9.91%. Decrease in the value of Agri and allied imports during 2018-19 were primarily on account of lower import of vegetable oils, pulses, raw cotton, sugar, coffee etc. Major commodities which have witnessed decrease in the year 2018-19 as compared to 2017-18 were pulses (57%), sugar (47%), raw cotton (31%) and vegetable oils (8%) etc. The import of vegetable oils in 2018-19 constituted about 50% of India's total import of Agri and allied commodities. Out of various vegetable oils imported, palm oil constituted the largest share (around 60%), followed by soybean oil (22%) and sunflower oil (17%).

**Table-6**  
**Imports of Agriculture and allied commodities (In crore)**  
**and annual growth rate**

Year	Imports of Agriculture and allied commodities (In crore)	Growth Rate
2015-16	140311	-
2016-17	1,64,681	17.37
2017-18	1,52,061	-7.66
2018-19	1,36,990	-9.91

Source: [www.agricoop.nic.in](http://www.agricoop.nic.in)

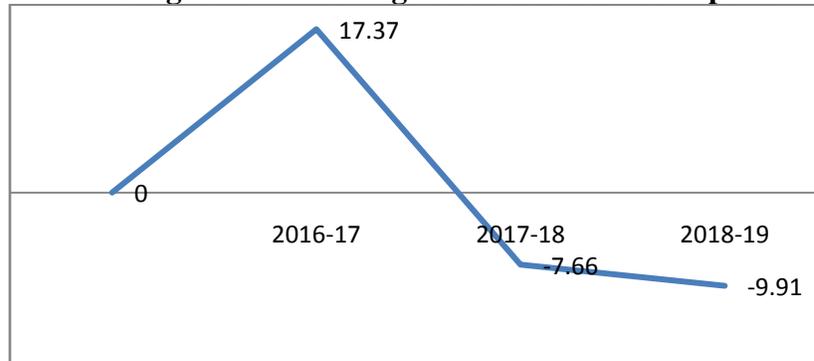
**Figure -6**  
**Imports of Agriculture and allied commodities (In crore)**



Source: Compiled from table -6



**Figure -7**  
**Annual growth rate of Agriculture and alliedImports**



**Source:** Compiled from table-6

Annual growth rate of agriculture and allied commodities imports is shown in figure-7. Annual growth rate of agriculture and allied commodities imports is about 17.37 percent in year 2016-17, which falls to -7.66 percent and shows impressive reduction in year 2017-18, it become slightly down to -9.91 percent in 2018-19.

### **Commodity-wise analysis of agricultural imports**

India imports mainly vegetable oils, pulses, fresh fruits, cashew nuts, spices, sugar, cocoa, cotton etc. India's import of vegetable oil values to 68677 crores in 2015 which increased to 73048 crores in 2016-17; 74996 crores in 2017-18 and reached to 69024 crores in 2018-19. Spices values to 5400 crores in 2015 which increased to 5758 crores in 2016-17; 6385 crores in 2017-18 and reached to 7911 crores in 2018-19 in Indian import. India imports fresh fruits values to 11072 crores in 2015 which increased to 11241 crores in 2016-17; 12525 crores in 2017-18 and 13932 crores in 2018-19. India's agricultural import commodities in terms of value for the year 2015-16 to 2018-19 are given in Table-7 below:

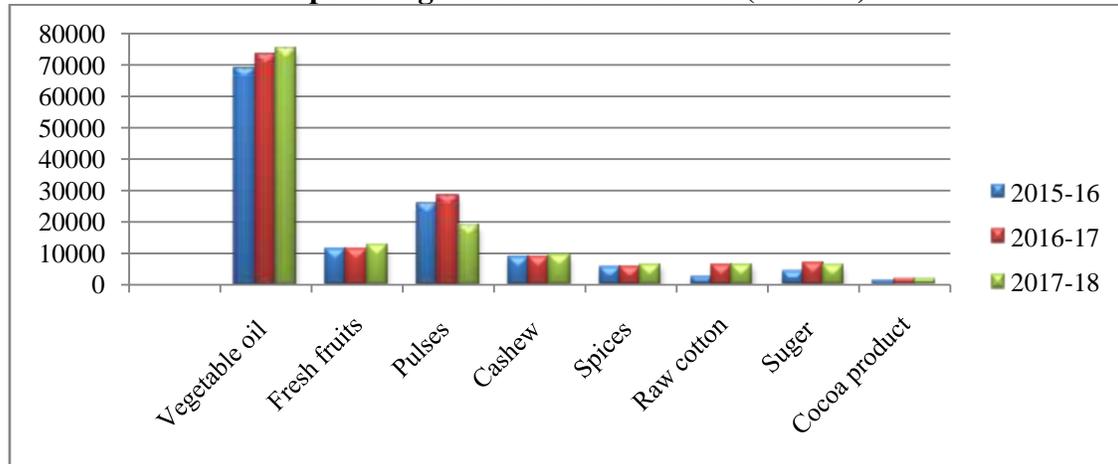
**Table -7**  
**Imports of agricultural commodities(Incrore)**

Commodity	2015-16	2016-17	2017-18	2018-19	Growth Rate (2015-2019) (In percent)
Vegetable oil	68677	73048	74996	69024	0.51
Fresh fruits	11072	11241	12525	13932	25.83
Pulses	25619	28524	18749	8035	-68.64
Cashew	8701	9027	9134	11162	28.28
Spices	5400	5758	6385	7911	46.5
Raw cotton	2566	6337	6307	4383	70.81
Sugar	4038	6869	6036	3175	-21.37
Cocoa product	1399	1540	1472	1846	31.95
Total Agri And Allied imports	140311	164681	152061	136990	-2.37

**Source:** Department of commerce, government of India



**Figure-8**  
**Import of agricultural commodities(In crore)**



**Source:**Compiled from table -7

Table-7 shows growth rate of different agricultural commodities imports in between year 2015 to 2019. Growth rate of pulses imports falls to 68.64 percent; sugar to 21.37 percent; Vegetable oil is showing very impressive reduction in growth rate of about 0.51 percent in between year 2015 to 2019; raw cotton import growth rate between 2015-19 is 70.81 percent; spices 46.5 percent; cocoa product 31.95 percent; cashew 28.28 percent; fresh fruits 25.83 percent. Table-7 shows that import of all commodities has increased except sugar and pulses during analysis period of 2015 to 2019.

India mainly imports Agri and allied commodities with Indonesia, Ukraine, United States of America, Argentina, Malaysia, Brazil, Singapore, Afghanistan, China, Thailand, Vietnam, the United Arab Emirates, Cote d'Ivoire, Australia and Myanmar.

### **The share of agricultural imports in India's total imports**

The share of agricultural imports in India's total imports has increased from 5.64 percent in 2015-16 to 6.42 percent in 2016-17; it shows decreasing trend with 5.07 percent in 2017-18. The share of agricultural exports in India's total exports vary in every year, but showed a decrease of 3.8 percent in 2018-19, as shown in table-8.

**Table -8**  
**The share of agricultural imports in India's total imports**

Year	The share of agricultural imports in total imports of India
2015-16	5.64
2016-17	6.42
2017-18	5.07
2018-19	3.80

**Source:** [www.agricoop.nic.in](http://www.agricoop.nic.in)



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### **Impact of agriculture trade in Indian economy**

India is an agrarian country; its economy is based on producing and maintaining crops and farmland, so the agricultural trade has crucial role in country's economy. Due to diversity in agricultural commodities of India, it has huge potential to increase exports and earn foreign currencies. There are remarkable difference between agriculture exports and agriculture imports of India. Agriculture export amount is much greater than agricultural imports amount, as shown in table -9

**Table -9**  
**Agriculture trade of India (crore Rs.)**

Year	2015-16	2016-17	2017-18	2018-19
Total Agri And Allied Exports	215396	226652	250273	274575
Total Agri And Allied imports	140311	164681	152061	136990
Difference	75085	61971	98212	137585

Source: [www.agricoop.nic.in](http://www.agricoop.nic.in)

Table-9 is showing profit/ loss in agriculture trade of India. As shown in table India get always profit in agriculture trade balance sheet, because of impressive exports. In year 2015-16 India 's profit is about 75085 crores; it decreases slightly to 61971crores in 2016-17. India earns 98212 crores Rs. foreign currencies in 2017-18, and it is increased to about 137585 crores in 2018-19. Table-9 shows that agriculture trade has positive impact on economy and overall, it boosts Indian economy.

### **Measures for export promotion and import reduction in agricultural trade in India**

Government of India has taken certain measures in terms of Foreign Direct Investment, Agricultural Trade Policy, and Foreign Trade Policy for export promotion and import reduction in agricultural trade in India.

### **Foreign Direct Investment (FDI) Policy in Agriculture**

Indian government has allowed hundred percent FDI in development and production of seeds and planting material in agricultural sector. In addition, 100 percent FDI is also allowed for floriculture, horticulture and cultivation of vegetables and mushrooms under controlled conditions. Along with this, 100 percent FDI is even allowed in animal husbandry, pisciculture, aquaculture and other services related to agro and allied sectors. Even hundred percent FDI is allowed in the plantation sector like tea, coffee, rubber, palm oil tree and olive oil, cardamom tree.

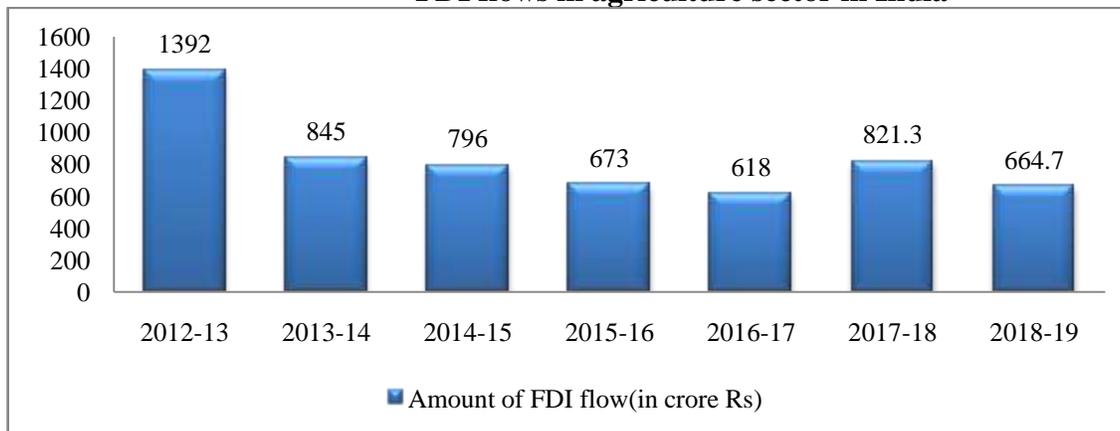


**Table-10**  
**FDI flows in agriculture sector in India**

Year	Amount of FDI flow(in crore Rs)
2012-13	1392
2013-14	845
2014-15	796
2015-16	673
2016-17	618
2017-18	821.3
2018-19	664.7

**Source:** Department of Promotion of Industry and Internal Trade (DPIIT)

**Figure -9**  
**FDI flows in agriculture sector in India**



**Source:** Compiled from table-10

FDI investments has developed agricultural sector and increase production of seed and planting material, horticulture and nursery services, agriculture machinery, plant protection services, cattle breeding and livestock rearing, cold storage and warehousing. FDI inflows received in agricultural sector are about Rs. 13,508 crores from April 2000 to December 2018 (i.e. agriculture services including agriculture machinery) (Source: DIPP).

### **Measures taken on Agriculture Export Policy**

An Agriculture Export Policy was implemented in Dec, 2018 with the vision to gear export potential through suitable policy tools and to make India a global power in agricultural trade. Agriculture Export Policy also pay attention on mass development, diversification of the Agriexport, boosting high value and value added Agri exports including organic products. Some of the major elements of the Agriculture Export Policy are as follows:



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- Creation of a stable policy regime.
  - Reforms in the APMC Act and fared mandi fee.
  - Policyinitiates the involvement of state governments in Agri export, and also involvement of agricultural exports in state export policy
  - Develop the infrastructure and logistics support services to clear the way for Agri exports with a cluster orientation.
  - Promotion of value-added exports including organic products for all India especially the North Eastern region.
  - Develop packaging and quality standards.
  - Skill Development Promotion of Brand India.
  - Focus on facility of doing business and digitization of business and also createAgri start-up fund.
  - Sort out the Sanitary and Phytosanitary and Technical Barrier of Trade issues.

#### **Measures taken on foreign trade policy of agricultural commodities**

- Except mustard oil, export of all varieties of edible oil has been made free with effect from 6th April 2018. However, export of mustard oil in branded consumer packs of up to 5kg continues to be permitted for export with a Minimum Export Price (MEP) of USD 900/MT.
- The export incentive schemeavailable for agriculture and all othersectors is under emendation.
- In June 2019,Minimum Import Price (MIP) for cashew kernel, broken has been increased fromRs 288/kg to Rs 680/kg and cashew kernel, whole from Rs 400/kg to Rs 720/kg respectively.
- Import duty has been increased from 30% to 40% on wheat from April2019.
- During the year 2019-20 import of 1.75 lakh MT of pigeon peas (Cajanus Cajan) tur dalfrom Mozambique has been put upunder theMoU between the Government of India and the Government of the Republic of Mozambique, for cooperation in the fieldof production and marketing of pigeon peas (tur) in April 2019.
- Import of pulses is free without any restrictions except for peas (1.5 Lakh MT with minimum import price of Rs. 200/kg), tur (4 Lakh MT), moong(1.5 Lakh MT)and urad(4 Lakh MT) in 2019-20.In addition to these, import of tur to the extent of 1.75 lakh MT is allowed for Mozambique.
- Under India-Mercosur Trade Agreement, DGFT has advised 30,000 MT of TariffRate Quota (TRQ) for the import of crude soya oil from Paraguay on August, 2019.

#### **Conclusion**

Agriculture is one of the important sectors of Indian economy. It plays a significant role in economic growth and development of rural as well as of Indian economy. Agricultural trade is one of the crucialdrivers of economic growth of the country. Since, India has versatile climatic conditions hence it has large and diverse form of agriculture products soIndian agricultural trade has enormous potential to



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earn foreign currencies through export of various agro based commodities trade. India's agricultural export amounts to Rs. 2,74,575 crores, and it is 9.71 percent of total exports of the country in 2018-19, these exports could lead to boost producers to increase in area coverage which leads to the growth rate of production and also generate employment and helps to reduce unemployment. In agricultural trade, the difference between export and import is Rs. 137585 crores in 2018-19. As per agricultural export Policy and foreign trade policy, Indian government has taken certain measures for export promotion and import reduction for promoting agricultural trade. The role of export duty and import duty is playing significant role for promoting trade, so there is need to increase export duty to prevent import of various agricultural goods. It has also increased enough potential to earn foreign currency and also dominate the global agricultural market.

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