



THE ROLE OF COFFEE IN INDIA'S AGRICULTURAL EXPORT PORTFOLIO

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ABSTRACT

India is the growing exporter of coffee among world competitors. The area, production, and export quantity of coffee registered a similar and fluctuation growth rate during the overall study period. It's indicating that there is scope for increasing the coffee area and production for strengthening the coffee exports in India. This should be done by adopting new technology and cultivation practices for coffee growing region. The present study has been conducted to examine the area of production of coffee in India. The focus of the study is to analyse the export performance of coffee in India.

INTRODUCTION

According to the world trade, coffee (*Coffea arabica*) is the second important commodity after petroleum product. It was first introduced to India during 1600AD from Yemen and planted in the high hills in Baba Budan's Courtyard, Chikmagalur district of Karnataka. Commercially, the coffee was cultivated in two main species, that is Coffee Arabica and Coffee canephora, popularly known as arabica coffee and robusta coffee. Indian coffee is mainly grown in the Western Ghats spread over Karnataka, Kerala and Tamil Nadu. Now, India has 16 unique coffee varieties. That has been grown under a canopy of natural shade in ecologically sensitive regions of the Western and Eastern Ghats. Coffee contains some antioxidants and beneficial nutrients that can improve health. Coffee mainly contains caffeine substance, which can scientifically prove to be helpful in improving mental performance. India has emerged as the seventh largest coffee producer globally, after Brazil, Vietnam, Columbia, Indonesia, Ethiopia and Honduras.

POSITION OF COFFEE IN INDIA

The area under coffee plantation in India has increased by more than three times, from 120321 hectares in 1960-61 to 397147 hectares in 2015-16. This phenomenal increase in area could be attributed both to the increase in production and improvement in productivity levels. In 2015, coffee was cultivated in 434436 hectares in all over India, its cover in Karnataka (235438 hectares) 54 per cent, 20 per cent in Kerala (85501 hectares), 8 per cent in Tamil Nadu (34932 hectares) and remaining 18 per cent covered by non-traditional areas (78565 hectares). The total production and yield of coffee in India were 348000 tonnes and 876-kilo gram per hectare of yield. Out of it, 251520 tonnes (72%) produced in Karnataka, followed by Kerala 69230 tonnes

(20%) and Tamil Nadu 17295 tonnes (5%). While other non-traditional area produced 9955 tonnes which are around three per cent of the total production of coffee. India has emerged as the seventh largest coffee producer globally, after Brazil, Vietnam, Columbia, Indonesia, Ethiopia and Honduras. India accounted for 4.05 per cent of global coffee production. Export earnings have increased from Rs 507.82 crore (138.83 million US\$) in 1993 to Rs 5157.87 crore (807.52 million US\$). Italy was the largest export market for Indian coffee, importing 59894 tonnes (22% of India's total exports). It was followed by Germany (25021 tonnes), Russian Federation (21068 tonnes), Turkey (15857 tonnes) and Belgium (12082 tonnes). Apart from this export remaining production of coffee was consumed by domestic people of India. The domestic consumption of coffee was gradually increasing year to year.

SCOPE OF THE STUDY

The study covers only the export and production performance of coffee in India because of non-availability of data for conducting the study for many countries and the detailed analysis of Coffee performance will be studied in the future research.

Objectives Of The Study

- To analyze the export performance of coffee in India
- To compare the production and exports of coffee between World and India.
- To investigate the revenue generated by export performance of coffee in India.
- To offer suggestions to improve the overall performance of coffee in India, based on the findings.

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REVIEW OF LITERATURE

- **Pascucci, (2018)** analyzed the competitive position of Italian roasting firms in the international market, thus developing a multidimensional framework for measuring industry export competitiveness. Considering that the objective is to evaluate the export competitiveness of Italian roasting firms, the author chooses “positive” and “ex-post” indicators, combined in a multidimensional and a multivariable framework. The two dimensions of competitiveness implemented are competitive performance and competitive potential; the author used four indices to evaluate the first dimension (export market share, net export share, net export index, revealed comparative advantage) and three indices for the second dimension (unit export price, relative quality index, relative export growth).
- **Bekele & Mersha, (2019)** study analyses the determinant factors of Ethiopia’s coffee exports (ECE) performance, in the dimension of export sales, via a more realistic model application, dynamic panel gravity model. It commences with the disintegration of the determinant into supply- and demand-side factors. It used short panel data that comprise 71 countries of consistent Ethiopia’s coffee importers for the period of 11 years from 2005 to 2015. The panel unit root test of Harris–Tzavalis was made for each variable and applied the first difference transformation for the variables that had a unit root. The system model of a linear dynamic panel gravity model was specified and estimated with two-step general method moment estimation approach. The model results suggested that lagged ECE performance, real gross domestic product (GDP) of importing countries, Ethiopian population, Ethiopian real GDP, openness to trade of importing countries, Ethiopian institutional quality, and weighted distance were found to be the determinant factors of Ethiopia’s coffee exports performance. The study also implied policies that would promote institutional quality or permits favorable market environments, supply capacity, trade liberalization, and destination with relatively cheaper transportation costs in order to progress Ethiopia’s coffee exports performance.

RESULTS AND DISCUSSIONS

1. Area of Production of Coffee (Arabica) in India

Year	Arabica (In Hectares)	Annual Growth Rate (%)
2010-11	197930	
2011-12	201070	1.59
2012-13	205775	2.34
2013-14	209385	1.75
2014-15	213462	1.95
2015-16	221379	3.71
2016-17	223816	1.10
2017-18	228910	2.28
2018-19	233081	1.82
2019-20*	233186	0.05
CAGR	1.65	
Maximum	233186	
Minimum	197930	
Mean	216799.4	

Std. Dev	13087.74
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Source: Coffee Board

*indicates provisional data

The table given above presents the area of production of Arabica coffee variety in hectares, annual growth rate, compound annual growth rate in the area of production and the basic descriptive statistics relating to the same. The highest area of production for Arabica was recorded for the year 2019-20 wherein the area of production was around 233186 hectares. The lowest area of production for Arabica was recorded for the year 2010-11 wherein the area of production was around 197930 hectares. The mean value of the area of production of Arabica coffee stands at 216799.4 hectares. The compound annual growth rate stands at 1.65 revealing that there is a slight increase in the area of production of Arabica over the study period. The highest annual growth rate was recorded for the year 2015-16 which stands at 3.71 percent. The lowest annual growth rate was recorded for the year 2019-20 at 0.05 percent.

Area of Production of Coffee (Robusta) in India

Year	Robusta (In Hectares)	Annual Growth Rate (%)
2010-11	206715	
2011-12	208620	0.92
2012-13	209566	0.45
2013-14	209590	0.01
2014-15	209808	0.10
2015-16	213057	1.55
2016-17	225541	5.86
2017-18	225812	0.12
2018-19	226814	0.44
2019-20*	226544	-0.12
CAGR	0.92	
Maximum	226814	
Minimum	206715	
Mean	216206.7	
Std. Dev	8725.18387	

Source: Coffee Board

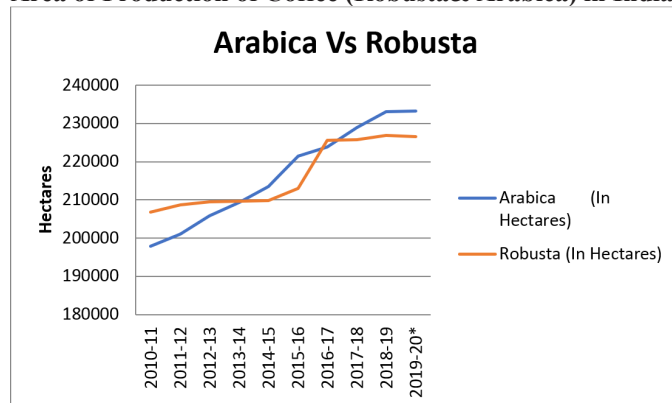
*indicates provisional data

The table given above presents the area of production of Robusta coffee variety in hectares, annual growth rate, compound annual growth rate in the area of production and the basic descriptive statistics relating to the same. The highest area of production for Robusta was recorded for the year 2018-19 wherein the area of production was around 226814 hectares. The lowest area of production for Robusta was recorded for the year 2010-11 wherein the area of production was around 206715 hectares. The mean value of the area of production of Robusta coffee stands at 216206.7 hectares. The compound annual growth rate stands at 0.92 revealing that there is a slight increase in the area of production of Robusta over the study period. The highest annual growth rate was recorded for the year 2016-17 which stands at 5.86 percent. The lowest annual growth rate was recorded for the year 2019-20 at a negative rate of 0.12 percent.

Fig depicted below gives the graphical representation of the

area of production of Arabica and Robusta coffee products in India. From the Graph it is clearly evident that Arabica coffee is grown more in India when compared with the Robusta.

Area of Production of Coffee (Robusta& Arabica) in India



2. Production and Exports of Coffee (Comparison of World and India)

Years	Production		India's Share (%)	Exports		India's Share(%)
	World	India		World	India	
2010-11	139600	5033	3.61	97067	4647	4.79
2011-12	147904	5233	3.54	104449	5414	5.18
2012-13	149623	5303	3.54	108444	5044	4.65
2013-14	152232	5075	3.33	108567	5025	4.63
2014-15	148565	5450	3.67	115548	4817	4.17
2015-16	156137	5800	3.71	115107	4971	4.32
2016-17	1,60,713	5200	3.24	119216	5929	4.97
2017-18	166476	5267	3.16	116872	6315	5.4
2018-19	173088	5325	3.08	122739	5814	4.74
2019-20*	168836	4967	2.94	125070	5807	4.64
CAGR	1.92	-0.13		2.57	2.25	
Maximum	173088	5800		125070	6315	
Minimum	139600	4967		97067	4647	
Mean	156317.4	5265.3		113307.9	5378.3	
Std. Dev	10710.23	237.9248		8638.007	558.5595	

Source: Coffee Board

*indicates provisional data

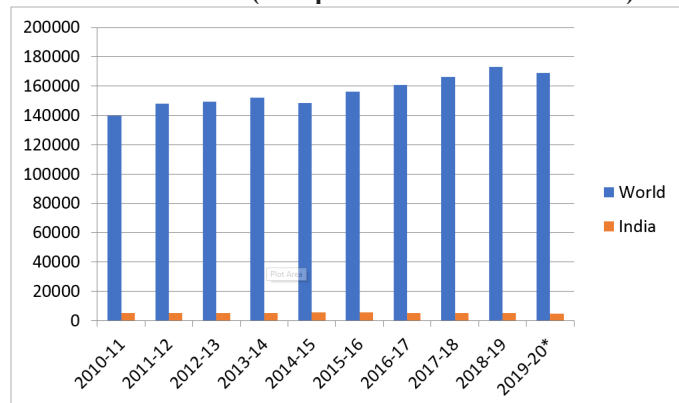
Quantity expressed in Bags (60 kgs each)

Table gives a comparison on the production and exports of coffee in India as well as the world. The annual growth rate, compound annual growth rate and the basic descriptive relating to the same is also explained. When looking at the production the maximum amount of production for the world was recorded at 173088 hectares for the year 2018-19 while for India it was recorded at 5800 hectare for the year 2015-16. The minimum amount of coffee produced for the world was recorded at 139600 hectares for the year 2010-11 while for India it was recorded at 4967 hectares for the year 2019-20. The mean value of the production area of the coffee for the world was recorded at 156317.4 hectares while for India it was recorded at 5265.3 hectares. The compound annual growth rate for the world stands at 1.92 percent while for India it stands a negative rate of 0.13 percent. The percentage of production of coffee in India when compared with the global production is around the range of 3 percent.

The exports of coffee reveals that the maximum amount of coffee exported from rest of the world was recorded at 125070 bags while for India it was recorded at 6315 bags for the year 2017-18. The minimum value of exports for the world

was recorded at 97067 bags for the year 2010-11 while for India it was recorded at 4647 bags for the same year i.e 2010-11. The mean value of the exports of coffee for the world stands at 113307.9 bags while for India it stands at 5378.3 bags. The compound annual growth rates for the exports of coffee for world stands at 2.57 percent while from India it also around 2.25 percent. The percentage of exports of coffee from India when compared to the rest of the world stands around 4 percent.

Fig below gives the graphical representation of the production of coffee for India and the world. Figure gives the graphical representation of the exports of coffee for India and the world.

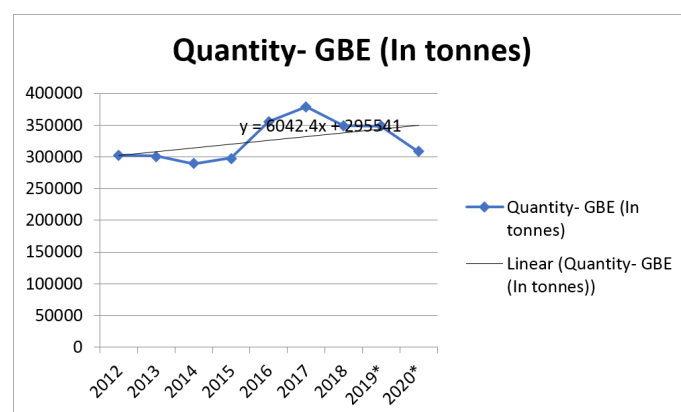
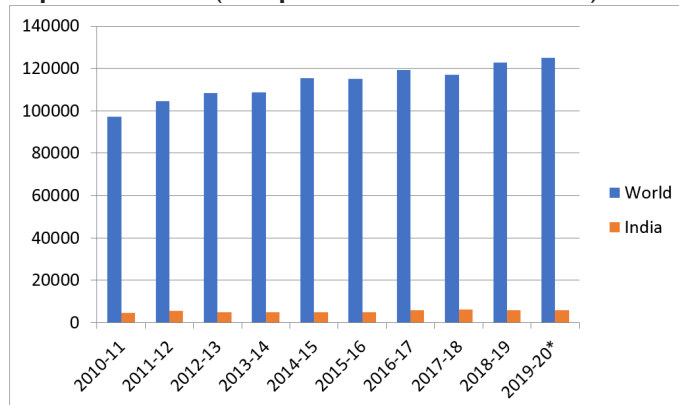
Production of Coffee (Comparison of World and India)

TONNES. The mean value of exports of coffee was recorded at 325753.4444 TONNES. The highest annual growth rate was recorded at 19.28 percent for the year 2016. The lowest annual growth rate was recorded at a negative of 11.56 percent for the year 2020. The compound annual growth rate was recorded at 0.20 percent.

Figure displayed below gives the trend that forecasts the exports of coffee for the future. The following is the equation that gives the exports of coffee.

$$y = 6042.x + 29554$$

Exports of Coffee – Quantity

Exports of Coffee (Comparison of World and India)**3. Exports of Coffee from India****Exports of Coffee – Quantity**

Year (Calendar)	Quantity- GBE (In tonnes)	Annual Growth Rate (%)
2012	302657	
2013	301476	-0.39
2014	289300	-4.04
2015	298266	3.10
2016	355760	19.28
2017	378909	6.51
2018	348828	-7.94
2019*	348437	-0.11
2020*	308148	-11.56
CAGR	0.20	
Maximum	378909	
Minimum	289300	
Mean	325753.4444	
Std. Dev	32191.01236	

Source: Coffee Board

Includes re-exports from 2004 onwards * Based on export permits

The table presented above gives the Exports of coffee, Compound Annual Growth Rate, Description and Annual growth rate of the exports of coffee. The maximum value of exports was recorded at 378909 TONNES for the year 2017. The minimum value of exports of coffee was recorded for the year 2014 at 289300

Exports of Coffee – Value in Crores

Year (Calendar)	Value (In Crores)	Annual Growth Rate (%)
2012	4615.32	
2013	4624.6	0.20
2014	4902.43	6.01
2015	5076.71	3.55
2016	5489.69	8.13
2017	6105.21	11.21
2018	5661.37	-7.27
2019*	5549.27	-1.98
2020*	5294.19	-4.60
CAGR	1.54	
Maximum	6105.21	
Minimum	4615.32	
Mean	5257.643333	
Std. Dev	499.2279555	

Source: Coffee Board

Includes re-exports from 2004 onwards * Based on export permits

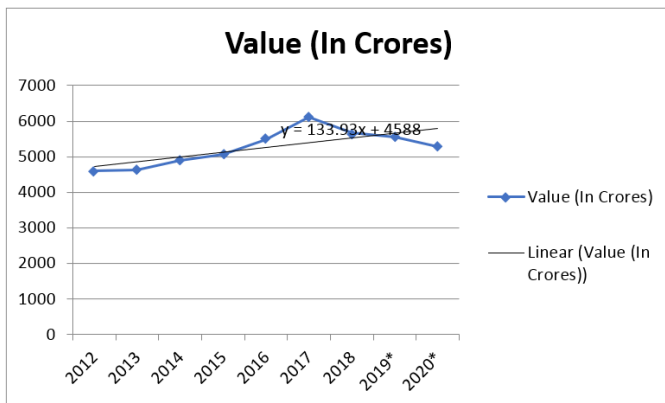
The table presented above gives the exports of Coffee in value over the study period, its annual growth rate, compound annual growth rate and basic descriptive statistics. The highest value generated from exports of the product was recorded for the year 2017 which stands at 6105.21 INR crores. The lowest value generated from exports of the product was recorded for the year 2012 which stands at 4615.32 INR crores. The mean value recorded for the exported value was recorded at 5257.643

INR crores. The highest annual growth rate in export value was recorded at 11.21 percent for the year 2017. The lowest annual growth rate was recorded at a negative rate of 7.27 percent for the year 2018. The compound annual growth rate of the export value of Coffee stands at 1.54 percent. This reveals that there is a moderate increase in the exports over the study period.

Fig below gives the export value of Coffee over the study period and the trend line associated with it. The equation displayed is used to predict the exports of the product in the future and it is written as

$$y = 133.9x + 4588$$

Exports of Coffee – Value in Crores



CONCLUSION

The present study attempted to explore the quantity of coffee that are being exported from India and the respective revenue generated from the exports of betel leaves and nuts. The top five export destinations of the Indian coffee and the associated revenue generated from the trade with these countries have also been studied. The present study will help the policymakers as well as the traders in understanding the potential market and the ability of the sector to generate revenue.

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