TECHNO-ECONOMIC AND SOCIO-ECONOMIC SURVEY OF KERALA TEA INDUSTRY

TEA BOARD OF INDIA

Rupees :40.00

Date: April 2001.

Tea Board
14, B. T. M. Sarani,
Calcutta – 700 001

Published by: Tea Board, 14, B.T.M. Sarani, Calcutta – 1
Printed by AUROVIL PRINT HOUSE, 98300-49362

The Survey Team

Research Officer (Economics)
Sanjoy Kumar Mitra

Senior Investigator
A. Rajan

Investigator

Chandrachur Dasgupta

Ranajit Pal

Dilip Kumar Mukherjee

Nitish Malakar

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FOREWORD

The Techno-Economic / Socio-Economic Survey Report of Kerala tea industry is the fourteenth in the series of such reports brought out by Tea Board.

For long years, the Kerala tea industry has been beset with a host of problems like low profitability, inadequate investment plough back for developmental needs and failure to attract entrepreneurial interest for modernization. The present Survey is an effort to study the techno economic situation in depth and to bring the constraining factors into sharper focus.

Tea plantation provides livelihood to a large population in the State. Their socio economic awareness and upliftment do play a key role in shaping the growth of the tea economy of the State. It is with this objective the Survey encompasses the industry's socio economic backdrop as well, which is given shape of this twin survey report.

In the report, major techno economic problems have been analysed chapter wise with remedial suggestions. The Survey team has also made endeavour to evaluate the living conditions of the people associated with tea vis-à-vis other plantation with a comparative study with other economic strata of the people.

I am sure, the report will unfold useful findings before all concerned and the recommendations will elicit fruitful appraisals at appropriate forums. Given the significance of Kerala in the Indian tea map, various Government departments, Tea Board and the concerned associations should work in cohesion to bring about growth and prosperity in the state's tea industry.

I thank Tea Board's Statistics Branch for bringing out this report and all others who have put in their valuable assistance in accomplishing this task.

N. K. DAS
CHAIRMAN

April,2001.
Kolkata.

Introduction

The age-old tea industry in Kerala has been surrounded with innumerable problems over the past several years. The Techno-Economic and Socio-economic Survey by Tea Board has attempted to sort out the actual problems and its impact on the socio-economic condition of the people living in the tea growing areas through on the spot investigation. An assessment of the magnitude of the problems as also a few remedial measures is recommended in the report. The survey team could identify some major problems such as absence of rejuvenation and replanting by uprooting of fairly old bushes and lack of proper irrigation and drainage facilities, absence of managerial skill and technical know-how and various other adversities. For a sizeable segment of the industry, non-availability of funds for developments was reported to be a deterrent factor for the overall growth of the industry. The survey team has also attempted to evaluate the socio-economic conditions of the people connected with tea vis-à-vis other plantations and profession in order to made a comparative study in the survey report.

Our Investigators had to face lot of difficulties in the collection of requisite data and other related information. Nevertheless, every effort has been made to present the report in a lucid and concise form highlighting the manifold problems of the tea industry in Kerala.

I shall be failing in my duty if I do not place on record my heartfelt thanks to Dr.H.N.Dwibedi, Controller of Licensing, Shri Sanjoy Kumar Mitra, Research Officer (Economics) and the survey team for rendering their service and valuable help in the preparation of the report. I also like to convey my sincere thanks to the Chief Regional Executive, Tea Board, Coonoor, Officials of Board's Cochin Office, Management and workers of the tea gardens, the people connected with other professions who had rendered their valuable services to the survey team of the Board for completing the survey successfully.

March 2001
Kolkata.

M. Paramananthram.
Statistician.

TECHNO-ECONOMIC SURVEY (BIG GROWER) OF KERALA TEA INDUSTRY

PART – I

General

PART - I

CHAPTER - I

Physiography and state of economy

Kerala is a small State situated in the South West corner of India with a toal population of 29,698,518 (as per 1991 census), which accounts for about 3.43 percent of the total population in the country. Sex ratio of the state is 1000 males per 1040 femeles. Kerala is assessed to be a high literacy state. 89.9 percent of the population above the age of seven is literate as against the Indian average of 52.2 percent. Sex-wise 94.45 percent of the total male population and 86.93 percent of the females are literate. 17 percent of the population of the state are reportedly living below the poverty line where the national average stands at 29.90 percent. The percentage of landless agricultural labourers to total workers is considered high indicating dependence on agriculture among a large section of the work-force.

Kerala may be divided into three geographical regions viz. Highlands, Middle-lands and Lowlands. The average height of the highlands is around 900 meter with many about 1800 metre. Major plantations like Tea, Coffee, Rubber, Cardamom and other spices are grown in this region.

Middleland comprises wavy hills and valleys. Cashew, Coconut, Arecanut, Cassara(Tapioca), Banana, Rice, Ginger, Pepper, Sugarcane, and different varieties of vegetables are grown in this area.

Lowland comprising rivers, deltaic regions etc. are suitable for coconut and rice cultivation. Major industries of this region are fishery and coir.

The State of Kerala accounts for about 34 percent of the total South India crop and 8 percent of the national tea output. The State has a good network of transport and intercommunication services linking its various districts. The climate is temperate throughout the year. The State enjoys both South-west and North-East monsoon bringing the rain twice a year once during June-July and again during October-November. The annual rainfall is 330cms on an average. However, because of uneven and sporadic rainfall some of the districts face occasional spells of drought. Tea is grown in as many as 10 out of 12 districts in Kerala and is a major agricultural produce of the State.

TABLE-1

AREA PRODUCTION AND YIELD OF TEA

Area in Hect.
Production in Th. Kg.
Yield: Kg./Hect.

Year	Kerala			South India			All India		
	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield
1988	34694	63971	1844	74845	175291	2342	414347	700014	1689
1989	34671	53884	1554	74749	158534	2121	414953	688105	1658
1990	34686	60665	1749	75265	175232	2328	398453	720338	1731
1991	34678	66803	1926	75288	191266	2541	416269	754192	1794
1992	34525	54627	1582	75213	161898	2153	420470	732322	1742
1993	34683	62003	1788	75574	179292	2372	420289	760826	1819
1994	36817	63127	1715	87766	184940	2107	418363	752895	1768
1995	36775	64778	1761	87832	187385	2133	427065	756016	1770
1996	36871	61962	1681	88006	180408	2050	434376	780034	1796
1997*	36784	69637	1893	87918	205646	2339	433759	810613	1869

*Estimated

According to data published by Tea Board there are 161 tea estates in Kerala above 8.09 hectares of tea area. These estates aggregate to a 31984 hectares of total area under tea. While such estates are classified as "big growers", there were as many as 5970 "small growers" with holding upto 8.09 hectares covering a total of 4791 hectares of land under tea.

TABLE-2

AGE GROUP OF BUSHES IN KERALA DURING 1995

Age-Group	Area Covered (In Hect.)
Below 5 years	4332
6 to 10 years	550
11 to 20 years	451
21 to 30 years	752
31 to 40 years	1359
41 to 50 years	3611
Above 50 years	25720
All-groups	36775

More than 70% of the total tea area contained bushes above 50 years while matured bushes within 11 to 40 years of age accounted for around 20% of the total area.

CHAPTER-II

Survey design and distribution of the sample :

2.1 Tea estates in Kerala are primarily spread over the districts of Kottayam, Wynaad, Idukki, Palghat and Quilon. A large number of small growers operate in other districts also that are yet to have Tea Board's registration. In absence of comprehensive data on the population frame, geographical location and the area covered by them, no sampling procedure could be adopted other than a purposive one.

2.2 Three types of questionnaire designed for the survey were : -

I) Questionnaire A - for the big growers above 8.09 hectares;
II) Questionnaire B - for the small holdings upto 8.09 hectares and
III) Questionnaire C - for the households associated with tea plantation and non-tea plantation.

Though 20 blank questionnaires were mailed to each of the aforementioned districts the response was poor. Finally, the Statistician determined the zones to be covered for collecting information in consultation with the Chief Regional Executive, Tea Board, Coonoor. Field data were collected by the team of Investigators of Tea Board's Techno-Economic Cell in February and March 1997. During the course of the survey Statistician and Research Officer (Economics) visited the region and held discussion with the concerned State Government Department, members of Peermade Development Society and other tea interests.

Eventually, the Tea Board team could collect information from altogether 119 samples whose break up is as follows : -

Big growers (in questionnaire A)	—	11
Small growers (in questionnaire B)	—	27
Households (in questionnaire C)	—	81
Total	—	119

PART – II

Analysis of data

CHAPTER - I

UTILISATION OF GRANT AREA

Sample distribution :

By and large the size (area under tea) of the tea estates varied widely from 50 hectares to above 400 hectares.The distribution of sample estates according to size-group and type of ownership is shown below :

TABLE - 3

DISTRIBUTION OF SAMPLE TEA ESTATES BY SIZE-GROUP AND OWNERSHIP IN KERALA.

Size/ Ownership	Above 8.09 to 50 hectare	Above 50 to 100 hectare	Above 100 to 200 hectare	Above 200 to 400 hectare	Above 400 hectare	Total
Proprietory	—	1	—	—	—	1
Partnership	—	—	—	—	—	—
Pvt. Ltd.,	—	—	1			1
Pub. Ltd.,	—	—	1	5	3	9
Total	—	1	2	5	3	11

73% of the tea estates in Kerala were above 200 hectares of which 5 estates (45%) belonged to the size-group of above 200 to 400 hectares. Ownership-wise, the Kerala tea industry was dominated by Public Limited companies, which covered 82% of the total tea estates.

Commencement of Plantation :

Kerala tea plantation is fairly old with a majority of them crossing 50 years of age. The commencement period of tea plantation is summarised as follows: -

TABLE - 4

CLASSIFICATION OF THE SAMPLE ESTATES ACCORDING TO YEAR OF COMMENCEMENT OF TEA PLANTATION

Year of Commencement of tea plantation	Number of tea Estates	Percentage to total
1840-1849	1	9.09
1850-1889	—	—
1890-1899	2	18.18
1900-1909	1	9.09
1910-1919	1	9.09
1920-1929	1	9.09
1930-1939	—	—
1940-1949	1	9.09
Unspecified	4	36.37
Total	11	100.00

Membership of Association :

Most of the gardens are the members of United Planters' Association of Southern India (UPASI), the premier producers' association in South India and their research wing, Tea Research Institute (TRI). The size-group-wise and the ownership-wise membership of details are shown in table 5 and 6.

TABLE - 5

SIZE-GROUPWISE MEMBERSHIP OF PRODUCERS' & RESEARCH ASSOCIATIONS.

Size-group (Hectare)	Number of estates surveyed	Number of estates under membership of		Percentage of estates under membership of Associations to total number of estates surveyed	
		Producers' Association	Research Association	Producers' Association	Research Association
Above 8.09 to 50	—	—	—	—	—
Above 50 to 100	1	Nil	Nil	—	—
Above 100 to 200	2	2	2	18.18	18.18
Above 200 to 400	5	5	5	45.45	45.45
Above 400	3	2	2	18.18	18.18
Total	11	9	9	81.82	81.82

TABLE - 6

OWNERSHIPWISE MEMBERSHIP OF PRODUCERS' & RESEARCH ASSOCIATIONS.

Ownership	Number of estates surveyed	Number of estates membership of		Percentage of estates membership of Associations to total number of estates surveyed	
		Producers' Association	Research Association	Producers' Association	Research Association
Proprietory	1	—	—	—	—
Partnership	—	—	—	—	—
Private Ltd.	1	1	1	9.09	9.09
Public Limited	9	8	8	72.73	72.73
Total	11	9	9	81.82	81.82

Grant Area Utilistion :

The position relating to utilisation of the total area by different size-group is shown in table 7.

TABLE - 7

PROPORTION OF UTILISATION OF THE GRANT AREA BY SIZE-GROUP.

(In Percentage)

Category of utilisation	Size-group (In Hectare.)				Overall
	Above 50 to 100	Above 100 to 200	Above 200 to 400	Above 400	
Area under tea	81.93	32.55	55.51	31.75	39.30
Area under nursery	—	0.66	0.10	0.07	0.12
Other area	18.07	66.79	44.39	68.18	60.58
Total	100	100	100	100	100
Area available	8.08	6.52	6.52	1.07	3.29

It may be seen from the above table that area under tea constituted only 39.3% of the total grant area. Major share of around 60% of the grant area were covered by roads, bridges, forests, factory, office, labour quarter, fallow and wastelands etc., classified as "other area". The data reveals that around 3.29% of the total grant area could be used for tea plantation among the "other area".

The analysis of utilisation of grant area by ownership is shown in the following table. It reveals that Private Limited and Public Limited companies have greater availability of " other area" within the grant.

TABLE - 8

PATTERN OF GRANT AREA UTILISATION BY DIFFERENT OWNERSHIPS

(In percentage)

Category of utilisation	Ownership			Overall
	Proprietory	Private Ltd.	Public Ltd.	
Area under tea	81.93	32.30	39.10	39.30
Area under nursery	—	—	0.13	0.13
Other area	18.07	67.70	60.77	60.57
Total	100	100	100	100
Area available	8.05	10.67	2.30	3.29

Bulk of the grant area (62%) was owned by the size-group of above 400 hectares followed by the size group of above 200 to 400 hectares (29%) and above 100 to 200 hectares (8%). By contrast, the proportion of area utilized for nursery was found to be decreasing with the increase in size-group. It is suggested that the estates may extend area under nursery operation for effective propagation of tea through appropriate planting materials.

Ownership-wise analysis reveals that Proprietory units utilised maximum proportion (82%) of the total grant for tea cultivation followed by Public Limited companies (39%). Private Limited companies utlised lesser proportion (32%) of the total grant in tea cultivation. Private Limited companies were found to have 68% "other area" out of the total grant followed by Public Limited, which has 60.90% and Proprietory the lowest of 18%.

TABLE - 9 (A)

AVERAGE SIZE OF ESTATE, AVERAGE GRANT AREA AND AVERAGE NON-TEA AREA BY DIFFERENT SIZE-GROUP

Size-group	Number of of Estates	Total area under tea (hectare)	Average area under tea per Estate (hectare)	Total area under grant (hectare)	Average area under grant per Estate (hectare)	Average area other than tea (i.e. grant minus tea area) per Estate (hectare)
Above 8.09 to 50	Nil	Nil	Nil	Nil	Nil	Nil
Above 50 to 100	1	81.81	81.81	99.85	99.85	18.04
Above 100 to 200	2	247.43	123.72	760.27	380.14	253.42
Above 200 to 400	5	1559.19	311.74	2809.67	561.83	249.00
Above 400	3	1875.89	625.30	5908.79	1969.60	1344.30
Total	11	3764.32	342.27	9578.08	870.73	528.57

On an average tea was cultivated in about 39% of the total grant. The average area under tea and average non-tea area bore a ratio of 1:1.54. The ratio of average area under tea to non-tea area has been calculated as 1:0.22, 1:2.05, 1:0.80 and 1:2.15 for the size-group of above 50 to 100 hectares, above 100 to 200 hectares, above 200 to 400 hectares and above 400 hectares respectively.

Ownership-wise analysis of average area used for the purpose of tea and other than tea may be summarised in the following table: -

TABLE - 9(B)

UTILISATION OF AREA ACCORDING TO OWNERSHIP

Ownership	Number of of Estates	Total area under tea (hectare)	Average area under tea per Estate (hectare)	Total area under grant (hectare)	Average area under grant per Estate (hectare)	Average area other than tea (i.e. grant minus tea area) per Estate (hectare)
Proprietory	1	81.81	81.81	99.85	99.85	18.04
Partnership	Nil	Nil	Nil	Nil	Nil	Nil
Private Ltd.	1	110.21	110.21	341.23	341.23	231.02
Public Ltd.	9	3572.30	396.87	9137.00	1015.22	618.36
Overall	11	3764.32	342.17	9578.08	870.74	528.57

It is observed that Public Limited companies have larger non-tea area per estate as compared to other categories of ownership. It is, therefore, suggested that Public Limited companies may identify suitable area within the grant for the purpose of extension of tea by availing of the assistance under Tea Boards Plantation Development Scheme.

Land suitable for extension :

The following table shows the extent of area under cultivation of tea vis-à-vis the area that could be suitable for tea cultivation.

TABLE - 10(A)

AREA SUITABLE FOR EXTENSION VIS-À-VIS AVERAGE NON-TEA AREA BY SIZE-GROUPWISE.

(Area in hectare)

Size-group	Number of estate	Average non-tea area per estate	Land suitable extension per estate	Percentage of land suitable for extension to total non-tea area
Above 8.09 to 50	Nil	Nil	Nil	Nil
Above 50 to 100	1	18.04	8.04	44.57
Above 100 to 200	2	253.92	30.71	12.09
Above 200 to 400	5	249.45	36.61	14.68
Above 400	3	1342.95	21.00	1.56
All group	11	527.45	28.68	5.44

The percentage of land suitable for extension to total non-tea area was found highest at 45% for the size-group of above 50 to 100 hectares followed by the size-group of above 200 to 400 hectares at 15% and above 100 to 200 at 12%. This shows that the estates upto 400 hectares had scope to bring more area within the grant under tea cultivation. Similar analysis on ownership is summarised in the following table.

TABLE - 10(B)

AREA SUITABLE FOR EXTENSION VIS-A-VIS AVERAGE NON-TEA AREA BY OWNERSHIPWISE.

(Area in hectare)

Ownership	Number of estate	Average non-tea area per estate	Land suitable extension per estate	Percentage of land suitable for extension to total non-tea area
Proprietory	1	18.04	8.04	44.57
Partnership	Nil	Nil	Nil	Nil
Private Limited	1	231.02	36.42	15.76
Public Limited	9	616.99	30.11	4.88
Total	11	527.45	28.68	5.24

In particular, it is suggested that the estates within size-groups of above 50 to 100 hectares and above 200 to 400 hectares may identify suitable area for extension within the grant with the financial assistance under Tea Board's Plantation Development Scheme.

Progress of extension and replacement :

The long-term developmental measures like extension planting and replacement taken up by the surveyed garden during 1994-96 are shown in the following table.

TABLE – 11

PROGRESS OF EXTENSION AND REPLACEMENT CARRIED OUT DURING 1994 - 1996.

Size-group (In-hectare)	Extension				Replacement			
	Number of estates undertaken extension	Area replaced during last 3 years	Percen-age to total planted area	Percen-age to suitable for extension	Number of estates undertaken replacement	Area replaced during last 3 years	Percen-tage to planted area	Percen-tage to area suitable for extension
Above 8.09 to 50	-	-	-	-	-	-	-	-
Above 50 To 100	-	-	-	-	-	-	-	-
Above 100 to 200	-	-	-	-	-	-	-	-
Above 200 to 400	1	1.74	0.61	-	-	-	-	-
Above 400	1	5.67	1.07	9.00	1	3.13	0.50	4.97
All groups	2	7.41	1.68	2.35	1	3.13	0.50	0.99

Although the estates within size-group of above 50 to 100 hectares had more area suitable for extension, (Table-7) no extension/replacement planting area was carried out by them during 1994-96. In general, a poor initiative was noticed for such developmental activities. Hence, it may be suggested that assistance available under Plantation Development scheme of Tea Board may suitably be utilised to launch extension of tea cultivation.

Progress of other development works : -

9 estates out of 11 took up developmental measures like drainage, irrigation, installation of machinery, transport vehicles, construction of roads, labour quarters and other buildings. The rest of the estates were known to have plans for such activities in immediate future.

CHAPTER -II

CULTURAL OPERATIONS AND FIELD PRACTICES:

Age profile of bushes **: -**

Table - 12(A) below will indicate the age composition of bushes according to different size-group of the surveyed estates. It may be observed that around 89% of the total planted area had bushes above 50 years. Of these, about 34% of the planted area was covered by the bushes above 70 years. Matured tea bushes of age between 10 and 50 years accounted for only 11% of the planted area.

TABLE - 12(A)

AGE COMPOSITION OF BUSHES WITH PROPORTION OF PLANTED AREA BY SIZE-GROUPS

(Figures in Percentage)

Size-group (In hectare)	Upto 10 years	Above 10 to 30 years	Above 30 to 50 years	Above 50 to 70 years	Above 70 to 90 years	Above 90 years	Total
Above 8.09 to 50	-	-	-	-	-	-	-
Above 50 to 100	-	-	100	-	-	-	100
Above 100 to 200	-	6.55	19.33	74.12	-	-	100
Above 200 to 400	6.78	3.96	6.24	62.32	10.66	10.04	100
Above 400	3.82	1.64	0.63	44.77	35.85	13.29	100
Overall	3.68	1.76	5.84	55.00	23.16	10.56	100

The share of planted area above 50 years variation increased with increase in size. It is suggested that the estates of size-group 200 hectares and above may take up replanting/replacement planting in order to sustain the economic health of the plantation. Rejuvenation pruning is also considered an important activity, which revitalizes old and unproductive tea bushes and provides them with a fresh lease of life with increased productivity. The estates may make use of the loan and subsidy available under Tea Board's development scheme in order to take up replanting/replacement planting.

The ownership-wise composition of age of bushes is presented in Table - 12(B) below : -

TABLE - 12(B)

AGE COMPOSITION OF BUSHES WITH PROPORTION OF PLANTED AREA BY OWNERSHIP.

(Figures in Percentage)

Ownership	Upto 10 years	Above 10 to 30 years	Above 30 to 50 years	Above 50 to 70 years	Above 70 to 90 years	Above 90 years	Total
Proprietory	-	-	100	-	-	-	100
Partnership	-	-	-	-	-	-	-
Private Limited	-	14.72	20.32	64.96	-	-	100
Public Limited	4.97	2.56	3.76	53.87	23.48	11.36	100
Overall	3.68	1.76	5.84	55.00	23.16	10.56	100

Young bushes upto 10 years of age were found to exist only within the estates owned by Public Limited companies, which accounted for 5% of their total planted area. On the other hand these estates were holding as much as 88% of the total planted area under old bushes above 50 years. The survey recommends that the estates under Public Limited companies may take up a suitable replantation and rejuvenation strategy in order to sustain the long-term development of the plantation by taking advantage of Tea Board's Plantation Development Scheme.

Vacancy :

The survey team encountered considerable difficulty in obtaining data on spacing adopted by the tea estates as they were either not properly maintained or scarcely updated.

The overall percentage of vacancy in the State of Kerala was estimated at 12% and the average number of bushes per hectare was 5429.

The size-group-wise analysis in table 13(a) revealed a greater vacancy for the estates under the size-group of 200 hectares and above than the others. Therefore, this sector of the tea plantation may lay due stress on infilling with/without interplanting in a phased manner.

TABLE - 13(A)

PERCENTAGE OF VACANCY AND PROGRESS OF INFILLING BY SIZE-GROUP DURING 1996

(In Hectare)

Size-group	Number of gardens surveyed	Average existing bushes per hectare of planed area	Average percentage of vacancy as reported by estates	Number of estates undertaking infilling
Above 8.09 to 50	-	-	-	-
Above 50 to 100	1	4500	10	1
Above 100 to 200	2	6765	14	1
Above 200 to 400	5	6986	25	1
Above 400	3	5004	22	-
All-groups	11	5429	21	3

The same analysis on ownership-wise is presented in table 13(B) below : -

TABLE - 13(B)

PERCENTAGE OF VACANCY AND PROGRESS OF INFILLING BY TYPES OF OWNERSHIP DURING 1996.

(In Hectare)

Ownership	Number of gardens surveyed	Average existing bushes per hectare of planed area	Average percentage of vacancy as reported by estates	Number of estates undertaking infilling
Proprietory	1	4500	10	1
Partnership	-	-	-	-
Private Limited	1	6500	10	-
Public Limited	9	5089	22	2
Overall	11	5429	21	3

The higher vacancy ratio was found to affect mostly the Public Limited companies in absence of suitable infilling/interplanting program. It is, therefore, suggested that UPASI-TRI may initiate an appropriate study on strategic infilling schedules under various constraints such as vacancy, bush-age, soil condition and agro-climatic factors and make advisory recommendation thereto. R& D Scheme of Tea Board may be helpful to assist such projects.

Irrigation :

The average rainfall in the districts of Idukki and Wynaad was 375 cms. during 1994, 319 cms during 1995 and 322 cms during 1996. The estates in the district of Idukki are evenly rainfed than in the district of Wynaad. Out of the 11 estates surveyed as many as 8 estates had artificial irrigation facility in the form of sprinkler. The most common devise was the pump sets to utilise the water from nearby rivers, perennial streams and ponds. During 1996 almost 735 hectares (19% to total) of planted area were irrigated. A few smaller sized estates reported lack of adequate funds for installation of irrigation equipment. It is suggested that the estates not having artificial irrigation may utilise financial assistance under Tea Board's Tea Plantation Development Scheme to procure necessary equipment. Machinery and Irrigation Equipment Loan Scheme.

Application of Fertilizer :

Almost all the surveyed estates used chemical fertilizers like Sulphate of Ammonia, Super Phosphate, Rock Phosphate, Murate of Phosphate etc. Besides, one garden used organic manure like cowdang, neem oil cakes etc., on young teas.

Control of Weeds, Pests and Diseases :

Weed problem was prevalent in all the sample tea estates. Pest particularly, Scarlet Mite, Thrips, Helopelties and Caterpillers were reported to be very common.

Almost all the sample estates were under disease attack. Some common plant diseases were reported like Red Rust, Blister Blight and Black Root Rot, etc.,

Chemical control was found to be the most common plant protection measure based on scientific norms as per UPASI-TRI recommendations. Research assistance on various aspects under Tea Board's R&D scheme may be effectively utilised like biotechnology, integrated pest management and plant protection measures, quality improvement, nutrition management and use of micronutrients etc.

Shade Trees :

The condition of shade trees was found to be good and well maintained. The common varieties of shade trees were Grevillea Robursta, Albizzia Odoratissima. Most of the estates adopted 40' x 40' spacing for the old shade trees but quite a few estates had closer spacing like 20' x 20' and 10' x 10' for newly planted permanent trees.

Pruning Cycle :

It was observed that all the surveyed tea estates adopted 4-year pruning cycles. Pruning operation was guided by UPASI-TRI's recommendation in almost all the estates. Very few tea estates tried for extended pruning cycle on experimental basis. However, survey team felt that scientific and calculated norms for pruning should be used more widely for optimum flush schedule and improvement in yield rate.

Plucking Round :

The plucking round adopted by the estates varied over different seasons. But in general, well calculated rounds were adopted based on rainfall, age of bushes and market conditions. In general, during 1st quarter (January to March), 12 day to 14 day round were adopted in Idukki district and 8 day to 12 day round in Wynaad district of Kerala. During 2nd quarter (April to June) and 3rd quarter (July to September) the plucking rounds were 8 day to 10 day in both the districts of Kerala, while in the final quarter (October to December) the estates plucked 9 to 12 day rounds. There was a general conscientious on the calculated plucking round which has a direct impact on the health of bushes and quality of green leaves plucked. Almost all the UPASI-TRI member gardens followed the technical advice on plucking norms.

Plucking standard :

The following table-14(A) shows the analysis of standard of plucking on the basis of size-group-wise on the sample tea estates.

TABLE-14(A)

SIZE-GROUPWISE STANDARD OF PLUCKING AND AVERAGE YIELD OF GREEN LEAF PER BUSH DURING 1996.

Size-group (in hectare)	Average bush per hectare	Plucking of green leaves kgs/hectare)			Average yield of green leaf per bush (in kgs.)	Average yield of made tea (kgs./hectare)
		Standard	Coarser	Total		
Above 8.09 to 50	-	-	-	-	-	-
Above 50 to 100	4500	5223	275	5498	1.22	1231
Above 100 to 200	6765	9747	513	10260	1.51	2787
Above 200 to 400	6986	6992	1535	8527	1.22	2010
Above 400	5004	6174	2401	8575	1.71	2097
All groups	5429	7138	1462	8600	1.58	2088

While the combined average yield rate of made tea for the two districts of Kerala was estimated as 2088 kgs per hectare, the yield rate varied according to the size-group of the estates. The estates belonging to above 100 to 200 hectares size-group had the highest yield rate of 2787 kgs/hectare. Finer plucking like upto two-leaves-and-a bud and three-leaves-and a bud accounted for 83% of the total green leaves and the rest were coarser plucking. Further, it was observed that the proportion of finer plucking varied directly with the size of the garden.

On ownership-wise analysis (table-14(B)) finer plucking was adopted by Private Limited companies and Proprietory estates. On the other hand average yield of green leaf per bush was better for the Public Limited companies than the other ownerships.

TABLE-14(B)

OWNERSHIPWISE STANDARD OF PLUCKING AND AVERAGE YIELD OF GREEN LEAF PER BUSH DURING 1996.

Size-group (in hectare)	Average bush per hectare	Plucking of green leaves kgs/hectare)			Average yield of green leaf per bush (in kgs.)	Average yield of made tea (kgs./hectare)
		Standard	Coarser	Total		
Proprietory	4500	5223	275	5498	1.22	1231
Partnership	-	-	-	-	-	-
Private Limited	6500	9188	-	9188	1.41	2023
Public Limited	5089	6836	1817	8653	1.70	2110
Overall	5429	7138	1462	8600	1.58	2088

CHAPTER - III

TEA MACHINERY AND MANUFACTURING OF TEA.

Factory Operation :

Among 11 surveyed tea estates all except one in Idukki had factory and one factory in Wynaad had reportedly been destroyed in 1996. Hence only 9 estate factories could be taken into the ambit of the survey.

Out of 9 tea factories surveyed, 3 manufactured exclusively C.T.C teas, 4 manufactured exclusively Orthodox and rest two manufactured both C.T.C and Orthodox teas. All the surveyed estates were reported having adequate machinery. Very few factories had modernised equipment and up-to-date mechanical devices for reduction of manufacturing cost. The survey team felt that modernisation of the tea factories in Kerala was absolutely necessary. The tea companies should take necessary steps in this direction in a phased manner. Quality improvement needs to be stressed upon which materializes not only out of better green-leaf quality but also due to improved manufacturing process. Appropriate investment strategy for modernisation of Kerala tea factories seems to be the need of the hour.

It was reported that a power shortage in the grid supply was an acute problem in almost all the factories. Only 61% of the power requirements were met from the grid supply and the rest were managed from the own source of power generation, viz. generator set. The quality of output reportedly suffered by disruption in the process besides increase in the cost of production. It is suggested that the State Electricity Board may be suitably approached to draw up a scheme. Utilisation of solar energy to supplement their power requirement may also be explored upon.

Withering arrangement in the processing of green leaves was not upto the desired standard. Troughs were either inadequate in number or the process was done on the floor in a hackneyed manner. The factories owned by Public Limited companies however had a fairly controlled system of withering. Since the improper withering directly affects the quality of the final product, it is suggested that the factories should improve their withering method in accordance with the modernised practices.

As regards fermenting, floor and/or drums fermenting were found to be common. Arrangements for controlling humidity and temperature were available with all the surveyed tea factories. Almost all the factories maintained the average moisture content about 2 to 3%.

The following table [table-15(A)] shows the comparative position regarding production of C.T.C and Orthodox by estates classified under different size-groups.

TABLE-15(A)

MANUFACTURE OF TEAS BY DIFFERENT METHODS DURING 1996 BY DIFFERENT SIZE-GROUPS

Size GroupWise (Hect.)	C.T.C.	Orthodox	Green Tea	Others	Total
Above 8.09 to 50	Nil	Nil	Nil	Nil	Nil
Above 50 to 100	—	100%	—	—	100
Above 100 to 200	33.83	67.17	—	—	100
Above 200 to 400	81.35	18.65	—	—	100
Above 400	63.43	36.57	—	—	100
Overall	68.00	32.00	—	—	100

The estates belonging to the size-group of above 50 to 100 hectares produced Orthodox only. There was almost a complete switchover in manufacturing method from Orthodox to C.T.C teas by the estates of the size-group of above 200 to 400 hectares.

The same analysis on ownership-wise was done which was also placed in the following table.

TABLE-15(B)

MANUFACTURE OF TEAS BY DIFFERENT METHODS DURING 1996 BY DIFFERENT OWNERSHIP

Ownership	C.T.C.	Orthodox	Green Tea	Others	Total
Proprietory	—	100	—	—	100
Partnership	Nil	Nil	Nil	Nil	Nil
Pvt. Ltd.	—	100	—	—	100
Public Ltd.	70.00	30.00	—	—	100
Overall	68.00	32.00	—	—	100

Interestingly, the estates owned by Proprietory and Private Limited companies manufactured only Orthodox whereas 70% of the production by Public Limited companies was of C.T.C. type.

The tea factories in Kerala in general used firewood, coal, fire-brickets and furnace oil as a fuel.

CHAPTER - IV

Marketing of Tea :

Almost 68% of the tea manufacture was in the form of C.T.C., which supports the demands of the domestic market. Information gathered from the sample tea estates revealed that on an average about 75% of the produce was sold through the auction mostly at Cochin. Considering the higher transport cost and other incidental charges the private sales increased over the years in the forms of poly packets as well as loose form. The survey recommends that quality teas may find the auction route rather than other channels for better competition. Private sale of poly pack teas was found to gain popularity at the estate level for consistency in quality, improved shelf-life and minimised scope for adulteration. While the estates may go in for improving the packaging standards at lesser cost, the quality of loose tea may also be improved for a better competition at auction level.

CHAPTER -V

Labour

The average number of daily labour employed in Wynaad and Idukki districts of Kerala during 1996 were estimated as 6178 and 5740 respectively. Out of the total number of average daily labour (11918), about 7927 (67%) were permanently employed and the rest 3991(33%) were casual labour. On overall employment 40% of them were reported to be male workers and the rest 60% were female workers mainly employed in different field operations like plucking, manuring, sickling, etc. The average labour per hectare was worked out to 3.17 while annual output per labour averaged to 649 kgs. The figure compared with the overall South India figures of 2.15 and 964 kgs. respectively and with All India figures of 2.39 and 758 kgs respectively.

The above is the land-labour-ratio on the basis of average daily employed in the overall plantation in Kerala. The same study was also carried out on the basis of size-group which is shown in table-16(A) below,

TABLE-16(A)

AVERAGE NUNBER OF LABOUR ON ROLL PER HECTARE OF PLANTED AREA AS ON 31/12/96 AND ESTIMATED AVERAGE OUTPUT OF MADE TEA PER LABOUR BY SIZE-GROUP.

Size-group	Average labour on roll per hectare			Average estimated output of made tea per labour(kg)
	Permanent	Casual	Total	
8.09-50	—	—	—	—
50 to 100	1.63	—	1.63	757
100 to 200	2.83	0.91	3.74	745
200 to 400	2.08	0.95	3.03	639
Above 400	2.05	1.22	3.27	640
Overall	2.11	1.06	3.17	649

The estimated average labour on roll per hectare as on 31.12.96 was 3.17 on an overall basis. The highest labour on roll (3.74) was reported by the size-group of above 100 to 200 hectares and the lowest (1.63) was reported to be in the size-group of above 50 to 100 hectares. On the other hand the average output of made tea per labour was as high as 757 kgs for the estates of size above 50 to 100 hectares and the lowest output of made tea 639 kgs per hectare was reported for the estates of above 200 to 400 hectares size-group. The estates of size-group of above 50 to 100 hectares had the highest output per labour with least employment of average labour on roll per hectare. Whereas the estates of size-groups above 200 hectares show comparatively low labour productivity needs to be improved upon promoting motivational approach on labour activities.

Ownership-wise position regarding labour on roll and output per labour is depicted in Table-16B.

TABLE-16(B)

AVERAGE NOUMBER OF LABOUR ON ROLL PER HECTARE OF PLANTED AREA AS ON 31/12/96 AND ESTIMATED AVERAGE OUTPUT OF MADE TEA PER LABOUR BY OWNERSHIP.

Ownership	Average labour on roll per hectare.			Average estimated output of made tea per labour (kg.)
	Permanent	Casual	Total	
Proprietory	1.63	—	1.63	757
Partnership	—	—	—	—
Pvt. Ltd.	3.41	1.14	4.55	444
Public Ltd.	2.08	1.08	3.16	657
Overall	2.11	1.06	3.17	649

The overall percentage of absenteeism in the State of Kerala was a little more than 18% during 1996 though the percentage varies from 17 to as much as 33. The estates in Idukki district faced (19%) and the estates in Wynaad (18%). On the whole, it is suggested that the estates in general may increase their productivity per labour by identifying unproductive job components, minimising idle time, optimum utlisation of resources and better labour management.

CHAPTER - VI

FINANCE AND COST OF PRODUCTION.

TABLE-17

PROPORTION OF DIFFERENT ITEMS OF EXPENDITURE TO TOTAL COST OF PRODUCTION PER KG OF MADE TEA IN DIFFERENT SIZE-GROUP DURING 1996.

(Figures in Percentage)

Sl.No.	Item of Expenditure	Size-group					
		Above 8.09 to 50	Above 50 to 100	Above 100 to 200	Above 200 to 400	Above 400	Overall
1	Cultivation	—	42.25	41.00	30.53	34.43	33.34
2	Manufacturing Cost	—	20.41	24.30	30.46	18.94	24.88
3	Others	—	37.34	34.70	39.01	46.63	41.78
	Total	100	100	100	100	100	100

The above table reveals that the proportional cost of cultivation to total cost of production per kg of made tea is maximum (42.25%) in respect of the tea estates having size-group 50 to 100 hectare followed by size-group 100 to 200 hectare (41.00%) above 400 hectare (34.43%) and above 200 to 400 hectare (30.53%) respectively. Similarly, the proportional manufacturing cost to total cost of production per kg of made tea is maximum in respect of the tea estates having size-groups of above 200 to 400 hectare (30.46%) followed by size-group above 100 to 200 hectare (24.30%), above 50 to 100 hectare (20.41%) and above 400 hectare (18.94%). Other cost components comprises repair to building, managerial remuneration, selling commission, transport, provisions excluding tax and miscellaneous expenses. The proportion of other expenditures to total cost of production per kg. of made tea is maximum in respect of the tea estates having size-group above 400 (46.63%) followed by size-group 200 to 400 hectare (39.01%), above 50 to 100 hectare (37.34%) and above 100 to 200 hectare (34.70%). Overall the proportional cost of cultivation, manufacturing and other to total cost of production per kg of made tea reveals that proportion of other cost of production is the maximum (41.78%) followed by cost of cultivation (33.34%) and manufacturing cost (24.88%).

TABLE-18

ESTIMATED SALE-COST DIFFERENTIAL BY STATUS OF OWNERSHIP FOR 1996.

(In Rs./Kg.)

Status of Ownership	Cost Price	Sale Price	Sale-cost differential
Proprietory	35.62	43.52	(+) 7.90
Partnership	N.A.	N.A.	N.A.
Pvt. Ltd.	N.A.	N.A.	N.A.
Public Ltd.	37.71	41.60	(+) 3.89
Overall	38.24	41.12	2.88

Due to non-availability of information the sale-cost differential in respect of ownership viz., Partnership and Private Limited could not be worked out. However, the difference stood at Rs. 7.90 in respect of Proprietory ownership and Rs. 3.89 in respect of Public Limited ownership.

TECHNO-ECONOMIC SURVEY (SMALL GROWER) OF KERALA TEA INDUSTRY

CHAPTER – I

ANALYSIS OF DATA

As per the information available, there were 4892 small tea growers in the districts of Wynaad and Idukki in Kerala registered with Tea Board. Total area under tea belonged to such growers was 3796.06 hectares. Besides, there were also a considerable number of unregistered small tea growers. Altogether 27 small tea growers having 28.64 hectares of area under tea were surveyed. Of them 23 were unregistered and 4 were registered with Tea Board. The district-wise distribution is shown in the following table.

TABLE - S1
DISTRICTWISE DISTRIBUTION OF SMALL TEA GARDENS.

(Area in Hect.)

DISTRICT	Small Growers registered with Tea Board.		Small Growers surveyed	
	No.	Area	No.	Area
WYNAAD	24	7.23	4	2.62
IDUKKI Kumili	42	18.90	3	2.32
Vandanmedu	110	76.52	2	1.42
Peermade	372	283.26	10	13.37
Vaghamon	1805	1519.09	8	8.91
Total	4868	3788.83	23	26.02
TOTAL OF TWO DISTRICTS	4892	3796.06	27	28.64

Most of the unregistered small growers had started tea cultivation in Peermade, Vaghamon, Kumili and Vandanmedu sub-divisions of Idukki district as it could be seen from the table-S2 below.

TABLE - S2

DISTRICT/SUBDIVISIONWISE DISTRIBUTION OF SAMPLE GARDENS.

(Area in Hect.)

DISTRICT	Subdivision	Registered With Tea Board and started cultivation		Not registered with Tea Board but started cultivation	
		No.	Area	No.	Area
WYNAAD		2	0.80	2	1.82
IDUKKI					
	Kumili	—	—	3	2.32
	Vandanmedu	—	—	2	1.42
	Peermade	2	1.84	8	11.53
	Vaghamon	—	—	8	8.91
	Total	2	1.84	21	24.18
TOTAL OF TWO DISTRICTS		4	2.64	23	26.00

Registration of all small growers is essential not only to identify the units and having basic information thereto but also to assess the extent of their operation correctly. With the emergence of large number of small growers in Kerala, it is observed that the Tea Board has a greater role to play in shaping their growth and sustenance. Renewed efforts are felt necessary to register all the small growers in Kerala with the Tea Board for which it is suggested to strengthen the Tea Board's office in the State and also to extend operation to a few more potential areas.

Garden Size :

The total area under tea covered by the 27 surveyed gardens is 28.64 hectares (1.06 hectares per garden). The average size of holding is higher (1.13 hectares) in Idukki district than in the Wynaad district (0.66 hectare).

More than 59% of the planted area holds bushes of above 10 years old and only 27% were of below 5 years of age group. Around 37% of the area was found to be pluckable in Peermade taluk of Idukki district. The age of bushes of surveyed small gardens is shown in the table-S3.

TABLE - S3

AGE OF PLANTATION OF SURVEYED SMALL GROWERS IN 1997.

DISTRICT	Subdivision	Upto 5 Years	From 5 To 10 years	Above 10 Years	Total
WYNAAD		2	1	1	4
IDUKKI	Kumili	1	—	2	3
	Vandanmedu	—	—	2	2
	Peermade	2	1	7	10
	Vaghamon	3	1	4	8
	Total	6	2	15	23
TOTAL OF TWO DISTRICTS		8	3	16	27

Status of Land :

TABLE - S4

STATUS OF THE LAND OF SMALL GROWERS (Classification Based On Area Under Tea.)

(Area in Hect.)

DISTRICT	Sub--division	Estate registered with Tea Board				Estate not registered with Tea Board				TOTAL			
		Leasehold		Title hold		Leasehold		Title Hold		Leasehold		Title hold	
		No.	Area	No.	Area	No.	Area	No.	Area	No.	Area	No.	Area
WYNAAD		—	—	2	0.80	1	0.61	1	1.21	1	0.61	3	2.01
IDUKKI	Kumili	—	—	—	—	1	0.91	2	1.41	1	0.91	2	1.41
	Vandan medu	—	—	—	—	—	—	2	1.42	—	—	2	1.42
	Peer-made	—	—	2	1.84	—	—	8	11.53	—	—	10	13.37
	Vagha-mon	—	—	—	—	—	—	8	8.91	—	—	8	8.91
	TOTAL	—	—	2	1.84	1	0.91	20	23.27	1	0.91	22	25.11
TOTAL OF TWO DISTRICTS		—	—	4	2.64	2	1.52	21	24.48	2	1.52	25	27.12

Around 93% of the surveyed small growers had their ownership title for land in possession. As many as 23 small tea growers were non-registered as they were unaware of the benefit of financial assistance from the Tea Board. Once a small grower is registered with Tea Board the grower may avail of the scheme, which would provide a comprehensive developmental package for all-round development of the small grower sector. Such scheme includes imparting training on modern aspects of tea cultivation and manufacture, supply of input like planting materials etc. at subsidised cost, organising study tours field advisory visits and other financial assistance.

Membership of Association :

No garden had the membership of any producers' association or tea research institute and as a result, the small growers in Kerala could not enjoy necessary scientific and technical assistance from the competent bodies. It was felt necessary that the small growers in Kerala might form a joint forum to ventilate their collective interests in the matter of obtaining such technical assistance from the appropriate bodies.

Most of the surveyed small growers belonged to traditional agricultural family. Some of them had attended the training programmes conducted by UPASI and the rest had obtained the knowledge of planting by experience. The survey team suggests that UPASI may conduct intensive training in this region for enabling the small growers to adopt improved method of tea cultivation and tea husbandry. In order to develop the awareness among the small growers of Kerala besides UPASI, state govt. department, Agricultural Universities, voluntary organisations and private entrepreneurs should also come forward in imparting training programme on modern aspects of tea growing and manufacture.

Area Utilisation :

Area utilised for tea according to district is shown in the following table.

TABLE - S5
UTILISATION OF LAND DURING 1996.

(Area in Hect.)

DISTRICT	Subdivision	Area under Tea	Area lying vacant	TOTAL
WYNAAD		2.62 (52%)	2.41 (48%)	5.03 (100%)
IDUKKI	Kumili	2.32 (74%)	0.81 (26%)	3.13 (100%)
	Vandanmedu	1.42 (74%)	0.50 (26%)	1.92 (100%)
	Peermade	13.37 (89%)	1.61 (11%)	14.98 (100%)
	Vaghamon	8.91 (89%)	1.05 (11%)	9.96 (100%)
	Total	26.02 (87%)	3.97 (13%)	29.99 (100%)
TOTAL OF TWO DISTRICTS		28.64 (82%)	6.38 (18%)	35.02 (100%)

Of the total area (35.02 hectares) around 82% (28.64 hectares) was utilised for tea. The rest was lying vacant. This portion could be used for tea cultivation. The sub-division-wise analysis shows that there was more vacant area in Wynaad and Kumili & Vandanmedu sub-division of Idukki district. There was a scope to bring this area under tea cultivation provided the small growers unite under a common umbrella to approach for financial/technical assistance from appropriate bodies.

TABLE - S6

AVERAGE SIZE OF SMALL TEA GROWERS.

DISTRICT	Subdivision	Total Land under possession			Area under Tea		
		No.	Area	Average area per garden	No.	Area	Average area per garden
WYNAAD		4	5.03	1.26	4	2.62	0.66
IDUKKI	Kumili	3	3.13	1.04	3	2.32	0.77
	Vandanmedu	2	1.92	0.96	2	1.42	0.71
	Peermade	10	14.98	1.50	10	13.37	1.34
	Vaghamon	8	9.96	1.25	8	8.91	1.11
	Total	23	29.99	1.30	23	26.02	1.13
Overall		27	35.02	1.29	27	28.64	1.06

The survey team noticed that about 6.38 hectares of additional area constituting 22% of the planted area were available for tea cultivation among the 27 surveyed gardens. The following table - S7 indicates the analysis of additional area availability for tea plantation.

TABLE - S7

ADDITIONAL LAND AVAILABLE FOR TEA CULTIVATION

DISTRICT	Subdivision	Number of small growers	Present area under tea cultivation	Additional area for tea cultivation	Average additional area available per grower
WYNAAD		4	2.62	2.41	0.60
IDUKKI	Kumili	3	2.32	0.81	0.27
	Vandanmedu	2	1.42	0.50	0.25
	Peermade	10	13.37	1.61	0.16
	Vaghamon	8	8.91	1.05	0.13
	Total	23	26.62	3.97	0.17
Overall		27	28.64	6.38	0.23

Apart from the above, a sizeable area of about 200 hectares of land are available in and around the villages of Pupali (Peria area), Kunjonae, Badhri and Thuliode of Wynaad which are lying either unused or as marginal land along the state boundary areas. The State Government may find it worth-while to allot such lands to the small growers for growing tea. Once such lands were available, small farmers could be encouraged to switch over to tea cultivation and desist from disturbing the soil by cultivation of short-duration seasonal crops. Such small farmers may also be encouraged to avail the assistance under Tea Board's Small growers Development Scheme, viz. subsidy for new planting and also by way of arranging training programmes and setting up of demonstration plots. In the process, Priyadarshini T.E, a joint venture set up with Tea Board's Mananthavadi Tribal Tea Project may serve as a nodal agency to identify the tea areas and initiate onward programmes.

CHAPTER - II

FIELD AND CULTURAL ACTIVITIES

Planting Materials Used :

18 small growers had used clonal planting material and the rest 8 used seedlings planting. Almost 70% of the planted area was under clonal plantation. Sub-division-wise analysis on the above is placed in the following table.

TABLE - S8

Type of planting materials used

(Area in hect.)

DISTRICT	Subdivision	Clonal		Seedlings		Area under Tea
		Number of Estate	Area	Number of Estate	Area	
WYNAAD		3	1.41	1	1.21	2.62
IDUKKI	Kumili	3	2.32	—	—	2.32
	Vandanmedu*	—	—	1	0.81	0.81
	Peermade	7	8.97	3	4.40	13.37
	Vaghamon	5	6.91	3	2.00	8.91
	Total	15	18.20	7	7.21	25.41
Overall		18	19.61	8	8.42	28.03

* Information not available from one grower having Area 0.61 Hect.

A few of the small growers in Wynaad depended on big gardens for planting materials and the rest were able to raise from their own nurseries. On the other hand none of the growers in Idukki raised plants from its own nursery, as these were readily available from big tea estates or from UPASI-approved nursery. The details of planting materials obtained are shown in table -S9.

TABLE - S9

Source of planting materials obtained.

(Area in hect.)

DISTRICT	Sub-division	Own		Purchased from approved nursery		Obtain from others		Total area
		Area	Percentage to total	Area	Percentage to total	Area	Percentage to total	
WYNAAD		1.41	54%	—	—	1.21	46%	2.62
IDUKKI	Kumili	—	—	1.82	78%	0.50	22%	2.32
	Vandanmedu	—	—	—	—	1.42	100%	1.42
	Peermade	—	—	0.80	6%	4.43	33%	13.37 *
	Vaghamon	—	—	—	—	8.91	100%	8.91
	Total			2.62	10%	15.26	59%	26.02
Overall				2.62	9%	16.47	58%	28.69

* No information was available from few small growers covering an area of 8.14 Hect.

The cost of the planting materials varied from Rs.1.20 to 2.50 per plant in Wynaad and Rs.2.00 to 2.50 per plant in case of Idukki district. In a few cases the cost of plant exceeded Rs.3.00 per plant.

All the small growers except in Wynaad and Vandanmedu expressed their difficulty in procuring planting materials. Besides, all the small growers in Vandanmedu complained about their difficulty as the planting materials were to be sourced from distant places.

TABLE - S10

TYPE OF PROBLEMS FACED IN PROCURING PLANTING MATERIALS BY THE SMALL TEA GARDEN.

Type of problems	Wynaad	Kumili	Vandanmedu	Peermade	Vaghamon
(Number of Estate surveyed)	4	3	2	10	8
Collected from distant place	—	1	—	2	7
Not of desired variety	—	1	—	1	1
High mortality rate	—	1	—	1	—
High cost	—	1	—	—	—
Non receipt in right time	—	1	—	—	—
Not available in adequate quality	—	1	—	—	—

The Tea Board may consider setting up of a special monitoring committee to look into the interest of the small growers in Kerala including those yet unregistered with Tea Board in consideration of significant operation of the small growers in the State and also considering the importance of tea economy of the State.

Irrigation :

TABLE - S11

STATUS OF IRRIGATION FACILITY

DISTRICT	Subdivision	Total surveyed estates		Estates caring perennial source of water		Estates caring proposal for irrigation	
WYNAAD		No.	Area	No.	Area	No.	Area to be covered
	Wynaad	4	2.62	1	0.60	1	1.21
IDUKKI							
	Kumili	3	2.32	1	0.50	1	0.91
	Vandanmedu	2	1.42	—	—	—	—
	Peermade	10	13.37	2	2.41	—	—
	Vaghamon	8	8.91	—	—	2	2.21
	Total	23	26.02	3	2.91	3	3.12
Overall		27	28.69	4	3.51	4	4.33

Only 3.51 hectares (12%) of area owned by four growers were irrigated during 1996 by perennial source of water such as natural stream, rivers, etc. Rest of the growers having area 25.18 hectares (88%) did not have any such arrangement. However, four small growers having 4.33 hectares of area had proposed to bring their plantation under irrigation. None of the surveyed gardens had artificial irrigation devices. It is, therefore, suggested that State Government may formulate a suitable irrigation scheme to be extended to the small growers by sinking sufficient number of deep-tube-wells.

Bush Density :

All the surveyed gardens adopted wider spacings and the average number of bush per hectare ranged from 7000 to 13000. The overall percentage of vacancy was noticed about 15% considering the young age of bush coupled with moderate density. The small growers segment of Kerala needs to update their technical know-how. It is, suggested that the Tea Board, UPASI-TRI and State Agricultural bodies may workout some joint programme to overcome their poor infrastructure and inadequate technical knowledge. The details of density of bushes are shown in the following table.

TABLE - S12

DENSITY OF BUSHES.

DISTRICT	Subdivision	Area (Hect.)	Average number of bushes per	Minimum number of per hectare.	Maximum number of bushes per hectare	Percentage of total
WYNAAD		2.62	9275	6666	11157	15
IDUKKI	Kumili	2.32	11207	10989	12000	12
	Vandanmedu	1.42	7396	7377	7410	15
	Peermade	13.37	6956	2409	12500	18
	Vaghamon	8.91	13134	7500	20588	13
	Total	26.02	9475	2409	20588	15
Overall		28.64	9457	2409	20588	14

Yield of Green leaf

TABLE - S13

YIELD OF GREEN LEAF IN 1996

DISTRICT	Area under tea (Hect.)	Average area under tea per grower (Hect.)	Total area plucked (Hect.)	Total quantity of green leaf plucked (Kg.)	Average yield of green leaf (Kg./Hect.)
WYNAAD	2.63	0.66	2.42	9780	3718
IDUKKI					
KUMILI	2.32	0.77	2.32	12100	5215
VANDANMEDU	1.42	0.71	1.42	16000	11267
PEERMADE	13.37	1.34	12.37	33680	2519
VAGHAMON	8.91	1.11	4.62	24100	2704
TOTAL	25.11	1.09	20.73	85880	3420

The average yield of green leaf per hectare was 3420 kgs converted to 769.5 kgs (22.5%) of made tea per hectare. This yield was very low as a sizeable area under tea had bushes below 10 years age group. However the average yield of green leaf was comparatively better in Vandanmedu area than in other areas of the surveyed regions.

TABLE - S14

Problem in procuring inputs.

DISTRICT	Sub-division	Transportation problem		Compulsion to bulk purchase		High price problem		Irregular availability		Other problem	
WYNAAD		No.	Percentage to total	No.	Percentage to total	No.	Percentage to total	No.	Percentage to total	No.	Percentage to total
	Wynaad	—	—	—	—	—	—	—	—	—	
IDUKKI	Kumili	1	4	1	4	1	—	1	4	—	—
	Vandan-medu	—	—	—	—	—	4	—	—	—	—
	Peer-made	—	—	—	—	2	9	—	—	1	4
	Vagha-mon	4	17	1	4	—	—	3	13	1	4
	Total	5	22	2	9	3	13	4	17	2	9
Overall		5	18	2	7	3	11	4	15	2	7

Most of the surveyed growers had used both organic and chemical fertilizers. Almost all the growers faced difficulties in procurement of essential inputs like fertilizer, weedicides, pesticides, etc., due to transport problem or irregular availability in the retail market in time. It is suggested that the small growers should initiate efforts to form a Co-operative, which will ensure regular supply of essential inputs.

Most of the small growers adopted five-year pruning cycle. However, very few had tried the extended pruning cycle. In this respect a general rule of thumb was adopted rather than calculated norms.

Almost all the growers maintained 15 day to 20 day plucking rounds. 60% of the plucking was upto 3 leaves and a bud and the rest (40%) were coarser plucking. Small growers have to be provided with more training to build up awareness so that the recommended cultural practices and upkeep of bushes can be maintained.

All the small growers planted permanent shade trees with an average spacings of 20' x 20'. The common type of shade trees is Grevilla Rubsta, (Silver Oaks). It was observed that some of the growers had planted cash crops like Supari, Mango tree and Jackfruits trees, etc., within the plantation.

CHAPTER - III

CROP DISPOSAL & PRICE REALISATION

Most of the surveyed small growers sold their green leaf to factories owned by the large growers either by direct sale or through middlemen. Only one grower in Wynaad had sold the green leaves to INDCO (Industrial co-operative Tea Factory) during 1996.

TABLE - S15
DISPOSAL OF GREEN LEAF.

DISTRICTS	Subdivision	Number of gardens selling green leaf to the factory at a distance			
WYAAND	Upto 2 Km.	2 to 5 Km.	5 to 10 Km.	Above 10 Km.	
	Wynaad		1	2	1
IDUKKI	Kumili	1		2	
	Vandanmedu		2		
	Peermade	3	6		1
	Vaghamon	4	2	2	
	Total	3	14	4	6

From the above table, that more than 50 per cent of the surveyed gardens sent their green leaves to the factories within a distance of 2 to 5 kms., 20% sold their leaf to more than 10 kms. distance. Since some of the factories were located more than 10 kms. away the mode of conveyance affected the quality of the leaf and led to the lesser price realisation. This forced them to sell the leaf to the middlemen who took advantage of their weakness and paid lower than fair prices.

The overall average price realised by the small growers' leaf was Rs. 5.11 per kg, which was very low as compared to other region. The sub-division-wise price realisation was analysed in the following table - S16.

TABLE - S16
SELLING PRICE OF GREEN LEAF.

DISTRICTS	Subdivision	Average price realised in the district	Maximum price realised in the district	Minimum price realised in the district	S.D. of price realised in the district
WYNAAD	Wynaad	5.02	6.00	5.00	0.42
IDUKKI	Kumili	4.50	5.00	4.00	0.47
	Vandanmedu	5.00	5.00	5.00	0.00
	Peermade	5.67	6.00	5.00	0.39
	Vaghamon	4.98	6.00	4.00	0.62
	Total	5.12	6.00	4.00	0.59
Overall		5.11	6.00	4.00	0.57

Depending upon the market condition the green leaves were sold to different factories. Most of the small growers felt that a minimum floor price fixation by the Tea Board may help to build a confidence and will act as a shield against their poor economy. The analysis on price fixation of green leaf is shown below.

TABLE - S17
PRICING OF GREEN LEAF

DISTRICTS	Subdivision	Bilateral agreement with buying factory			Other than bilateral agreement		
		No.	Area	Price	No.	Area	Price
WYNAAD	Wynaad	3	2.02	5.33	1	0.61	5.02
IDUKKI	Kumili	—	—	—	3	2.32	4.50
	Vandanmedu	—	—	—	2	1.42	5.00
	Peermade	—	—	—	10	13.37	5.67
	Vaghamon	—	—	—	8	8.91	4.98
	Total	—	—	—	23	26.02	5.12
Overall		3	2.05	5.33	24	26.63	5.11

3 out of the 4 surveyed growers in Wynaad sold their green leaf through bilateral agreement with buying factory or a middleman. It is suggested that the Tea Board may consider a subsidy on transport cost for movement of green leaf to factories to be included in the package of incentives available for small growers.

SOCIO ECONOMIC STUDY OF THE LIVING CONDITION OF THE PEOPLE CONNECTED WITH TEA VIS-A-VIS OTHER PLANTATION AND PROFESSION IN TEA GROWING REGIONS IN KERALA.

Part - I - Study on various aspects

Part - II - Analysis of Data

PART - I

INTRODUCTION

The State of Kerala employs about 2.59 lakhs of people in 11,407 Industrial units. In March 1993, the total number of small-scale units was 95,851 and the number of working factories was 13,946 by the end of 1992. The share of food-crops (cereals, millets, pulses and tapioca) was only 23% out of a gross cropped area of 30.21 lakh hectares in 1992-93. Kerala accounts for 92% of India's rubber, 70% of coconut, and 60% of tapioca. The State is the single largest producer of a number of other crops like banana and gingers besides tea and coffee. Coir and cashew are the two largest traditional industries in the State. Handloom and bamboo based industries also play significant role.

The overall socio-economic condition of the people in the State of Kerala under three categories surveyed viz. households connected with tea, vis-à-vis other plantation and profession were found to be almost similar to one another with high rate of literacy and small family size. All the three categories were found to be under acute unemployment problem. The average monthly income of the households connected with tea and other employment worked out at about Rs.3000/- per mensem whereas the same were Rs.5641/- in respect of the household connected with other plantation. Adolescent and children were not employed in any of the three categories. Contribution of male and female to the household monthly income worked out in the ratio of 3:1. The study also revealed that the smoking and alcohol consumption habits were comparatively low in respect of the people connected with tea and other plantation than that of the people connected with other employment. The study also revealed that the major share of expenditure by all the three categories were on food items followed by other i.e. conventional and occasional necessities, education, housing respectively. Of the three categories, households connected with tea and other employment were highly indebted which accounted for about 56%, whereas, the same were 33% in respect of the household connected with other plantation. Percentage of monthly savings to income were found to be on the high side (46%) in respect of the household connected with other plantation, which was followed by the household of other employment (35%) but the same were very low in respect of the household connected with tea around 8%.

The objective of the study under consideration was somewhat different from the earlier socio-economic surveys of the tea plantation workers undertaken by the Techno-Economic Cell in different tea growing regions of India. The current survey was designed to have an overview of the living condition of the people connected with tea as well as the people connected with other plantations and employment in the tea growing regions in Kerala.

THE SAMPLE DISTRIBUTION :

81 households spread over in the places like Mananthavady, Sultan Battery, Meppadi of Wynaad district, Kumili, Vandanmedu, Peermade, Vaghamon, Pambanaar of Idukki district and Teekoy of Kottayam district respectively were selected for the survey. Out of the 81 households (Table-1) 48 representing (59.2%) of the total were connected with tea plantation and 15 households representing (18.52%) were connected with other plantations while the remaining 18 (22.22%) were connected with other employment. People associated with tea comprised small growers, estate employees, estate clerks, factory workers, estate workers, field labour, Field Officer, Section Officers and office assistants. Similarly, people connected with other plantation included cultivators of rubber, coffee, cardamom, pepper, areconut, rice, cashew etc. People in other employment comprised shopkeepers, drivers, salesmen, schoolteachers,

businessmen, government employees, mechanics, servicemen, and porters.

COMMUNITY COMPOSITION :

Out of the 81 households (Table-2) surveyed 37 representing 45.68% were Hindus, 38 households 46.91% were Christians and the rest 6 households (7.41%) were Muslims.

HOUSEHOLD SIZE :

Classification of the households surveyed according to their size is shown in Table No.3. Households consisting of four members were most frequent in the sample 28 (out of 81) followed by five members' households numbering 19 and above 5-member household numbering 18. There were 13 households consisting of three members while one and two member households had constituted only 1 and 2 in number respectively. The average household size works out to be 4.61. Composition of the households connected with tea plantation has been shown in Table No.3 (a) which reveals that number of four-member households was maximum at 15 followed by 14 households with family size more than five and 13 households with size five. Five households were having three members. Forty-eight households associated with tea plantation had an average household size of 4.9.

Size-wise classification of the households connected with other plantations has been shown in Table No.3 (b). It revealed that four-member households occurred with maximum frequency of seven in a totality of 15 households followed by five households with three members and two households with five members. Fifteen households connected with other plantation thus had an average household size of 4.13.

Table no.3(c) represents size-wise classification of households connected with other employment. Six households with membership strength of four showed the maximum frequency. Eighteen households engaged in non-plantation sector had an average size of 4.22.

EMPLOYMENT POSITION :

Sex-wise composition of an average household members and the number of earners of each category (all household) are shown in Table No.4. It may be seen from the Table that the average household six is 4.61 (comprising 1.83 men, 1.48 women, 0.46 adolescent and 0.84 children). 35.93% of the total individuals were wage earners. 68% of the men and 28% of the women were wage earners. It may be seen from Table no.4 (a) that the average size of the household connected with tea is 4.9, which was composed of 2.06 men, 1.52 women, 0.52 adolescent and 0.8 children. 62% of the men and 37% of the women under this category of sample were wage earners.

Table no.4 (b) reveals that the average size of the household connected with other plantation is 4.13(comprising 1.13-men, 1.26-women, 0.54-adolescent and 1.20- children) of which 1.06 (comprising 1.00 men, 0.06-women) is wage earner and table no.4(c) depicts an average size of the households connected with other employment which is 4.22 of which 1.67 is wage earner per household. Such is the condition of acute unemployment in Kerala.

Table no.8 brings out the proportion of earners for different levels of earners for different levels of expenditure of households. 100% of the adult male population was found to be employed in the monthly expenditure level of below Rs.1000. 73.33% in the expenditure group of Rs.1000-2000, 67.39% in the group Rs.2001-3000, 62.07% in the group Rs.3001-4000, 70.59% in Rs.4001-5000 and 57.14% in Rs.5000- plus group. The proportion of wage-earners in this class is 67.57%. Among women, the proportion of wage earners is as low as 28.33%. There are no adolescent and children workers. The overall employment position among members of the 81 households is estimated at 35.92%.

Table No.8 (a) brings out the proportion of earners for different levels of household expenditure in respect of the household connected with tea. Among the adult male population everybody was found to be employed in the expenditure level of below Rs.1000 followed by 76.47%, 57.58%, 60.00%, 64.29%, 46.15% respectively in the expenditure level of Rs.1000-2000, Rs.2001-3000, Rs.3001-4000, Rs.4001-5000 and Rs.5000 plus. The overall proportion of wage earners in the class is 61.62%.

Similarly, among the adult-female population everyone was found employed in the household expenditure level below Rs.1000 per mensem, 41.67%, 60%, 25% and 20% respectively in the expenditure level of Rs.1000-2000, Rs.2001-3000, Rs.3001-4000 and Rs.5000 plus. The overall employment position among members of 48 families selected works out to be 37.45%.

Table No.8 (b) presents the proportion of wage-earners for different levels of households expenditure in respect of the households connected with other plantation. Among the adult male population everyone was found to be employed in the household expenditure classes below Rs.1000, Rs.1000-2000, Rs.2001-3000 and Rs.3001-4000. The proportion of male earners in this class is as high as 88.23%. The proportion of earners among women is as low as 5.26%. The overall employment position among non-tea sector works out to be 25.80%.

Table No.8(c) reveals the proportion of wage-earners for different levels of household expenditure in the non-plantation sector. Among the adult male population everybody was found to be employed in the expenditure classes below Rs.1000, Rs.4000-5000 and Rs.5000 plus. The proportion of male earners in this class is as high as 75%. The proportion of female earners among households in the class is only 23.08%. The overall employment position in the non-plantation sector selected in the sample works out to be 39.47%.

Details regarding the composition of average household size according to expenditure levels can be seen from Table No.9. From this table it will be found that the average household size increases with the increase in expenditure levels. The average size of the household was also highest in respect of the highest expenditure level.

No correlation was observed between average number of earners per household and the levels of expenditure. On and overall basis the average number of earners per household was 1.66 against the average family size of 4.61. Thus dependent per wage earner in the sample was 4.61.

Composition of average household according to expenditure levels pertaining to the households connected with tea can be seen from Table No.9 (a). From this table it also seen that the average size of a household increases with the increase in expenditure levels.

The average number of earners per household associated with tea were 3.00,1.50,2.13,1.70, 1.80 and 1.75 for different expenditure groups' viz. below Rs.1000, Rs.1000-2000, Rs.2001-3000, Rs.3001-4000, Rs.4001-5000 and Rs.5000 plus respectively. On an overall basis the average number of earners per family was 1.83 against the average size of the family 4.90.

Composition of average household according to expenditure level in respect of the household connected with other cultivation can be seen from Table No.9 (b). From the table it will be evident that the average numbers of households are 4, 4, 3.6, 4, 0 and 5.33 according to the expenditure levels of below Rs.1000, Rs.1000-2000, Rs.2001-3000, Rs.3001-4000, Rs.4001-5000 and Rs.5000 plus respectively.

Average number of earners per family stood at one for each of the expenditure groups. Overall, the average number of earners per household was 1.07 against the average size of the household as 4.13.

Table 9(c) was in respect of composition of average household according to expenditure levels of households connected with other employment. On overall basis, the average number of earners per household was 1.67 against the average family size of 4.22.

LITERACY :

Information regarding the extent of literacy among sample households is brought out in Table Nos.5 and 6. The overall literacy percentage in the sample stood at 80.7. The literacy percentage was highest at 97.96 in the age group 10-20 years and lowest at 59.09 in the age group of above 50 years. From Table No.5 it may further be seen that in the age groups of below 10, 21-30, 31-40, 41-50 the percentage of literacy stood at 59.46, 87.34, 77.42 and 75.47 respectively. It may be seen that though the rate of literacy was very high among the sample household there was a gradual decline in the literacy percentage with the increase in age. Extent of literacy among the household connected with tea plantation according to age-group has been shown in Table No.5 (a). The overall literacy rate in such sample households stands at 80.85 with highest incidence in the age-group of 10-20 years at 96.97%. In this case also the percentage of literacy has a gradual downslide with the increase in age.

Table No.5 (b) represents the extent of literacy according to age-groups in respect of households connected with other plantation. The overall percentage of literacy there is 87.1 the highest being at 100% in the age-groups 10-20 years, 21-30 also with 41-50 years. The lowest literacy rate stood at 25% in the age-group of above 50 years.

Extent of literacy according to age-group of the families connected with other employment has been shown in Table No.5(c). The overall percentage of literacy in this group is 75, the highest being 100 in the age-group of 10-20 years. In this category also, the percentage of literacy gradually decreases with the increase in age.

Variation in the literacy levels in different expenditure levels is depicted in Table No.6. There is no regular association between the percentage of literacy and level of household expenditure but it can be seen from the table that the percentage of literacy is considerably high at the two top most expenditure classes.

Table No.6 (a) depicts the literacy percentage in different expenditure levels pertaining to the households connected with tea. There the highest percentage of literacy is 96.30, which is in the expenditure level of Rs.4001-5000, the lowest being 66.67 in the expenditure level below Rs.1000. There is a general increasing trend in literacy rate with the increase in household expenditure level.

Position regarding literacy percentage corresponding to expenditure levels in respect of households connected with other plantation has been shown in Table No.6 (b). The overall percentage of literacy in this category is 87.09, the highest being 100 in the expenditure levels of below Rs.1000 and Rs.3001-4000 the lowest being 72.23 in the expenditure level of Rs.2001-3000.

Literacy rates according to different levels of expenditure in respect of the households connected with other employment has been shown in table No.6(c), the expenditure class of above Rs.5000 has the highest percentage of literacy i.e. 100 the overall literacy percentage is 75. The expenditure level below Rs.1000 has the lowest percentage of literacy at 50.

SMOKING AND ADDICTION TO LIQUOR :

Percentage of smokers and persons taking alcoholic drinks according to expenditure levels has been shown in Table No.7. It may be seen from the table that the households with lowest expenditure level i.e. below Rs.1000 have the highest percentage of smokers i.e. 30.77. The overall percentage of smokers is 9.92. Percentages of alcoholic drinkers are 8.43, 4.07, 5.48, 8.82 and 6.38 corresponding to the expenditure levels of Rs.1000-2000, Rs.2001-3000, Rs.3001-4000, Rs.4001-5000 and Rs.5000plus. The overall percentage of alcoholics is 5.90.

Percentage of smokers and alcoholics according to expenditure levels in respect of persons connected with tea plantation has been stated in Table No.7 (a). There also the highest percentage of smokers (33.33%) has been found in the expenditure level below Rs.1000 and lowest percentage of 4.35% in the expenditure level of rs.5000-plus. The overall percentage is 9.63. The percentage of alcoholics is higher (11.11) in the expenditure level of Rs.4001-5000 than any other expenditure levels. The overall percentage of alcoholics is 5.53.

Table No.7 (b) gives the percentage of smokers and alcoholic drinkers according to expenditure levels in respect of people connected with other plantations. For such cases of people the percentage of smokers is the highest at 25% in the expenditure level below Rs.1000 whereas the overall percentage is 9.67. The overall percentage of alcohol drinkers under the category is 4.83%.

Percentage of smokers and persons taking alcoholic drinks according to expenditure levels pertaining to the people connected with other employment have been shown in Table No.7(c). Here the percentage of smokers is highest i.e. 50% in the expenditure level of below Rs.1000. The overall percentage of smokers in this case is 11.84%. The percentage of alcohol drinkers is highest at 12.5% in the expenditure level of above 5000 followed by 11.11% in the expenditure level of rs.1000-2000 and 9.09% in the level of Rs.2001-3000. The overall percentage is 7.89%.

INCOME :

Contribution of different members of households to the monthly income and total household income according to expenditure level has been shown in Table No.10. The average monthly income per household registers at Rs.425 and Rs.8094 for the lowest and highest expenditure classes respectively. Taking into account all household expenditure classes the average monthly income per household comes to Rs.3135. Major share of the income is earned by men. Contribution of the adolescents and children towards household income is nil.

Table No.10 (a) reveals the contribution of different members of the household to the monthly income and total household income according to expenditure levels exclusively connected with tea. It may be seen from the table that the average income per household is the highest at Rs.8149 at highest expenditure level of Rs.5000-plus against Rs.6182, Rs.2532, Rs.2207 and Rs.1536 and Rs.500 in the expenditure levels of Rs.4001-5000, Rs.3001-4000, Rs.2001-3000, and Rs.1000-2000, below Rs.1000 respectively. There also the total household income is contributed by both men and women. The overall average monthly income per household is Rs.2970.

Contribution of different members of the household to the monthly income of the household according to different expenditure levels connected with other cultivation has been shown in Table 10(b). It may be seen in the table that the average income per household registers at Rs.425 and Rs.19139 respectively for the lowest and highest expenditure classes. The contribution towards monthly income is more or less by men only. The overall average income per household is Rs.5641.

Table No.10(c) reveals the contribution of different members of household to the monthly income of the household according to different expenditure levels of households that are connected with other employment. The overall average monthly income per household here is Rs.3127. Both men and women contributed to the household income. The lowest average monthly income per household is Rs.350 in the expenditure level below Rs.1000 followed by Rs.1771, Rs.3140, Rs.3188, Rs.3750, and Rs.6450 respectively corresponding to the expenditure classes of Rs.1000-2000, Rs.2001-3000, Rs.3001-4000, Rs.4001-5000 and Rs.5000-plus.

EXPENDITURE PATTERN :

The household expenditure pattern on food item, housing, education and others according to the levels of expenditure is shown in Table No.11. Item 'others' includes expenditures pertaining to both occasional and conventional necessities. On an overall basis the expenditure on food item is the highest followed by education and housing. The average expenditure of all the households is Rs.3217.35 comprising Rs.1911.11, Rs.90.72, Rs.397.02 and Rs.818.5 in respect of food, housing, education and others.

Table No. 11(a) reveals the pattern of expenditures of food, housing, education and others according to different household expenditure classes exclusively dependent on tea. There also the highest share of expenditure is on food followed by education and housing. The average spending of all the households combined towards food, housing, education and others are respectively Rs.1897.30, Rs.91.90, 453.10 and Rs.759.90. The combined average spending of all the households under broad groups of expenditure is Rs.3202.20.

Table No. 11(b) represents household spending exclusively connected with other plantations according to different levels of expenditure. The table reveals that highest share of spending is specifically on food followed by education and housing. The overall average expenditure of all the households combined under different broad groups is Rs.3146.73 comprising Rs.2079.35 on food, Rs.96.60 on housing Rs.256.80 on education and Rs.714.00 on others.

The expenditure pattern of different households according to various levels of expenditure and exclusively connected with other employment has been shown in table No.11(c). The average expenditure of all the households combined towards food, housing, education and others are Rs.1983.33, Rs.88.89, Rs.248.50 and Rs.995.84 respectively. The combined average expenditure of all the households under broad groups of expenditure is Rs.3316.56.

The proportion of expenditure on various items according to household classes in terms of percentage can be seen from Table No.12. For all the expenditure levels the bulk of the total expenditure is incurred on food. The percentage of total expenditure on food shows a decreasing trend with the increase in total household expenditure. The proportion of expenditure on housing and education is very low in all the expenditure groups. It may also be seen that the proportion of expenditure on 'others' is also sizeable. On overall basis, the proportional expenditure on food, housing, education and others are 59.4%, 2.82%, 12.34%, and 25.44% respectively. The proportion of expenditure on education is only 3% for the monthly household expenditure classes less than Rs.2001 while it is within 12% to 15% for other classes.

Percentage of average household monthly expenditure on different items for different household expenditure classes for those dependent on tea cultivation can be seen from Table No. 12(a). The percentage of the total expenditure incurred on food varies between 52.87% and 85.73%. The percentage of expenditure on housing and education is very small in all the expenditure groups. On an average the proportions of expenditure on food, housing, education and others are 59.25%, 2.87%, 14.15%, and 23.73% respectively.

Table No. 12(b) relates to the above analysis for households associated with other plantations. The percentage of total expenditure of food, among different expenditure levels ranges between 53.33% and 86.00%. The proportion of expenditure on food, housing, education and others are 66.08%, 3.07%, 8.16% and 22.69% respectively. The above analysis in respect of household connected with other employment may be seen in Table 12(c). The proportion of expenditures on food, housing, education and others are 59.8%, 2.68%, 7.49%, and 30.03% respectively.

INDEBTEDNESS :

The proportion of indebted households categorised according to the levels of expenditure are shown in Table No.13. Out of 81 households, 42 are indebted and the average debt per indebted household varies from Rs.200 to Rs.2850.00 per mensem for different expenditure groups. More than 93% of the indebted households have their monthly expenditure between Rs.1000 to Rs.4000. However, in general the average debt per indebted household increases with the increase in monthly expenditure. The average debt per indebted household is Rs.767.87. The above analysis in respect of households associated exclusively with tea cultivation may be seen in Table No. 13(a). Out of 48 households, 27 are indebted and the average debt per household varies from Rs.200 to Rs.2000 per mensem. The average debt per household has a rising trend with the increase in expenditure. The average debt per indebted household is Rs.673.96.

Table No. 13(b) represents the same analysis for households connected with other plantation. Out of 15 households five are indebted and the average debt per indebted household varies from Rs.320 to Rs.454 per mensem. The average debt per indebted household is Rs.373.60.

Table No.13(c) reveals the analysis for households connected with other employment. The average debt per indebted household varies form Rs.444.33 to Rs.3700. The average debt per indebted household is Rs.1218.60.

SAVINGS :

Only 28 out of 81 samples surveyed were found to have some savings. The proportion of households making savings and the average extent of savings of these households according to expenditure levels have been shown in Table No.14. The proportion is lowest viz. only 20% in the expenditure level of Rs.3001-4000 and highest at 71% for the expenditure classes Rs.4001-5000. Households in the expenditure level of above Rs.5000 have the highest average savings at Rs.4080.33. The savings of an average household per mensem works out at Rs.766.38, which is 24.45% of the total monthly income of households. The above analyses in respect of the households exclusively connected with tea cultivation e been carried out in Table No.14 (a). Here, only 17 households i.e. 35.42% of the 48 households eyed were found to have monthly savings. The proportion of savings is very low at 1.78% in the enditure level of Rs.3001-4000 whereas the highest percentage of saving (23.11%) was found to be in the expenditure level of Rs.4001-5000. The average amount of savings was lowest at Rs.350 for households in the expenditure level of Rs.3001-4000 and highest at Rs.1428.40 for the expenditure class of Rs.4001-5000. Savings of an average family per mensem for the class of households works out as Rs.248.92, which is 8.83% of the total monthly income.

Table No.14 (b) reveals the same analysis in respect of household connected with other plantation. Out of the 15 households surveyed only 6 representing 40% have been found to have monthly savings. The proportion is lowest at 25% in respect of the expenditure level of Rs.1000-2000 and highest at 100% in respect of the expenditure level of Rs.3001-4000. Savings of an average household per mensem under the category of households works out as Rs.2612.07, which is 46.31% of their monthly income.

Table No.14(c) relates to the above analysis in respect of the households connected with other employment. Here, out of 18 households 5 representing 27.78% were found to have monthly savings. The average savings per household per mensem works out as Rs.1092.89, which is 34.95% of the monthly income.

PART - II

ANALYSIS OF DATA

Table No.1
Distribution of Sample household

Classification	Number of households	Percentage to Total
Connected exclusively with Tea Plantation	48	59.26
Connected with other Plantation	15	18.52
Connected with other Employment	18	22.22
OVERALL	81	100.00

Table No.2
Community Status of the Sample/Households

Community	Number of households	Percentage to Total
HINDU	37	45.68
CHRISTIAN	38	46.91
MUSLIM	6	7.41
TOTAL	81	100.00

Table No.3
Classification of the household surveyed according to their size.

Household size	Number of households	Number of individuals
One	1	1
Two	2	4
Three	13	39
Four	28	112
Five	19	95
Above five	18	122
Total	81	373

Table No.3 (a)

Classification of the household exclusively connected with tea cultivation according to their size.

Household size	Number of households	Number of individuals
One	1	1
Two	-	-
Three	5	15
Four	15	60
Five	13	65
Above five	14	94
Total	48	235

Table No.3 (b)

Classification of the household connected with other plantation according to their size.

Household size	Number of households	Number of individuals
One	-	-
Two	-	-
Three	5	15
Four	7	28
Five	2	10
Above five	1	9
Total	15	62

Table No.3(c)

Classification of the household connected with other employment according to their size.

Household size	Number of households	Number of individuals
One	-	-
Two	2	4
Three	3	9
Four	6	24
Five	4	20
Above five	3	19
Total	18	76

Table No- 4

Composition of an average household and the number of earners of each category (all households).

Groups	Total number of persons in the household	Total number of persons in the average household	Total number of earners in each category	Number of earners per household	Percentage of earners to total number of persons in each category
Men	148	1.83	100	1.24	67.57
Women	120	1.48	34	0.42	28.33
Adolescent	37	0.46	-	-	-
Children	68	0.84	-	-	-
Total	373	4.61	134	1.66	35.93

Table No- 4(a)

Composition of an average household and the number of earners of each category pertaining to households exclusively connected with tea plantation.

Groups	Total number of persons in the household	Total number of persons in the average household	Total number of earners in each category	Number of earners per household	Percentage of earners to total number of persons in each category
Men	99	2.06	61	1.27	61.62
Women	75	1.52	27	0.56	36.99
Adolescent	23	0.52	-	-	-
Children	38	0.80	-	-	-
Total	235	4.90	88	1.83	37.45

Table No- 4(b)

Composition of an average household and the number of earners of each category pertaining to households connected with other plantation.

Groups •	Total number of persons in the household	Total number of persons in the average household	Total number of earners in each category	Number of earners per household	Percentage of earners to total number of persons in each category
Men	17	1.13	15	1.00	88.23
Women	19	1.26	1	0.06	5.26
Adolescent	8	0.54	-	-	-
Children	18	1.20	-	-	-
Total	62	4.13	16	1.06	25.80

Table No- 4(c)

Composition of an average household and the number of earners of each category pertaining to households connected with other occupation.

Groups	Total number of persons in the household	Total number of persons in the average household	Total number of earners in each category	Number of earners per household	Percentage of earners to total number of persons in each category
Men	32	1.77	24	1.33	75.00
Women	26	1.56	6	0.34	21.42
Adolescent	6	0.23	-	-	-
Children	12	0.66	-	-	-
Total	76	4.22	30	1.67	39.47

Table No - 5

Literacy according to different age groups (all households)

Age groups (in years)	Total number of persons	Number of literate	Number of illiterate	Percentage of literate to total in each group	Percentage of illiterate to total in each group
Below 10	37	22	15	59.46	40.54
10 - 20	98	96	2	97.96	2.04
21 - 30	79	69	10	87.34	12.66
31 - 40	62	48	14	77.42	22.58
41 - 50	53	40	13	75.47	24.53
Above 50	44	26	18	59.09	40.91
Total	373	301	72	80.70	19.30

Table No - 5(a)

Literacy according to different age groups (households connected with tea plantation).

Age groups (in years)	Total number of persons	Number of literate	Number of illiterate	Percentage of literate to total in each group	Percentage of illiterate to total in each group
Below 10	23	13	10	56.52	43.48
10 - 20	66	64	2	96.97	3.03
21 - 30	58	51	7	87.93	12.07
31 - 40	31	22	9	70.97	29.03
41 - 50	34	24	10	70.59	29.41
Above 50	23	16	7	69.57	30.43
Total	235	190	45	80.85	19.15

Table No - 5(b)

Literacy according to different age groups (households connected with other plantation).

Age groups (in years)	Total number of persons	Number of literate	Number of illiterate	Percentage of literate to total in each group	Percentage of illiterate to total in each group
Below 10	12	9	3	75.00	25.00
10 – 20	15	15	-	100.00	-
21 – 30	4	4	-	100.00	-
31 – 40	19	17	2	89.50	10.50
41 – 50	8	8	-	100.00	-
Above 50	4	1	3	25.00	75.00
Total	62	54	8	87.10	12.90

Table No - 5(c)

Literacy according to different age groups (households connected with other occupation).

Age groups (in years)	Total number of persons	Number of literate	Number of illiterate	Percentage of literate to total in each group	Percentage of illiterate to total in each group
Below 10	2	-	2	-	100.00
10 - 20	17	17	-	100.00	-
21 - 30	17	14	3	82.35	17.65
31 - 40	12	9	3	75.00	25.00
41 - 50	11	8	3	72.73	27.27
Above 50	17	9	8	52.94	47.00
Total	76	57	19	75.00	25.00

Table No.- 6

Literacy according to different household expenditure levels (all families)

Expenditure level per month (in Rupees)	Total number of persons	Number of literate	Percentage of literate to the total
Below 1000	13	11	84.62
1000 -2000	83	59	71.08
2001 -3000	123	96	78.05
3001- 4000	73	59	80.82
4001 -5000	34	32	94.12
Above 5000	47	44	93.62
Total	373	301	80.70

Table No.- 6(a)

Literacy according to different expenditure levels (tea plantation)

Expenditure level per month (in Rupees)	Total number of persons	Number of literate	Percentage of literate to the total
Below 1000	3	2	66.67
1000 -2000	49	33	67.35
2001 -3000	83	69	83.13
3001 -4000	50	38	76.00
4001 -5000	27	26	96.30
Above 5000	23	22	95.65
Total	235	190	80.85

Table No.- 6(b)

Literacy according to different expenditure levels (other plantation).

Expenditure level per month in (in Rupees)	Total number of persons	Number of literate	Percentage of literate to the total
Below 1000	8	8	100.00
1000 -2000	16	15	93.75
2001 -3000	18	13	72.23
3001 -4000	4	4	100.00
4001 -5000	-	-	-
Above 5000	16	14	87.50
Total	62	54	87.09

Table No - 6(c)

Literacy according to different expenditure levels (other occupation)

Expenditure level per month in (in Rupees)	Total number of persons	Number of literate	Percentage of literate to the total
Below 1000	2	1	50.00
1000 –2000	18	11	61.11
2001 –3000	22	14	63.64
3001 –4000	19	17	89.47
4001 –5000	7	6	85.71
Above 5000	8	8	100.00
Total	76	57	75.00

Table No. 7

Percentage of smokers and alcohol drinkers according to expenditure levels (all occupations).

Expenditure levels (in Rs.)	Total number of persons interviewed	Number of smokers	Number taking alcoholic drinks	Percentage of smokers among the persons interviewed	Percentage of alcohol drinkers among the interviewed
Below 1000	13	4	Nil	30.77	Nil
1000 -2000	83	8	7	9.64	8.43
2001 -3000	123	12	5	9.76	4.07
3001-4000	73	6	4	8.22	5.48
4001 -5000	34	3	3	8.83	8.82
Above 5000	47	4	3	8.51	6.38
Total	373	37	22	9.92	5.90

Table No. 7(a)

Percentage of smokers and alcohol drinkers according to expenditure levels of persons exclusively connected with tea plantation.

Expenditure levels (in Rs.)	Total number of persons interviewed	Number of smokers	Number taking alcoholic drinks	Percentage of smokers among the persons interviewed	Percentage of alcohol drinkers among the interviewed
Below 1000	3	1	-	33.33	-
1000 -2000	49	4	5	8.16	10.20
2001 -3000	83	8	2	9.64	2.41
3001-4000	50	5	3	10.00	6.00
4001 -5000	27	3	3	11.11	11.11
Above 5000	23	1	-	4.35	-
Total	235	22	13	9.36	5.53

Table No. 7(b)

Percentage of smokers and alcohol drinkers according to expenditure levels of persons exclusively connected with other plantation.

Expenditure levels (in Rs.)	Total number of persons interviewed	Number of smokers	Number taking alcoholic drinks	Percentage of smokers among the persons interviewed	Percentage of alcohol drinkers among the interviewed
Below 1000	8	2	-	25.00	-
1000 -2000	16	2	-	12.5	-
2001 -3000	18	1	1	5.55	5.55
3001-4000	4	-	-	-	-
4001 -5000	-	-	-	-	-
Above 5000	16	1	2	6.25	12.50
Total	62	6	3	9.67	4.83

Table No. 7(c)

Percentage of smokers and alcohol drinkers according to expenditure levels of persons exclusively connected with other occupation

Expenditure levels (in Rs.)	Total number of persons interviewed	Number of smokers	Number taking alcoholic drinks	Percentage of smokers among the persons interviewed	Percentage of alcohol drinkers among the interviewed
Below 1000	2	1	-	50.00	-
1000 -2000	18	2	2	11.11	11.11
2001 -3000	22	3	2	13.64	9.09
3001-4000	19	1	1	5.26	5.26
4001 -5000	7	-	-	-	-
Above 5000	8	2	1	25.00	12.50
Total	76	9	6	11.84	7.89

Table No. 8

Distribution of persons and earners and proportion of earners by monthly expenditure level of households.

Expenditure levels (In Rs.)	No. of families	Number of persons					Number of earners					Percentage of earners in each category				
		Men	Women	Adolescent	Children	Total	Men	Wommen	Adolescent	Children	Total	Men	Wommen	Adolescent	Children	Total
Below 1000	4	5	4	1	3	13	5	1	-	-	6	100.00	25.00	-	-	46.15
1000-2000	20	30	22	8	23	83	22	8	-	-	30	73.33	36.36	-	-	36.14
2001-3000	26	46	41	14	22	123	31	17	-	-	48	67.39	41.46	-	-	39.02
3001-4000	15	29	24	7	13	73	18	5	-	-	23	62.07	20.83	-	-	31.51
4001-5000	7	17	16	1	-	34	12	1	-	-	13	70.59	6.25	-	-	38.24
Above 5000	9	21	13	6	7	47	12	2	-	-	14	57.14	15.38	-	-	29.79
Total	81	148	120	37	68	373	100	34	-	-	134	67.57	28.33	-	-	35.92

Table No. 8(a)
Distribution of persons and earners and proportion of earners by expenditure of households level exclusively connected with tea.

Expenditure levels (In Rs.)	No. of families	Number of persons					Number of earners					Percentage of earners in each category				
		Men	Women	Adolescent	Children	Total	Men	Women	Adolescent	Children	Total	Men	Women	Adolescent	Children	Total
Below 1000	1	2	1	-	-	3	2	1	-	-	3	100.00	100.00	-	-	100.00
1000-2000	12	17	12	5	15	49	13	5	-	-	18	76.47	41.67	-	-	36.73
2001-3000	16	33	25	8	17	83	19	15	-	-	34	57.58	60.00	-	-	40.96
3001-4000	10	20	20	4	6	50	12	5	-	-	17	60.00	25.00	-	-	34.00
4001-5000	5	14	12	1	-	27	9	-	-	-	9	64.29	-	-	-	33.33
Above 5000	4	13	5	5	-	23	6	1	-	-	7	46.15	20.00	-	-	30.43
Total	48	99	75	23	38	235	61	27	-	-	88	61.62	36.00	-	-	37.45

Table No. 8(b)

Distribution of persons and earners and proportion of earners by expenditure level of households level exclusively connected with other cultivation.

Expen-diture levels (In Rs.)	No. of fami-lies	Number of persons					Number of earners					Percentage of earners in each category				
		Men	Wom-en	Adole-scent	Child-ren	Total	Men	Wom-men	Adole-scent	Child-ren	Total	Men	Wom-men	Adole-scent	Child-ren	Total
Below 1000	2	2	2	1	3	8	2	-	-	-	2	100.00	-	-	-	25.00
1000-2000	4	4	6	3	3	16	4	-	-	-	4	100.00	-	-	-	25.00
2001-3000	5	5	6	4	3	18	5	1	-	-	6	100.00	16.67	-	-	33.33
3001-4000	1	1	1	-	2	4	1	-	-	-	1	100.00	-	-	-	25.00
4001-5000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Above 5000	3	5	4	-	7	16	3	-	-	-	3	60.00	-	-	-	18.75
Total	15	17	19	8	18	62	15	1	-	-	16	88.23	5.26	-	-	25.80

Table No. 8(c)

Distribution of persons and earners and proportion of earners by expenditure level of households exclusively connected with other employment

Expenditure levels (In Rs.)	No. of families	Number of persons					Number of earners					Percentage of earners in each category				
		Men	Women	Adolescent	Children	Total	Men	Wommen	Adolescent	Children	Total	Men	Wommen	Adolescent	Children	Total
Below 1000	1	1	1	-	-	2	1	-	-	-	1	100.00	-	-	-	50.00
1000-2000	4	9	4	-	5	18	5	3	-	-	8	55.55	75.00	-	-	44.44
2001-3000	5	8	10	2	2	22	7	1	-	-	8	87.50	10.00	-	-	36.36
3001-4000	4	8	3	3	5	19	5	-	-	-	5	62.50	-	-	-	26.32
4001-5000	2	3	4	-	-	7	3	1	-	-	4	100.00	25.00	-	-	57.14
Above 5000	2	3	4	1	-	8	3	1	-	-	4	100.00	25.00	-	-	50.00
Total	18	32	26	6	12	76	24	6	-	-	30	75.00	23.08	-	-	39.47

Table No. 9

Composition of households and earners by expenditure levels

Expen diture levels (Rs.)	Number of families	Average number of persons					Average number of earners per household				
		Men	Wo-men	Adole scent	Child-ren	Total	Men	Wo-men	Adole-scent	Child-ren	Total
Below 1000	4	1.25	1.00	0.25	0.75	3.25	1.25	0.25	-	-	1.50
1000 -2000	20	1.50	1.10	0.40	1.15	4.15	1.10	0.40	-	-	1.50
2001 -3000	26	1.77	1.58	0.54	0.85	4.73	1.19	0.65	-	-	1.84
3001 -4000	15	2.07	1.71	0.47	0.87	4.87	1.29	0.36	-	-	1.65
4001 -5000	7	2.13	2.00	0.14	-	4.86	1.50	0.13	-	-	1.63
Above 5000	9	2.33	1.44	0.67	0.78	5.22	1.33	0.22	-	-	1.56
All combined	81	1.83	1.48	0.46	0.84	4.61	1.24	0.42	-	-	1.66

Table No. 9 (a)

Composition of households and earners by expenditure levels exclusively connected with tea

Expendi ture levels (Rs.)	Number of house holds	Average number of persons per household					Average number of earners per household				
		Men	Wo-men	Adole scent	Child-ren	Total	Men	Wo-men	Adole-scent	Child-ren	Total
Below 1000	1	2.00	1.00	-	-	3.00	2.00	1.00	-	-	3.00
1000 -2000	12	1.42	1.00	0.42	1.25	4.08	1.08	0.42	-	-	1.50
2001 -3000	16	2.06	1.56	0.50	1.06	5.19	1.19	0.94	-	-	2.13
3001 -4000	10	2.00	2.00	0.40	0.60	5.00	1.20	0.50	-	-	1.70
4001 -5000	5	2.80	2.40	0.20	-	5.40	1.80	-	-	-	1.80
Above 5000	4	3.25	1.25	1.25	-	5.75	1.50	0.25	-	-	1.75
All combined	48	2.06	1.56	0.48	0.79	4.90	1.27	0.56	-	-	1.83

Table No. 9(b)

Composition of households and earners by expenditure levels exclusively connected with other cultivation

Expenditure levels (Rs.)	Number of house holds	Average number of persons per household					Average number of earners per household				
		Men	Women	Adole scent	Children	Total	Men	Women	Adolescent	Children	Total
Below 1000	2	1.00	1.00	0.50	1.50	4.00	1.00	-	-	-	1.00
1000 -2000	4	1.00	1.50	0.75	0.75	4.00	1.00	-	-	-	1.00
2001 -3000	5	1.00	1.20	0.80	0.60	3.60	1.00	0.20	-	-	1.20
3001 -4000	1	1.00	1.00	-	2.00	4.00	1.00	-	-	-	1.00
4001 -5000	-	-	-	-	-	-	-	-	-	-	-
Above 5000	3	1.67	1.33	-	2.33	5.33	1.00	-	-	-	1.00
All combined	15	1.13	1.26	0.54	1.20	4.13	1.00	0.07	-	-	1.07

Table No. 9 (c)

Composition of households and earners by expenditure levels connected with other employment

Expenditure levels (Rs.)	Number of house holds	Average number of persons per household					Average number of earners per household				
		Men	Women	Adole scent	Children	Total	Men	Women	Adolescent	Children	Total
Below 1000	1	1.00	1.00	-	-	2.00	1.00	-	-	-	1.00
1000 -2000	4	2.25	1.00	-	1.25	4.50	1.25	0.75	-	-	2.00
2001 -3000	5	1.60	2.00	0.40	0.40	4.40	1.40	0.20	-	-	1.60
3001 -4000	4	2.00	0.75	0.75	1.25	4.75	1.25	-	-	-	1.25
4001 -5000	2	1.50	2.00	-	-	3.50	1.50	0.50	-	-	2.00
Above 5000	2	1.50	2.00	0.50	-	4.00	1.50	0.50	-	-	2.00
All combined	18	1.77	1.44	0.33	0.66	4.22	1.33	0.33	-	-	1.67

Table No. 10

Contribution of different members of the household to the monthly income and total household income according to expenditure levels

Expenditure levels (Rs.)	Number of households	Average number of earners	Average monthly income per households (Rs.)	Monthly contribution to household income (Rs.)			
				Men	Women	Adoles-cent	Children
Below 1000	4	1.50	425	354	71	-	-
1000-2000	20	1.50	1496	1097	399	-	-
2001-3000	26	1.84	2448	1583	865	-	-
3001-4000	15	1.65	3016	2358	658	-	-
4001-5000	7	1.63	5487	5049	438	-	-
Above 5000	9	1.55	8094	6901	1193	-	-
Total	81	1.66	3135	2342	793	-	-

Table No. 10(a)

Contribution of different members of the household to the monthly income and total household income according to expenditure levels Exclusively connected with tea

Expenditure levels (Rs.)	Number of households	Average number of earners	Average monthly income per households (Rs.)	Monthly contribution to household income (Rs.)			
				Men	Women	Adoles-cent	Children
Below 1000	1	3.00	500	333	167	-	-
1000-2000	12	1.50	1536	1106	430	-	-
2001-3000	16	2.13	2207	1233	974	-	-
3001-4000	10	1.70	2532	1787	745	-	-
4001-5000	5	1.80	6182	6182	-	-	-
Above 5000	4	1.75	8149	6985	1164	-	-
Total	48	1.83	2970	2061	909	-	-

Table No. 10(b)

Contribution of different members of the household to the monthly income and total household income according to expenditure levels exclusively connected with other cultivation.

Expenditure levels (Rs.)	Number of households	Average number of earners	Average monthly income per households (Rs.)	Monthly contribution to household income (Rs.)			
				Men	Women	Adoles-cent	Children
Below 1000	2	1.00	425	425	-	-	-
1000-2000	4	1.00	1233	1233	-	-	-
2001-3000	5	1.20	2527	2105	422	-	-
3001-4000	1	1.00	7164	7164	-	-	-
4001-5000	-	-	-	-	-	-	-
Above 5000	3	1.00	19139	19139	-	-	-
Total	15	1.07	5641	5322	319	-	-

Table No. 10(c)

Contribution of different members of the household to the monthly income and total household income according to expenditure levels exclusively connected with other employment

Expenditure levels (Rs.)	Number of households	Average number of earners	Average monthly income per households (Rs.)	Monthly contribution to household income (Rs.)			
				Men	Women	Adoles-cent	Children
Below 1000	1	1.00	350	350	-	-	-
1000-2000	4	2.00	1771	1107	664	-	-
2001-3000	5	1.60	3140	3140	-	-	-
3001-4000	4	1.25	3188	3188	-	-	-
4001-5000	2	2.00	3750	3750	-	-	-
Above 5000	2	2.00	6450	4838	1612	-	-
Total	18	1.67	3127	2490	637	-	-

Table No. 11

Average monthly expenditure per household on items of food and other groups of expenditure levels.

	Expenditure Level (Rs.)						
	Below 1000	1000 — 2000	2001 — 3000	3001 — 4000	4001 — 5000	Above 5000	Combined
No. of households	4	20	26	15	7	9	81
Food	620.10	1230.00	1458.76	1994.28	2878.57	4297.20	1911.10
Housing	—	9.60	8.10	49.05	192.86	620.10	90.72
Education	—	47.00	371.00	439.85	728.57	980.70	397.02
Others	86.15	340.80	699.56	877.00	967.00	2315.33	818.50
Total	706.25	1627.40	2537.42	3360.20	4767.00	8213.33	3217.35

Table No. 11(a)

Average monthly expenditure per household on items of food and groups of expenditure levels in respect of the households exclusively connected with tea.

	Expenditure Level (Rs.)						
	Below 1000	1000 — 2000	2001 — 3000	3001 — 4000	4001 — 5000	Above 5000	Combined
No. of households	1	12	16	10	5	4	48
Food	600.10	1242.60	1420.00	1985.00	3130.00	4450.30	1897.30
Housing	-	13.10	-	70.10	270.10	600.00	91.90
Education	-	55.70	441.50	480.00	619.90	1450.39	453.10
Others	99.90	345.85	731.00	884.90	733.90	1916.90	759.90
Total	700.00	1657.25	2592.50	3420.00	4753.80	8417.50	3202.20

Table No. 11(b)

Average monthly expenditure per household on items of food and other groups of expenditure levels in respect of the households exclusively connected with other plantation

	Expenditure Level (Rs.)						
	Below 1000	1000 — 2000	2001 — 3000	3001 — 4000	4001 — 5000	Above 5000	Combined
No. of households	2	4	5	1	-	3	15
Food	774.00	897.50	1898.50	1973.20	-	000.40	2079.35
Housing	-	69.25	100.00	98.80	-	166.33	96.60
Education	-	277.10	184.90	394.80	-	383.10	256.80
Others	126.00	271.40	214.60	1233.20	-	2333.50	714.00
Total	900.00	1515.25	2398.00	3700.00	-	7883.33	3146.73

Table No. 11(c)

Average monthly expenditure per household on items of food and other groups of expenditure levels in respect of the households exclusively connected with other employment

	Expenditure Level (Rs.)						
	Below 1000	1000 — 2000	2001 — 3000	3001 — 4000	4001 — 5000	Above 5000	Combined
No. of households	1	4	5	4	2	2	18
Food	300.00	1275.00	1700.00	2199.80	2250.20	4249.60	1983.33
Housing	-	-	40.00	-	-	699.70	88.89
Education	-	25.00	130.50	379.90	999.80	99.60	248.50
Others	25.00	350.00	630.10	937.80	1550.00	3251.10	995.84
Total	325.00	1650.00	2500.60	3517.50	4800.00	8300.00	3316.56

Table No. 12

Percentage distribution of average household monthly expenditure among the items of food and other groups by expenditure level.

	Expenditure Level (Rs.)						
	Below 1000	1000 — 2000	2001 — 3000	3001 — 4000	4001 — 5000	Above 5000	Combined
No. of households	4	20	26	15	7	9	81
Food	87.80	75.58	57.49	59.35	60.39	52.32	59.40
Housing	-	0.59	0.32	1.46	4.04	7.55	2.82
Education	-	2.89	14.62	13.09	15.28	11.94	12.34
Others	12.20	20.94	27.57	26.10	20.29	28.19	25.44
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table No. 12(a)

Percentage distribution of average household monthly expenditure among the items of food and other groups by expenditure level in respect of household exclusively connected with tea.

	Expenditure Level (Rs.)						
	Below 1000	1000 — 2000	2001 — 3000	3001 — 4000	4001 — 5000	Above 5000	Combined
No. of households	1	12	16	10	5	4	48
Food	85.73	74.98	54.79	58.04	65.84	52.87	59.25
Housing	-	0.79	-	2.05	5.68	7.13	2.87
Education	-	3.36	17.03	14.04	13.04	17.23	14.15
Others	14.27	20.87	28.18	25.87	15.44	22.77	23.73
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table No. 12(b)

Percentage distribution of average household monthly expenditure among the items of food and other groups by expenditure level in respect of household exclusively connected with other plantation

	Expenditure Level (Rs.)						
	Below 1000	1000 — 2000	2001 — 3000	3001 — 4000	4001 — 5000	Above 5000	Combined
No. of households	2	4	5	1	-	3	15
Food	86.00	59.23	79.17	53.33	-	63.43	66.08
Housing	-	4.57	4.17	2.67	-	2.11	3.07
Education	-	18.29	7.71	10.67	-	4.86	8.16
Others	14.00	17.91	8.95	33.33	-	29.60	22.69
Total	-	100.00	100.00	100.00	-	100.00	100.00

Table No. 12(c)

Percentage distribution of average household monthly expenditure among the items of food and other groups by expenditure level in respect of household exclusively connected with other employment.

	Expenditure Level (Rs.)						
	Below 1000	1000 — 2000	2001 — 3000	3001 — 4000	4001 — 5000	Above 5000	Combined
No. of households	1	4	5	4	2	2	18
Food	92.30	77.27	67.98	62.54	46.88	51.20	59.80
Housing	-	-	1.60	-	-	8.43	2.68
Education	-	1.52	5.22	10.80	20.83	1.20	7.49
Others	7.70	21.21	25.20	26.66	32.29	39.17	30.23
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

TABLE - 13

Proportion of indebted households and average debt per household.

Expenditure Level (Rs.)	No. of household	No. of indebted household	Proportion of indebted household	Average debt per indebted household	Average debt per household considering all households
Below Rs. 1000	4	1	25.00	200.00	50.00
1000-2000	20	13	65.00	517.59	336.44
2001-3000	26	16	61.54	351.44	216.26
3001-4000	15	9	60.00	1382.78	833.26
4001-5000	7	1	14.29	1500.00	214.28
Above 5000	9	2	22.22	2850.00	633.33
Total	81	42	51.85	767.87	398.15

TABLE - 13 (a)

Proportion of indebted households and average debt per household in respect of the household exclusively connected with tea cultivation.

Expenditure Level (Rs.)	No. of household	No. of indebted household	Proportion of indebted household	Average debt per indebted household	Average debt per household considering all households
Below Rs. 1000	1	1	100.00	200.00	200.00
1000-2000	12	7	58.33	619.29	361.25
2001-3000	16	11	68.75	307.55	211.44
3001-4000	10	7	70.00	1182.71	827.90
4001-5000	5	—	—	—	—
Above 5000	4	1	25.00	2000.00	500.10
TOTAL	48	27	56.25	673.96	379.10

TABLE - 13 (b)

Proportion of indebted households and average debt per household in respect of the household exclusively connected with other plantation

Expenditure Level (Rs.)	No. of household	No. of indebted household	Proportion of indebted household	Average debt per indebted household	Average debt per household considering all households
Below Rs. 1000	2	—	—	—	—
1000-2000	4	3	50.00	320.33	240.25
2001-3000	5	2	40.00	453.50	181.40
3001-4000	1	—	—	—	—
4001-5000	—	—	—	—	—
Above 5000	3	—	—	—	
TOTAL	15	5	33.33	373.60	124.53

TABLE - 13 (c)

Proportion of indebted households and average debt per household in respect of the household connected with other services.

Expenditure Level (Rs.)	No. of household	No. of indebted household	Proportion of indebted household	Average debt per indebted household	Average debt per household considering all households
Below Rs. 1000	1	—	—	—	—
1000-2000	4	3	75.00	477.67	358.25
2001-3000	5	3	60.00	444.33	266.60
3001-4000	4	2	50.00	2110.00	1055.00
4001-5000	2	1	50.00	1500.00	750.00
Above 5000	2	1	50.00	3700.00	1850.00
TOTAL	18	10	55.56	1218.60	677.00

TABLE - 14

Proportion of households having monthly savings and the average amount of savings per month per household by expenditure levels.

Expenditure Level (Rs.)	No of households	No. of households having savings	Percentage to to total number of households	Amount of savings per household (Rs.)	Savings as percentage to income
Below Rs. 1000	4	1	25.00	6.25	1.47
1000-2000	20	6	30.00	194.65	13.01
2001-3000	26	8	30.77	287.69	11.75
3001-4000	15	3	20.00	454.27	15.06
4001-5000	7	5	71.43	1020.29	18.59
Above 5000	9	5	55.56	4080..33	50.41
TOTAL	81	28	34.57	766.38	24.45

TABLE - 14 (a)

Proportion of households having monthly savings and the average amount of monthly savings per household by expenditure level in respect of the household exclusively connected with tea cultivation.

Expenditure Level (Rs.)	No of households	No. of households having savings	Percentage to to total number of households	Amount of savings per household (Rs.)	Savings as percentage to income
Below Rs. 1000		—	—	—	—
1000-2000	12	3	25.00	239.67	15.60
2001-3000	16	4	25.00	87.50	3.96
3001-4000	10	1	10.00	45.00	1.78
4001-5000	5	5	100.00	1428.40	23.11
Above 5000	4	-3	75.00	739.00	9.07
TOTAL	48	17	35.42	248.92	8.38

TABLE - 14 (b)

Proportion of households having monthly savings and the average amount of monthly savings per household by expenditure level in respect of the household exclusively connected with other plantation.

Expenditure Level (Rs.)	No. of households	No. of households having savings	Percentage to to total number of households	Amount of savings per household (Rs.)	Savings as percentage to income
Below Rs. 1000	2	—	—	—	—
1000-2000	4	1	25.00	100.00	8.11
2001-3000	5	2	40.00	310.00	12.27
3001-4000	1	1	100.00	3464.00	48.35
4001-5000	—	—	—	—	—
Above 5000	3	2	66.67	11255.67	58.81
TOTAL	15	6	40.00	2612.07	46.31

TABLE - 14 (c)

The proportion of households having monthly savings and the average amount of monthly savings per household by expenditure level in respect of the household connected with other services.

Expenditure Level (Rs.)	No. of households	No. of households having savings	Percentage to to total number of households	Amount of savings per household (Rs.)	Savings as percentage to income
Below Rs. 1000	1	1	100.00	25.00	7.14
1000-2000	4	1	25.00	154.25	9.02
2001-3000	5	2	40.00	906.03	28.85
3001-4000	4	1	25.00	725.00	22.74
4001-5000	2	—	—	—	—
Above 5000	2	—	—	—	—
TOTAL	18	5	27.78	1092.89	34.95