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# Indian Streams Research Journal

International Recognized Multidisciplinary Research Journal

ISSN: 2230-7850

Impact Factor : 4.1625(UIF)

Volume - 6 | Issue - 2 | March - 2016



## COFFEE ECONOMY OF INDIA: AN ECONOMIC ANALYSIS



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### Abstract

The coffee is the second most traded commodity in the world after oil and the present study focuses on an economic analysis of coffee production and exports from India and worldwide. It overviews the trends and patterns of coffee production, exports from India and the world. The study shows that coffee production has positive and significance relation with coffee exports in India and the world. The study period is post reform period with little comparison to pre reform period, the data bases are taken from Coffee Board of India for domestic analysis and International Coffee Organisation for global level analysis. The study attempted to find the casual relation between coffee production and coffee exports during post reform period with comparison at global level and found significant relations.

**Keywords:** India Coffee production, exports, domestic consumption, world coffee production and exports.

## 1. INTRODUCTION

India has diverse agro-climatic conditions. It is conducive for growing different crops almost throughout the year. The agriculture provides employment to around 2/3 of nation's populations. Plantation sector comes under the agricultural sector. Traditionally, plantation sector in India has been regarded as a source of foreign exchange. Hence the system of innovation and production evolved over the years and international competitiveness. Coffee is a commercial crop and it is grown by plantation method. India is second largest producer of coffee after Brazil. Arabica and Robusta are the two types of coffee cultivated for commercial scale. Coffee is cultivated by different countries such as Brazil, India, Columbia, Costa Rica, Ethiopia, Haiti, Kenya, Indonesia, Jamaica, Mexico etc. Coffee is cultivated commercially in the four southern states of Karnataka, Tamil Nadu, Kerala and Andhra Pradesh. It is also grown on a limited scale in some non-traditional areas of Orissa, West Bengal, Assam and Madhya Pradesh. Arabica (Coffee Arabica) and Robusta (Coffee Canephora) are the two principle economic species that are extensively cultivated in India. Coffee cultivation is confined to the hilly tracks of the Western and Eastern Ghats. A major portion of the area comes under the south-westerly monsoon. This plant grows well at temperatures between 12`c and 36`c and elevations above the sea level influences the quality of coffee. Coffee Arabica grows well at elevations between 900 and 1200 meters; coffee canephora of Robusta family grows luxuriously at lower elevations. Arabica is more shade-loving than Robusta under conditions available in southern India.

**Soil:** coffee soils in India belong to the red and lateritic category. The soil differs in texture from sandy loam to clay loam, and in colour they differ from light grey to deep red.

**Climate:** climate and environmental factors, such as rainfall, temperature, elevation and aspect can influence the economic production of coffee much more than soil factors. Under conditions obtained in southern India, summer temperatures combined with poor subsoil moisture can be a severe limiting factor, whereas at northern latitudes cold winter temperatures can be equally limiting.

**Processing of Coffee:** coffee is processed in 2 ways

1. Wet processing by which plantation or parchment coffee is prepared and
2. The dry method by which cherry coffee is prepared. Parchment coffee prepared by using the wet method is generally favoured by the market. Cherry coffee, because of its very nature of preparation and owing to its longer contact with the mucilage and fruit skin, is usually associated with a characteristic fermenting flavour known as fruity flavour

## 2. Importance of the study

- Area under coffee cultivation has increased from 92,523 hectares in 1950-5 to 4,04,645 hectares in 2010-11.
- Productivity of coffee has increased from 204 kg/hectare (1950-51) to 838 kg/hectare (2010-2011).
- For the current year the post blossom estimation of coffee production is 3,22,250 million tonnes.
- Total world's coffee production is 1,33,065 (in '000 bags of 60 kilos each) out of which India's share is 5,033 (in '000 bags of 60 kilos each) that is 3.78%.

Total world's exports quantity is 94,201 (in '000 bags of 60 kilos each) out of which India's share is 3,901 (in '000 bags of 60 kilos each) and 4.14%. in absolute and percentage respectively.

Several studies have been conducted only on particular aspect of coffee economy. But the present study will undertake several aspects such as production, marketing, area under cultivation,

productivity and forecasting hence it is broader study than earlier.

### 3. Literature Review

Maltsbarger (2011) build an econometric model of the international coffee sector and simulated to find alternative scenarios affecting supply or demand including factors such as impacts from technology implementation, macroeconomic developments, policy changes and in-country growing season impacts facing the coffee sector. The Indian coffee model was linked to the world price through the price linkage equation allowing net exports to be determined as the difference between supply and demand. Narayana (1993) examined the role of coffee board in the context of India's liberalization policy during 1990s. The author attempted to examine the impact and effect of privatization of coffee trade in India by making a dispassionate analysis of the performance of government intervention in coffee trade through the Coffee Board. The empirical results showed that the producer price stabilisation in coffee has been achieved by the total control exercised by the Coffee Board on the stocks and release in the domestic market. Stabilisation of price has also brought about remarkable stability in incomes. The total marketing cost incurred by the Coffee Board or the administration cost of the marketing department has also not shown any significant increase over the last 40 years, hence there is no question of wastage and unnecessary increase in administrative costs and as a result no need of privatization. Figueiredo (2003) attempted to answer questions from farmers and consumers about the feasibility of an alternative model for agriculture production. It stressed on an alternative model which is able to revert the present environmental degradation as far as agriculture is concerned. The study was based on theoretical discussion of current literature and field experiences on coffee, the authors reviewed literature which favoured two factors for this model as: one standing market with higher prices for its assets, together with the fact that there is basically no difference between the current model and the alternative one, regarding labour needs. In the studies on coffee, it was observed the technical and economic efficiency of alternative methods for phytosanitary control, as much as it provides a quite positive result on its costs. According to local conditions, there are many alternatives to be developed. So the study suggested to develop research integrating the economic, social and ecological features, not limited to the cause-effect mechanisms. Devi et. al (2004) took primary study in Visakhapatnam District of Andhra Pradesh. The study focused on the economics of production of coffee, marketing pattern and price spread in the marketing of coffee. To appraise the investment of coffee cultivation, the economic parameters viz., simple rate of return, net present value (NPV), payback period, internal rate of return (IRR), benefit cost ratio (BCR), profitability index and average annual margin (AAM) were used. The results suggested as the coffee cultivation was a profitable enterprise with BCR and PI greater than one, NPV positive, IRR higher than the lending rates of interest of bank and the payback period was short. Varun (2008) overviewed the consumption pattern of coffee and tea in Karnataka and highlighted the socio-economic factors influencing the consumption of coffee and tea in Karnataka. The author took a case study regarding the consumer preferences for different brands of coffee and tea and their quality traits. The study also focused on health related issues associated with consumption of coffee and tea. Factor analysis such as Principle Component Analysis were used to measure more number of factor variables influence. The study suggested as the manufacturers of coffee and tea brand must give more importance to the quality, aroma, flavour and tea of the beverage, since these four attributes obtained greater factor loadings in both the rural and urban areas. Moreover, the price of the coffee and tea powder obtained highest relative importance in both northern and southern regions of Karnataka. Hence the manufacturers of different coffee and tea brands should keep its prices as competitive as possible. Vallejo (2002)



illustrated the empirical data on coffee production and consumption in the world during 1990 to 2002 period and evaluated the coffee crisis after collapse of coffee cartel during 1980s and its impact on coffee export dependent countries mainly Nicaragua and Burundi. Madhusudan (2005) studied the challenges for politically correct notions that subsistence use was distinguishable from and preferable to commercial use in the context of protected-area management in India. The author distinguished between subsistence use and commercial use by using the village of Hangala on the boundary of Bandipur National Park in south India as a case study. Hangala's livestock were reared primarily for their inputs of dung and draft power into local agriculture, and customarily grazed in the forests of Bandipur. Those practices were considered as subsistence use because all goods and services obtained from livestock grazing in Bandipur catered exclusively to village-level consumption. In the last two decades, major upheavals in the global coffee markets dramatically boosted profit margins of coffee growers in the hill districts abutting Bandipur. The profits enabled coffee growers to afford expansions of their resource catchment for dung, an important farm manure in short supply in the coffee districts. When this demand reached Hangala, it resulted in large-scale export of dung, which transformed it from locally produced and locally consumed manure for village agriculture to a high-value organic fertilizer for commercial export to coffee plantations. Following the dung export, livestock numbers in the region increased, aggravating grazing pressures on the forests. Pelupessy (2007) examined the sustainability of the linkages between coffee growing in developing countries and final consumption in developed ones and found they have been continuously under pressure. The study showed that the market demand of the main consuming countries has not increased substantially and found mismatches with changing consumer preferences which directly caused additional problems. Kamola (2008) studied how internal disturbances and economic supremacy in coffee growing poor countries devastated their economy and helped advanced countries to manage price rise of coffee. It also unleashed unimaginable devastation on civilian populations in coffee growing African nations during 1990s such as Bosnia, Somalia, Haiti, the Democratic Republic of Congo, Sierra Leone, Liberia which were involved in endless bloodshed, apparently without organization, ideology, or purpose. Renard and Brena (2010) overviewed the Mexican coffee crisis during 1989-90, the coffee growers have been subjected to a long period of low and fluctuating prices. When there were increases, they were due to market speculation and did not translate into substantial profits for cultivators. Moreover, the coffee market was controlled by an oligopoly comprised of large export firms who manipulated the prices and the market by claiming to receive low-quality coffee. The crisis began with the liberalization of the international coffee market in 1989 led to the reorganization of the coffee sector under the control of transnational companies after state regulation has been replaced by policies aimed at allowing the survival of the small producers but not reactivating the sector. The resistance of the powerful roaster industry, dominated by the giant Nestle, has made it impossible to improve the quality of the coffee on the domestic market, and its importation of cheap Robusta coffee for use in instant preparations has further reduced prices. The study showed that survival of the producer cooperatives depended on their capacity to enter the market through niches such as the organic and "Fair Trade," where they receive a better price for their products, for the others, the only solution is to migrate to the North. Debnath and Sarkar (1967) studied the coffee cultivation process in India very long back. It overviewed the size, yield and cost of production of coffee estates in India and it suggested that the bigger estates were generally more efficient than the smaller ones. However, since the smaller estates account for a major part of the area under coffee in the country and employed a large number of workers, any attempt to force mergers on them will have adverse socio-economic consequences. To increase efficiency in coffee production, therefore, the study emphasised on improved techniques of cultivation and on co-operatives of the

smaller estates along Danish lines for at least some of the operations which benefit most from scale. Grigg (2002) studied the substitute goods coffee and tea consumption over a period of time in the world. Coffee and tea are both drunk in most countries, but typically coffee predominated. Coffee was the preferred drink in Europe and the Americas. Until the early eighteenth century coffee production and consumption was confined to the Islamic world, tea production to East Asia. European traders altered this pattern dramatically during 1990s and the pattern of coffee consumption was influenced by income per capita. Religious influences played some part in the early development of both tea and coffee but have little relevance after WTO establishment. National factors have influenced wider patterns hence British preference for tea was taken to all their colonies, later fears about health have had some influence on coffee consumption. Though, coffee replaced tea as major beverage of most of advanced and developing economies.

#### 4. Objectives

1. To assess the trends in geographical distribution and spread of coffee cultivation in India.
2. To assess the productivity and production of coffee in India.
3. To analyze the export performance of coffee over the years.
4. To evaluate the domestic coffee consumption pattern.
5. To assess the contribution of coffee crop to Indian economy

#### 5. Hypotheses

- H1. Despite gradual increase in geographical spread and increase in acreage, productivity, production of coffee has come down.
- H2. There is no strong correlation between coffee production and exports in India and the world

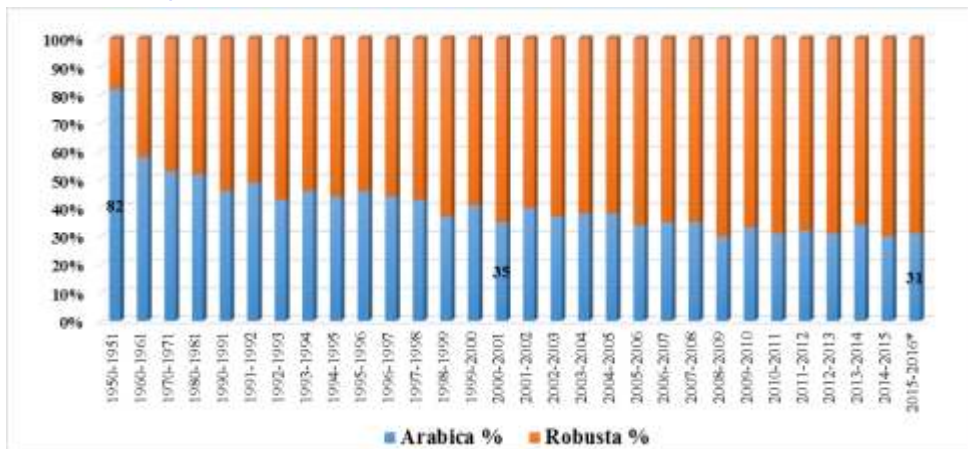
#### 6. Methodology

The study is based on secondary data. The time series data from 1991 to 2015 has been taken from Coffee Board of India and International Coffee organization. Simple percentage and Compounded Annual Growth Rate (CAGR) are used for trend analysis, while Pearson bivariate correlation analysis used to find association and significance between India coffee production and coffee exports along with similar correlation between the world coffee production and world coffee exports.

#### 7. Trends and pattern of coffee production and exports in India and the world

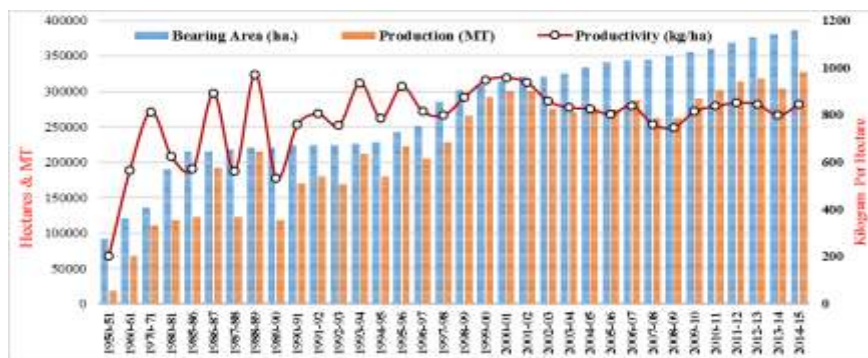
The coffee production in India mainly takes place in two types such as Arabica and Robusta, while the share of Robusta coffee production has been increasing over the period of time. The data illustrated in the figure 1 shows that in 1950-51 the Arabica coffee production accounted 82% and remaining Robusta coffee in total coffee production where as in 2000-01 the Robusta coffee production accounted 65% and 35% by Arabica and in the year 2014-15 the Robusta coffee production accounted 69% out of total coffee production and its share has been increasing in total coffee production in India and the Robusta and Arabica coffee production has grown compounded annual growth rate of 1.87 and -3.44 respectively during post reform period.

Figure 1. The Composition of Arabica and Robusta coffee Production in India, 1991-2015



Source: Database on Coffee, December 2015 by Market Research & Intelligence Unit  
 Coffee Board of India  
 Note: \* Provisional Estimation

Figure 2. Total Coffee Bearing Area, Production and Productivity, 1951-2015



Source: Database on Coffee, December 2015 by Market Research & Intelligence Unit  
 Coffee Board of India  
 Note: Area in Hectare (ha), Production in Metric Tonnes (MT), Productivity in kilograms/hectare (kg/ha)

The coffee bearing area, production and productivity trend in shown in the figure 2 highlights that, the coffee production has direct effect from coffee productivity and less impact from continuous increasing bearing area in India. Total coffee bearing area in hectare has been increasing in India at compounded growth rate of 3.80, while total coffee productivity was more fluctuated during pre-reform period and has grown at compounded annual growth rate 4.80 during post economic reform period. However, total coffee productivity or yield was more volatile during pre-reform period and later it has stabilized around 800 kilograms per hectare during post reform period due to more scientific cultivation and appropriate storage methods and it has grown compounded annual growth rate at 0.79 during same period is lesser than bearing area and production.

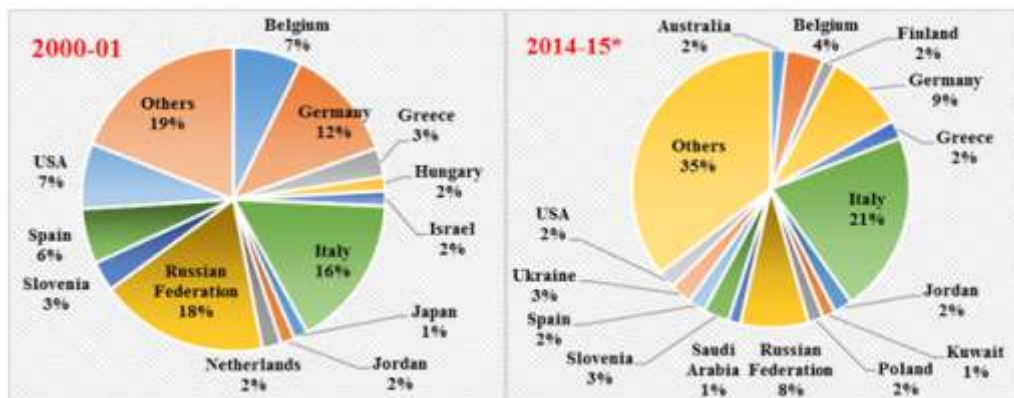


Figure 3. The coffee production and achieved targets in both quantity and values, 1991-2015



The coffee production target has set in India reached in almost years with more than expected during post reform period, especially in 1995-96 achieved quantity growth rate was 78% and achieved value at 87% which is highest in any year in post reform period. However, during 2001 to 2003 coffee production in India has achieved less production than targeted production and failed to reach targeted revenue generation at negative rate during same period, it is examined the figure 3. The data highlights that India has comparative advantage production and exports of coffee in both pre and post reform period.

Figure 4. Nation wise share of coffee exports from India, 2000-01 and 2015-15

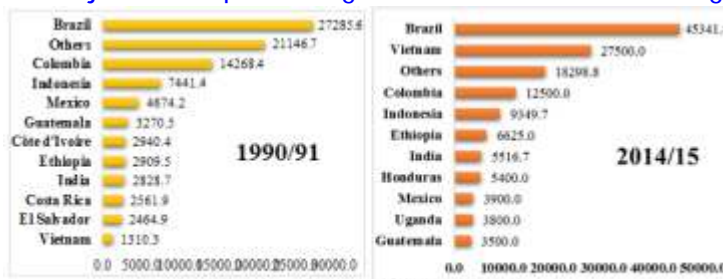


Source: Database on Coffee, December 2015 by Market Research & Intelligence Unit Coffee Board of India

India has been diverting the coffee exports continuously, the data illustrated in the figure 4 shows that Russian Federation accounted 18% at top importer of coffee from India, followed by Italy 16%, Germany 12%, Belgium and USA 7%, EACH, Spain 6% and others 19% during 2000-01 financial year. Moreover, after a decade in 2014-15 the coffee export deviated tremendously from conventional importing nations. In 2014-15 Italy replaced Russian Federation as top importer of the coffee from India and accounted 21%, followed by Germany 9%, Russian federation 8%, Belgium 4%, the USA 2% and others 35%. The data illustrated in the figure 5 shows that top coffee producing nations in the world in 1991 and 2015. Brazil was top producer in 1991 at 27285.6 thousand (60 kg bags) and has increased to 45341.8 thousand in the year 2015. However, Vietnam was not major coffee producer in 1991 but over the period of time it became second most producer of coffee in the world after Brazil in 2015. While India was ranked 8th rank in total coffee producing nations in 1991 and produced 2828.7 thousand bags (60 kg bags) and improved slightly to 6th rank in 2015 and production increased to 5516.7 thousand

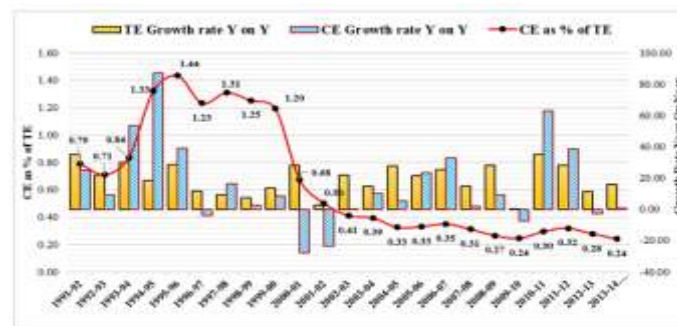
bags (60 kg bags) that is compounded annual growth rate at 4.88 during reform period.

Figure 5. The major coffee producing nations in the world during 1991 and 2015



Source: Database, International Coffee Organization 2016.  
Note: Values in thousand and 60 kg bags

Figure 6. Total Exports, Coffee Exports & Share of Coffee in Total Exports in India, 1992-2014 (Growth rate in Year on Year)



Source: Database on Coffee, December 2015 by Market Research & Intelligence Unit Coffee Board of India  
Note: TE, CE means Total Exports and Coffee Exports, Y on Y means Year on Year

The data illustrated in the figure 6 highlights that total exports and coffee exports (in crore Rs. Value) from India during post reform period has been going hand in hand except 2001 and 2002 slump of negative coffee exports due to lower production and failed weather condition, coffee exports growth rate year on year was higher than India's overall exports. While the share of coffee exports in total exports has been declining since 1996 that is at 1.44% to 0.24% in 2014 due to increase in prices of other commodities exports and slow rise of coffee price in International level and substitution effect like tea consumption.

Table 1. Correlation Analysis

| Bivariate Pearson Correlations |                     |                         |                         |                      |                      |
|--------------------------------|---------------------|-------------------------|-------------------------|----------------------|----------------------|
|                                |                     | India Coffee Production | World Coffee Production | India Coffee Exports | World Coffee Exports |
| India Coffee Production        | Pearson Correlation | 1                       | .753**                  | .862**               | .666**               |
|                                | Seg. (2-tailed)     |                         | .000                    | .000                 | .000                 |
|                                | N                   | 25                      | 25                      | 25                   | 25                   |
| World Coffee Production        | Pearson Correlation | .753**                  | 1                       | .396                 | .954**               |
|                                | Seg. (2-tailed)     | .000                    |                         | .050                 | .000                 |
|                                | N                   | 25                      | 25                      | 25                   | 25                   |
| India Coffee Exports           | Pearson Correlation | .862**                  | .396                    | 1                    | .397*                |
|                                | Seg. (2-tailed)     | .000                    | .050                    |                      | .049                 |
|                                | N                   | 25                      | 25                      | 25                   | 25                   |
| World Coffee Exports           | Pearson Correlation | .666**                  | .954**                  | .397*                | 1                    |
|                                | Seg. (2-tailed)     | .000                    | .000                    | .049                 |                      |
|                                | N                   | 25                      | 25                      | 25                   | 25                   |

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Source: Author calculation based on International Coffee Organization Database.

The Pearson correlation analysis showed in the table 1 indicates that there is strong correlation and significance level between Indian coffee production and coffee exports from India at 0.862 which is an indicative strong positive correlation. However, similar strong correlation with world coffee production and world coffee exports which has positive strong correlation at 0.954, but the correlation between Indian coffee production and exports is lesser compared to the world coffee production and exports due to India's high domestic consumption of coffee which accounts around 35% (in 2015).

## 8. Conclusion

The present study overviews the coffee production, types, cultivation, weather condition and analyse the trends and pattern of coffee economic performance in India and with comparison to global level. India has been traditionally a coffee growing economy with self-reliant in coffee production and consumption along with comparative advantage in exports. India improved the productivity and production of coffee during post reform period while exports value and quantity both are increasing year on year. The study showed that there is a remarkable change in the composition of Arabica and Robusta coffee production where Robusta coffee has been dominating in total production due to price advantage. The share coffee exports in total exports in terms of values (Crore Rs) has been declining and coffee productivity is stagnant around 800 kg/ha during 2004 onwards where as in early 2000 it was around 900 kg/ha consequence productivity decline should be taken into consideration of new coffee production policies. The study also revealed that there is strong correlation between India coffee production and her exports hence exogenous shock like foreign demand and other factors has less effect. Over period between 1991 and 2015, Vietnam became second major coffee producer in the world after Brazil due to huge comparative advantage in production and export of coffee through adopting liberal and scientific method of production promotion from the government side. The coffee is the second largest trading commodity in the world after oil products therefore the study would likely suggest the government to take needful action regarding production and promotion of coffee in order to gain terms of trade.

## 9. References

1. Rajkovi , M. B. Gorica Vukovic, L. Peric, Mirjana Demin, Jovanka Lalicic and Divna Kovacevic "Analyzing of Coffee Quality with Different Methods" (2004) Journal of Agricultural Sciences, Vol. 49, No 1, Pages 87-96.
2. Shrinidhi Ambinakudige (2011) "National Parks, coffee and NTFPs: the livelihood capabilities of Adivasis in Kodagu, India" Journal of Political Ecology Vol. 18, 2011.
3. Ambinakudige, S. 2006. Differential impacts of commodification of agriculture in the Western Ghats of India: an extended environmental entitlement analysis. Ph.D. dissertation. Tallahassee: Florida State University.
4. Achoth, Lalith (2005) Report On Surveys On Coffee Holdings and Coffee Market Chain in India in Relation to Mould Contamination in Coffee, Report: Coffee Board Of India, Bangalore & Food & Agricultural Organization Of United Nations, Rome, June 2005.
5. Syarief, Rizal., Elida, Novita., Erliza, Noor and Sri Mulato (2012) "Smallholder Coffee Processing Design Using Wet Technology Based On Clean Production," Journal of Applied Sciences in Environmental Sanitation, Vol 7, No 2: 93-102, June, 2012.
6. Ponte, Stefano (2001) Behind The Coffee Crisis, Economic and Political Weekly November 24, 2001
7. Maltsbarger, Robert Dale (2011) A Structural Model of the International Coffee Sector: An Econometric Investigation, A Thesis presented to the Faculty of the Graduate School at the University of

Missouri – Columbia

8. Gebreselassie, Samuel and Eva Ludi (2008) "Agricultural Commercialisation in Coffee Growing Areas of Ethiopia" *Future Agriculture*
9. Narayana, D (1993) *Coffee Trade in India: Is There a Case for Privatisation?* *Economic and Political Weekly* September 4, 1993.
10. Figueiredo, Fernando Eovídio da Rosa., Renato Linhares de Assis., and Bastiaan Philip Reydon (2003) "Technical and economic aspects in conventional and alternative agriculture: A case study on coffee," *Food, Agriculture & Environment* Vol.1(3&4): 239-246.
11. Durevall, Dick (2005) "Demand for Coffee: The Role of Prices, Preferences and Market Power," Working Paper in Economics No. 162, Department of Economics, School of Economics and Commercial Law, Goteborg University- Sweden.
12. Niemi, Niina (2009) "The Price Elasticity of Demand of Fair Trade Coffee," Master's thesis, Department of Economics, Helsingin Kauppakorkeakoulu, Helsinki School Of Economics.
13. Devi, K. Uma., A, Pandurangarao., and V.T. Raju (2004) "Economics of Coffee Cultivation and its Marketing in Visakhapatnam District of Andhra Pradesh," *Agricultural Marketing*, Pama.116, Vol.XLVII, No. 1, ISSN.0002.1555.
14. Varun T.C. (2008) "Consumption Behaviour of Coffee and Tea in Karnataka," Thesis, The University of Agricultural Sciences, Dharwad in partial fulfilment of the requirements for the Degree of Master of Science (Agriculture).
15. Seaman, John., Celia, Petty and James, Acidri. (2004) "Coffee and Household Poverty," (It is an output from a project funded by the UK Department for International Development (DFID) for the benefit of developing countries.) Save the Children Emergency Policy Team, 1 St Johns Lane London, EC1M 4AR – UK.
16. Vallejo, Jorge Ramirez (2002) " A Break for Coffee," *Foreign Policy*, No. 132 (Sep. – Oct., 2002), pp. 26-27.
17. Madhusudan, M. D (2005) "The Global Village: Linkages between International Coffee Markets and Grazing by Livestock in a South Indian Wildlife Reserve," *Conservation Biology*, Vol. 19, No. 2 (Apr., 2005), pp. 411-420.
18. Pelupessy, Wim (2007) "The World behind the World Coffee Market," *Etudes rurales*, No. 180, Cafés et caféiers: Singularités et universalité d'une production mondialisée (Jul. - Dec., 2007), pp. 189-211.
19. Kamola, Isaac A (2008) "Coffee and Genocide," *Transition*, No. 99 (2008), pp. 54-72, Published by: Indiana University Press on behalf of the Hutchins Center for African and African American Research at Harvard University.
20. Renard, Marie-Christine and Brena, Mariana Ortega (2010) "The Mexican Coffee Crisis," *Latin American Perspectives*, Vol. 37, No. 2, Globalization, Neoliberalism, And The Latin American Coffee Societies (March 2010), pp. 21-33.
21. Pritchard, Bill (2005) *Crisis in a coffee cup?* *Teaching Geography*, Vol. 30, No. 3 (AUTUMN 2005), pp. 142-145.
22. Debnath, N and Sarkar, G K (1967) "Economic Structure of Coffee Cultivation in India," *Economic and Political Weekly*, Vol. 2, No. 49 (December 16, 1967), pp. 2163-2168.
23. Topik, Steven (2009) "Coffee as a Social Drug," *Cultural Critique*, No. 71, *Drugs in Motion: Mind and Body-Altering Substances in the World's Cultural Economy* (Winter, 2009), pp. 81-106.
24. Grigg, David (2002) "The worlds of tea and coffee: Patterns of consumption," *GeoJournal*, Vol. 57, No. 4 (2002), pp. 283-294.

25. Avelino, Jacques., Ali Romero-Gurdián., Héctor F. Cruz-Cuellar., and Fabrice A. J. Declerck (2012) "Landscape context and scale differentially impact coffee leaf rust, coffee berry borer, and coffee root-knot nematodes," *Ecological Applications*, Vol. 22, No. 2 (March 2012), pp. 584-596.
26. Girish, Uma (2007) "Asia's First Lady of Coffee," *Gastronomica*, Vol. 7, No. 4 (Fall 2007), pp. 64-67.

#### 10. Reports and Database

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