

**Small Coffee Growers of
Sulthan Bathery, Wayanad**

C.V Joy

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Discussion Paper

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1. Introduction

Coffee is one of the important plantation crops of India, which is cultivated mainly in the hill tracts of South India especially in Karnataka, Kerala, and Tamil Nadu. The other important States of India in which coffee is grown on a limited scale are Andhra Pradesh, Maharashtra, West Bengal, Assam, Andaman and Nicobar Islands, and Madhya Pradesh.

The two principal varieties of coffee produced in the world are Arabica (*Coffea Arabica*) and Robusta (*Coffea Canephora*). Arabica coffee is the variety which has more beverage value and hence fetches a higher price in the international market. India produces mainly the Robusta variety of coffee.

Coffee is grown mainly in the agrarian countries of the tropical and sub-tropical regions of the world. There are 70 major coffee-producing countries in the world. Coffee is being produced in developing countries while it is mainly consumed by the developed countries.

The main coffee exporters are Brazil, Columbia, Costa-Rica, El Salvadore, Guatemala, and Ivory Coast in Latin America, Kenya, Tanzania, Uganda, Ethiopia, and Zimbabwe in Africa and Vietnam, Indonesia, and India in Asia. In terms of total turnover, world coffee trade is next only to the trade of petroleum products. World coffee production during 1998-'99 was 6.30 million tonnes. Of this, the share of Arabica was 4.32 million tonnes and of Robusta 1.98 tonnes. Of the total world production, 34 percent is Robusta, 13 percent Columbian mild (Arabica), 28 percent is other milds (Arabicas of other origins) and 26 percent Brazilian and unwashed Arabicas (Table 1.1).

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Table 1.1 Share of Different Varieties in World Output ; Year 1999-2000

Variety	Countries	Percentage
Robusta	Vietnam, India, Indonesia	34%
Columbian mild	Columbia, Ivory Coast, El Salvador, Costa- Rica	13%
Arabicas of other Region	Kenya, Angola, India, Uganda, Ethiopia, Tanzania	28%
Brazilian Arabica	Brazil	26%

Source: Coffee Board, Bangalore

Coffee situation in India

India produces about 3.2 percent of the global coffee output. In 1998-'99 the total production in the country was 0.23 million tonnes, of which Arabica constituted 9.7 thousand tonnes and Robusta 13.3 thousand tonnes. The total production in 1999-2000 was estimated at 285 thousand tonnes, 120 thousand tonnes of Arabica and 165 thousand tonnes of Robusta. The relative contributions of the major coffee exporters of the world are shown in Table 1.2.

Table 1.2 Principal Sources Coffee in Global Output

Country	Percentage
Brazil	31.70
Columbia	14.10
Vietnam	11.90
Ivory coast	9.90
El Salvador	5.70
Zimbabwe	5.70
India	3.20
Guatemala	3.10
Angola	3.00
Kenya	2.10
Costa Rica	2.00
Uganda	1.00
Indonesia	1.00
Tanzania	0.90
Ethiopia	0.70
Ecuador	0.60

Source: Coffee Board, Bangalore

The total area under coffee in India is 3.06 lakh hectares. The Arabica coffee is cultivated in 1.44 lakh hectares and Robusta in 1.62 lakh hectares.

Coffee producing States

As already mentioned, the main coffee producing states in the country are Karnataka, Kerala, and Tamil Nadu. Karnataka produces 72 percent, Kerala 20 percent, and Tamil Nadu 7 percent of the country's total coffee output. All other States together produce around one percent.

Coffee export

India exports nearly 75 percent of its output. During the year 1998-'99, India exported 210315 tonnes of coffee (mainly to the European Union, USA, and Russia) and earned foreign exchange worth Rs 1,700 crore. Among the plantation crops, coffee is the largest contributor of foreign exchange.

Since the domestic consumption of coffee remains stagnant at around 60 thousand tonnes, the global price trend has very deep influence on the fate of coffee growers of the country. During the era since Independence the area under cultivation, production, and productivity of coffee have increased significantly. The total acreage under coffee increased from 92.5 thousand hectares in 1950-'51 to 292.5 thousand hectares in 1998-'99, and to 306.4 thousand hectares in 1999-2000.

Ownership pattern

The backbone of the coffee cultivation in the country is small growers. There were 138 thousand registered cultivators in the country. Among them 98 percent were small growers who hold less than 10 hectares of land each. They produced 35 percent of the total output. Registered growers who cultivated more than 10 hectares of land each accounted for only less than two percent of the number of cultivators; but they produced 65 percent of the total output.

Table 1.3 Ownership Pattern and Shares in Output: 1999-2000

Category of cultivators	Number	Percentage	Share in Output %
Small Growers	135,633	98	35
Large Holders	2,650	2	65
Total	138,283	100	100

Source: Coffee Board, Bangalore

Coffee cultivation contributes Rs 300 crore to the National exchequer through duties and taxes. Besides it also provides employment to 3.75 lakh workers directly and 5 lakh workers indirectly. They provide various input services, operate farm machinery, conduct repairs, do curing of coffee, carry on trade, and provide transportation services.

Production and productivity

The per hectare productivity of coffee increased from 204 kg in 1970-'71 to 801 kg in 1991-'92, but fell back to 615 kg in 1994-'95. Productivity of Robusta had not registered any increase till 1954-'55. A small increase in production was recorded due to expansion in area. But after the 1960s, yield rates were highly fluctuating with the trend growing due to introduction of intensive cultivation. The yield of the Robusta variety was much higher than that of the Arabica species. Robusta used to be comparatively unaffected by pests like white stem-borer diseases like leaf rust (Table 1.4).

Table 1.4 Area, Production, Productivity and Export of Coffee, 1993-'94 and 1994-'95

Year	1993-'94	1994-'95
Area (Hectares)	292,467	292,467
Production (tones)	208,000	180,100
Productivity(km./hectare)	711	615
Export Quality (tones)	136,690	136,404

Source: Coffee Board, Bangalore

Robusta coffee very quickly responds to changes in weather. Timely rainfall with adequate intensity raises the yield of the Robusta variety. Production and productivity are deeply related to the timing of the blossom showers. If blossom showers fail, production also falls heavily.

Coffee in India is produced under severely adverse climate conditions as compared to other producing countries. The temperatures in coffee belts range between 9 and 35 degree Celsius. Elevation ranges between 2000 and 6000 feet above MSL. In India coffee cultivation is done on deep slopes unlike in other countries where it is mostly grown on plain lands. India is one of the few countries which experience long periods of drought that adversely affects productivity. Coffee cultivation is done in India with much manual labour like hands-picking, hand-sorting, and sun-drying.

Prices

The price of coffee in India is very unstable. It changes according to changes in the world market. Often farmers do not get adequate and reasonable price for their produce due to the unstable conditions in the global market. The average price realised for Robusta and Arabica for the past 30 years would throw light into the cycles and the trend in coffee prices

There is a feeling that the coffee price is on the decrease and the chances of increasing its price in the near future are very bleak. It is observed that whenever the global availability exceeds 6000,000 tonnes, prices tend to fall at alarming speed. World production in the past three years is given below.

Production in the coming years is likely to increase due to increased productivity in the

traditional coffee-growing countries. The increase is likely to accelerate the glut situation and lead to fall in prices. It is against this background that the following discussion on the problems of small coffee-growers in Wayanad is presented.

Table 1.5 Price Realised for Robusta and Arabica Coffee During 1971-2000

Year	Robusta (price in Rs)	Arabica (price in Rs)
1971	5.195	NA
1972	5.010	NA
1973	5.535	NA
1974	7.005	NA
1975	8.030	NA
1976	9.480	NA
1977	9.380	NA
1990	54.99	89.15
1991	49.99	84.97
1992	43.63	63.60
1993	53.50	70.07
1994	119.46	147.87
1995	126.90	149.36
1996	82.31	119.34
1997	80.59	114.99
1998	83.89	102.22
1999	55.63	75.41
2000	30.21	55.08

Source: Coffee Board –Bangalore

Table 1.6 Global Coffee Output

Year	Production
1996-‘97	6156,600 Tonnes
1997-‘98	5741,400 Tonnes
1998-‘99	6314,400 Tonnes

Source: Coffee Board, Bangalore.

2. Objectives and Method

The major objective of the study is to understand and discuss the problems of small coffee growers in Wayanad. Questions such as profitability of cultivation and trends in area, production and productivity and in costs of production and coffee prices as well as the role of the Coffee Board on the promotion of coffee cultivation, particularly on small coffee growers, are examined.

The objectives may be more specifically stated as follows:

Specific objectives

Study the cost and return structure;

Identification of the main determinants of yield;

Examination of the relationship between farm size and farm efficiency;

Investigation of the labour-absorption capacity of coffee on a comparative basis;

Study of the extent of fluctuations in the price of coffee;

Analysis of the effects of climatic changes on coffee yield;

Examination of the incidence of pests and diseases and their effects on productivity.

Investigate the role of institutional agencies such as Coffee Board and *Krishibhavan* on coffee cultivation and cultivators.

Method

In this study, the Participatory Rural Appraisal (PRA) approach has been extensively used for collection of information. Statistical survey methods have also been used to fill the data gaps.

Statistical survey

The following items of information were collected through personal interviews, based on a pre-tested interview schedule.

Land ownership;

Area under different crops;

Crop-shifting and its causes,

Effects of change in prices of competing crops on coffee cultivation;

Cost structure;

Income and Expenditure;

Labour-absorption;

Incidence of pests and diseases; and

Impact of climatic changes.

Sampling methods have been adopted for the analysis. The lists of all registered coffee growers were collected from the Coffee Liaison Office, Sulthan Bathery. From that list, 1000 marginal and small farmers were selected through the random method. Among them, a sub-sample of 90 farmers was identified consisting of 30 farmers each from three *grama panchayats* - Nenmeni, Noolpuzha, and Sulthan Bathery.

Definition of farmers

As per the definition of Coffee Board there are only two categories of farmers - small farmers and large farmers. Farmers who have below 4 hectares (10 acres) of land are categorised as small farmers and those who hold land above 4 hectares are considered large farmers. These definitions may be all right on a national basis. But in Wayanad, only large estate owners have land beyond 4 hectares, the majority of the farmers having land between one hectares and two hectares in extent. Very few farmers have 4 hectares of coffee gardens. Hence we adopt the definition followed by the Agricultural Department, Government of Kerala to define the category of farmers.

According to this source, Marginal farmers are those who hold one hectare or less than one hectare of land; and Small farmers are those who hold land between one hectare and two hectares.

In this study therefore, small farmers are those who own and operate land of less than two hectares.

Participatory Rural Appraisal methods

Participatory Rural Appraisal (PRA) methods like Group Discussion, Direct Observation, Trend analysis, Case Studies, Impact Diagrams, Time Line, Semi-Structured Interviews, and Livelihood Analysis have been used. These attempts have ensured participation of the farmers in the area in the collection, categorisation and analysis of local level information. They have also helped in examining the problems of farmers from their own perspective rather than the perspective of the research team.

Participatory methods were implemented with active co-operation and involvement of *Kudumbashree* Neighbourhood Groups. *Ayalkootam* meetings were conducted and all the members of the families of farmers attended them.

The Study Area

The study was conducted mainly in three *Grama Panchayats* in the Sulthan Bathery Block *Panchayat*: (1) Nenmeni, (2) Sulthan Bathery, and (3) Noolpuzha. These *panchayats* have been selected for the following reasons.

1. In these three *Grama Panchayats*, coffee is the predominant commercial crop and the major source of livelihood for farmers. Coffee is cultivated in 1500 hectares in Sultan Bathery, 2900 hectares in Noolpuzha, and 1200 hectares in Nenmeni.

2. The largest number of marginal and small farmers in the area is located in these three *Grama Panchayats*. The Wayanad Colonisation Scheme had been implemented mainly in these three *Grama Panchayats* under which two hectares of land each were distributed to settler farmers and Ex-Servicemen. Around 49,000 hectares of land were thus distributed during the early Fifties and all those plots were converted into coffee gardens. Through inheritance and sales, these lands have undergone subdivision and fragmentation. Hence the area has the largest concentration of marginal and small farmers.

Limitations

Being a micro-level study confined to a few villages in a specific area, it may not have captured the effects of differences in natural resources especially soil, ownership pattern, involvement of domestic labour, extent of multiple cropping, pace and level of technology adopted and, varieties of crop cultivated in Kerala as a whole. Differences in cost of production and output received across regions might also have been lost in this location-specific, micro-level enquiry.

3. Coffee in Wayanad

Kerala is the second largest producer of coffee in India. It produces 23 percent of the total coffee output in the country. The coffee economy of Kerala is virtually the coffee economy of Wayanad. Wayanad produces 90 percent of the total coffee output in the State.

History of coffee in Wayanad

Coffee was first discovered in Africa. The province of “Kafka” in Ethiopia is considered the birthplace of the Arabica variety of coffee (*Coffee Arabica*). Central Africa is believed to be the home of Robusta coffee (*Coffee canephora*). In Yemen coffee used to be cultivated under irrigated conditions for a long period. Yemenis did not allow coffee seeds to be taken outside the country.

It is believed that it was a Muslim pilgrim called Baba Budhan who introduced coffee in India. During the year 1670 he brought seven seeds of coffee from Yemen to India hiding them in his gown and raised coffee seedlings in front of his hermitage on the hills near Chikkamagalure in Karnataka. From here coffee plants spread to places in and around the hermitage. Within a short time coffee came to be planted in most parts of the neighbouring villages.

Historians are of the opinion that the Arabica variety of coffee reached India from Java during the period between 1689 and 1699. During that period coffee used to be cultivated mainly for its flavour. Nor was coffee cultivated on a commercial scale.

Englishmen started coffee cultivation on a large scale in South India during the 1820s. During this period coffee estates were started at Chikkamagalure, Kadur, Coorg, and Nilgiris.

During this period coffee reached Wayanad. The first coffee plantation in Wayanad was started at Mananthavady. The pioneers in coffee cultivation in Wayanad were the soldiers of the army of the English East India Company. A regiment of the British Army had been stationed at Mananthavady during the 1820s to suppress rebellions of the native rulers and tribal leaders. When the rebellions were over the service of the *sepoys* of the regiment were used for cultivating coffee in Ambukuthy hills and its valleys, areas very near to Army camp in Mananthavady. Following this example a lot of estates were started in Wayanad during the early 19th century.

Captain Haven started a coffee estate in Mananthavady during 1825. In the year 1830, Dr Fuston and Mr Puge two Englishmen who were residing at Mananthavady started coffee plantations on a large scale. During the year 1841 M/s Parry and Company of Madras started the Wayanad Coffee Plantations, a very large coffee estate. Coffee plantations spread in Wayanad quite rapidly since then for a period of about four decades. East India company authorities allotted land to all applicants for cultivation of coffee. It is estimated that during the year 1869, there existed 120 thousand acres of coffee plantations in South India, out of which 60 thousand acres were in Wayanad.

Coffee cultivation reached its peak during the second half of the 19th century. Coffee estates existed in Mananthavady, Panamaram, Thirunelly (in North Wayanad) Thariod, Vythiri, Vazhavatta, Sulthan Bathery, and Kolagappara (in South Wayanad) during this period. Europeans, mainly the English, were the owners of these plantations.

Decline of Golden Era of coffee in Wayanad

The period from 1825 to 1869 witnessed the golden era of coffee in Wayanad. But after 1869, Wayanad became the grave yard of coffee cultivation. Coffee plantations perished extensively due to the outbreak of pests and diseases.

Arabica coffee was the variety mainly cultivated during that period in Wayanad. It easily succumbed to diseases and pests. White stem-borer was the major threat during that time. Leaf rust also raised its head during 1869 and within a short time spread to all the plantations on an epidemic scale. The other serious menace was Green Bug which also appeared in Wayanad during the same period. For the next few years, coffee plantations of Wayanad were the hunting ground of “white stem borer”, “leaf rust”, and “green bug”. Large areas coffee plantations perished. The then Malabar Collector, William Logan, wrote in 1887 that on his visit to Mananthavady he could see a lot of abandoned coffee estates, which had perished due to the outbreak of diseases.

During that time coffee used to be planted in open land without shade trees. It has been pointed out that lack of shade trees was one of the main reasons for the easy spread of pests and diseases. By the time the planters adopted the shade method, it was too late to protect the coffee gardens. Ultimately the Arabic variety of coffee succumbed to pests and diseases and all plantations perished.

The Robusta variety of coffee was introduced in Wayanad in the second half of the nineteenth century. The Arabic coffee has more beverage value and hence fetched higher price. Robusta can also withstand the attack of pests and diseases. Hence Arabica was gradually replaced by Robusta. At present, Arabia accounts for only less than five percent of the area cultivated under coffee in Wayanad (Table 3.1).

Table 3.1 Planted Area of Coffee in Major Coffee Zones in Kerala (In hectares)

ZonesArea	1998-1999			1999-2000		
	Arabica	Robusta	Total	Arabica	Robusta	Total
Wayanad	184	66985	67169	184	67230	67414
Travancore	1609	10255	11864	1675	10400	12075
Nelliampathy	2100	2550	4650	2100	2550	4650
Total	3893	79790	83683	3959	80180	84139

Source: Coffee Board, Bangalore.

Coffee in Wayanad got a new lease of life when thousands of farmers from Central Travancore migrated to Wayanad. The first batch of migrant farmers reached Wayanad

during 1920's. The flow of migration increased after 1940's. In 1949, Wayanad colonisation scheme was implemented for settling the ex-service men of British Army. All the allottees were assigned with five acres of land and two acres of paddy field. The allottees either sold the land to the marginal farmers or started their own cultivation. Coffee and paddy were the two main crops cultivated by those farmers.

Table 3.2 Area under Coffee in Different Districts (In hectares)

District	1993-'94			1994-'95		
	Arabica	Robusta	Total	Arabica	Robusta	Total
Wayanad	722	66077	66799	722	66277	66999
Palakkad	1155	1036	2191	1155	1136	2291
Idukky	2225	9571	11796	2225	9683	11908
Kottayam	32	784	816	32	792	824
Ernakulam	—	283	283	—	283	283
Thiruvananthapuram	5	32	37	5	32	37
Thrissur	32	—	32	32	—	32
Kannur	1022	7821	8843	1022	7936	8958
Pathanamthitta	—	35	35	—	35	35
Kollam	15	178	193	15	178	193

Source: Coffee Board, Bangalore.

Coffee-Present Position

At present coffee is grown on a commercial scale in 10 districts of Kerala. The cultivation of Arabica coffee is confined to the high attitude hill tracts of the four districts of Palakkad, Kannur, Kozhikode, and Idukki. The production of coffee in the Wayanad, Travancore, and Nelliampathy zones is shown in Table 3.3.

Table 3. 3 Production of Coffee in Major Coffee Zones in Kerala (In hectares)

Zone Area	1999-2000			2000-2001		
	Arabica	Robusta	Total	Arabica	Robusta	Total
Wayanad	100	48080	48180	100	51200	51300
Travancore	1200	9300	10500	1250	10000	11250
Nelliampathy	400	1390	1790	400	1500	1900
Total	1700	58770	60470	1750	62700	64450

It is seen that Arabica accounts for only less than three percent of the total coffee output of the State. Of the 80587 estates or plots in India, 37604 estates are located in Kerala. This amounts to 46.67 percent of the total estates in India. But area-wise only 24 percent of the total area under coffee in India is in Kerala. The main reason why the largest number estates or plots are concentrated in Kerala is the presence of small and marginal farmers.

Table 3.4 Panchayat-wise Distribution of Area under Coffee: In Wayanad
(In Hectares)

<i>Grama Panchayat</i>	Area
Meppadi	5562
Vythiry	1560
Pozhuthana	1290
Kottathara	1216
Thariode	920
Padinjarathara	1762
Vengappally	680
Muttill	2027
Kaniyambetta	800
Ambalavayal	2400
Noolpuzha	2900
Sulthan Bathery	1500
Meenangadi	1316
Poothady	2050
Pulpally	550
Nenmeni	1200
Mullenkolly	50
Panamaram	605
Vellamunda	1660
Edavaka 431	
Mananthavady	1760
Thirunelly	1262
Tavinjal	2000
Thondarnadu	440
Kalpetta (Municipality)	1638

Source: Coffee Board

4. Shifts in Cropping Pattern

Coffee cultivators are reportedly switching away from coffee cultivation to cultivation of other crops such as pepper and arecanut due to its un-remunerative nature. The price of coffee has been falling more rapidly than the prices of all other plantation crops.

Group discussions were held in neighbourhood groups to understand more about the comparative price trends and their repercussions on cropping patterns. A few farmers at Malankara and Mandokkara in Nenmeni *Grama Panchayat*, Kallummukku and Naiketty in Noolpuzha *Grama Panchayat* and Kottakunnu and Thoduvetty in Sulthan Bathery *Grama Panchayat* who belong to the first generation of migrant farmers settled in Wayanad during early Forties gave interesting information on the long term trends. These farmers were the pioneers of the farming community which had reached Wayanad and toiled hard against in element weather and wild animals. Interviews with them brought out the following facts.

Trend during 1940-1960

This was the period of intensive migration from Travancore area and settlement of small and marginal farmers in Wayanad. The predominance of coffee over all other cash crops was established during this period.

Two crops had attracted the settler farmers to this area: rice and coffee. Vast tracts of wetland were available amidst the hills and their slopes and valleys which could be easily turned into paddy field. After the Second World War, rice became a highly scarce commodity and thus its prices soared. Availability of rent-free lands, constant and timely rains, fertile soils, and high price of the product pushed up rice cultivation on a vast scale justifying the very name of the area *Wayal nadu* meaning land of paddy fields. Simultaneously hills and hill slopes were turned into coffee plantations also. In rice cultivation, farmers followed the practices of Wayanad Chettis (an aboriginal community which was the early settlers of this land together with tribesfolk) and in coffee cultivation they followed the examples shown by coffee estates owned by the Europeans and the native planters belonging to the Jain community.

Pepper was cultivated as a side crop; pepper vines were raised only on shade trees in coffee gardens. Why was pepper not given prime importance even though Wayanad was famous for its quality and it fetched high price in the market? Why was coffee cultivated on commercial lines while pepper was not? The discussions threw up the following answers.

- 1 There were no marketing facilities for pepper in Wayanad during the early days. Farmers were at the mercy of itinerant merchants, who were middlemen of wholesalers in far-off market centres who used to visit households to collect pepper and other spices. The profit margin due to the high price of pepper was pocketed by these middlemen.
- 2 Farmers were not aware of the fact that pepper was a better crop which fetched prices higher than of coffee.

- 3 There existed a better network for collection and sales of coffee and collection was rendered easy because of the concentration of coffee in big estates in the area.
- 4 The early settlers followed the example of the European coffee estate owners and migrant farmers were therefore naturally attracted to coffee cultivation.

Arecanut and coconut cultivation was totally absent in Wayanad during the early period.

Trend during 1960-1980

During the beginning of this period, coffee was the predominant crop and the major source of income of small farmers; but pepper slowly began to gain importance and farmers started its cultivation on commercial line. All vacant spaces in coffee gardens began to be planted with pepper vines when new areas of land were thrown open to cultivation. Coffee and pepper began to be given equal importance and were cultivated side by side.

Arecanut also found a place in the field of farmers for the first time in the history of Wayanad during this period. The slopes adjacent to paddyfields turned into areca gardens; areca was planted also among coffee and pepper plants.

Trend during 1980-2000

During this period the predominance and importance of coffee declined and its place was taken over by pepper. This period witnessed drastic changes in the cropping pattern.

The following two trends emerged during this period.

1. Area in which coffee had been the predominant crop gave way to the cultivation of pepper. One of the discussant farmers gave an interesting story of the method he used to uproot coffee plants from his garden. He hired the services of an elephant which had been brought to a nearby estate to pull timber. The elephant uprooted without difficulty even coffee plants of 40-45 years of age leaving no trace of their existence there; it took only two days for the elephant to clear an acre of land. In the cleared land, he cultivated pepper. This, he said, was a practice several other farmers also had employed.

Instead of cultivating coffee as a monocrop farmers adopted mixed farming. They removed old varieties of Robusta coffee plants and in their place planted high-yielding varieties of coffee, pepper, and arecanut.

The proportions of farmers in the study area who cultivated coffee as a single crop and who cultivated it as a mixed crop are shown in Table 4.1.

In all the three *panchayats*, the proportion of farmers who cultivated coffee as a monocrop is less than 3.3 percent; the corresponding proportion of area was less than 3.2 percent.

Table. 4.1 Cropping Pattern

<i>Grama Panchayat</i>	Coffee as Single Crop		Coffee as a Mixed crop	
	Percentage of Farmers	Average Area (in Hectares)	Percentage of Farmers	Average Area (in Hectares)
Nenmeni	1.8	1.4	98.25	3.2
Noolpuzha	3.3	2.1	96.7	2.6
Sulthan Bathery	2.4	1.6	97.6	2.3

Reasons for adopting mixed farming

Mixed cropping was adopted by farmers in a big way during the period 1980-2000 due to variety factors, the more important among which are mentioned below.

Livelihood

Land is the only asset of the small and marginal farmers and agricultural income is their only source of income. For a long time the income that they received from rice and coffee was adequate for the subsistence of their households because of the high prices of these products. But the heavy fall in the price of these products forced farmers to shift to other crops, especially to pepper. The reasonably high price pepper received in the market was an added attraction. Farmers resorted to a balanced approach of planting a variety of crops because the loss in income due to fall in the price one crop would be compensated by the income from other crops.

The large estate owners who have more than 100 acres of land and big farmers who own more than 10 acres of land do not face the risk of investing in a single crop because the gross income they receive from cultivation of coffee is high due to the high volume of their production. Further, they had other sources of income; most of them have investments in the non-farm sector made from surpluses accruing from farming. Hence large estate owners still have vast tracts of coffee plantations.

Farm size

Marginal and small farmers who combine perennial crops with seasonal crops on the same lands are in a better position to change cropping patterns in response to changes in market conditions for the products of the different crops. A portion of the land would be converted for planting the new crop, whose output fetches higher price in the market. But in the lands of large owners, the conversion process would take a long time since the area would be large and under mono-cropping.

Cost

The process of converting mono-crop farms into mixed crop farms is costly. It involves the utilisation of the services of large numbers of labourers and the replacement of existing crops. For marginal and small farmers these costs are low for two reasons..

Marginal and small farmers could cultivate new crops in the midst of existing crops because the small holdings have less than optimum plant population or plant density. Inadequate stocking – the number of coffee plants per unit area – allows small farmers to plant pepper, banana, and arecanut in the existing plots. Small holders do not observe the systematic method of planting seedlings in arrays, a practice which will ensure maximum plants per unit area. Hence they can utilise the vacant places in between plants for cultivating new crops. But in large estates scientific methods of planting are followed and hence mixed-farming or multiple-cropping is not found.

The main source of labour for marginal and small farmers was domestic labour, i.e., labour of the cultivator and the members of his family. This trend was quite common and strong among migrant farmers. Crop-shifting endeavours were less costly for those farmers because they utilise domestic labour. But in large farms the number of paid labours is very high and they are all organised trade union members. There have arisen several instances of organised resistance from the part of labour unions against changes in crop patterns because of fear of losing employment.

Composition of crop in mixed farms

We made an attempt to find out the pattern of mixed cropping practised in the holdings of marginal and small farmers. A transect walk through the study area revealed that the holdings of the small and marginal farmers have an assortment of crops such as coffee, pepper, arecanut, and coconut. In addition, some holdings had fruit trees such as jack and mango and also plantains (Table 4.2).

Table 4. 2 Average Number of Different Crops per Hectare of Land

Category of Farmers	No. of Coffee Plants	No. of Pepper Vines	No. of Arecanut trees	No. of Coconut Trees
Marginal Farmers	100	200	25	10
Small Farmers	125	150	50	25

From the Table 4.2 it is clear that the average number of coffee plants raised in the holdings of marginal and small farmers was less than that of pepper vines. In the plots of marginal farmers, the average number of coffee plants was just half the number of pepper vines. But in the case of small farmers, the corresponding proportion was 83 percent. The number of arecanut was just one fourth of the coffee plants in the holdings of marginal farmers; the corresponding proportion for small farmers was 40 percent coconut trees in the plots of both the marginal and the small farmers were few. The study showed that marginal farmers showed more enthusiasm for shifting from coffee to pepper.

Trends in crop shifting

An empirical analysis shows that 69 percent of the farmers in the marginal category reduced the area of land under coffee cultivation. But among the small farmers their percentage was 48 percent. While eight percent of the marginal farmers did not make any change in the area

under coffee cultivation, the corresponding proportion among small farmers was also about the same, seven percent. The proportion of marginal farmers who increased the area under coffee was, however, much lower among marginal farmers (nine percent) than among small farmers (31 percent).

Table 4.3 Trends in the Area Cultivated due to Crop Shifting

Nature of Crop-Shifting	Marginal	Small
Reduced the area under coffee	69%	48%
Increased the area under coffee	9%	31%
No change made in the area under coffee	8%	7%

Reasons of reducing area under coffee

The important reasons mentioned by the small and marginal farmers for shifting away from the cultivation of coffee are shown in Table 4.4.

Table 4.4 Reasons for Shifting away from Coffee to Pepper, Tea and Arecanut

Reasons	Marginal	Small
Pepper gets better price	67%	64%
Tea gets better price	2.5%	7.5%
Income from coffee is less than cost of production	28%	24%
Arecanut gets better price	2%	5%

Cost and price factors were the main determinants reported.

About one-fourth of the respondents reported that coffee cultivation was un-remunerative and un-economical since cost of production exceeded sales proceeds. Nearly two-thirds of them were of the view that pepper fetched high prices and pepper cultivation was profitable. In the case of tea and coconut, the proportions which reported price as the favourable factor were much less, in the ranges of two to eight percent. Tea cultivation in the study area among small and marginal farmers was confined to Nenmeni *panchayat*.

An important fact that emerged during the study was that even though pepper, tea and arecanut received better price in the market, farmers did not adopt any of these crops to raise mono-crop farms: they were determined to keep their holdings well balanced mixed cropping farms.

The few farmers who expanded the area under coffee cultivation gave the following reasons:

1. Introduction of new varieties of coffee like C x R and Cauery under advice of Coffee Board.
2. Traditional attachment to coffee cultivation as the main source of livelihood.

3. The sudden spurt in the price of coffee during 1994-1996 after a lengthy period of stagnation raised hopes of further price increase.
4. Expectation of a secular increase in the price of coffee.
5. Severe attack of quick wilt and yellowish diseases on pepper vines during the 1990s.

Main Crops which Replaced Coffee

Cropping pattern shifts were mostly from coffee to pepper; the shifts to tea and arecanut were quite small. Table 4.5 shows the proportions of shifts under marginal and small farms.

Table 4.5 Main Crops which Replaced coffee

Crops	Category Farmers	
	Marginal	Small
Pepper	92.4	87.4
Tea	2.5	8.7
Arecanut	5.1	3.9

Among the marginal farmers 92.4 percent of the replaced crop was pepper. Among small farmers, the corresponding proportion was 87.4. Only less than 5 percent of the areas under coffee were replaced by arecanut. Tea replaced 2.5 and 8.7 percent of the area under coffee for marginal and small farmers respectively.

5. Cost of Production of Coffee

The preliminary rounds of discussion with farmers gave the general impression that cost of production of coffee was very high compared to that of other crops. One of the reasons cited by farmers for sidelining coffee cultivation was the high cost of its production – current cost as well as the initial cost for raising a farm.

Current expenses

Coffee cultivation is highly labour-intensive; the following agricultural activities have to be done in the coffee gardens using manual labour.

1. Weed control: thrice a year
2. Upturning the soil: twice a year
3. Application of manures and fertilisers: twice a year
4. Pruning: twice a year
5. Coffee Beans collection through hand-picking: once a year
6. Application of pesticides and insecticides: once a year

All these activities are done annually to rear, nurture, and maintain coffee plants in order to obtain the maximum possible yield from them. Expenses incurred for these activities are termed current expenses. The farmers have to incur current expenses after coffee plants start to bear fruit.

Women labourers who are usually engaged in weed control activities use sickles to cut and remove the weeds. Weeds are removed immediately after the onset of south-west monsoon in June; when the north-east monsoon sets in September-October the second pruning is done; in January-February the final weeding is done at the time of fruit collection. The soil is upturned using *Munvetti (Thoomba)* during July-August. Lastly during November- December (*Podi Kothu*) (surfacing) is done. Pruning is done immediately after harvest and during August-September. Cow dung and fertilisers are applied twice a year.

Table 5.1 gives the details of current expenses incurred annually during the past 20 years. During the year 1980, a farmer had to spend Rs 5030 per hectare as current expenses, in 1985 the corresponding figure became Rs 6435. 1990, current expenses rose to Rs 8735 and 1995 to Rs 9890. During the year 2000 they stood at Rs 11685. The analysis shows that during the period between 1980 and 2000, there was a 305 percent increase in the current cost of production of coffee in monetary terms.

In this analysis, the cost of installing drip or sprinkler irrigation systems is not included because the marginal and small farmers did not incur any expenditure on these items. The installation of these systems involves huge investment.

Initial cost of cultivation of coffee

Coffee plants would start giving yield from the fourth year of planting. After seedlings are

planted constant care and nurture is done for four years to ensure their healthy growth. The cost involved in planting coffee seedlings and the expenses incurred for nurturing them till they reach the fruit-bearing stage comprise the initial cost.

Table 5.2 shows the details of initial cost of cultivation of coffee in a hectare of land. Farmers revealed that they do not use any kind of chemical fertilisers at the time of planting the seedlings. Only cow dung and compost are used to fill the pit in which the seedling is planted.

Application of pesticides starts from the second year onwards. Shade control is essential during the initial year. Farmers use either bamboo baskets or tree leaves for giving shade to the seedlings. Bamboo baskets would last for at least two years while shades of leaves have to be changed every six months.

Cost of cultivation of competing crops – Pepper

An attempt was made to collect information also on the cost of cultivation of pepper, a competing crop of coffee (Table 5.3). During the years 1980, 1985, and 1990, the current expenses incurred on pepper were Rs 3310, Rs 4240, and Rs 8550 only. But in the case of coffee in corresponding figures were Rs 5030, Rs 6435, and Rs 8735 respectively during the same period. The main reason for the difference cited by the farming community was that they did not apply chemical fertilisers and pesticides to pepper during these years. Diseases and pest attacks were also absent during that period.

But from 1990 onwards the current expenses incurred on pepper also started rising because farmers began the application of chemical fertilisers to pepper vines also. The introduction of exotic and high-yielding varieties of pepper which require high doses of chemical fertilisers for getting the optimum yield led the farmers to incur expenses on such items. As a consequence, costs increased further. Besides, the dreaded diseases yellowing and quick-wilt raised their head during that period and farmers were forced to apply pesticides on pepper vines.

During the period between 1990 and 2000, there did not exist substantial difference in current expenses as between coffee and pepper. But the period witnessed the transition of agriculture in Wayanad from coffee to pepper on a significant scale, whereby the crop-wise importance of coffee declined.

Labour and employment

Coffee cultivation is the largest provider of employment to the people of Wayanad. A large number of tribesfolk depend on coffee cultivation for their livelihood.

Employment in all seasons

Coffee provides employment in all seasons. Weed control measures are taken during the rainy season. At the outset of the south-west monsoon, the soil is prepared by upturning. The first doses of manures and fertilisers are also applied during this time. The second

weeding is done during October and November. Post-monsoon fertilizer application is done during this period.

Harvesting starts in the month of December and comes to a close by the end of January. Pruning is done in February and March. Control measures against pests, insects, and diseases are taken in the month of April. Pre-monsoon manuring is done in May.

Women employment

Coffee cultivation provides employment to large numbers of women. Nearly one-half the work of tending the coffee plantations is carried out by women workers. The services of women labourers required per hectare of coffee plantation are the following.

1. For cutting and removing weeds using sickles: 12 women workers.
2. For applying manure (mostly cow dung): 10 women workers.
3. For application of chemical fertilizers: 10 women workers.
4. For plucking coffee fruits during harvesting: 12 women workers.

Employment to tribal community

Coffee cultivation was the main source of employment for the tribal communities, especially tribal women. There are 1.14 lakh tribesfolk in Wayanad and almost all of them live in abject poverty. Coraly Kurumas are experts in coffee pruning. Weed control measures, application of manures and fertilisers, harvesting etc., provide large employment opportunities to tribesfolk who are really professionals in these kinds of work.

Involvement of domestic or family labour

The involvement of domestic labour at all the stages of coffee cultivation is strong among marginal and small farmers. Members of the household, both men and women perform a sizeable proportion of the agricultural activities in coffee cultivation. It is estimated that 16 percent of the work in the holdings of marginal farmers and 10 percent of the work in the holdings of small farmers were being carried out by household members. During the harvesting season, even school going children in the family engage themselves in beans plucking for making pocket money. It was stated that the involvement of domestic labour made it possible for marginal and small farmers to produce coffee even under very uneconomic conditions during the 1980s and the 1990s when the market price of coffee fell even below the cost of production.

Table 5.4 Involvement of Domestic and Migrant Labour

Category	Domestic Labour percentage	Migrant Labour percentage
Marginal farmers	16	9
Small farmers	10	17

Migrant labourers

The period 1990-2000 witnessed heavy inflow of agricultural labourers to Wayanad from Karnataka. They reached Wayanad seeking employment in the plantation sector. The majority of them were from Chamaraja Nagar, H.D Kotta, and Mysore districts of Karnataka. Two factors persuaded them to reach Wayanad.

1. An attractive wage structure prevails in the plantation economy of Wayanad. During the 1990s, the average wage of men labourers was Rs 90 per day and in 2000 the corresponding figure was of Rs 125 per day. It was reported that during the corresponding periods wage rates in Karnataka were Rs 20 and Rs 35 respectively.
2. Dearth of agricultural labourers began to be experienced in Wayanad after abolition of the bonded labour system in 1975. The availability of tribal labourers also declined from 1980 onwards due to abolition of the bonded labour system and rehabilitation of erstwhile bonded labour in Pookot, Sugandhagiri, and Priyadharsini resettlement projects. The spread of education among tribesfolk also resulted in the decline of their availability as agricultural workers. The space provided by withdrawal of tribesfolk was occupied by the migrant labourers from Karnataka.

It was estimated that nine percent of works in the holdings of marginal farmers and 17 percent of works in the holdings of small farmers were being carried out by migrant labourers. (Table 5.4) One pertinent aspect to be noted that only men labourers reached Wayanad seeking high wages and employment and that they never permanently settled down here. When the peak employment season is over, they return to their native places.

Man days of employment generated

Coffee cultivation in a hectare of land generates 90 man-days of employment (Table 5.5) per year. Male labourers get 46 days and women labourers 44 days of employment.

The total area under coffee cultivation in the district in 1999-2000 was 67417 hectares. A rough estimate shows that coffee cultivation including large, small, and marginal sections altogether generate 6067530 man days of employment per year; 3101182 days for men and 2966348 days for women.

Table 5.5 Number of Man days of Employment Generated in Coffee Sector

Category	Man-days Generated
Men	3101,182
Women	2966,348
Total	6067,530

Wage structure

As we have seen in the Table 5.1 wage is the main component of the cost of production of

coffee. Ninety percent of the expenses for coffee cultivation was incurred as wages. There were no organised labour or permanent wage structure prevail in marginal and small holdings. The predominance of casual or daily labourers is evident in these sectors and wage rates vary from place to place depending upon the nature and duration of work. The variations are, however, small. A few farmers keep permanent labourers for one or two years who would work for their employers only throughout the period of employment under them. The workers are assured employment for the agreed duration, by the employers. The wage rates which prevailed during the 1980s and 1990s for men and women workers in small farms in Wayanad are shown in Table 5.6.

Table 5.6 Wage Structure in Small Farms in Wayanad

Year	Wage (Rupees)	
	Men	Women
1980	45	25
1982	50	30
1985	60	35
1987	80	40
1990	90	50
1992	95	55
1995	100	60
1997	125	65
2000	125	65

Incidence of pests, insects, and diseases on coffee cultivation

One of the main problems that affect the production and productivity of coffee was according to small farmers, the high incidence of the attack of insects and pests and the wide prevalence of diseases. Some kinds of pests destroy the plants themselves while some other kinds only affect the fruit-bearing capacity of the plants and thus reduce their productivity. The farmers reported that the following diseases, pests, and insects mainly affect coffee plants.

Leaf-rust disease severely affects the Arabica variety of coffee. It is a fungus which raises its head during the post monsoon period. It is a parasite which lives only in coffee plants. When it affects the plants, yellow spots appear on the leaves and the coffee plants become completely defoliated with dry twigs and completely debilitated.

Block-rot is a fungus which affects both the Arabica and the Robusta varieties. It affects leaves and tender green berries. The affected leaves and berries get detached from branches due to rotting and fall down. White stem-borer is a type of beetle about 2 to 2.5 cm long. It is an insect which attacks the Arabica variety of coffee. Mealy bugs are small pests which attack tender branches, nodes, leaves, spikes, berries and roots. These bugs settle on all parts of the coffee plant and suck the sap inside. They affect Arabica, Robusta, and Cauvery varieties of coffee. Coffee berry-borer is a small black beetle that bores into coffee berries and make tunnels in the beans. It affects all varieties of coffee plants. Shot-hole-borer is a

small beetle that bores the green tender branches of the coffee plant. When it affects tender branches of the coffee plant, they get dry and wither away.

An assessment was done to ascertain the proportion of crops affected by various pests, insects, and diseases and the magnitude crop loss that follows. The results are given in Table 5.7.

Table 5.7 Incidence of Diseases, Pests and subsequent Crop Loss

Disease, Pests and Insects	Variety	Percentage of plants affected	Percentage of crop loss
Leaf-Rust	Arabica	35	28
Black-Rot	Arabica and Robusta	15	10
White Stem-Borer	Arabica	45	30
Mealy Bugs	Robusta and Arabica	18	10
Coffee Berry-Borer	Robusta	10	5
Shot-Hole-Borer	Robusta	25	15

Farmers adopt various methods to prevent crop loss from attacks of pests and diseases. It is revealed that 80 percent of the farmers use chemical pesticides and insecticides while two percent use biological methods like introducing enemy bugs. Organic pesticides are being applied by three percent of farmers. The rest of the farmers reported that they do not use any kind of control methods (Table 5.8).

Table 5.8 Methods Adopted to Control the Pests Diseases

Methods	Percentage of Farmers	Diseases
Chemical pesticides and Insecticides	80	White stem borer leaf rust, Black rot, Mealy bugs etc.
Biological methods enemy pests	2	Mealy bugs
Organic pesticides	3	Black rot, shot hole borer
No methods	15	

Irrigation and soil management

Coffee is a water-sensitive crop and the required quantity of water is necessary for getting the expected quantities of yield. Blossom showers are essential for the timely flowering of coffee plants. Blossom showers are required at least thrice a year. The first doses of the shower are essential during February or early March. Then within a month at least three or four showers more are required for the full flowering of the plant. The total dependence on rainfall makes coffee cultivation a gambling with nature and farmers get good crop only if blossom showers are revealed in time and in adequate quantity. If the rain is received late, the production and productively levels are adversely affected. Table 5.9 shows the farmer's

opinion about the adequacy rainfall received during the years from 1990 to 2000. It is seen that in 6 of the 11 years, rainfall was scanty or inadequate. The importance of introducing irrigation facilities for coffee cultivation is therefore obvious.

Table 5.9 Historical Transect of Rain Fall Received

1990	Adequate Rain
1991	Scanty Rain
1992	Adequate Rain
1993	Insufficient Rain
1994	Insufficient Rain
1995	Adequate and Timely Rain
1996	Insufficient Rain
1997	Adequate Rain
1998	Adequate Rain
1999	Insufficient Rain
2000	Insufficient Rain

There are three types of irrigation: Sprinkler Irrigation, Drip Irrigation, and Irrigation through canals or pipes or hoses.

Sprinkler irrigation is the effective method of irrigation for coffee cultivation. Since water is sprayed through sprinklers it evenly falls on all parts of the plant and the land surface.

Drip irrigation method constitutes a network of small pipes through which water is distributed directly near the root system in the form of droplets. Under this method the economic use of water is assured and water is saved up to 60 percent. Water loss due to seepage, evaporation, etc., is totally avoided under this system.

The common method adopted for irrigation is pumping of water to the roots of the coffee plants using hoses and pumps or cutting channels in the plot to reach the root region of plants. It is estimated that sprinkler irrigation would increase yield by 65 percent, while the increase for drip and pipe (or channel) irrigation are only 15 percent and 25 percent respectively.

Among the marginal and small farmers of Wayanad, none had used the sprinkler irrigation or drip irrigation method. But 10 percent of farmers among the marginal farmer category and 15 percent of farmers among the small farmers category had adopted irrigation through pipes and hoses.

6. Coffee Marketing

Coffee market in India is very unstable. It changes according to changes in the world market. Farmers do not get a stable price for their produce. A pooling system had been introduced several years ago as solution to this problem and it worked very well for some time. The Indian Coffee Board was the sole authority of marketing of coffee both in the internal and the international market. The forerunner of the coffee Board had been the Indian Coffee Market Expansion Board, which came into existence in 1940. The Coffee Board effectively conducted and controlled the pooling system till recent years.

Under this system all producers, small and large, had to surrender their entire produce to the pool to the Coffee Board or approved agencies of the Coffee Board. Private dealers who did not have dealership agreement with the Coffee Board were not allowed in the market.

Restrictions imposed by the Coffee Board in the movement of coffee nuts, strictures prescribed for quality management, stagnation in the price level for a long time, etc. turned the farmers by the 1980s against the pooling system. Widespread resentment grew among them against the pooling system.

In the face of the resentment, some relaxations to the pooling system were introduced. In the place of total pooling, partial pooling was introduced during 1992-'93. Under partial pooling, a system of internal sales quota was introduced according to which growers were allowed to sell 30 percent of their produce in the open market.

As the Internal Sale Quota (ISQ) proved to be a success, a Free Sale Quota (FSQ) system was introduced during 1995. Under this system, small farmers were allowed to sell 100 percent of their product in the open market while large farmers were allowed to sell 70 percent. Big farmers had to pool 30 percent of their produce with the Coffee Board. Through FSQ, an open market system came into existence for coffee in India.

Table 6.1 Farmer's Responses Regarding Benefits from Coffee Board (percentage)

Category of Farmers	Marketing of Coffee		Providing Subsidy		Introducing new varieties	
	Useful	Not Useful	Useful	Not useful	Useful	Not Useful
Marginal farmers	14	86	36	64	15	85
Small farmers	17	83	39	61	19	81

Coffee growers felt relieved with the abolition of the total pooling system. Only 14 percent of farmers among the marginal category in our sample reported that Coffee Board was useful in marketing coffee. Only 17 percent of small farmers revealed that Coffee Board was helpful in fetching for them good price for coffee. Among the big farmers, 25 percent suggested that Coffee Board was helpful for them in marketing coffee. The farmers cited the following reasons for their objections to the pooling system which the Coffee Board had pursued for a fairly long period.

Stagnant price

The price of raw coffee remained stagnant for a long period under the pooling system. Price of the produce was not increased according to changes in cost of production. While the Coffee Board held Monopoly in procurement and sales of coffee, the cultivators did not get remunerative price.

Mounting marketing cost

The Coffee Board had the responsibility of collecting, processing, storing, and assessing the quality of coffee and conducting auctions for selling raw coffee in the country. The cost involved in this process had been increasing year by year. The Board spent huge amounts on storing alone. Data provided by the coffee Board show that during past 20 years marketing expenses increased by 225 percent while the volume or quantity handled by Coffee Board increased only by 122 percent. The expenses incurred by the Coffee Board in transportation, storing, and marketing which constituted only 26 percent of the total cost in 1980 increased to 67 percent in 1990. All the burden of the increase in marketing costs fell upon the farmers and ate into their profits.

Delay in payments – Minimum Release Price and bonus

Long delays in making payments to farmers for their produce have also contributed to their ire against the Coffee Board. Usually it took three years for the Board to make the payment. One farmer reported that the sale proceeds of the coffee pooled in 1980 were paid to the growers in 8 instalments spread over 55 months. Though the majority of farmers complained against such long delays and piece-meal payments, three farmers opined that getting the payment in intervals had helped them tide over periodical financial stringencies. But the others complained that they had often to resort to borrowing due to delayed and irregular payments.

Minimum Release Price

The method of fixing minimum release price which used to be followed by the Coffee Board was also against the interest of growers. According to this method, the first payment was the minimum relief price, fixed on the basis of data on cost of production of growers in the co-operative sector. The information furnished by these farmers were not, however, representative. Cost of production in Kerala is entirely different from that in Karnataka or Tamil Nadu. Similarly cost of productions of marginal or small farmers is different from that of large estate owners. A uniform price given to all these groups is not, therefore, proper. Since Karnataka is the region in which 60 percent of the coffee produced in India is grown, a minimum release price fixed on the basis of the data furnished by the co-operatives in Karnataka did not at all reflect the ground situation in the Wayanad area.

Excessive emphasis upon quality

Under the pooling system, the Coffee Board insisted on high quality coffee beans or raw

coffee which alone was pooled by the Board. Coffee beans with black spots or broken beans were refused by it and farmers have no option but to take them back. Extra care taken to process the coffee fruits to obtain coffee beans of high quality increased cost of processing.

Strict restrictions

While the pooling system prevailed, the restrictions imposed by the Board on farmers to store and transport coffee beans were very rigid and even authoritarian at times. Farmers reported that they were allowed to keep with them coffee barely sufficient for consumption of the household. The entire balance had invariably to be pooled with the Coffee Board. Farmers were not allowed to withhold stocks from the market for sales when prices became favourable. In such cases officials from the Coffee Board and the Central Excise Department used to search the homes or their premises, and coffee beans, if any found stored up, were confiscated and legal actions initiated against the farmers concerned. One marginal farmer cited his experience during 1991; he sold all his product, 50 kg of coffee beans in the open market (unmindful of the Coffee Board) at double the price offered by the Coffee Board. Since he failed to pool his coffee to the Board that year, the officials searched his house but found only 5 kg of coffee beans from the house. When they saw this small quantity, the officer commented: “you sold your product, after keeping this much for own consumption”. The farmer was severely admonished for his deviant action.

Curbs on transportation

Coffee beans could be moved from one place to another only after obtaining T.P (Temporary Permit) in Form 3 from the Central Excise Department and that too only in vehicles permitted by the Central Excise Department in T.P3. Farmers had to spend two or three days at the Excise Office every time they had to obtain a TP3. This sort of excessive bureaucratisation turned the farmers against the practice of pooling and the Coffee Board.

Immediately after the abrogation of the pooling system in 1995, the farmers began to receive high prices for their product, but only till 1995. Though the spurt in the price of coffee was the result of fall in global coffee production, especially in Brazil, farmers attributed it totally to the abolition of the pooling system. The coffee market is characterised by cycles with short periods of high prices and extended periods of depressed prices, due primarily to variations in supply. In 1999 the price of coffee fell drastically and in 2000 coffee prices became unremunerative. Then only farmers realized that Coffee Board had not been the real villain who kept coffee prices low for lengthy periods. The price of coffee is determined by global situations. Only 10 percent of total production in India is consumed domestically and 90 percent of the product is exported. Hence domestic factors have very little influence in determining the price of coffee in the country.

Table 6.2 Number of farmers who Want Pooling System Back

Category of Farmers	Percentage
Marginal farmers	10.13
Small farmers	20.68

Our study revealed that though coffee farmers are the victims of frequent changes in coffee prices, very few of them want the pooling system to come back. Only 10 percent among marginal farmers and about 20 percent among small farmers. Over-bureaucratisation, authoritarianism, and excessive rigidity are cited by farmers as reasons for their dislike of the Coffee Board.

7. Effects of Fall in Price of Coffee

The plantation economy of Kerala is passing through one of the most serious crises it ever had due to fall in the prices of its products. The coffee sector is one of the main victims of the fall in prices. With the establishment of the WTO in 1995, trade in agricultural commodities was brought under the multilateral trading process. Earlier, agricultural trade used to be done through bi-lateral trade agreements and countries were free to favour countries or impose quotas, as they wished.

The most favoured nation (MFN) clause implies that any concession granted to one member automatically applies to all other members of the WTO. The principle of non-discrimination is carried into the domestic realm through the application of the national treatment clause, which implies that any concession granted to a domestic product should be granted to the imported product also. The reduction or elimination of quantitative restrictions is extremely important in the WTO framework. The removal of quantitative restrictions is one of the conditions that have become obligatory by India's entering into agreement on agriculture with WTO. This has specific implications for the coffee economy of the country and naturally therefore for the coffee-growers of Wayanad.

When quantitative restrictions were lifted, exports from Brazil and Columbia began to reach India. Coffee from these countries is superior in quality and caters to the demand of the connoisseurs in the market. Cheap coffee from Vietnam and Indonesia also reaches India and competes with the Indian varieties. In 2000, price of the Robusta variety in India was Rs 25 while that of the Arabica variety was Rs 55 per kg. But Vietnam coffee was sold at Rs 20 per kg. Thus a situation in which price does not cover the cost of production has arisen, especially for the small producers. Vietnam was expected to produce about 400 thousand tonnes in 2005. But it attained this target in 1998 itself. In 2000 its output was 7,50 thousand tonnes. The yield per acre in Vietnam was five times higher than of India.

Loss of income

Owing to fall in the price of coffee, coffee-growers in Wayanad suffered heavy losses. Immediately after the WTO intervention in global trade in 1995, the price of Robusta coffee fell from Rs 126.90 per kg to Rs 82.31 in 1996 to Rs 67.63 in 1999, and Rs 30.13 in 2000. From Table 7.1 it becomes evident that coffee growers in Wayanad lost nearly Rs 1282 crore due to fall in the price of coffee, during the period 1995-2000.

Loss of employment

Women labours and migrant labourers lost jobs when farmers limited their agricultural activities to minimum requirements.

Distress sale

For the first time in its history, distress sale appeared in coffee sector. When the pooling

Table 7.1 Loss of Income Due to fall in Price

Year	Production (000 tonnes)	Price (Rs per Kg)	Difference (in Price)	Loss (in income)
1996	34.63	82.31	44.59	154.42
1997	38.26	80.59	46.31	177.18
1998	39.13	83.89	43.01	168.30
1999	48.18	67.63	59.27	285.57
2000	51.29	30.13	96.80	496.49
Total	1281.96			

system was strong the growers could sell their output only to the Coffee Board. But when free marketing was allowed it led to the unhealthy practice of distress sale of coffee. Our study revealed that six percent of coffee-growers among the small and the marginal sectors sold their produce at prices much lower than the prevailing market prices in advance to private traders. Immediate financial difficulties forced them to resort to this practice of selling their output and receiving payments, in advance.

Table 7.2 No. of farmers who resorted to distress sale

Year	Percentage of farmers	Market Price	Price realised
1996	4%	82.31	41.56
1997	6%	80.59	40.85
1998	6.4%	83.89	42.95
1999	11%	67.63	35.84
2000	11.6	30.18	19.14

Distress sales were done on contract basis. The private business men or traders gave advance amounts to farmers for the right of harvesting the output and the price is fixed as a lump sum. From experience, farmers have learnt to forecast output. On an average, farmers get hardly half the prevailing market price through such distress sales.

Subsistence picking

Since the price of coffee fell far below cost of production farmers began to resort to subsistence picking of output. They grow and harvest coffee just enough for subsistence. Since higher production leads to higher loss, production would be curtailed to meet their own minimum requirements. They have ceased to consider coffee cultivation as a commercial proposition.

Loss of employment to migrant labour

Migrant labourers from Karnataka used to undertake about one-fourth of the works on coffee gardens in Wayanad. But when prices fell steeply, coffee-growers curtailed agricultural work in the plantations: only the bare minimum items of works were carried out. The result has been loss of employment to migrant labourers from Karnataka.

Loss of employment to women

In addition to rice, coffee has remained the largest provider of employment to women labourers in the area. But when the price of coffee failed even to fetch its cost of production, growers resort to short-cut methods in cultivation. Instead of cutting and removing weeds, they use chemicals to destroy the weeds. Similarly the application of fertilisers and manures is limited to the bare minimum requirement. All these items of work are the ones carried out by women labourers. When these items of work were curtailed or stopped altogether women labourers are lost jobs and thrown out of employment.

8. Conclusions and Suggestions

The major conclusions that emerge from the preceding discussion are presented below.

The majority of the holdings in Wayanad are small in size, more than 90 percent of them of below 2 hectares in size.

Robusta coffee is the main variety cultivated in the area. About 95 percent of the gardens are planted with Robusta; the other variety cultivated in the area is Arabica. Robusta fetches lower prices in domestic and international market than Arabica. The brewing value of Robusta is also comparatively low.

The holdings of marginal and small growers are mainly owner-operated; casual wage labour is engaged only sparingly. There are no permanent wage workers in this sector. Only large estate owners have permanent workers under them.

Small and marginal farmers practise mixed farming; they shift crops according to the changes in market conditions, particularly the price of coffee. When coffee prices fall, they reduce working expenses on coffee and shift to other crops especially to pepper.

Pepper vine and arecanuts are quite common in coffee gardens of small farmers. About two decades ago, the gardens of small farmer were cultivated with coffee alone. Spurt in the price of other cash crops and stagnation in the price of coffee lead to the spread of mixed farming.

Though Robusta responds very positively to irrigation, small and marginal farmers do not adopt any irrigation method in their gardens. Even though there exists evidence of a 60 to 70 percent increase in yield with proper irrigation, small growers are reluctant to provide irrigation facilities due to high costs. Sprinkler or drip irrigation are reportedly high-cost methods.

In the marketing of coffee, withdrawal of Coffee Board has led to the emergence of intermediaries in trade. Middlemen sell the coffee they collect directly from farmers to wholesalers who in turn export it. At present no agency exists to co-ordinate, or gives directions to coffee marketing. The influence of Coffee Board has weakened considerably after the pooling system was abrogated.

Distress sale of the product by small and marginal farmers is reported to be widely prevalent. Farmers sell the output well in advance of the harvesting season at prices much lower than those prevailing in the market in order to tide over their financial difficulties.

Coffee is a labour-intensive crop and it employs large number of workers. Fall in the price of coffee to abysmal levels has forced many farmers to curtail or even to give up agricultural activities. As a result, large numbers of workers have been deprived of employment.

Setback in the coffee economy of Wayanad due to fall in prices has affected women workers severely. Coffee used to provide employment to larger number of women folk in rural areas. When the receipts from coffee sales fell below its cost of production, several agricultural activities were reduced throwing large number of women labourers into unemployment. Poverty is tending to become rampant in the rural area of Wayanad as a consequence.

Tribal labourers also lost employment due to stagnations in the coffee economy. Weeding and harvesting activities used to provide them gainful employment to tribesfolk. But now they have been reduced to abject poverty, surviving at the mercy of free ratio.

Suggestions

The following suggestions are made to help the coffee growers:

Diversification of agriculture is one of the ways to escape from the present predicament of coffee growers of Wayanad. Instead of depending upon coffee alone, inter-cropping should be adopted as an alternative way of farming. It will provide additional income to the coffee growers. Cultivation of vanilla, medicinal plants, etc as inter crops in coffee gardens would fetch additional income.

To the maximum extent possible, Robusta should be replaced by Arabica. In the international market there was not just any demand for Robusta coffee. Only if farmers shifted to Arabica, income per hectare of coffee would increase substantially. The experience of Vietnam should be adopted as a model. Vietnam produced 7,50 thousand tonnes of Robusta coffee during 2000. After realising that adequate demand for Robusta coffee does not exist in the global market, they shifted to cultivation of Arabica in the northern highlands of Vietnam in about 250 thousand hectares.

Organic farming is another method recommended for increasing per hectare income from coffee gardens. There exists high and increasing worldwide demand for organic products. Coffee produced without applying chemical fertilisers and pesticides fetch high prices in the world market. An attempt in this regard would open new areas of operation for small and marginal farmers of Wayanad. The unpolluted air and water in Wayanad are very suitable for organic farming.

To reduce the effect of WTO intervention in global agriculture, ACPC (Association of Coffee-Producing Countries) has initiated the coffee retention scheme. The Coffee Board recommends this scheme for India also. Under this scheme 20 percent of the produce shall be hoarded until the price touches a specified and profitable level.

The import of cheap Robusta coffee from Vietnam and Indonesia should be reduced by imposing non-trade barriers such as labour standards. Sanitary and phyto-sanitary measures also could be used to check cheap import. These measures imply health standards, which specify that the commodity should be free from germs. They include also packaging techniques and curing processes.

Coffee gardens may be turned into Tourist Centres under Eco-Tourism. Wayanad is the most beautiful district in Kerala. Located in the Western Ghats, Wayanad has been identified as one of the 18 biodiversity hotspots of the world. The pristine cleanliness and beauty of this land has earned for it epithets like 'Kashmir of the South'. Tourists may be attracted to visit coffee gardens, and see directly the cultivation activities in the gardens. Resorts may be built in the beautiful and peaceful atmosphere of coffee gardens and tourists may be attracted to stay in them. The Kuppumudy Estate in Ambalavayal has made some pioneering attempts in this direction. They have built a helipad in the estate and engaged chartered helicopters to bring foreign tourists from Bangalore to visit these gardens. Tourists are given opportunities to pluck coffee beans by themselves from the plants. The plucked beans are immediately dried and processed into coffee powder on the spot. After packaging the powder and writing the name of the person who plucked the coffee beans on the pack itself, it is sold to the tourists who plucked the beans. Tourism is a promising new area for the uplift of the plantation economy of Wayanad. Cardamom gardens of Idukki district have also showed the way in this regard. Coffee gardens in Wayanad may follow suit.

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