# Export Potential of Indian Agricultural and Processed Food Products

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## ABSTRACT

Export is one of the important aspects to measure the economic development of the country. Among the south Asian countries, India has the huge export potential in various commodities. The present study describes the exports of various commodities such as cereals which include basmati rice, non-basmati rice, wheat, maize and other cereals, food products at different forms i.e. ready to eat, ready to cook and ready to serve, and live-stock which includes buffalo meat, sheep/goat meat, other meat, processed meat and poultry products. A comparative analysis of three product categories is done. The export data is collected from APEDA Agri Exchange for the period of 2017-18 (April-February). One Way Analysis of Variance is used to compare the selected product categories. Result shows that there is no significance difference in the value of export from India for the selected commodities. Although Biscuits & Confectionary, Powder and Starch and Soups, Sauces, Pasta and Seasoning are the largest exported commodities in ready to eat, ready to cook and ready to serve segment respectively. Similarly, basmati rice and buffalo meat have the largest export value in cereals and meat categories respectively. While analyzing the export quantity of the selected food products no significance difference could be observed.

**Keywords:** Export, Processed Food, Agriculture, Economic Growth, Cereal

## INTRODUCTION

Export is considered as one of the important aspects to measure the economic development of the country. The logics behind are that export growth reflects the higher demand of the product which again reflects in higher level of production and realize the economic growth. Another idea is that by increasing the level of exports, foreign exchange is generated and ultimately this facilitates the purchase of intermediate goods. Export earnings also allow a country to use external capital without any difficulty in foreign debt. Liberalization of trade is the main reason of quick revolution in the foreign trade situations in the developing economies. Particularity World Trade Organization has played a significant role in bringing the change in this direction. India's support of the Agreement on Agriculture was the main reason for changing in the stage of relative gain for various agricultural supplies exported in the international food markets (Shinoj and Mathur, 2008).

Among the South Asian countries, India has significantly higher level of export potential as compared to other countries because of the availabilities of natural resources, low labor cost, relaxation in Foreign Trade Policy, higher scale of production and further infrastructural development.

Agriculture is considered as the third major sector contributing in the economy of India and is the backbone of the industrial production. Agricultural production is not only used for the domestic consumption but also catering to the industries for raw material. Another scope is the processed food industry. Processed food industry refers to the set of methods that direct to the conversion of raw materials to food or the alteration of food into other forms of consumption. The technology uses agricultural production as base and process the production in to ready-to-consume form such as beverages, freezing vegetables, wheat, potato chips, flour and many more. From the past 10 years, the India has observed huge growth in the processed food industry.

According to the Indian Brand Equity Foundation, Indian processed food sector covers 32 % of the total food industry, one of the biggest industries in country and is occupying 5thposition in terms of manufacturing, utilization, trade and development. It is contributing approximately 8.80% and 8.39 % of Gross Value Added (GVA) in Manufacturing and Agriculture industry respectively, 13 % of India's exports and 6% of total manufacturing and engineering outlay. The Indian epicure food market is presently evaluated at US$ 1.3 billion and is rising at a Compound Annual Growth Rate (CAGR) of 20 %. The country's organic food market is anticipated to rise to three folds by 2020.The Government has launched programs to establish more Agricultural Export Zones (AEZs) with a view to support the international business and trade of agricultural products that possess export potential.

**Government Initiatives**

According to the IBEF, major steps taken by Indian government to pick up the food processing segment are as follows:

- 100% Foreign direct investment (FDI) for agriculture and food products

- Various incentives are given by state government in the country.

- Government has initiated for setting up a dairy processing infra fund valued Rs. 8,000 crore (US$ 1.2 billion)

- Hassle-free foreign direct investment (FDI) norms

- 100 per cent FDI in e-commerce through automatic route for the food sector

- FSSAI is to spend US$ 72.3 million for infrastructural development such as food testing laboratories and new mobile testing labs

- The Indian Council for Fertilizer and Nutrient Research (ICFNR) is adopting global practices for R& D in fertilizer segment, so that farmers get good quality fertilizers at affordable rates.

- The Ministry of Food Processing Industries declared policy for Human Resource Development (HRD) in the food processing sector.

Agricultural and Processed Food Products Export Development Authority (APEDA) is also playing major role for promoting agro export. APEDA was established in 1986 to promote agro and processed food and to accelerate the exports. The objective of APEDA is to increase the income of farmers and rural development. It created the support system for the manufacturer and exporters. APEDA also offers financial aid and runs various development programs. Various schemes such as Market Development, Infrastructure Development, Transportation Assistance and Research development etc. have also been launched. APEDA has significant role to accelerate the export of various processed food, cereals and livestock products.

Aligned with this back ground, the present study is an attempt to see the export scenario of processed food which includes ready to eat, ready to cook, and ready to serve products, various cereals and livestock from India to world between2017-18(April-February).The study compares export of various food and agricultural products in value and quantity. Comparison of export value (in crore) give the revenue generated from the particular product categories. This ultimately shows the contribution to economic growth from the particular product.  On the other hand, comparison of quantity (in quintal) exported highlights the consumption of Indian food product in the world. The study is unfolding the very recent scenario of food product exported from India to the whole world, which will reveal the demand of selected Indian food products in the international market.

Table 1: Export from India to World 2017-18 (April-February)

| Product Group | Qty In Quintal | Value in Rs. Crore |
|---|---|---|
| Ready to Eat | 3852381.3 | 4009.12 |
| Ready to Cook | 4709295.7 | 2277.63 |
| Ready to Serve | 3914063.43 | 2933.18 |
| Cereal | 12447110.44 | 46097.69 |
| Livestock | 1658327.67 | 25089.72 |

Source: APEDA Agri Exchange

## REVIEW OF LITERATURE

Many studies have been conducted to see the export of various products from various countries to the whole world and its contribution in the economic growth. Most of the researchers found in their studies that export of agricultural food and processed food significantly influencing the economic growth and bringing the positive changes. Chemeda (2001) used Cobb-Douglas function and found the positive relationship between economic growth and exports of Ethiopian country. Singh and Goyal (2005) measured the growth, instability and concentration of Indian agricultural product and revealed that the export earnings and quantity of selected agricultural product has been increased at the yearly growth rate of 15.4% over a period of decade. Instability indices for export value and quantity were highest for animal casing followed by milled products, wheat and jaggery and confectionery. Gupta and Goyal (2006) conducted a study to see the production of fresh vegetables and fruits during 1980-2006. The analysis concludes that there has been constant rise in the production, number of food and vegetable processing unit installed during 1990-2002 but only half of the installed capacity is being utilized. Kaundal and Sharma (2006) found variations in exports due to demand, domestic production, and fluctuation in international prices. Rice, tobacco, spices, coffee, fish & fish preparations, cashew, meat & meat preparations, fresh fruits and fresh vegetables have the straight growth and low volatility, and have potential growth. The supplies with low growth and high volatility on the basis of value, volume and unit price include raw cotton, sugar and coffee. Parappurathu et al. (2014) used Partial Equilibrium Model for potential important cereals such as wheat, maize and rice in India. Study used demand, supply, price, trade etc. The model suggests higher growth in demand of cereals due to income and urbanization. Similarly, the net trade of all the selected cereals remains positive.

On the other hand, few studies have not resulted in the same opinion and gave the reason of low growth in the processed food industry. Siddayya and Atteri (2011) revealed that there is higher demand of healthy and safe food at international level. In the present circumstances, conformity with global food standards is a necessity for India to occupy stable position in the world. The study analyzed the cost of compliance effect with the food security measure for fresh fruits and vegetables taken by Indian exporters.  Consistency to food safety measures is very expensive and small processing units get adversely effected and this also impacts the export competitiveness. Dawson (2005) found the income-export relationship from 1960-1999. Study showed that in the long run both the variables do not co-integrate but Granger-causality tests shows that in the short run 1% increase in export leads to .06% increase in income. Hazra and Sirohi (2007) analyzed the trade of dairy product to the South Asian countries and conclude that demand of milk and milk product is increasing rapidly. The major role is played by consistent trade policy in reducing export instability, also trade encouragement strategies need to be formed with understanding of the market volatility. Huo (2014) studied the trade potential of agricultural sector in Chinese context and revealed that, irrigated land area, export of agriculture products and exchange rate against US dollars have been the encouraging factors in export competitiveness of agriculture industry but labor cost and domestic consumption have negative relationship with export competitiveness. Majumdar (2013) studied the scenario of the export of processed food industry and found insignificant contribution in the global trade due tools technology of production and process, lack of quality control, vain supply chain system, inadequate infrastructural facilities, inadequate inventory facility, high inventory cost etc. Processed food industry is also suffering because exporters fail to attain economies of scale and also lack of funding affects. Effective supply chain, brand building through latest technology, quality management effective negotiation skills may lead to growth in this sector.

## RESEARCH METHODOLOGY

To see the current scenario of export potential of agro, processed and livestock product in India, the export data in value (crore) has been analyzed. Secondary data has been extracted from APEDA Agri Exchange for the period of 2017-18 (April-February). Processed food includes ready to eat, ready to cook and ready to serve product exported from India to all over the world. Ready to eat category includes biscuits & confectionary, jaggery, breakfast cereals, wafers, Indian sweets and snacks and pan masala. Ready to cook category includes all other preparation of flour meal starch / malt extract, pasta, papad, flours and milled products, powder & starch while ready to serve category includes jellies, squash & juices, other beverages, energy products / drinks, ice cream, soups, sauces, pasta and seasoning. Similarly, agro products include various cereals such as basmati rice, non-basmati rice, wheat, maize and other cereals and livestock includes buffalo meat, sheep/goat meat, other meat, and processed meat and poultry products.

First, a comparative analysis has been done among the processed food using One Way ANOVA. In the second

phase of analysis export comparison among all the agro, processed and livestock product has been conducted. The analysis has been done on two parameters i.e. Export value (in crore) and Quantity(in Quintals). Karl Pearson coefficient of correlation has been used to see the association between export value and quantity.

## HYPOTHESES

H01Export potential of various forms of processed food (in Value)from India to all over the world does not differ significantly.

H02 Export potential of various forms of processed food, livestock and agro product (in Value) from India to all over the world does not differ significantly.

H03Export potential of various forms of processed food (in Quantity) from India to all over the world does not differ significantly.

H04 Export potential of various forms of processed food, livestock and agro product (in Quantity) from India to all over the world does not differ significantly.

H05Export value and quantity of selected food products related significantly.

## RESULT ANALYSIS

| Table 2: Descriptive Statistics of Export Value of Processed Food | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Exportsincrore | | | | | | | | |
| | | | Std. Deviation | | 95% Confidence Interval for Mean | | | |
| | N | Mean | | Std. Error | Lower Bound | Upper Bound | Minimum | Maximum |
| **Ready to Eat** Biscuits & Confecti Jaggery Breakfast Cereals Wafers Indian Sweets and S Pan Masala & Beta etc | 6 | 668.1867 | 906.03283 | 369.88635 | -282.6365 | 1619.0098 | 54.82 | 2279.17 |
| **Ready to Cook** Papad Flours and Milled P Baker'S Yeast Groats/Meal Of (Corn) Powder & Starch | 4 | 569.4075 | 297.03270 | 148.51635 | 96.7622 | 1042.0528 | 293.57 | 866.44 |
| **Ready to Serve** Jellies, squash & juic Other Beverages Energy Products / D Ice Cream Soups, Sauces, Seasoning) | 4 | 632.6650 | 452.49985 | 226.24992 | -87.3632 | 1352.6932 | 133.62 | 1149.57 |
| Total | 14 | 629.8150 | 620.60108 | 165.86262 | 271.4906 | 988.1394 | 54.82 | 2279.17 |

Table 3: ANOVA of Export Value of Processed Food

| Exportsincrore | | | | | |
|---|---|---|---|---|---|
| | Sum of Squares | df | Mean Square | F | Sig. |
| Between Groups | 23463.063 | 2 | 11731.532 | .026 | .974 |
| Within Groups | 4983431.071 | 11 | 453039.188 | | |
| Total | 5006894.134 | 13 | | | |

**Post Hoc Tests**

Table 4: Multiple Comparisons of Export Value of Processed Food

| Exportincrores Tukey HSD | | | | | | |
|---|---|---|---|---|---|---|
| | | Mean Difference (I - J) | | | 95% Confidence Interval | |
| (I) Foodtype | (J) Foodtype | | Std. Error | Sig. | Lower Bound | Upper Bound |
| Ready to Eat | Ready to Cook | 259.98167 | 822.77846 | .947 | -1935.0791 | 2455.0424 |
| | Ready to Serve | 222.26867 | 771.83461 | .955 | -1836.8808 | 2281.4182 |
| Ready to Cook | Ready to Eat | -259.98167 | 822.77846 | .947 | -2455.0424 | 1935.0791 |
| | Ready to Serve | -37.71300 | 855.05646 | .999 | -2318.8870 | 2243.4610 |
| Ready to Serve | Ready to Eat | -222.26867 | 771.83461 | .955 | -2281.4182 | 1836.8808 |
| | Ready to Cook | 37.71300 | 855.05646 | .999 | -2243.4610 | 2318.8870 |

Table 5: Descriptive Statistics of Export Value of Processed Food, Cereals and Livestock

| Export | | | | | 95% Confidence Interval for Mean | | | |
|---|---|---|---|---|---|---|---|---|
| | N | Mean | Std. Deviation | Std. Error | Lower Bound | Upper Bound | Minimum | Maximum |
| **Food** | 14 | 629.8150 | 620.60108 | 165.86262 | 271.4906 | 988.1394 | 54.82 | 2279.17 |
| **Cereals** Basmati Rice Non-Basmati Rice  Wheat Maize Other Cereals | 5 | 9275.5440 | 11983.09960 | 5359.00506 | -5603.4394 | 24154.5274 | 280.03 | 23739.70 |
| **Meat** Buffalo Meat Sheep/Goat Meat Other Meat Processed Meat | 5 | 5017.9440 | 10503.92144 | 4697.49648 | -8024.3971 | 18060.2851 | 9.14 | 23798.85 |
| Total | 24 | 3345.2021 | 7557.82561 | 1542.73469 | 153.8122 | 6536.5919 | 9.14 | 23798.85 |

Table6: ANOVA of Export Value of Processed Food, Cereals and Livestock

| Export | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 293061682.014 | 2 | 146530841.007 | 3.015 | .041* |
| Within Groups | 1020715061.425 | 21 | 48605479.115 | | |
| Total | 1313776743.440 | 23 | | | |

Table 7: Post Hoc Tests: Multiple Comparisons of Export Value of Processed Food, Cereals and Livestock

| Exports incroreTukey HSD | | | | | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| Food | Cereals | -8103.92533 | 3542.66393 | .049* | -17003.3214 | 795.4707 |
| | Meat | -3846.32533 | 3542.66393 | .533 | -12745.7214 | 5053.0707 |
| Cereals | Food | 8103.92533 | 3542.66393 | .049* | -795.4707 | 17003.3214 |
| | Meat | 4257.60000 | 4338.85948 | .596 | -6641.8897 | 15157.0897 |
| Meat | Food | 3846.32533 | 3542.66393 | .533 | -5053.0707 | 12745.7214 |
| | Cereals | -4257.60000 | 4338.85948 | .596 | -15157.0897 | 6641.8897 |

Table 8: Descriptive Statistics of Export Quantity of Processed Food

| Qty (Quintal) | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound | | |
| Ready to Eat | 6 | 642063.5500 | 988061.93981 | 403374.59780 | -394843.8640 | 1678970.9640 | 21838.20 | 2593252.89 |
| Ready to Cook | 4 | 1177323.9250 | 981167.82042 | 490583.91021 | -383933.0275 | 2738580.8775 | 176759.15 | 2481011.83 |
| Ready to Serve | 4 | 921245.4150 | 866254.32859 | 433127.16429 | -457158.5287 | 2299649.3587 | 115448.74 | 1690820.87 |
| Total | 14 | 874761.3329 | 908096.13446 | 242698.90067 | 350442.2349 | 1399080.4308 | 21838.20 | 2593252.89 |

Table 9: ANOVA of Export Quantity of Processed Food

| Qty (Quintal) | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 699709117107.256 | 2 | 349854558553.628 | .384 | .690 |
| Within Groups | 10020592545322.338 | 11 | 910962958665.667 | | |
| Total | 10720301662429.594 | 13 | | | |

Post Hoc Tests

Table 10: Multiple Comparisons of Export Quantity of Processed Food

| Qty (Quintal) Tukey HSD | | | | | | |
|---|---|---|---|---|---|---|
| (I) Processedfood | (J) Processedfood | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
| | | | | | Lower Bound | Upper Bound |
| Ready to Eat | Ready to Cook | -535260.37500 | 616090.82078 | .670 | -2.1992E6 | 1.1287E6 |
| | Ready to Serve | -279181.86500 | 616090.82078 | .894 | -1.9432E6 | 1.3848E6 |
| Ready to Cook | Ready to Eat | 535260.37500 | 616090.82078 | .670 | -1.1287E6 | 2.1992E6 |
| | Ready to Serve | 256078.51000 | 674893.68002 | .924 | -1.5667E6 | 2.0789E6 |
| Ready to Serve | Ready to Eat | 279181.86500 | 616090.82078 | .894 | -1.3848E6 | 1.9432E6 |
| | Ready to Cook | -256078.51000 | 674893.68002 | .924 | -2.0789E6 | 1.5667E6 |

Table 11: Descriptive Statistics of Export Quantity of Processed Food, Cereals and Livestock

| Qty (Quintal) | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound | | |
| Food | 14 | 874761.33 | 908096.134 | 242698.901 | 350442.23 | 1399080.43 | 21838 | 2593253 |
| Cereals | 5 | 2489422.09 | 3361070.572 | 1503116.455 | -1683898.24 | 6662742.41 | 114322 | 7916783 |
| Meat | 5 | 331665.53 | 533481.828 | 238580.326 | -330739.65 | 994070.71 | 236 | 1235873 |
| Total | 24 | 1098004.03 | 1749039.630 | 357021.219 | 359449.37 | 1836558.69 | 236 | 7916783 |

Table 12: ANOVA of Export Quantity of Processed Food, Cereals and Livestock

| Qty (Quintal) | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 13314316738486.810 | 2 | 6657158369243.405 | 2.451 | .111 |
| Within Groups | 57045894665848.880 | 21 | 2716471174564.232 | | |
| Total | 70360211404335.695 | 23 | | | |

Post Hoc Tests

Table 13: Post Hoc Tests: Multiple Comparisons of Export Quantity of Processed Food, Cereals and Livestock

| Qty (Quintal) Tukey HSD | | | | | | |
|---|---|---|---|---|---|---|
| (I) commodities | (J) commodities | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
| | | | | | Lower Bound | Upper Bound |
| Food | Cereals | -1614660.755 | 858677.990 | .169 | -3779019.05 | 549697.54 |
| | Meat | 543095.799 | 858677.990 | .804 | -1621262.50 | 2707454.10 |
| Cereals | Food | 1614660.755 | 858677.990 | .169 | -549697.54 | 3779019.05 |
| | Meat | 2157756.554 | 1042395.544 | .121 | -469674.77 | 4785187.87 |
| Meat | Food | -543095.799 | 858677.990 | .804 | -2707454.10 | 1621262.50 |
| | Cereals | -2157756.554 | 1042395.544 | .121 | -4785187.87 | 469674.77 |

| Table 14: Correlation between Value and Quantity of Export | | |
|---|---|---|
| Food Type | Pearson Correlation | Sig |
| Processed Food | 0.793534809 | 0.001* |
| Cereals | 0.851557008 | 0.067 |
| Meat | 0.950400179 | 0.013* |

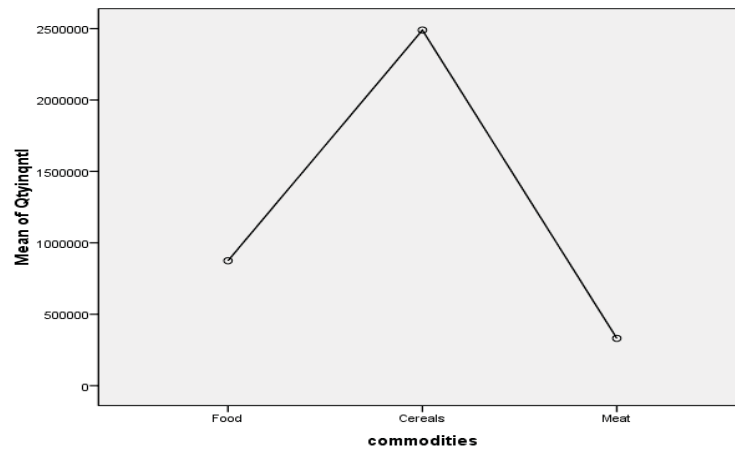Fig. 1 : Means Plots Export Quantity          Fig. 2 : Means Plots Export Value
(Food, Cereals and Livestock)               (Food, Cereals and Livestock)
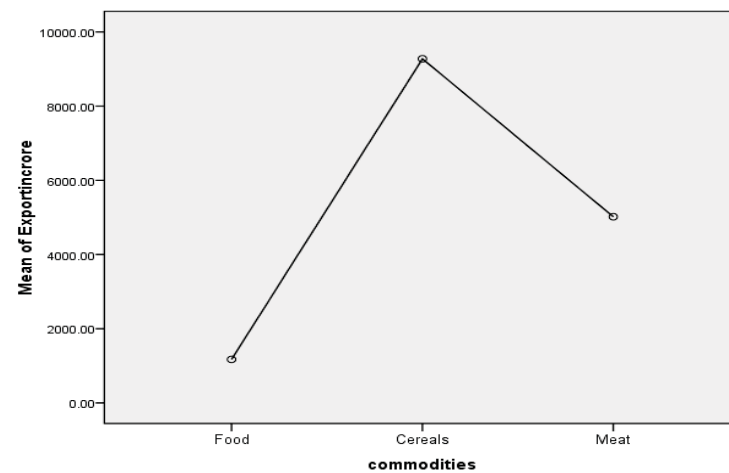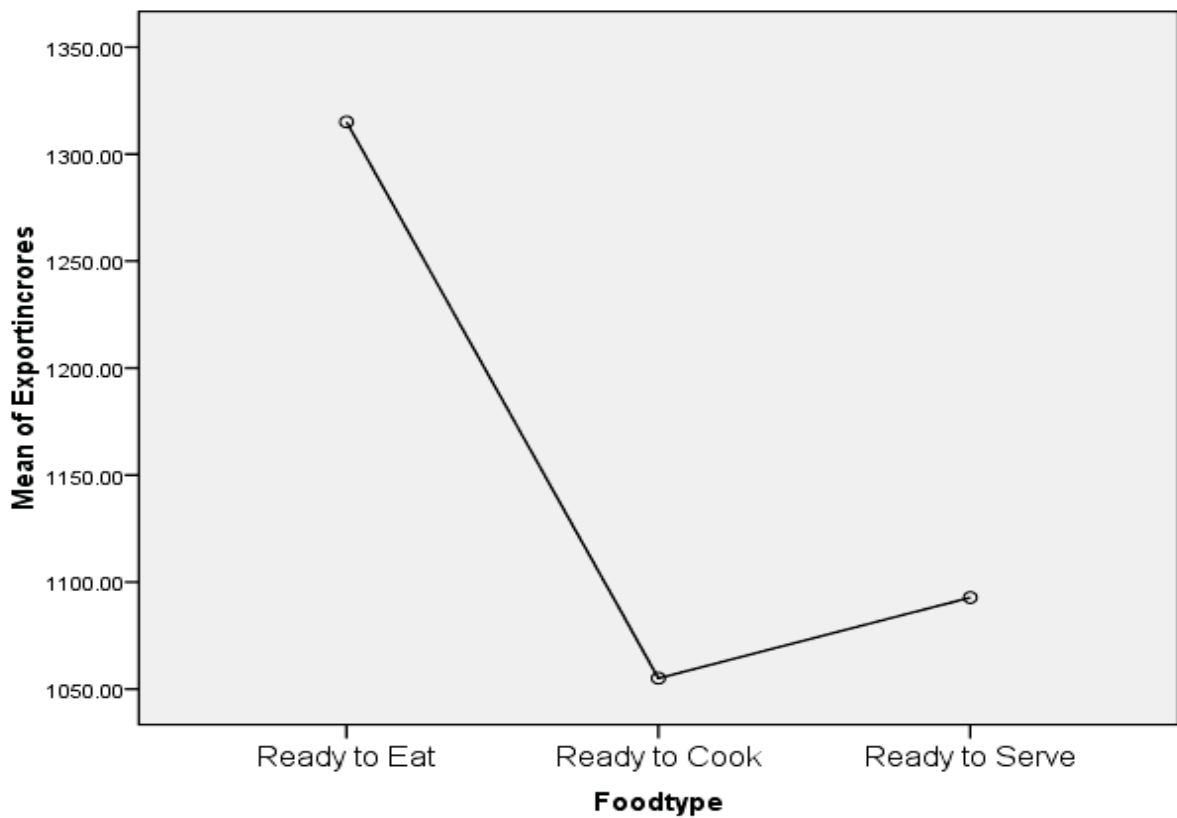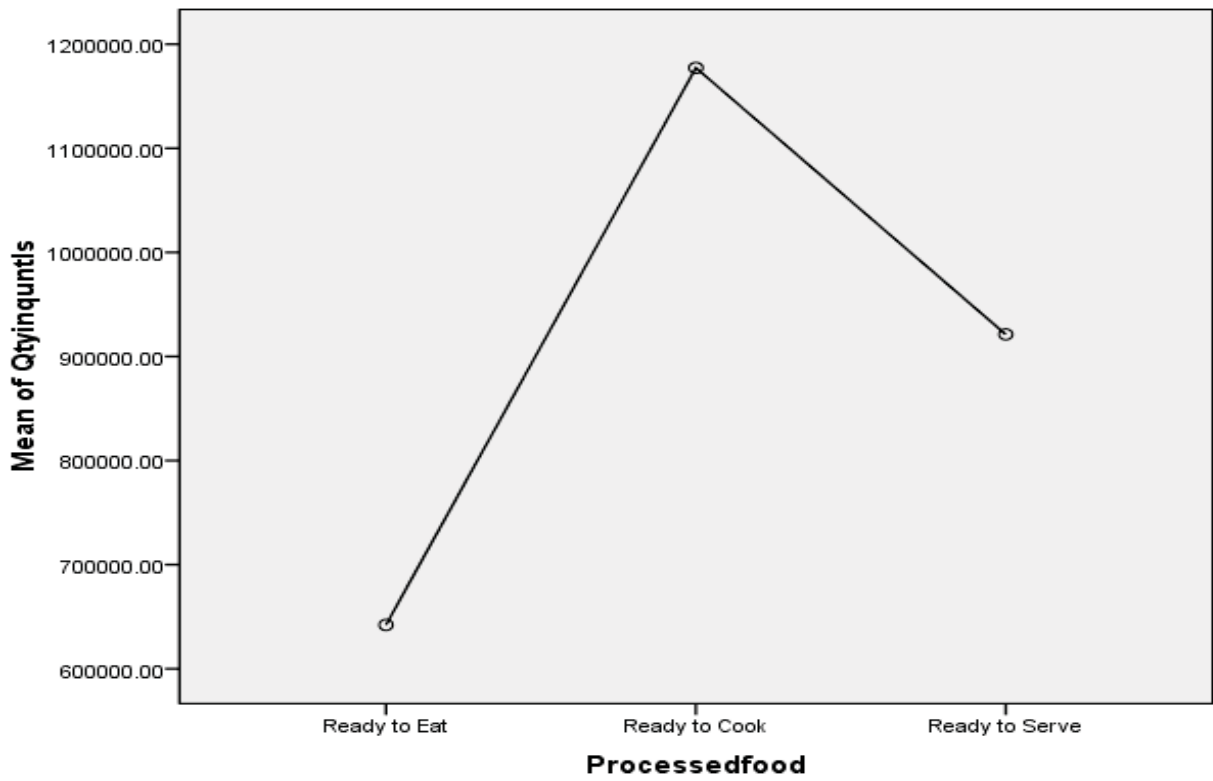




Fig. 3: Means Plots of Export Quantity          Fig. 4: Means Plots of Export Value
(Processed Food)
(Processed Food)

## CONCLUSION

The study considered export of selected food types viz. processed food (ready to eat, ready to cook and ready to serve), cereals(basmati rice, non-basmati rice ,wheat, maize and other cereals) and livestock(buffalo meat, sheep/goat meat, other meat, processed meat and poultry products).

Table 2 shows that major contribution from the processed food in value(in crore) comes from ready to eat category followed by ready to serve and ready to cook although the analysis did not find any significant difference among the export of all category as table 3 shows (F=.026,P=.974). Table 4 shows the result of post hoc test, used for multiple comparisons of all the processed food categories. All the food categories do not differ significantly in their export values. India has a huge potential to export ready to eat products such as biscuits & confectionary, Indian sweets, snacks, pan masala and betel nuts. In ready to cook category, flours and milled products have the highest export value. Wheat and meslin flour were exported in large quantity in the period of 2017-18.Similarity in ready to serve category: jellies, squashes& juices and energy products/drinks have the large export value. In the second stage of analysis, Table 5 shows the descriptive statistics of all the selected food categories, average export value of cereals is highest followed by livestock and processed food. Table 6 shows the result of ANOVA, comparing the value of exports of processed food, cereals and livestock, where significant difference has been observed (F=3.015, P=.049*). Cereals were exported in the high value (in Crores) with highest quantity in the period of 2017-18 followed by livestock and processed food. Table 7 shows Post Hoc Tests for Multiple Comparisons of Export Value of processed food, cereals and livestock, which shows that export value of processed food and cereals differ significantly as (p=.049*<.05) while on the other hand livestock category did not differ with processed food and cereals as p=.533>.05 and .596 >.05 respectively.

In the next stage, export volume in quintal has been analyzed for the selected food products. Table 8 shows the descriptive statistics of processed food products' quantity exported from India. Descriptive statistics reveals that ready to cook food products' exportshad the higher volume followed by ready to serve and ready to eat product but Table 9 shows the result of ANOVA, comparing exported quantity where no significant difference could be observed among processed food categories (F=.348 P=.690).Multiple comparisons using Post hoc test also did not find any significant difference among the volume as table 10 revealed. Table 11 shows the descriptive statistics of exported volume of processed food, cereals and livestock, revealing that cereals export in higher volume followed by processed food and livestock.

Although Table 12 showing ANOVA (F=2.451,P=.111) did not find any significant difference in the quantity exported. Multiple comparisons using Post Hoc Tests also did not find any significant difference in the volume exported from India, exhibited in Table 13. The relationship between quantity (In Quintal) and export value (in crore) has been analyzed through Karl Pearson coefficient of correlation. Table 14 is showing relationship between quantity and export value of processed food, cereals and livestock which are significant as (R=.79 P=.001*, R=.85 P=.067 and R=.950 P=.013)respectively.Fig. 1 and Fig. 2 show that, when comparing the quantity and value of export of cereals, both the parameters are moving together, but processed food and meat have inverse relation between quantity and value. While comparing the processed food, an interesting fact can be seen in Fig. 3 and Fig. 4 that quantity and value of export of ready to eat and ready to cook category is inversely related. In the period of 2017-18 (April-February) the export quantity of ready to eat has the lowest point but has the highest export value (in crore) which means that ready to eat products give best economic value and can be considered as profit making products. On the other hand, export quantity of ready to cook has the highest point while export value (in Crore) is lowest therefore ready to cook products are not profit making area for the country. Therefore, cereals, buffalo meat and ready to eat food have important contribution on export value among various food types. Policy makers should keep relaxing export procedures of exporting these food types as these are giving higher export value and significantly contributing in the economy and should also try to promote other products having lower quantity but higher export value.

## LIMITATIONS

The study was based on the data from year 2017-18 and observed the food product export value and quantity from India to whole world. Further study can be conducted to forecast the future export in value and quantity using time series analysis. Individual product value of export and quantity within the group like processed food, cereals and livestock may also be analyzed. Also world perspective can also be considered and importing country and its requirements could also be analyzed. Determinants responsible for low export

value and higher quantity can be found out by exploratory study. Some of the untouched important agro product in the present study are floriculture and seed, fruits and vegetable, further studies can be conducted on these agro products too.

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## APPENDIX

**COMPARATIVE STATEMENT FOR EXPORT OF AGRI AND PROCESSED FOOD PRODUCTS**
**April - March (2017-18) VIS-A-VIS PREVIOUS YEAR (Based on Provisional Data)**

| PRODUCTS | April - March (2016-17) QTY In MTs | VALUE Rs. Crores | VALUE USD Million | Unit value (In USD Per Tonnes) | April - March (2017-18) QTY In MTs | VALUE Rs. Crores | VALUE USD Million | Unit value (In USD Per Tonnes) | % Change Rs. | % Change USD | % Share in Rs. | % Share in USD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SCHEDULE PRODUCTS** | | | | | | | | | | | | |
| A. FLORICULTURE | 22020 | 547 | 82 | 3703 | 20772 | 507 | 79 | 3790 | -7.22 | -3.46 | 0.43 | 0.43 |
| B. FRUIT & VEGETABLE SEEDS | 11289 | 523 | 78 | 6924 | 14416 | 665 | 103 | 7156 | 27.26 | 31.98 | 0.56 | 0.56 |
| FLORICULTURE & SEEDS | | 1069 | 160 | | | 1173 | 182 | | 9.64 | 13.88 | 0.99 | 0.99 |
| A. FRESH FRUITS | 817064 | 4974 | 743 | 910 | 657175 | 4746 | 736 | 1120 | -4.58 | -0.96 | 3.99 | 3.99 |
| B. FRESH VEGETABLES | 3404067 | 5791 | 863 | 254 | 2296075 | 4997 | 775 | 338 | -13.70 | -10.15 | 4.21 | 4.21 |
| FRUITS & VEGETABLES | | 10765 | 1606 | | | 9744 | 1512 | | -9.49 | -5.90 | 8.20 | 8.20 |
| A. PULSES | 136724 | 1278 | 191 | 1397 | 179113 | 1468 | 227 | 1270 | 14.85 | 19.04 | 1.24 | 1.23 |
| B. PROCESSED VEGETABLES | 192856 | 1766 | 264 | 1367 | 212175 | 1823 | 283 | 1333 | 3.26 | 7.32 | 1.53 | 1.53 |
| C. PROCESSED FRUITS & JUICES | 533152 | 3921 | 585 | 1097 | 571118 | 4165 | 646 | 1132 | 6.22 | 10.51 | 3.51 | 3.51 |
| PROCESSED FRUITS &VEGETABLE | | 6965 | 1039 | | | 7456 | 1157 | | 7.05 | 11.27 | 6.27 | 6.27 |
| A. BUFFALO MEAT | 1323578 | 26161 | 3903 | 2949 | 1348225 | 25988 | 4030 | 2989 | -0.66 | 3.24 | 21.87 | 21.86 |
| B. SHEEP/GOAT MEAT | 22009 | 870 | 130 | 5893 | 23576 | 864 | 134 | 5685 | -0.68 | 3.34 | 0.73 | 0.73 |
| C. ANIMAL CASINGS | 173 | 14 | 2 | 11912 | 12425 | 327 | 51 | 4079 | 2266.46 | 2356.00 | 0.28 | 0.27 |
| D. PROCESSED MEAT | 141 | 5 | 1 | 4859 | 269 | 10 | 2 | 5724 | 116.48 | 124.76 | 0.01 | 0.01 |
| E. OTHER MEAT | 12 | 0.2 | 0.03 | 2579 | 1044 | 16 | 3 | 2447 | 7857.87 | 8155.13 | 0.01 | 0.01 |
| F. POULTRY PRODUCT | | 530 | 79 | | | 552 | 86 | | 4.04 | 8.29 | 0.46 | 0.46 |
| G. DAIRY PRODUCTS | 90352 | 1701 | 254 | 2808 | 102313 | 1954 | 303 | 2962 | 14.88 | 19.42 | 1.64 | 1.64 |
| LIVESTOCK PRODUCTS | | 29281 | 4369 | | | 29712 | 4607 | | 1.47 | 5.46 | 25.01 | 25.00 |
| A. GROUNDNUTS | 725710 | 5444 | 810 | 1116 | 503155 | 3384 | 525 | 1042 | -37.84 | -35.21 | 2.85 | 2.85 |
| B. GUARGUM | 419952 | 3107 | 463 | 1103 | 494126 | 4170 | 647 | 1309 | 34.22 | 39.62 | 3.51 | 3.51 |
| D. CEREAL PREPARATIONS | 339951 | 3566 | 532 | 1564 | 352478 | 3558 | 552 | 1566 | -0.20 | 3.84 | 2.99 | 3.00 |
| E. COCOA PRODUCTS | 25650 | 1087 | 162 | 6323 | 29470 | 1143 | 177 | 6017 | 5.21 | 9.33 | 0.96 | 0.96 |
| F. MILLED PRODUCTS | 255804 | 814 | 121 | 474 | 268170 | 874 | 136 | 506 | 7.45 | 11.73 | 0.74 | 0.74 |
| G. ALCOHOLIC BEVERAGES | 232179 | 2005 | 299 | 1287 | 241231 | 2107 | 327 | 1355 | 5.10 | 9.35 | 1.77 | 1.77 |
| H. MISC. PROCESSED ITEMS | | 3054 | 456 | | | 3702 | 574 | | 21.22 | 26.03 | 3.12 | 3.12 |
| OTHER PROCESSED FOODS | | 19075 | 2843 | | | 18939 | 2938 | | -0.72 | 3.34 | 15.94 | 15.94 |
| A. BASMATI RICE | 3985210 | 21513 | 3209 | 805 | 4051896 | 26841 | 4165 | 1028 | 24.77 | 29.81 | 22.59 | 22.60 |
| B. NON-BASMATI RICE | 6770833 | 16930 | 2525 | 373 | 8633237 | 22927 | 3558 | 412 | 35.42 | 40.90 | 19.30 | 19.30 |
| C. WHEAT | 265611 | 448 | 67 | 252 | 229989 | 432 | 67 | 291 | -3.60 | 0.11 | 0.36 | 0.36 |
| D. OTHER CEREALS | 734769 | 1426 | 212 | 289 | 819750 | 1596 | 247 | 302 | 11.97 | 16.52 | 1.34 | 1.34 |
| CEREALS | | 40316 | 6013 | | | 51796 | 8037 | | 28.47 | 33.67 | 43.59 | 43.61 |
| TOTAL | | 107472 | 16030 | | | 118819 | 18432 | | 10.56 | 14.99 | 100.00 | 100.00 |

Source : DGCIS Principal commodities data April - March (2017-18) (Provisional data)