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COFFEE PRODUCTION IN INDIA & KARNATAKA AND LABOUR PROBLEMS - A STUDY WITH REFERENCE TO CHIKKAMAGALURU DISTRICT

Nagendra Swamy P* **Dr. Paramashivaih****
**Research Scholar, Bharatiyar University, Coimbatore.*
***Professor, Department of Commerce, Tumkur University, Karnataka.*

Abstract
The global share of coffee production of India is only 2.5% and when compared to Brazil (25%), Columbia (15%) and Indonesia (7%) Indias contribution is very insignificant. India cultivates all of its coffee under a well defined two tier mixed shade canopy, comprising tall evergreen trees. There are 50 varieties of shade trees and prevents soil erosion, enrich soil by reaching nutrients from deeper layers and protect the coffee plant from severe variations in temperature.

Coffee was first cultivated in India at Chikkamagaluru. Commercial cultivation of coffee in India began in 1840 when the British established Arabica Coffee plantations through out the mountains of Southern India.

India is 6th largest producer of coffee in the world. Indian produces 320000 MT of coffee each year. Most of the Indian coffee is grown in three southern states: Karnataka, Kerala and Tamil Nadu and 72.27% of total production is contributed Karnataka from affluent areas of Koppa, NR Pura, Chikkamagaluru and Mudigere.

Keywords: Arabia, Labour Turn Over, Shade Canopy, Blossom.

Introduction

Coffee is a global commodity and is a major foreign exchange earner. Coffee production is predominently seen in the hill tracts of South Indian states. Karnataka accounts to 53% of total production followed by Kerala 28% and Tamilnadu 11% of production of 8200 million farmers. Coffee is cultivated in three southern regions, Karnataka, Kerala and Tamil Nadu. Other than these traditional areas non-traditional areas also contributing their best. Andhra Pradesh, Orisa are two nontraditional areas.

The word "coffee" comes from the region of Ethiopia where it was first discovered, "Kaffa", meaning "the land of plant or Good." Multi varieties of coffee is existing in Ethiopia (Mostly Arabia), botanists and scientists agree that this country is the homeland and origin for diversification and dissemination. (Lucy Lalrintuangi Fanai et al. 2016).72.27% of total coffee production is contributed by Chikkamagalur district only. Climate factors that are most important for coffee growth are temperature and rainfall. Temperature between 73^0 & 82^0F are conginial for the growth of coffee cultivation in India.

Coffee in India

Mother nature blessed India with different agri climate conditions that are supportive for growing different crops round the year. India is the second producer of coffee, next to Brazil and earns rearly Rs. 2000 crores of foreign exchange to our country. The major coffee providing states in India also contributes for the coffee production in India. Non traditional areas are famous for coffee growing in direct sun light. Coffee growing in North Eastern states "Eight sisters states of India" is also becoming popular. These states are, Assam, Manipur, Megalaya, Mizoram, Tripura, Nagaland, Arunachal Pradesh and Tripura.

The final estimated 2015-16 coffee data reveals that nearly 72.27% of Indian coffee production is contributed by thre districts of Karnataka. They are Chikkamagaluru, Hassan and Kodagu. According to legend, Baba Buden a Muslim Pilgrim brought coffee and planted at his hermitage on the hills near Chikkamagaluru also popular as Dattratreya Peetha. He is reported to have brought from Yemen, presumably Mokka Coffee region. In Chikkamagaluru district, a Britisher Thomas canon established the earliest large scale coffee plantation in 1830. The hilly areas of Chikmagalur coupled with good soil and climatic conditions are best and ideally suited for coffee production. Environmental factors are drivers of coffee production and they are rainfall, temperature and temparature humidity.

Objectives of the Study

The following are the objectives of present study

1. To know problems faced by labourers.
2. To know level of awareness of the problem
3. To provide practical suggestions to over come the problems.
4. To know demographic profile of labourers.

Hypotheses

1. There are no problems faced by labourers.
2. Labourers are not aware of their problems.
3. Demographic profile is not supporting labourers to stay long period int the plantation states.

Research Methodoly

The low level of literacy of labourers both within Karnataka, local and migrates from different of part of South India was considered and a well drafted questionnaire in English was adminstered as schedule. The questionnaire written in English was translated into the common language in order to get more reliable answers. A sample 200 was decided as sufficient for the study and coffee is grown in all 7 taluks of Chikkamagalur. There is a substantial production of coffee in Koppa, NR Pura and Mudigere and while the production of three other taluks Tarikere, Kadur and Sringeri is lower on account of poor environment and soil conditions. Hence, only the high yielding taluks have been taken into consideration and convenient sample technique was applied while selecting the sample in the study area.

The secondary data also collected for the present study in order to know in length the problems that are faced by labour class. The collected data is presented by means of tabulation and Likert scale technique of expresing bipolar also followed and quantitative metrics applied to test the data scientifically and to see the good fit of data and whether the sample taken represents the universe or not.

The present work is an explaratory investigation into the problems faced and scope is limited to the boundaries of Chikkamagaluru district of Karnataka The labourers working in the coffee estate of the some district were considered as a respondent for the study.

Significance and Need of the Study

72.27% of total coffee production is contributed by three districts of Chikkamagaluru. Chikkamgaluru district is famous for agriculture, coffee and fruits, pepper, cardamom etc. It produces many types of crops for exports and domestic consumption. There is a considerable scope for the expansion of commercial crops. Therfore India should take advantage of this by supporting production system and post production purchasing facilities.

There is a need to make a separate study of labour problems and general problems faced by this sector. Though Karnataka manufacturing a major part of the total production of coffee in India, but still not in a position to obtain good crop yields and finished qualities.

The present study also prove to be needful not only to Chikkamagaluru district but also for other coffee growing in Karnataka state. Its findings and suggestions will also be useful to coffee growers, researcher scholers, labourers, export houses as well as state and central government.

Review of Literature

A survey of existing literature is made to provide background knowledge of works that have been done regarding the topic under study.

Langley (1953) made a comparative study about the development of coffee and tea in India. Tea developed in Wayar-Adu and Peermade of Karala. British companies developed tea plantations in India and also first entered coffee trading and cultivation. The study further states that parry and company records reveals that as far back as 1823 they traded with Mysore coffee. Around 1850 Parry and company were established well in the Wayanad coffee plantations.

Selvarai and Gandhimathy (2003) in their study attempted to study the constraints of coffee growers analysed the production problems and marketing problems. They finally concluded that the major defect in agricultural marketing is the inability of the majority of the farmers to met their commitment to pay their debt, and hence the farmer grower is compelled to dispose products at any prevailing rates.

Bastin and Metteucci (2007) expressed abou the limited supply of financial services to the coffe planters at Jimma zone. Informal sources of financing is the major source of their dependently. The consequent result is that most lending actiities in this area do not contribute to achieve the financial sustainability of farmers and their productive growth.

Nagoor (2010) stated various trade aspects of Indian Coffee and mentioned that Indian coffee is being observed of becoming more trade oriented after liberalisation. The analysis shows that during 1960, the production share of Arabica and Robusta in India was 82.10% and 17.90%. But by the end of 2009-10 the share of Arabica decreased to 32.67% and Robusta increased

to 67.33%. The author further reveals that international prices are not attractive and lower than the local market and export decreased and nationally imports increases.

Darvishi and Indira (2013) attempted to understand changes in the case of two important export oriented plantation crops Viz., coffee and tea in area, production and productivity of coffee and tea during pre and post liberalisation period. They concluded that the percentage share of coffee and tea in the plantation crops increased only marginally. There is no change in the area under crop.

Lucy Lalrintuangi Fanai et al.(2016) expressed that the people in Mizoram should be given awarenes regarding the technique of production, process of production and provide them with schemes or loans for funds as coffee plantation generate huge amount of revenue.

Survey Findings

Coffee Plantation in India and Karnataka

Table-02 reveals coffee final estimate for 2014-15 and 2015-16. Coffee plantation in India spread over 2.81 lakh coffee plantation in India spread over 3.81 lakh hectares and about 99% of the toal coffee production contributed by Karnataka, Tamil Nadu and Kerala. Coffee production in India is dominated in the hill tracts of South Indian states and Karnataka accounting 53% followed by Kerala 28% and Tamil Nadu 11% of production of 8200 tonnes. Indian coffee grown in shade than direct sun light is said to be the finest the global level (Yehoah Salomey, 2005). Coffee is also grown in nontraditional areas of Andra Pradesh and Orisssa in the eastern coast of the country and with the third region consisting states of Assam, Manipur, Meghalaya, Mizoram, Tripura and Arunachal Pradesh of North eastern India, popularly referred as "Seven sister of India' (Coffee Research organisation 2010). But the Sikkim also now included and hence popularly known as "Eight sister states of India."

The final crop estimate as per central coffee board of India for the year 2014-15 was 327000 million tonnes, the highest so far. The coffee output for the same period consists 98000 MT of Arabia and 229,000 mullion tonnes of Robusta. The final estimate of coffee crop of 2014-15 showed a marginal decrease of 4,000 MT (-1.21%) over the post monsoom estimate of 2014-15(331,000 MT). The production of Arabica has shown a decrease of 1600 MT (-1.61%) while Robusta decreased by 2,400 MT (-1.04%) over the post monsoon estimate made during November 2014 before the crop harvest. The entire loss in production was due to low productivity in Karnataka only.

The final crop estimate of previous years stood at 2013-14, 304500 MT, and where as final crop estimate of 2014-15 stood at 327,000 MT showing 225,000 MT increase in growth (7.39%). The Robusta has recorded an increase of 26,700 MT (13.20%) while that of Arabic has declined by 4,200 MT (-4.11%) over the previous years 2013-14 estimate. The post blosssom crop forecost for in year 2015-16 is placed at 355,600MT consisting 110,300MT MT of Arabica and 245,300 MT of Robusta. This is an increase of 28600 (327,000 MT - 355,600 MT) MT. Further, the post blosssom crop forecast for the year 2016-17 was at 320000 MT a decrease by 35200 MT and final estimate of crop 2015-16 stood at 34800 MT and when compared to the 2014-15 a regressive trend by 21000 MT is found. This reduction in post blossom estimate of 2016-17 can be mainly attributed to the adopted blossom and backing showers coupled with high temperatures especially in major growing area of Karnataka and two some extend in Kerala. In most of the coffee areas of Karnataka, the states with irrigation facilities have irrigated their Robusta blocks for one round of blosom during February March and with one round of backing irrigation. But due to essence of subsequent national showers, even the irrigated estates have suffered some regressive trend due to high prevailing termperatures.

Coffee forecast in the non traditional areas of AP, Orissa and North Easthern Region, Post blossom stood at 10500 MT. In Karnataka, the post blossom estimates is placed at 229345 MT for the year 2016-17 and Arabica consist of 74485 MT and 154860 MT Robusta. All the three dominant districts recorded fall in production over the previous years (2015-16). Final harvest crop estimate with Robusta recording a highest decrease of 18010 MT (-10.42% i.e., 172,870 MT - 154,860 MT) followed by a reduction of 4165 MT (-5.30%) in Arabica production. Kodagu district presented among the other districts a recorded decrease of 15865MT (-11.55%) followed by 5215 MT(6.36%) in Chikkamagalur and 1095 MT (3.40%) in Hassan district.

The coffee data released by coffee board of India further reveals that during post blossom estimate 2016-17 62,440 MT of Kerala, 17,560 MT in Tamil Nadu. The non traditional areas it stood at 10,450 MT and the final estimate of 2015-16 reveals that 69,230 MT at Kerala, Tamil Nadu 17,295 MT and nontraditional 9,800 MT.

Table-3 reveals data problems faced by labouers. The problems faced by labour class varioes from health to shelter and electricity. Out of 200 labourers 120 strongly viewed that then are facing all the problems at 60 agreed and only 20 disagreed.

ANOVA quantitative metric fails to accepts the null hypotheses and accepts the alternative. The alternative can be coffee plantation being depend labourers faces a number of problems.

Table-4 reveals data about demographic profile of labourers. There are 55% females and the rest males. 80 respondent belongs to the age group of 40 - 50 years and 50 respondents to the age group of 30-40. Agewise data reveals that labourers are interest to work coffee estate which provides them 10 months job in an year.
Education wise data reveals that 100 respondents studied upto 10th standard, 40 PUC, and 20 degree and there are 40 respondents illiterates and majority of them migrated from neighbouring states. Educationwise data donot support favourable demographic variable. Incomewise data also not supporting existence of favourable demographic condition. There are 55 respondents who are getting monthly income of Rs. 10,000 to 15,000 and 15 getting 15K to 20K and 20 between 20K-25K.

Suggestions

1. Proper transportation and labour facilities should be provided.
2. Indian coffee varieties be standardised and advertised in the international markets.
3. Coffee should be made in a way so as to complete with outher soft drinks.
4. The coffee boards of India must purchase coffee directly from the growers.
5. The coffe board should give finance to the producers as usual in last decades.
6. Labour turn over rates should be reduced and better pay should be given to labourer.
7. Transportation, education of children and better shelter facilities should be provided.
8. Labouerers should be allowed to study in the correspondent courses colleges.
9. Scholarship to the children of labour spring higher education should be provided.

Conclusion

With the environmental blessings at Brazil Veitnum ecofriendly practices have been in practice and increasing aiming at enhanced production and naturally the effect is also seen in Chikkamagalur practising ecofriendly practices through building up resilience to increase climate variations. It seems that many farmers are following sustainable better practices. It is very clear that coffee sector needs to adopt common investment policy, communicate transparency, and ensure long term support to all farmers. Coffee sector obviously now has to follow innovative approach as far as plan and investment is concerned. A considered coordinated approach by different stakeholders may bring more revenue. The labour must be fairly remunerated since a happy labourer is going to stay a long period.

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Table3 : Problems faced by Labourers

Problems faced	**SA**	**A**	**DA**	**Total**
Health problems	22	12	5	39
Education Problems	23	09	3	35
Wanted to setle in urban than in rural area	16	07	2	25
Transportation	19	11	3	33
Wages problem	18	09	5	32
Problem of shelter & Electricity	22	12	2	36
Total	120	60	20	200

Source : Primary Data

Hypotheses

H0 : Coffee cultivation being independent labourers faces no problems Reject
H1 : Coffee cultivation being dependent labourers faces problems Accept

ANOVA Table

Source of variation	SS	df	ms	F-ratio	5% F-limit (From F-table)
Between the sample	844.7556	(3-1)=2	844.7556/2 =422.3778	422.3778/4.4889 =94.0938	
Within the sample	67.3334	(18-3)=15	67.3334/15		F(2,15)
Total	912.0890	(18-1)=17			

Source: Authors compilation

ANOVA Analysis

The above ANOVA table reveals that the F calculated value being 94.0938 higher than the TV = 3.68@5% level of significance with df = V1 = 2 and V2 = 15 fails to accept to null hypotheses. Therefore alternative is accepted.

Table 4 : Demographic Profile of respondents

Gender	Respondent	%	Age in years	Respondent	%
Male	90	45	20-30	10	05
Female	110	55	30-40	50	25
			40-50	80	40
			50-60	50	25
			60 & above	10	05
Education	**Respondent**	**%**	**Income(Rs /**	**Respondent**	**%**
Upto 10	100	50	10000-15000	110	55
PUC	40	20	15000-20000	30	15
Degree	20	10	20000-25000	40	20
Illiterates	40	20	Above 25000	20	10

Source: Questionnaire

Table 1 : Post Blossom Forecast and Final Estimate of Coffee Production in India (in MT)

State/District	Post Blossom Estimate 2015-16			Final Estimate 2014-15		
	Arabica	Robusta	Total	Arabica	Robusta	Total
Karnataka						
Chikmagalur	42,715	42,535	85,250	38,200	40,880	79,080
Kodagu	21,455	1,16,620	1,38,075	18,030	1,04,090	1,22,120
Hassan	19,500	13,675	33,175	18,525	13,505	32,030
Sub total	83,670	1,72,830	2,56,500	74,755	1,58,475	2,33,230
Kerala						
Wayanad	0	58400	58400	0	56675	56675
Travancore	1000	7500	8500	880	7370	8250
Nelliampathies	1200	1700	2900	1175	1600	2775
Sub total	2200	67,600	69.800	2055	65,645	67,700
Tamil Nadu						
Pulneys	7465	340	7805	7300	325	7625
Nilgiris	1650	3825	5475	150	3850	5400
Shevroys (Salem)	3650	70	3720	3400	50	3450
Anamalais						

(Coimbatore)	1300	500	1800	900	500	1400
Sub total	14065	4735	18800	13150	4725	17875
Non TraditionalAreas						
Andhra Pradesh	9640	60	9700	7370	55	7425
Orissa	600	0	600	550	0	550
Sub Total	10240	0	10300	7920	55	7975
North Eastern Region						
	125	75	200	120	100	220
Grand Total (India)	110300	245300	355600	98000	229000	327000

Post blossom coffee crop forecast for the session 2015

Table 2 : Post Blossom Forecast & Final Estimate of Coffee Production in India (in MT)

State/District	**Post Blossom Estimate 2016-17**			**Final Estimate 2015-16**		
	Arabica	**Robusta**	**Total**	**Arabica**	**Robusta**	**Total**
Karnataka						
Chikmagalur	38,750	38,035	76,785	40,600	41,400	82,000
Kodagu	17,510	103,925	121,435	19,150	118,150	137,300
Hassan	18,225	12,900	31,125	18,900	13,320	32,220
Sub total	74,485	154,860	229,345	78,650	172,870	251,520
Kerala						
Wayanad	0	51,950	51,950	0	57,850	57,850
Travancore	990	6,750	7,740	1,000	7,480	8,480
Nelliampathies	1,150	300	2,750	1,200	1,700	2,900
Sub total	2,140	60,300	62,44062	2,200	67,030	69,230
Tamil Nadu						
Pulneys	6,550	365	6,915	6,785	340	7,125
Nilgiris	1,400	3,750	5,150	1,325	3,575	4,900
Shevroys (Salem)	3,625	70	3,695	3,400	70	3,470
Anamalais						
(Coimbatore)	1,300	500	1,800	1,300	500	1,800
Sub total	12,875	4,685	17,560	12,810	4,485	17,295
Non TraditionalAreas						
Andhra Pradesh	9,750	50	9,800	9,150	50	9,200
Orissa	650	0	650	600	0	600
Sub Total	10,400	50	10,450	9,750	50	9,800
North Eastern Region						
100		105	205	90	65	155
Grand Total (India)	100,000	220,000	320,000	103,500	244,500	348,000

Post blossom coffee crop forecast for the session 2016-17