

**INFLUENCE OF TRIBAL DEVELOPMENT RUBBER  
PLANTING PROJECT ON THE SOCIO-ECONOMIC  
STATUS OF THE KANI TRIBES OF NEDUMANGAD  
TALUK, THIRUVANANTHAPURAM DISTRICT**

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**DISSERTATION**

Submitted in partial fulfilment of the  
requirement for the degree

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**1997**

## DECLARATION

I hereby declare that this dissertation entitled **“Influence of Tribal Development Rubber Planting Project on the socio-economic status of the Kani Tribes of Nedumangad Taluk, Thiruvananthapuram District.”** is a bonafide record of research work done by me and that this dissertation has not formed the basis for award to me, of any degree, diploma, associateship, fellowship or other similar title of any other University or Society.

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## CERTIFICATE

We, the undersigned members of the Advisory Committee of **Sri.K.Harikumar**, a candidate for the Post Graduate Diploma in Natural Rubber Production. Certify that this dissertation entitled **“Influence of Tribal Development Rubber Planting Project on the socio-economic status of the Kani Tribes of Nedumangad taluk, Thiruvananthapuram district”** is a record of research work done independently by Sri.K.Harikumar under our guidance and supervision and that it has not previously formed the basis for award of any degree, diploma, associateship or fellowship to him.

We also agree that this dissertation may be submitted by him in partial fulfilment of the requirement of Diploma.

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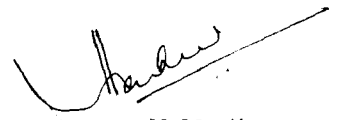
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# *Introduction*

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## INTRODUCTION

Tribals are the weakest section of people in India. Their population comes to 67.8 crores. Of this 0.47 per cent inhabits Kerala State. The population of tribal community in Thiruvananthapuram district is 16181 which is 0.55 per cent of the total population of the district. In this, 12403 tribals are in the Nedumangad taluk (1991 census report).

The tribals in the rural areas of Nedumangad taluk comes under Kani sect. They are also found in the nearby Neyyattinkara taluk and adjoining Kollam district. They are also known as Kanikkars, Kaniyan, Kanikkaran and Kanis in Kerala and Malai Arsan, Malavedans and Velanmars in Tamil Nadu.

Traditionally Kanikkars were hunters, gatherers and shifting cultivators. Shifting cultivation is almost stopped due to the marking of forest boundaries using 'Janda' by the forest department. The present day cultivation is settled. Fishing, hunting and gathering are still occasionally practiced (Plate 1 and 2).

A number of schemes had been launched by the Government and voluntary organisations to enhance the socio-economic condition of the tribals. Even after the implementation of such programmes, the socio-economic conditions of the tribals have not improved. After studying the pros and cons of the previous tribal development programme, a comprehensive scheme under the name Tribal Development Rubber Planting Project (TDRPP) has been implemented jointly by the Rubber Board and the Department of Scheduled Tribes Development, Government of Kerala.

The project was implemented initially in Kollam and Thiruvananthapuram districts and later in Idukki district, with the twin objectives of increasing natural rubber production in the country and raising the economic status of the tribals.

Rubber Board on its part, paid cash subsidy, input subsidy etc. under its Rubber Planting Development Scheme and the balance amount is met by the Department of Scheduled Tribes Development. The Board also provides sufficient technical staff to carryout planting and maintenance for a period the initial eight years. Training is also provided for tapping and processing. Plantations would be under full supervisory control of Rubber Board in the initial two years of tapping, after which they will be handed over to the beneficiaries. Processing and disposal of the produce will be through Rubber Producers Societies.

Similar type of rubber planting projects were carried out in other states such as Assam, Tripura, Andra Pradesh by the Rubber Board in collaboration with concerned State Governments.

The present investigation is aimed at assessing the extent of economic rehabilitation of Kani tribes through TDRPP and its impact on the socio-economic progress of the area, the attitude of tribes towards rubber cultivation and the extent of adoption of scientific rubber planting and maintenance techniques by the tribes. This study also intend to understand how far the objectives of Tribal Development Rubber Planting Project have been achieved and is expected to give help and guidance to the developmental agencies in implementing their future programme.

# *Review of Literature*

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## REVIEW OF LITERATURE

Studies have not so far been conducted to assess the impact of TDRPP in the socio-economic status of Kani tribes of Nedumangad taluk after the implementation of Tribal Development Rubber Planting Project. The literature pertaining to the results of the implementation of various schemes in the tribal areas are reviewed here under.

Aphale (1994) described the term 'tribe' as a group of people speaking a common language, observing uniform rules of social organisation, working together for common purpose, bearing a common name, having contiguous territory, possessing a relatively uniform culture or way of life and considering a tradition of common descent. He was also of the opinion that tribals are generally happy with what they have and they are reluctant or slow in accepting any new job or occupation.

According to Roger and Shoemaker (1971), development is a type of social change in which new ideas are introduced into a social system in order to produce high per capita income and levels of living through modern production methods and improved social organisation. Goswami (1984) stated that, despite the growing importance attached by social scientists to the study of development and consequent prolific growth of literature on the subject, one has reasons to feel dissatisfied with the status of tribal research in India, which is marked by low level of sophistication. Nongbri (1994) was of the view that development is the only means through which we can equip tribes with the ability to resist the onslaught of cultural and economic dominations from others.

Majority of the schemes under the tribal area are beneficiary oriented schemes. But the tribals are unaware of such schemes. According to Kshire (1994), it is the responsibility of the administration to keep them informed of various schemes initiated under the tribal area sub plan. Rao and Babu (1994) also stated that the beneficiaries came to know about the various schemes only through middlemen, local leaders or other third persons, especially in the urban area and the mode of selection of beneficiaries was generally without proper basis. The implementation of tribal projects are undertaken on a rather slack and casual manner (Nongbri, 1994).

Behra (1994) was of the opinion that the various schemes implemented by the Government to provide extra source of income to the farmers were found either unsuitable or misused by the beneficiaries with little or no impact on the level of income.

Surendran (1981) reported that most of the tribals had medium to low level of family norms and showed favourable attitude towards tribal development programmes. According to Singh (1970) the lack of social participation by the tribals was one of the short comings of Tribal Development Block Scheme. Social participation was reported to be negative and significantly related to technological gap (Sadamate, 1978). Behra (1994) reported that due to the implementation of developmental activities, the socio-economic set up of Khampti tribes of Arunachal Pradesh witnessed social changes.

Sushama (1979) had the opinion that even if tribals are favourably disposed off towards innovations, their socio-economic and cultural barriers deter them from translating the innovation into action. Sushama *et al.* (1981) reported

that the tribes need a sound economic background to buy and adopt innovations advocated by the tribal development department.

Surendraswamy (1977) observed that economic status had significant influence on the adoption behaviour of farmers but Singh and Sharma (1973) said that economic status was hardly found to be associated with adoption behaviour of farmers. Naidu (1978) also reported that there was no significant relationship between socio-economic status and adoption. A study conducted by Sushama *et al.* (1981) revealed that the farm size, income, socio-economic status and use of information source had a positive and significant relationship with adoption by tribals in developed areas while in less developed areas the levels of aspiration (past and future) alone had significant relationship with adoption.

Sahu (1970) and Srivastava and Singh (1970) reported illiteracy as a major problem in tribal areas. Behera (1994) observed a positive correlation between literacy level and per capita income with possession of assets.

According to Sachidananda (1968), Sahay (1969) and Dube (1977), age plays a significant role in the life style of the ordinary tribals.

The collection and sale of minor forest produce forms a major activity of livelihood for majority of tribes and it can supplement Adivasis to improve their financial position. This was observed by Aphale (1994) in his study related to the socio-economic condition of tribals in Maharashtra. In comparative study of per capita income, per capita expenditure and percentage of savings in households, Behera (1994) asserts that the excess of income over expenditure is not channelised into savings.

According to Patel (1984) tribal farmers have to dispose the produce immediately after the harvest due to lack of cash reserves. Thus the produce may not be properly processed and graded.

A study conducted by Srivastava *et al.* (1971) revealed that the tribals having permanent plain land in the Garo Hills of Assam are not conscious of the utility of fertilizer. Kulkarni (1974) had the opinion that the efficiency of the methods attempted for the improvement on agricultural condition and the use of manures and fertilizers by the Government had remained low because the results have not appeared to commensurate with the input of efforts through men and money.

The study of Mathur (1975) revealed that the most important cause of indebtedness among the tribals of Kerala are their primitive agricultural technology, illiteracy, low wages, absence of marketing infrastructure and their social and religious obligations.

Ramaiah (1988) had the opinion that imparting training to tribals in improved methods of cultivation is important.

The tribal farmers lack the skills involved in scientific weed control, integrated pest and disease control, efficient use of fertilizers and proper transplanting techniques, since they are following the traditional methods (Prasad and Mrutyunjayam, 1992).

Nongbri (1994) in his study concluded that for a tribal development programme to be truly effective, it has to be directed at high level of training, skill



and technology. Therefore emphasis should be on transfer of technology, creation and diversification of skills and optimum use of land and other natural resources.

# ***Materials and Methods***

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## MATERIALS AND METHODS

The present study was conducted in Nedumangad taluk of Thiruvananthapuram district. Nedumangad is the largest taluk in the district covering an area of 89,425 ha. Of this 35,276 ha is reserve forest area outside village boundaries coming under Kulathupuzha, Palode and Paruthipally range.

The major tribal sect in Thiruvananthapuram district is Kanikkar or Kanikkaran. They are locally referred as Kani. There were 4059 Kani families in this district of which major share inhabited in the hilly tracts of Nedumangad taluk.

In Thiruvananthapuram district, the Tribal Development Rubber Planting (TDRP) Project was started in 1989. During 1989 to 1993, rubber planting has been carried out in seven Kani settlements of Nedumangad taluk in a phased manner. About 200 ha of forest land was brought under rubber cultivation and the beneficiaries of the project were 684 Kanis. The following are the settlements in Thiruvananthapuram district where the TDRP project was implemented.

1. Kuttappara
2. Manalayam
3. Chettiyampara
4. Mylamoodu
5. Methottam
6. Theviyarukunnu
7. Njaraneeli

The study was conducted by interviewing 105 Kanies, who were the beneficiaries of the project in this district. Fifteen beneficiaries were randomly sampled from each settlement. A pretested questionnaire was used for the purpose.

All the relevant details were gathered as per the questionnaire prepared. Efforts were made to collect the details of income, skill acquired and land management techniques adopted before and after the implementation of the project in this area. The mode of implementation of the project was also taken into account so as to evaluate the extent of adoption of modern rubber planting techniques by the tribals. Since rubber in the project areas have not started yielding, a projection of the yield was made. Details regarding per capita income, income from intercrops, income received by selling cover crop seeds and rubber seeds, income from additional labour, educational status, level of aspiration (past and future) were also collected during the interview.

The data collected were analysed and documented as tables and graphs.

## *Results and Discussion*

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## RESULTS AND DISCUSSION

### 4.1 Salient features of the TDRPP

Among the seven settlements where the project has been implemented, Chettiyampara and Methottam settlements come under Tholicode Panchayath, Kuttappara and a portion of Theviyarukunnu settlements in Vithura Panchayath and the remaining portion in Aryanad Panchayath, Manalayam settlement in Nanniyode Panchayath, Mylamoodu in Pangode Panchayath and Njaraneeli in Peringammala Panchayath of Nedumangad taluk.

The Tribal Development Rubber Planting Project, in Nedumangad taluk, was first launched in 1989 at Kuttappara and Manalayam settlements and an area of 43.27 ha forest land was brought under rubber cultivation.

In the second year of the TDRPP, 3.98 ha area was planted with rubber in Njaraneeli settlement.

During the year 1991, 52.41 ha area has been planted with rubber in Manalayam and Chettiyampara settlements. In 1992, planting was carried out in three settlements, Mylamoodu, Methottam and Theviyarukunnu. During the year 50.96 ha area has been planted with rubber. In the fifth year of TDRPP, 50.84 ha area has been planted in Njaraneeli and Theviyarukunnu settlements (Table 1).

At the end of the fifth year, 200.09 ha area of 683 Kanies were planted with rubber as against the 200 ha proposed in the project.

Table 1. Details of TDRP project at Nedumangad taluk

Sl.No.	Name of settlement	Year of planting	Area (ha)	No. of beneficiaries	No. of plants
1	Kuttappara	1989	29.78	88	14996
2	Manalayam	1989	13.49	53	6854
		1991	15.76	57	7161
3	Njaraneeli	1990	3.98	16	1870
		1993	30.24	99	13892
4	Chettiyampara	1991	36.50	132	15695
5	Mylamoodu	1992	17.09	60	7403
6	Methottam	1992	22.98	79	11230
7	Theviyankunnu	1992	10.77	30	4964
		1993	20.31	69	9697
Total			200.09	683	93762

#### **4.2 Percentage of Kani families brought under the project**

The total number of Kani families in the project implemented settlements were 1034. Out of this 683 Kani families were brought under the TDRP project, which is 66.05 per cent of the total Kani families. The study revealed that this will come to 16.8 per cent of the total tribal families in Thiruvananthapuram district (Table 2).

#### **4.3 Percentage of Kanies brought improvement in the settlements by implementing TDRPP**

The study revealed that only 21 families of the tribals had rubber cultivation before the implementation of TDRPP, which increased to 105 after implementation of TDRP. Regarding soil conservation technique, only five families had adopted before the implementation of the project, which increased to 105 families after implementing the project (Table 3).

#### **4.4 Grouping of Kanies according to the area under rubber cultivation**

It can be seen that 52 TDRPP units came under 0.30 to 0.39 ha area category, while 34 units in 0.40 to 0.49 ha category 16 units were in the area group 0.20 to 0.29 ha. 2 units in 0.10 to 0.19 ha and one unit in 0.0 to 0.09 ha. The study also showed that among the 21 Kanies who had rubber cultivation before the implementation of the TDRPP, 17 used unselected seedlings as planting material (Table 4).



Table 2 Percentage of Kani families included in the project (1989-93)

Sl. No.	Name of TDRPP implemented settlement	Total number of Kani families in the settlement	No. of Kani families brought under TDRPP 1989-1993	Percentage of Kani families brought under the project 1989-93
1	Kuttappara	114	88	77.19
2	Manalayam	152	110	72.36
3	Njaraneeli	175	115	65.71
4	Chettiyampara	158	132	83.54
5	Theviyarukunnu	169	99	58.57
6	Methottam	177	79	44.63
7	Mylamoodu	89	60	67.41
	Total	1034	683	66.05

Table 3 Percentage of Kani's who brought improvements in the settlements by implementing TDRPP

Sl. No.	Category of improvement	No. of surveyed	Before implementing TDRPP	After implementing TDRPP	% of Kani's who implemented after TDRPP
1	No. of Kanis adopted rubber cultivation	105	21	84	80.0
2	Soil conservation techniques in their land	105	5	100	95.2

Table 4. TDRPP units in different area groups and planting material used in rubber cultivation by Kanies before the implementation of the project

Sl. No.	Area groups (ha)	No. of TDRPP units	Planting materials used before TDRPP	
			No. of units with US	& BG
1	0.00-0.09	1	-	-
2	0.10-0.19	2	5	-
3	0.20-0.29	16	2	1
4	0.30-0.39	52	3	1
5	0.40-0.49	34	2	1
6	0.50-0.59	-	-	-
7	0.60-0.69	-	3	1
8	0.70-0.79	-	-	-
9	0.80-0.89	-	2	-
Total		105	17	04

US - Unselected; BG - Budgraft

Plate 1. Kani's in their dwelling area with weapons

Plate 2. Kani's on hunting



#### **4.5 Increase in rubber area after the implementation of TDRPP**

As per the results of the study area under rubber has increased considerably after the implementation of the TDRPP. There was an overall increase in rubber area from 7 per cent to 35.2 per cent. When each of the TDRPP implemented settlements were examined, observed a higher percentage of increase in rubber area was in Mylamoodu settlement (41.7%). The lowest rate was noticed in Njaraneeli settlement which was only 7.4 per cent (Table 5).

#### **4.6 Increase in the per capita income of the beneficiaries**

An increase in per capita income has been noticed in all the TDRPP implemented settlements. A higher rate of increase was observed in 1992 and 1993 planted settlements. The increase in the per capita income was highest in Njaraneeli settlement where the total number of family members in selected units for study was the largest. The lowest increase was shown in Theviyarukunnu where the total family number of units selected for the study was the smallest (Table 6).

#### **4.7 Quantity of cover crop seeds and income from it**

In all the settlements except Methottam, Theviyarukunnu and Njaraneeli, *Peuraria* alone was raised as cover crop. *Peuraria* and *Mucuna* were mixed together in a few plantations of the above said settlements.

The study revealed that 77 per cent of the beneficiaries had planted cover crops (Fig.1) out of which 7 per cent beneficiaries had not collected the cover crop seeds for sale. The quantity of seeds obtained per hectare ranged from 2.62 kg to

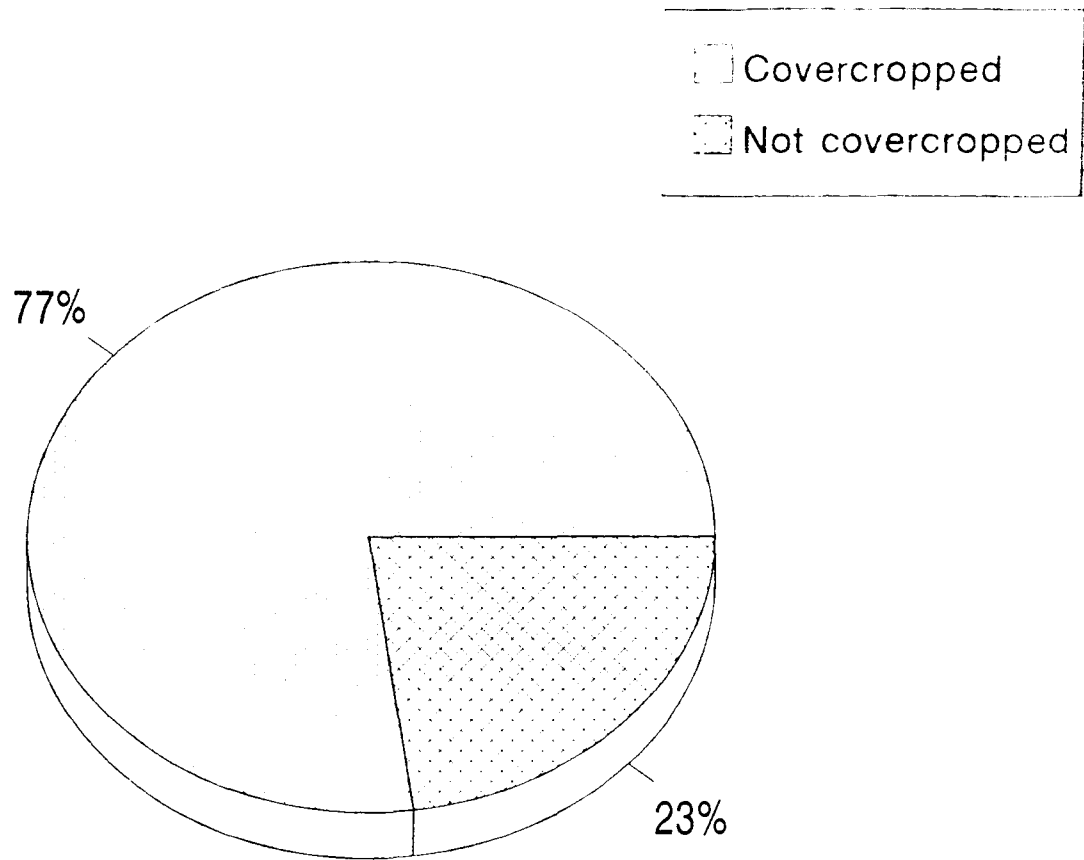
Table 5. Percentage increase in rubber area after TDRPP implementation

Sl. No.	Name of settlement	No. of beneficiaries surveyed	Rubber area in ha		% of rubber area		% of increase in rubber areas
			Before the implementation of TDRPP	After the implementation of TDRPP	Before TDRPP (ha)	After TDRPP (ha)	
1	Kuttappara	15	1.00	4.92	6.66	33	26.34
2	Manalayam	15	0.60	4.73	4.00	32	28.00
3	Chettiyampara	15	0.18	6.12	1.20	41	39.80
4	Mylamoodu	15	0.20	6.38	1.30	43	41.70
5	Methottam	15	0.62	5.19	4.10	35	30.90
6	Theviyarukunnu	15	1.00	4.71	6.60	31	24.40
7	Njaraneeli	15	3.85	5.01	25.60	33	7.40
Total		105	7.45	37.06			

Table 6. Increase in per capita income before and after the implementation of TDRPP

Sl. No.	Name of settlement	No. of families surveyed	Total no. of members in the surveyed families	Total income		Percapita income		Increase in percapita income Rs.
				Before Rs	After Rs	Before Rs.	After Rs	
1	Kuttappara	15	62	297400	333504	4797	5397	583
2	Manalayam	15	65	368910	387022	5676	5954	279
3	Chettiyampara	15	66	294215	318400	4458	4824	366
4	Mylamoodu	15	72	412000	488519	5722	6785	1063
5	Methottam	15	66	437085	467525	6623	7084	461
6	Theviyarukunnu	15	61	320520	329388	5254	5400	145
7	Njaraneeli	15	80	556553	650437	6957	8131	1174





**Fig.1. Percentage of tribal beneficiaries who adopted covercrop planting**

5.50 kg. The income generated by selling the cover crop seeds was found to range from Rs.153 to 555 per hectare per year (Table 7).

In the local market, the price of the cover crop seeds ranged from Rs.100-125 per kg, but the majority of tribals obtained only a lower price than the market price. In 1984 Patel observed the same in his study. He has stated that if the tribal farmers lack cash reserve, they obtain advance from the traders at the growing period and thereby the commitment to make supply of his produce become a rule and the price that a farmer gets, who is not more than subsistence farmer, is very much determined by the buyer as it become a buyer market (Plate 3).

#### **4.8 Income from the sale of rubber seeds**

As we can see from Table 8, the beneficiaries in the Methottam and Theviyarukunnu settlement have not earned any income by selling rubber seeds, since the trees have not started seeding in sufficient numbers. The quantity of rubber seeds collected for sale in all the other settlements ranged from 6.54 kg to 38.94 kg per hectare per year which was far less than the average seed ~~sa~~ of 250 kg/ha/year in in an average rubber plantation (Plate 4).

The local market price of raw rubber seed was Rs.3/kg while the crushed seeds without testa fetched 50 paise more. The average income from one hectare per year from the TDRPP implemented settlements ranged from Rs.18 to Rs.129.67. The beneficiaries of the 1989 planted settlement received the highest average income per hectare from the sale of rubber seeds.

Table 7. Quantity of cover crop seeds obtained and average income from raising cover crop

Sl. No.	Name of settlement	No. of beneficiaries planted cover crop	No. of beneficiaries sold cover crop seed	Area from cover crop seeds collected (ha)	Type of cover crop	Total quantity (kg)	Total income (Rs.)	Average quantity/ha (kg)	Average income/ha (Rs.)
1	Kuttappara	14	14	4.56	Peuraria	22	1902	4.8	417
2	Manalayam	15	14	4.36	..	24	2420	5.5	555
3	Chettiyampara	13	13	5.33	..	8	1499	3.4	281
4	Mylamoodu	12	12	5.17	..	23	1571	4.5	303
5	Methottam	9	9	3.24	Peuraria Mucuna	8.5	875	2.6	270
6	Theviyarukunnu	6	4	1.24	..	4.0	356	3.2	287
7	Njaraneeli	12	9	2.80	..	9.0	428	3.2	153

Table 8. Income from the sale of rubber seeds

Sl. No.	Name of settlement	No. of beneficiaries who sold rubber seeds	Area (ha)	Total quantity (kg)	Total income (Rs.)	Average quantity per ha (kg)	Average income per ha (Rs.)
1	Kuttapara	14	4.56	177.50	591.25	38.93	129.67
2	Manalayam	14	4.36	55.00	193.25	12.61	44.32
3	Chettiyampara	11	4.48	36.00	110.00	8.00	24.55
4	Mylamoodu	8	3.21	21.00	68.75	6.54	18.07
5	Methottam*	-	-	-	-	-	-
6	Theviyarkunnu*	-	-	-	-	-	-
7	Njaraneeli	1	0.37	12.00	360.00	32.45	97.30

\* Plants have started flowering and seeding only recently



Plate 3. A three year old unit with well established covercrop in Njaraneeli settlement (collection of covercrop seeds)

Plate 4. A six year old unit in Kuttappara settlement (collection rubber seeds)



#### **4.9 Intercrops raised and income from intercropping**

Inter cropping in rubber plantations is permitted only in the first three years of cultivation. The results of the study showed that during the first year of rubber cultivation, tapioca has been cultivated as intercrop by 63.8 per cent of the beneficiaries, 34.9 per cent beneficiaries inter cropped banana during the first year. One beneficiary planted yam as intercrop in the first year.

In the second year, except one beneficiary who resorted to tapioca intercropping, all others (97.7%) had intercropped banana. During the third year, all the beneficiaries had done only banana intercropping.

Regarding the percentage of tribals who adopted intercropping, we can observe that the number reduced from first year to third year. During the first year, out of 105 holdings surveyed, 83 had raised intercrops. In the second and third years, this was reduced to 44 and 10 beneficiaries respectively (Table 9 and Fig.2).

The average income per hectare per year from inter crops ranged from Rs.1800.00 to Rs.4647.00 (Table 10). In this case also we can observe that the tribals sold the produce for much lesser price than the actual market price.

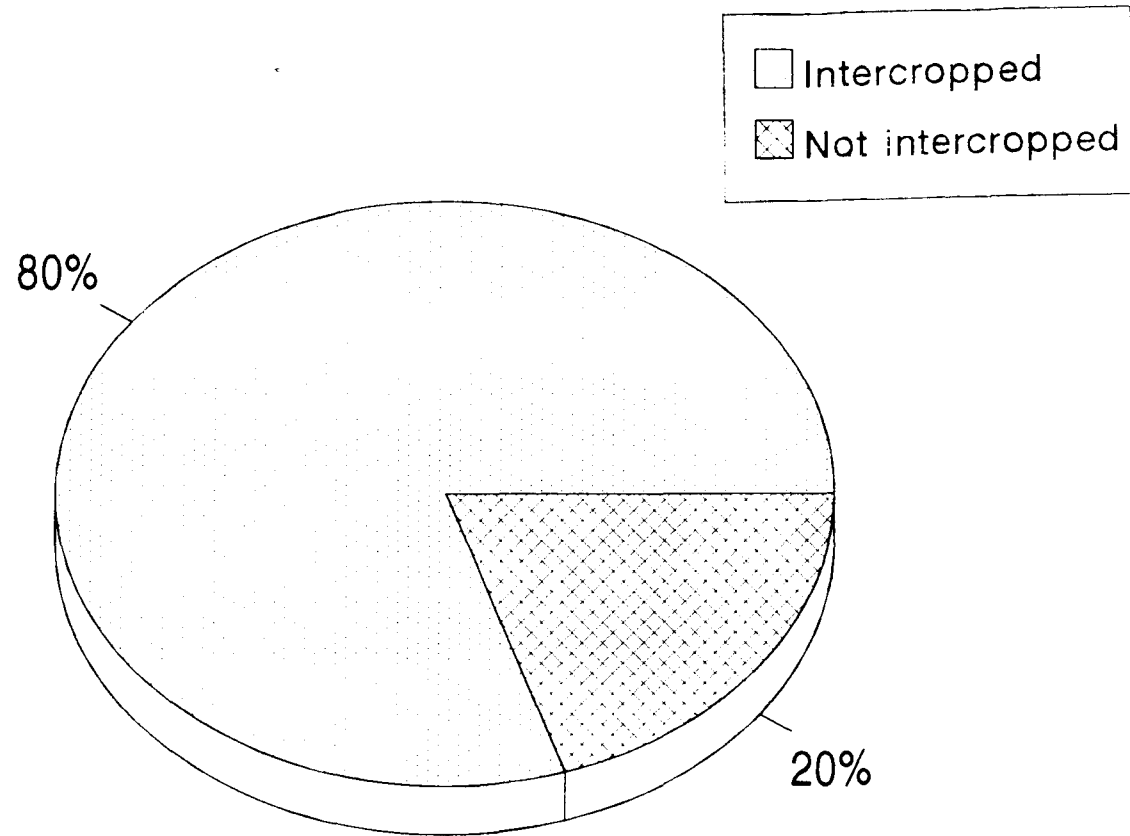
#### **4.10 Additional labour and income obtained from unit area**

Tribal beneficiaries were able to utilize the additional labour generated during the course of operation of the scheme. The average number of additional man days obtained per hectare per year ranged from 34 to 46.

Table 9. Percentage of Kani's who adopted intercropping and types of intercrops raised during the first three years

Sl. No.	Type of intercrop	No. of beneficiaries surveyed	Number and percentage of beneficiaries planted intercrops						Total no. of beneficiaries who planted intercropping	Percentage of beneficiaries who adopted intercropping
			First year		Second year		Third year			
			No.	%	No.	%	No.	%		
1	Tapioca	105	53	63.8	1	1.2	-	-	54	39.4
2	Banana	105	29	34.9	43	97.7	10	100	82	59.8
3	Yam	105	1	0.95	-	-	-	-	1	0.73
Total			83	-	44		10		137	





**Fig.2. Percentage of tribal beneficiaries who adopted intercropping during the first three years**

Table 10. Details of income from intercropping

Sl. No.	Name of settlement	No. of beneficiaries who planted intercrop	Area under intercrop (ha)	Total income from intercrop first 3 years (Rs.)	Average income/year	Average income/ha/year
1	Kuttappara	10	3.83	17338	9417	2457
2	Manalayan	13	4.16	18663	7974	1917
3	Chettiyampara	11	4.92	33838	16643	3383
4	Mylamoodu	18	5.56	16509	10010	1800
5	Methottam	11	3.54	28328	15952	4506
6	Theviyarukunnu	14	4.32	35327	18043	4177
7	Njaraneeli	11	3.78	28348	17567	4647

The study revealed that out of 472 members in the 105 families surveyed, only 19 had permanent employment, 386 members were engaged in cooli work on daily wages. The beneficiaries engaged in cooli work did the work in the rubber plantation in early and late hours of the day. Thereby there was no suffering to the main employment.

The income generated by additional labour ranged from Rs.2550 to 3450 per hectare per year per family at the present day wage rate of Rs.75 per day (Table 11).

#### **4.11 Set back to the main employment due to the management of rubber**

The study revealed that out of the 472 members of the 105 Kani families, only 19 had permanent employment. The majority i.e. 386 members, were engaged in daily waged cooli works. Sixty seven members including miners had no employment ~~includes miners~~.

The tribal beneficiaries with permanent employment had reported an average of four days suffering to their main employment due to the management of rubber plantation. In the daily wage category, no suffering has been reported to their routine work due to the implementation of the project (Table 12).

#### **4.12 Assistance from the project fund**

The entire amount was sanctioned by the Department of Tribal Development, Government of Kerala. The subsidy component @ Rs.5000/ha, cost of polybagged plants @ Rs.8/- and input subsidy were reimbursed to the Department of Tribal Development by the Board, supervision and verification of planting and

Table 11. Additional labour and income developed from unit area

Sl. No.	Name of settlement	No. of beneficiaries surveyed	Total No. of additional mandays obtained in one year	Average No. of additional mandays obtained/yr/ha for one family	Additional income/ha/yr for one family @ Rs.75/day (Rs.)
1	Kuttappara	15	566	38	2850
2	Manalayam	15	691	46	3450
3	Chettiyampara	15	581	39	2925
4	Mylamoodu	15	615	41	3075
5	Methottam	15	572	38	2850
6	Theviyarukunnu	15	512	34	2550
7	Njaraneeli	15	564	38	2850

No. of mandays calculated by assessing quantum of work done

Table 12. Set back in the main employment due to management of rubber

Sl. No.	Category of employment	Total no. of persons in the families surveyed	*No. of days suffered for managing rubber	Average no. of days suffering to the main employment
1	Permanent	19	77	4
2	Daily wages	386	-	-
3	No employment/ minors	67	-	-

\*No. of mandays calculated by assessing quantum of work done

maintenance operations had been done by the technical officers of the Rubber Board (Table 13 and Plate 5 & 6).

#### **4.13 Adoption of modern rubber planting techniques by Kanies**

Five important types of work were selected to assess the adoption of skill by the tribal beneficiaries. The first category of work studied was pitting and refilling for planting polybag plants. The study revealed that 73.2 per cent of the beneficiaries have acquired this skill. The second category of work studied was planting of polybag plants and observed that 81.2 per cent of the beneficiaries have acquired the skill due to the implementation of the project. Terracing work in rubber plantations was learned by 77.6 per cent beneficiaries. The fourth item of work considered for assessment was branch induction methods and 81.9 per cent of the beneficiaries acquired this skill. The last item of work assessed was details of manuring including application, in which 79.7 per cent beneficiaries acquired the skill (Table 14).

Regarding the percentage of skill acquired by the tribal beneficiaries, 95 per cent of the beneficiaries in the Mylamoodu settlement gained the skill. The lowest percentage was obtained at Theviyarukunnu settlement (Fig. 3 and Plate 7 & 8).

#### **4.14 The impact of TDRPP on the Kani tribes of Nedumangard**

The study on the impact of the TDRP project has revealed that the mode of implementation of the project was very much acceptable to the tribes with 41 per cent of the surveyed beneficiaries strongly agreed, 57 per cent agreed and none disagreed to this statement.

Table 13. Details of assistance from the project fund

Sl. No.	Name of settlement	Area (ha)	No. of PB supplied	Finance assistance from the project fund							Total (Rs.)
				1989 (Rs.)	1990 (Rs.)	1991 (Rs.)	1992 (Rs.)	1993 (Rs.)	1994 (Rs.)	1995 (Rs.)	
1	Kuttappana	29.78	14996	131160	255156	379463	306787	51662	66794	23939	1214960
2	Manalayam	29.25	14015	58092	182406	439610	505941	52933	54942	76147	1370071
3	Chettiyampara	36.50	15695	-	-	510323	682348	72358	76861	21053	1362944
4	Mylamoodu	17.09	7403	-	-	-	72061	41234	42407	40572	196264
5	Methottam	22.98	11230	-	-	-	35503	70147	64268	47097	267015
6	Theviyarukunnu	31.08	14661	-	-	-	57377	131487	79264	71518	339645
7	Njaraneeli	34.22	15762	-	15291	7928	255462	192433	19053	77694	567862
Grand total											5318761

Plate 5. Raising polybag plants in tribal area (Njaraneeli)

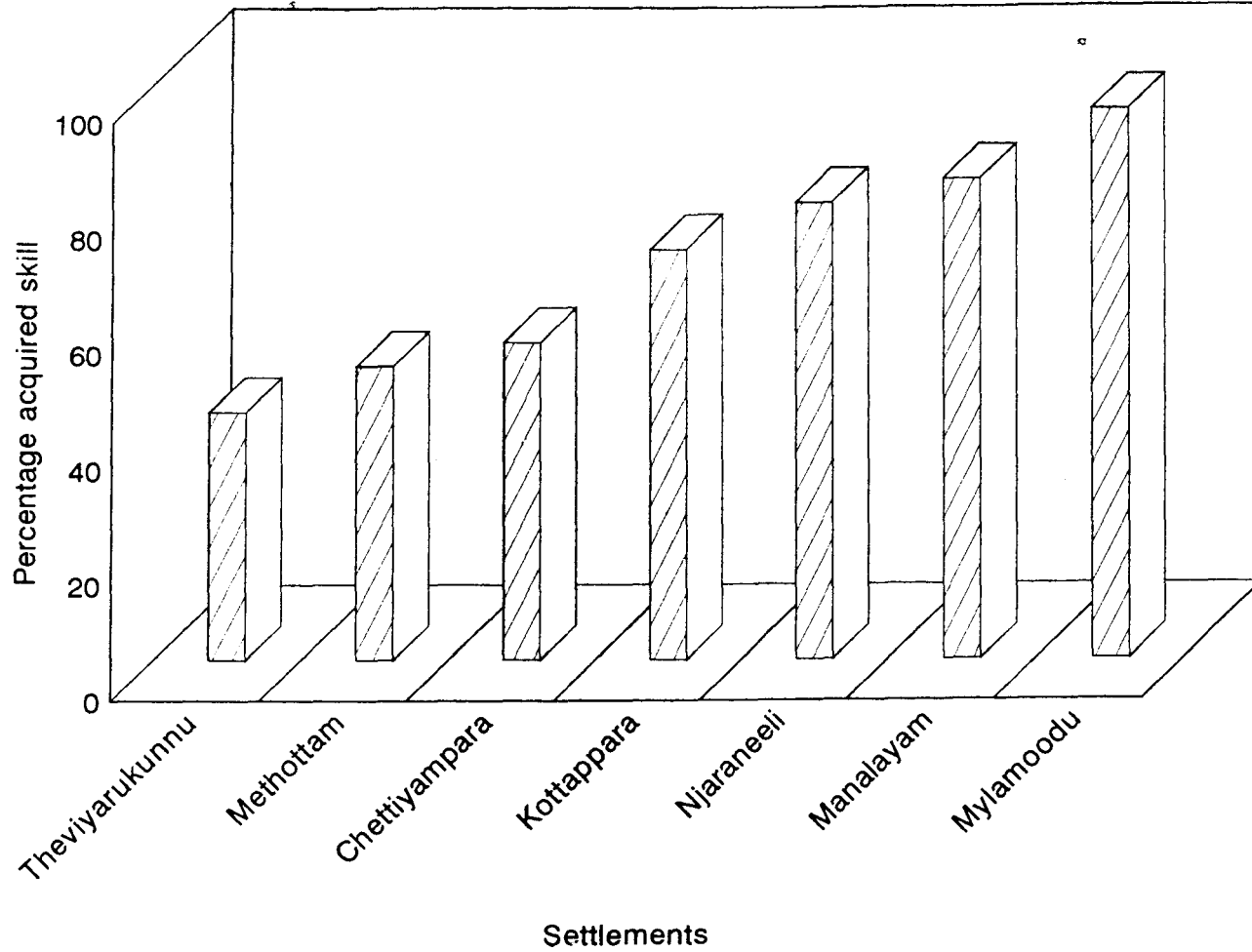
Plate 6.<sup>v</sup> A 1989 planted TDRPP unit in Kuttappara settlement





Table 14. Percentage of Kani's who acquired skill after the implementation of TDRPP

Sl. No.	Type of work	Total no. of Kanikkars surveyed	Skill acquired before the implementation of TDRPP	Skilled persons after the implementation of TDRPP	No. of beneficiaries newly acquired skills after the implementation of TDRPP	No. of persons not acquired skill	Percentage
1	Pitting and refilling for planting PB	105	34	86	52	19	73.2
2	Planting polybag plants	105	4	86	82	19	81.2
3	Terracing work	105	20	86	66	19	77.6
4	Branch induction method	105	--	86	86	19	81.9
5	Manuring details and operation	105	11	86	75	19	79.7



**Fig.3. Percentage of persons who acquired skill at different TDRFP implemented settlements**

Plate 7. Manuring in three year old TDRPP unit (Methottam)

Plate 8. Management of pink disease by the Kani's of Njaraneeli settlement





Thirty per cent of the beneficiaries strongly believed that the project provided overall benefits to them. 58 per cent agreed to this statement while 5 per cent disagreed and 1 per cent strongly disagreed.

Seven per cent of the beneficiaries strongly agreed to the statement that the forest land used for other cultivations is used for rubber, while 3 per cent strongly disagreed.

Fifty seven per cent of the beneficiaries were of the view that cultivation of annual crops was not affected by planting rubber.

Regarding the socioeconomic conditions, 95 per cent of the beneficiaries opined that the implementations of the project has produced a feeling of commonness or an atmosphere of harmony among the families in the settlement. Three per cent strongly agreed to it and only 1 per cent registered their disagreement. Ninety one per cent of the beneficiaries were willing to be a member in an organisation of rubber growers, only 3 per cent disagreed. Ninety five per cent of the beneficiaries selected rubber in their developmental programme than edible crops due to the high income return. Ninety two per cent of the beneficiaries were ready to change their life style once sufficient income is obtained from rubber trees. Only 2 per cent have the opinion to continue the present day life style. Eighty seven per cent of the beneficiaries have opined that the income from rubber will be sufficient to meet their ends. Sixty six per cent of the tribal beneficiaries stated that they have not obtained any training for tapping (Table 15).

Table 15. Impact of TDRPP on the Kani tribes of Nedumangad

Sl. No.	Statements	Percentage of Kani beneficiaries				
		Strongly agreed	Agreed	Undecided	Disagreed	Strongly disagreed
1	The procedure of implementation of TDRPP is beneficial to the tribal	41	57	2	-	-
2	The cultivation of rubber under TDRPP provide overall benefits to you	30	58	6	5	1
3	The forest land used for other cultivations is now used for planting rubber	87	42	6	42	3
4	Cultivation of annual crops is affected by planting rubber	3	32	4	57	4
5	Most of the members of the settlement have same major crop, it has created a commonness among tribals	32	63	4	1	-
6	You are willing to be a member in any organisation of rubber growers	16	75	6	3	-
7	You are interested in the profit from rubber rather than cultivating edibles	24	71	3	2	-
8	After starting tapping your life style will be changed	24	68	6	2	-
9	The income from rubber will not be sufficient to meet the ends	2	5	6	76	11
10	Rubber Board has given you training for tapping	8	25	-	62	4

#### 4.15 Correlation of educational status, per capita income, skill acquired and level of aspiration

The educational status of tribal beneficiaries were grouped into illiterate, lower primary, upper primary and high school levels. A significant negative correlation has been observed with respect to the skill acquired by the beneficiaries and their educational levels. The illiterate level has achieved 100 per cent skill while the lower primary, upper primary and high school levels showed a decreasing trend of 83 per cent, 78 per cent and 71 per cent respectively.

The per capita income of the beneficiaries gave a gradual decrease with increase in educational status, from illiterate to upper primary levels. However, the high school category figures at the top with respect to the average per capita income. The beneficiaries with permanent employment came under this educational level. This was the reason for the high per capita income of the group. The beneficiaries in the illiterate and lower primary levels of education never waited for a particular type of skilled job. They were engaged in all types of labour. But beneficiaries with upper primary education level liked to go for skilled works which was not readily available. The percentage of skill acquired persons in each educational level also proved this fact.

All the four educational categories had the same level of aspiration (past). Their aspiration was to get minimum required food, clothing and a permanent shelter. The assessment of level of aspiration (future), after the implementation of the project indicated that the illiterate, lower primary and upper primary categories were now looking for sufficient food, clothes, a proper house with own agricultural land. In the case of beneficiaries with high school level of educational status, their



ambition was to acquire all basic necessities and some amount of savings from their own agricultural land (Table 16).

#### **4.16 Projected increase in the per capita income after collecting yield from the plantations**

The average productivity in the nearby rubber estates of the TDRP project implemented settlements was taken into account for projecting the productivity from rubber plantations in the project area. According to the present price of ungraded sheets in the local market (Rs.48/kg), the average income has been calculated.

According to the projections, the productivity in the project implemented areas would range from 1976 kg to 2470 kg. This will give an additional per capita income ranging from Rs.1317 to 1912 at the present market price of ungraded sheets (Table 17).

Table 16. Correlation of Educational status with percapita income, skill acquired and level of aspiration

Sl. No.	Educational status	Average percapita income (Rs.)	Percentage of persons who required skill	Level of aspiration	
				Past	Future
1	Illiterate	6045	100	4	7
2	Lower Primary	5955	83	4	7
3	Upper Primary	5529	78	4	7
4	High School	7387	71	4	8

Table 17. Projected increase in the percapita income after tapping

Sl. No.	Name of settlement	No. of persons in the families surveyed	Productivity (kg)	Income from 1 ha rubber @ Rs.48/kg (Rs.)	Income in precapita income (Rs.)
1	Kuttappara	62	2470	118560	1912
2	Manalayam	65	2223	106704	1642
3	Chettiyampara	66	2223	106704	1617
4	Mylamoodu	72	1976	94848	1317
5	Methottam	66	2223	106704	1617
6	Theviyarukunnu	61	2099	100752	1652
7	Njaraneeli	80	2470	118560	1482

# ***Summary and Conclusion***

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## SUMMARY AND CONCLUSION

The study was conducted among the beneficiaries of Tribal Development Rubber Planting Project, a collaborative project of Rubber Board and Department of Scheduled Tribe Development, Government of Kerala, implemented in the seven tribal settlements of Nedumangad taluk of Thiruvananthapuram district for a period of five year from 1989 to 1993. The study was aimed at assessing the extent of increase in the economic condition of the tribals. The impact of the project on the socio-economic progress of the settlement and the extent of adoption of scientific rubber planting and maintenance techniques by the tribal were also studied.

One hundred and five beneficiaries inhabiting the different TDRPP implemented<sup>ed</sup> settlements were interviewed with the help of a pre tested questionnaire.

The study revealed that the project was able to bring 16.8 per cent of the total tribal families in the district and 66.05 per cent of the Kani families in the TDRPP implemented settlement in to rubber cultivation. This was a great achievement in a short span of five years. The target area envisaged in the project was also achieved. There was improvement in the soil conservation measures adopted also. Ninety five per cent of the tribals adopted soil conservation measures in their plantation after implementation of the project.

One of the objectives of the project was to improve the economic status of the tribes. The study revealed that eventhough the plantations have not reached the yielding stage, the economic status of the tribes have shown improvement. This indicates that the implementation of TDRPP has not affected their daily income

earning works and cultivations. Moreover, they got income from additional labour obtained and also from sale of cover crop seeds, rubber seeds and intercrops.

The average per hectare production of cover crop seeds was found to be a little higher than the average quantity projected by the Rubber Board.

The collection of rubber seeds seems to be unimpressive. As against 250 kg/ha production of rubber seeds from normal healthy rubber plantations, the production in the TDRPP implemented settlements was ranging from 6.54 kg to 38.94 kg per hecter per year.

The study revealed that only 83 beneficiaries carried out intercropping during the first year of plantation. The number reduced to 44 and 10 in the second and third year of planting, respectively. This indicated that the area in the rubber plantation has not been properly utilized for earning incomes from intercrop.

From the study it was found that the tribals were not getting the actual market price for their produce.

The majority of the tribal beneficiaries were casual labourers on daily wages or forest produce gatherers. The employment potential generated by the project has been utilized by the tribals significantly. They have obtained 34 to 46 mandays of additional labour per year without any suffering to their routine works. This has produced an additional income of Rs.2550 to 3450 in a year.

The most significant advantage of the project was the skill acquired by the tribals on different aspects of maintenance of rubber plantation. The study

showed that 73.2 per cent of the beneficiaries learned the pitting and refilling techniques for planting polybag plants.

The skill of planting of polybag plants was acquired by 81.2 per cent of the beneficiaries. Skills for terracing work in rubber plantation, branches induction in the young plants, manuring and operation were acquired by the tribal beneficiaries by 77.6, 81.9 and 79.7 per cent, respectively.

Another significant observation obtained during this study was that the educational status of the tribal beneficiaries has inversely proportional to the skill acquired.

Majority of the tribals approved the mode of implementation of the scheme. The results also showed that implementing developmental projects in the same lines will provide over all benefits to the tribals. The majority of the beneficiaries strongly refuted the statement of decrease in the area for the cultivation of annual crop due to the implementation of the project.

The implementation of the project has provided a feeling on the tribal sect that they are one among the rubber cultivation<sup>ers</sup> in the locality which tempt to discard the social insecurity feeling among them. Due to this feeling, majority of the tribals agreed to change their life style according to the additional income they got from this scheme. The level of aspiration (future) also confirm this aspect.

## Conclusion

The study lead to the following conclusions.

1. The socio-economic condition of tribal beneficiaries in the Tribal Development Rubber Planting Project implemented settlements showed improvements. Thus the main objective of the project was successfully achieved.
2. In contrast to the previous developmental programmes in the tribal areas, the extent of rubber cultivation in the country has been physically enhanced.
3. The mode of implementation was found to be very effective and in addition to uplifting the tribals economically, the procedure has helped them to acquire various skills.
4. Guidance should be provided for maximum utilization of area in the plantation for raising intercrops in the first three years as recommended by the Rubber Board.
5. Infrastructure facilities should be provided by the Governmental or voluntary organisations to the tribals to get the maximum available market price for their produce. Rubber processing facilities should be immediately provided in project area as envisaged in the programme.
6. Proper training should be imparted to higher education categories to develop skill in various works.



## *References*

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## REFERENCES

- Aphale, M.B. 1994. *Socio-economic conditions of Tribals in Maharashtra*. In. Negi, R.S. and Gaikward, J. (eds.). *Socio-cultural dynamics of tribal development*. Tribal Research and Training Institute, Pune, p.34.
- Behera, M.C. 1994. *Planning and Socio-economic development of the tribals*. Commonwealth Publishers, New Delhi, p.307-315.
- Dube, S.C. 1977. *Tribal Heritage of India*. Vikas Publishing House, New Delhi.
- Goswami, A. 1984. Tribal Development with Special Reference to Eastern India. *Social Scientist* **12**(8):55-59.
- Kshire, V.K. 1994. *Tribal development administration*. In Negi, R.S. and Gaikwad, J. (eds.) *Socio-cultural dynamic of tribal development*. Tribal Research and Training Institute, Pune, p.71-76.
- Kulkarni, M.G. 1974. *Problems of Tribal development - A case study*. Parimal Prakashan, Aurangabad, p.384.
- Kumari Sushama, N.P. 1979. *A study on the impact of selected development programmes among the tribals of Kerala*. M.Sc. Thesis, Kerala Agricultural University, Vellayani.

- Kumari Sushama, N.P., Menon, A.G.G. and Bhaskaran, C. 1981. Adoption Behaviour of Selected Tribes of Kerala. *Indian Journal of Extension Education* 17(1) & (2).
- Mathur, P.R.G. 1975. *Transfer and Alination of Tribal and indebtedness in Kerala in perspective on Tribal Development and Administration*. NICO, Hydrabad.
- Naidu, S.K.R. 1978. *To investigate the extent of adoption of the practices recommended by Central Tobacco growers in East Godawari District of Andra Pradesh*. M.Sc.(Ag) Thesis, College of Agriculture, Vellayani.
- Nongbri, T. 1994. *Tribal Development: Efforts through the decades*. In Negi, R.S. and Gaikwad, J. (eds.) *Socio-cultural dynamics of tribal development*. Tribal Research and Training Institute, Pune, p.41-52.
- Patel, M.L. 1984. *Planing strategy for Tribal Development in Tribal Studies of India Series T3*. Inter India Publications, New Delhi, p.51-52.
- Prasad, M.L. and Mruthyunjayam, N. 1992. Research Note. *Indian Journal of Extension Education*. 28(1&2):125.
- Ramaiah, P. 1988. *Issues of Tribal development*. Chugh Publishers, Allahabad, p.24-28.
- Rao, H. and Babu, M. 1994. *Scheduled castes and tribes*. Ashishes Publishing House, New Delhi, p.199-124

Rogers, E.M. and Shoemaker. 1971. *Communications of Innovation - A cross cultural approach*. The Free Press, New York.

Sachidanand. 1968. *The Tribal village in Bihar*. Oriental Publishers, New Delhi.

Sadamate, V. 1978. *A study of Tribal farming system and technological gap*. Ph.D. Thesis, Division of Agricultural Extension. I.A.R.I., New Delhi.

Sahaby, B.N. 1969. *Pragmatisam in Development*. Book Hires, New Delhi.

Sahu, B.N. 1970. *Guidelines for the Development of Tribal Agriculture in India*. *Ind. J. Agrl. Econ.* **25(3)**:224.

Singh, I.P. 1970. *Development of Agriculture in Tribal areas*. *Ind. J. Agr. Econ.* **25(3)**:167-176.

Singh and Sharma, S.K. 1973. *A comparative study of adoption of HYV Programme by the farmers of television and non-television villages*. *Indian J. Extn. Edn.* **9(3&4)**

Srivastava, L.R.N., Prasad, S., Gupta, S.V. and Lal, P. 1971. *Developmental needs of the tribal people*. National Council of Educational Research and Training, New Delhi, p.16.

Surendraswamy, B. 1977. *Extent of Adoption of Recommended practices and Information source consulted by the Farmers irrespective Hybrid Jowar cultivation in the selected Taluk of Mysore district.* M.Sc.(Ag) Thesis, Tamil Nadu Agricultural University, Coimbatore.

Surendran, R. 1981. *Participation of Todas in Agricultural Development Programmes.* M.Sc.(Ag.) Thesis, Tamil Nadu Agricultural University, Coimbatore.

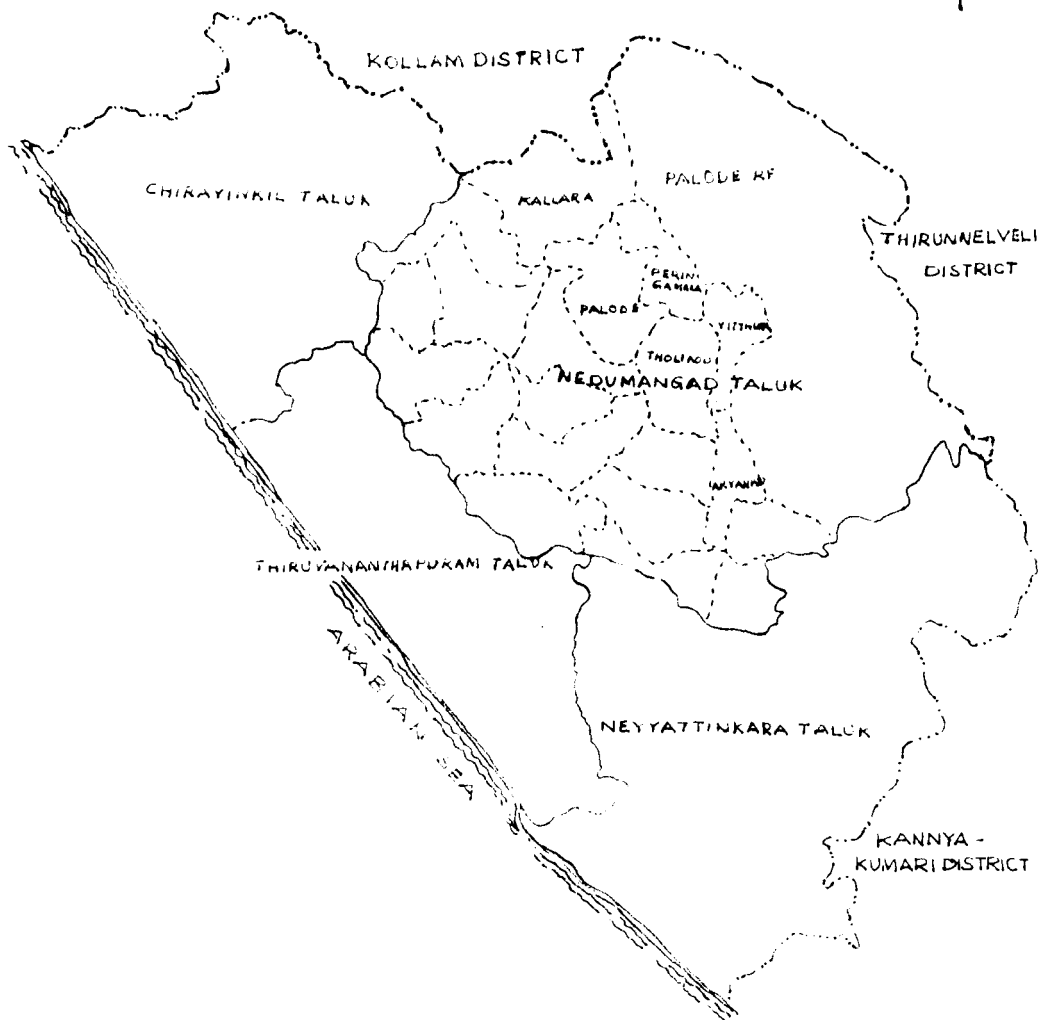
# *Appendices*

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APPENDIX-I

# THIRUVANANTHAPURAM DISTRICT SHOWING TALUKS

SCALE 1 CM = 3.25 KM  
RF : 32500



- DISTRICT BOUNDARY
- TALUK BOUNDARY
- STUDY AREA

**APPENDIX-II  
INTERVIEW SCHEDULE**

Influence of Tribal Development Rubber Planting Project on the socio-economic status of the Kani Tribes of Nedumangad taluk, Thiruvananthapuram district.

**I. GENERAL/PERSONAL INFORMATION**

1. Name :
2. Address :
3. Age :
4. Name of the settlement :
5. Panchayath :
6. Block :
7. Taluk :
8. Village :

**II. FAMILY DETAILS**

1. Family type :
2. No. of adult members :
3. No. of children :
4. No. of members having permanent employment :

**III. SOCIO-ECONOMIC STATUS**

1. Tribe :
2. Occupation :



3. Education :
4. House :
5. Land under procession (acre) :
6. Total area under cultivation (acre) :
7. How many years the same land is used for cultivation? :
8. Terraine of the land :
9. Major crops in the area :
10. Annual income received from the major crops :
11. Total family income :
12. Per capital income of family members :
13. Details of life-stock :
14. Most valuable material your family possess :
15. Are you a member of any local social organisation? : Yes/No

#### IV. STATUS BEFORE THE IMPLEMENTATION OF TDRPP

1. Type of cultivation practiced : Shifting/settled
2. Main crops in your area :
3. Do you have any rubber area : Yes/No
4. From where you get the initial knowledge regarding agriculture? :

5. Work in the cultivation is done by : Own labour/Paid labour/Family labour

6. Details of rubber cultivation

---

Year of planting (A)	Type of PM (B)	Area (ha) (C)	No. of plants (D)
-------------------------	-------------------	------------------	----------------------

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7. No. of days/year utilised for maintaining the cultivation :

8. Type of soil conservation adopted :

9. Was there any scarcity of water during drought period? : Yes/No

10. Have you ever obtained any advice/training on rubber planting operation? : Yes/No

11. Which of the following items of work were familiar to you?

a) Pitting and refilling for planting PB : Yes/No

b) Planting polybagged plants : Yes/No

c) Terracing work : Yes/No

d) Branch induction methods : Yes/No

e) Manuring details and operations : Yes/No

12. What was the per capita income of the beneficiary just before the implementation of TDRPP in the settlement?

#### V. STATUS AFTER THE IMPLEMENTATION OF THE SCHEME

1. Are you a beneficiary of TDRPP? : Yes/No

2. Permit No. (if any) :

### 3. Details of rubber under possession

---

Year of planting	Area (ha)	Type of PM	No. of plants	Annual yield per ha (kg)
(a)	(b)	(c)	(d)	(e)

---

4. Have you raised intercrops in the area : Yes/No

### 5. Details of intercropping

---

Year	Crop	Yield	Average price of the produce per kg
(a)	(b)	(c)	(d)

---

6. Have you planted covercrops in your rubber area? Yes/No

7. The approximate quantity of cover crop seeds obtained to sale during the last three years (kg) :

8. What is the average price of 1 kg cover crop seed? :

9. The average quantity of rubber seeds obtained for sale from the plantation during the last year (kg) :

10. What is the average selling price of 1 kg rubber seeds? :

11. Do you have any other benefit from :  
the rubber area other than the above?
12. Whether there is any suffering to : Yes/No  
your permanent work/main  
occupation due to the maintenance  
operation of the rubber area?
13. How many additional man days :  
utilized for the supervision of  
rubber area during the last year?
14. Have you adopted soil conservat- : Yes/No  
ion measures in your area?
15. Do you have any scarcity of water : Yes/No  
during the Ist summer?
16. Which is the commonly cultivated :  
crop in your settlement?

17. Details of assistance received for raising rubber plantation under TDRPP:

<u>Items</u>	<u>No./Quantity</u>	<u>Cost/Amount (Rs.)</u>
a) Polybagged plants		
b) Pitting expenses		
c) Refilling expenses		
d) Planting expenses		
e) Terracing expenses		
f) Weeding expenses		
g) Manure		
h) Manuring expenses		
i) Thyride & rubber cot		
j) Lime		
k) Lime washing expenses		
l) Any others		

## VI. ASSESSMENT ON THE IMPACT OF TDRPP

(SA - Strongly agree; A - Agree, UD - Undecided; D - Disagree; SD - Strongly disagree)

---

Statements	SA	A	UD	D	SD
1. You are forced to become a beneficiary in the TDRPP scheme					
2. Rubber was a major crop in this settlement before the implementation of TDRPP					
3. The procedure of implementation of TDRPP is beneficial to the tribals					
4. The cultivation of rubber under TDRPP provides overall benefits to you					
5. The forest land used for other cultivation is now used for planting rubber					
6. Cultivation of annual crops is affected by planting rubber					
7. Since most of the members of the settlement have same major crop, it has created a commonness among tribals					
8. You know the cultivation of other crops better than rubber					
9. You are willing to be a member if any organisation of rubber growers					
10. You have adopted TDRPP scheme to utilize the waste land					
11. You are interested in the profit from rubber rather than cultivating edibles					

---

---

Statements	SA	A	UD	D	SD
------------	----	---	----	---	----

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12. After starting tapping your life style will be changed
  13. A constant income is expected after starting tapping
  14. The income from rubber will not be sufficient to meet the ends
  15. Rubber Board has given you training for tapping
- 

## VII. PROJECTIONS

1. If you are entrusted with the job of rising rubber plantations : Yes/No in one acre of land, can you do it successfully in a scientific manner?
2. How income from rubber will be utilized :

## VIII. PSYCHOLOGICAL ASSESSMENT

The ten steps in this ladder indicates the different levels of socio-economic status. The status level increases in the ascending order.

- |  |    |
|--|----|
| 1. Your position in the ladder before the implementation of TDRP         | 10 |
|  | 9  |
|  | 8  |
| 2. Your present position in the ladder                                   | 7  |
|  | 6  |
|  | 5  |
| 3. Your position in the ladder after getting a stable income from rubber | 4  |
|  | 3  |
|  | 2  |
|  | 1  |

Vellanikkara  
Date:

Signature  
Name of the student

APPENDIX-III  
LIST OF KANI TRIBES INTERVIEWED

Sl. No.	Name and address	Name settlement	Extent (TDRP) (ha)
1	C.Adichan Kani Kochukilikodu Kizhakkumkara Puthen Veedu Meenakal, P.O.	Kuttappara	0.33
2	M.Adichan Kani Kizhakkumkara Veedu Kochukilikkodu Meenamkal, P.O.	Kuttappara	0.29
3	K.Ammukutty Kani Mikkumkara puthen veedu Kaniyamkuzhy Marangad, P.O.	Methottam	0.35
4	K.S.Anitha Kani Aswathi Bhavan Njaraneeli, Elanjyam, P.O.	Njaraneeli	0.23
5	C.Appukuttan Kani Methottamthadatharikathu Puthenveedu, Marangad, P.O.	Methottam	0.37
6	N. Appu Kani Saiju Vilasam, Manalayam Elavattam, P.O.	Manalayam	0.28
7	K.Appukuttan Kani Peruthivilathadatharikathu veedu, Elavattam, P.O.	Manalayam	0.37
8	V.Appukuttan Kani Charuvila veedu Chathanvettiyamoola Kanchinada	Mylamoode	0.38

9	G.Aravindakshan Kani Thekkumkara veedu Alummoodu, Elanjiam, P.O.	Njaraneedi	0.35
10	M.Balakrishan Kani Kilikkodu Mekkumkara veedu, Meenankal, P.O.	Theviyarukunnu	0.13
11.	K.Bhadran Kani Plamooduputhen veedu Kanniyarukuzhy, Marangad, P.O.	Methottam	0.40
12.	E.Bhagavan Kani Kochukilikaduthadatharikathi veedu, Meenamkal, P.O.	Kuttappara	0.39
13.	K.Bhagavan Kani Prasantha vilasam Mylamoodu, P.O.	Mylamoodu	0.42
14	P.Bhargavan Kani Muralisadanam, Methottam Marangad, P.O.	Methottam	0.40
15	B.Bharathy Kani Charuvilakathuputhen veedu Marangad, P.O.	Methottam	0.36
16	K.Bharathy Kani Kizhakkumkaraputhen veedu Elanchiyam, P.O.	Njaraneeli	0.41
17	K.Bhaskaran Kani Maruthummodu Vadakkumkara veedu, Elavattam, P.O.	Manalayam	0.36
18	B.Bhavani Kani Kunnumpurathu puthen veedu Marangad, P.O.	Methottam	0.17



19	K.Bhuvanendran Kani Vayalarikathu veedu Meenankal, P.O.	Kuttappara	0.34
20	S.Chandrasekharan Kani Pathirimooduthadatharikathu veedu, Marangad, P.O.	Methottam	0.33
21	K.Chandrika Kani Kilikkoduthottarikothu veedu, Meenankal, P.O.	Kuttappara	0.31
22	T.Chandrika Kani Mannaram Roadarikathu Veedu VII/302, Vinobhanikethan, P.O.	Chettiyampara	0.38
23	P.Chellamma Kani Chempottumparamekkemkara puthen veedu, Vinobhanikethan, P.O.	Chettiyampara	0.41
24	K.Damayanthi Kani Thendiyamalathadatharikathu veedu, Meenankal, P.O.	Kuttappara	0.23
25	C.Damodharan Kani Thottumpurathu veedu Venkattumoodu, Kanchinada	Mylamoodu	0.40
26	P.Divakaran Kani Kizhakkumkara veedu Elavattam, P.O., Vembu	Manalayam	0.37
27	M.Eachi Kani Kochikilikoduthekkumkara puthen veedu, Meenankal, P.O.	Kuttappara	0.40
28	P.Gopalan Kani Karippalam Kizhakkumkara puthen veedu, Meenankal, P.O.	Theviyamkannu	0.38

29	G.Gopi Kani Priyabhavan, Njaraneeli Elanchiyam, P.O.	Njaraneeli	0.30
30	K.Gopi Kani Vahottukala Attarikathu veedu Mylamoodu, P.O.	Mylamoode	0.39
31	K.Indira Kani Nedumpara Vadakkumkara veedu Elavattam, P.O.	Manalayam	0.30
32	T.Indira Kani Mannavamroadarikattu veedu Vinobhanikethan, P.O.	Chettiyampara	0.41
33	K.Jayakumar Kani Kilikoduthodatharikathu puthen veedu, Meenankal, P.O.	Kuttappara	0.38
34	K.Kallayani Kani Kizhakkumkara veedu Pongumalathara, Kanchinada	Mylamoodu	0.39
35	T.Karunakaran Eettymooduthadatharikattu veedu, Elavattam, P.O.	Manalayam	0.30
36	K.Kesavan Kani Kappithottam Thadatharikattu veedu, Elavattam, P.O.	Manalayam	0.40
37	T.Kesavan Kani Vattaparavilayil veedu Alumkuzhy, Elavattam, P.O.	Manalayam	0.33
38	K.Kochuraman Kani Mekumkara Puthenveedu Marangad, P.O.	Methottam	0.38

39	N.Krishnan Kani 'Kusumalayam', Kuruppankala Elanjiyam, P.O.	Najaraneeli	0.37
40	P.Krishnan Kani Karippalam Thadatharikattu veedu Meenankal, P.O.	Kuttappara	0.37
41	R.Krishnan Kani Anapelly Charupara thadathrikkattu puthen veedu, Parandode, P.O.	Chettiyampara	0.38
42	V.Krishnan Kani Kilikode thadatharikattu veedu Meenankal, P.O.	Theviyarukunnu	0.35
43	S.Kunjuraman Kani Kovil vila, Kuruppankala Elanjiyam, P.O.	Njaraneeli	0.30
44	N.Kuttan Kani Padinjattinkara Veedu Chettiyakunnukayam, Mylamoodu,P.O.	Mylamoodu	0.40
45	P.Kuttan Kani Charuvilaveedu, Chettappad Kanchinada, P.O.	Mylamoodu	0.41
46	P.Lekshmanan Kani Melepinarmoodumanpurathu veedu Parandode, P.O.	Thaviyarukunnu	0.40
47	A. Lalitha Kani Nisha Bhavan, Marangad, P.O.	Methottam	0.36
48	M.Lalitha Kani Sheela Bhavan, Kochukilikode Meenankal, P.O.	Kuttappara	0.35
49	S.Lalitha Kani Thadatharikathu veedu Parandode, P.O.	Thaviyarukunnu	0.40

50	M.P.Madhu Kani Karottukavu Thottarikathuveedu Karippalam, Meenankal, P.O.	Theviyarukunu	0.26
51	M.Mallan Kani Vayalarikathu Plamoottil puten veedu, Meenanka, P.O.	Kuttappara	0.28
52	A.Mathi Kochukilikode Kizhakkumkara veedu Meenankal, P.O.	Kuttappara	0.37
53	K.Meenakshy Alummoodu Manpurathu veedu Thennoor, P.O.	Njaraneeli	0.38
54	L.Mohanan Kani Ajish Bhavan, Vinobhanikettan, P.O.	Chettiyampara	0.40
55	N.Nalini Kani Pannikuzhi Thottarikathu puthen veedu, Meenankal, P.O.	Kuttappara	0.24
56	V.Nanan Kani Melekonil Padinjattinkara veedu Elanchiyam, P.O.	Njaraneeli	0.35
57	P.Narayanan Kani Vazhottukala attumpurathu puthen veedu, Mylamoodu, P.O.	Mylamoodu	0.39
58	B.Omana kani Pinar moodu roadarikathu veedu Parandode, P.O.	Thaviyarukunnu	0.35
59	A.Padmavathy Kani Thadatharikathu Kunnu mpurathu veedu, Elanjiam, P.O.	Njaraneeli	0.09

60	B.Parukutty Kani Alummoodu minjamkonam Anappara, P.o.	Njaraneeli	0.39
61	M. Perumal Kani Manpurathu veedu, Elanjiyam, P.O.	Njaraneeli	0.40
62	B.Prabhakaran Kani Vadakkumkara veedu Vembu, Elavattam, P.O.	Manalayam	0.28
63	L.Prabhakaran Kani Chempottupara roadarikathu veedu Vinobhanikethan, P.O.	Chettiyampara	0.40
64	L.Pushpajakshy Kani Parayamvilakathu veedu Marangad, P.O.	Methottam	0.39
65	Pushpangadan Kani Thadatharikathu puthen veedu Anakayathumoola, Parandode, P.O.	Theviyarukunnu	0.42
66	K.Rajamma Kani Sasthampara charuvila puthen veedu Marangad, P.O.	Methottam	0.36
67	G.Rajendran Kani Vazhottukala attarikathu veedu Mylamoodu, P.O.	Mylamoodu	0.40
68	V.Ramachandran Kani Chempottupara mekkumkara puthen veedu, VIII/332 Vinobhanikethan, P.O.	Chettiyampara	0.40
69	A.Raveendran Kani Kulathinkara veedu Vinobhanikethan, P.O.	Chettiyampara	0.43

70	K.Retnakaran Kani Pinarmoodu thottarikathu veedu Parandode, P.O.	Theviyarukunnu	0.41
71	K.Retnakaran Kani Chettiyampara coleny thadatharikathu veedu, Vinobhanikethan, P.O.	Chettiyampara	0.40
72	K.Retnakaran Kani Retheesh villa, VIII/315 Vinobhanikethan, P.O.	Chettiyampara	0.44
73	B.Santha Kani Pankattukanam Padinjathinkara Puthen veedu, Kattilackuzhi Elanjiyam, P.O.	Njaraneeli	0.41
74	B.Santha Kani Pinarmoodu thadatharikathu veedu Parandode, P.O.	Theviyarukunnu	0.35
75	D.Sasi Kani Vazhottukala attarikathu veedu Mylamoodu, P.O.	Mylamoodu	0.39
76	L.Sasidharan Kani Chettiyampara coleny thadatharikathu veedu, Vinobhanikethan	Chettiyampara	0.44
77	P.V.Sasidharan Kani Sabu Bhavan Vinobhanikethan, P.O.	Chettiyampara	0.39
78	D.Seethakumari Kani Mundankuzhy Vettuvanthode Vinobhanikethan, P.O.	Chettiyampara	0.44
79	B.Sivadasan Kani Vazhottukala attarikathu veedu Mylamoodu, P.O.	Mylamoodu	0.42

80	K.Soman Kani Chettiyakunnukayam Edukkumkara veedu, Mylamoodu	Mylamoodu	0.40
81	K.Soman Kani Vattappara thadatharikathu veedu Alumkuzhy, Elavattam, P.O.	Manalyam	0.28
82	N.Soman Kani Nandavilasam chettiyakunnukayam Mylamoodu	Mylamoodu	0.40
83	P.Sreeraman Kani Thekkummoodu Thadatharikathu veedu, Elavattam, P.O.	Manalayam	0.32
84	Sudha Bhargavan Kani Valiyavila house, Meenankal, P.O.	Theviyarukunnu	0.39
85	S.Sudharmini Kani Biju Bhavan, LPS Juncion Parandode, P.O.	Theviyarukunnu	0.39
86	E.Sukumaran Kani Kochukilikode Kizhakkumkara puthen veedu, Meenankal, P.O.	Kuttappara	0.28
87	K.Sukumaran Kani Anitha vilasam veedu Kanakayamkoni, Elanjiyam, P.O.	Njaraneeli	0.40
88	K.Sukumaran Kani VIII/301, Chempottupara Kizhakkumkara veedu, Vinobhanikethan, P.O.	Chettiyampara	0.42
89	V.Sukumaran Kani Parayamvilakathu Veedu Marangad, P.O.	Methottam	0.38
90	B.Sundaresan Kani Thadatharikathu veedu Elavattam, P.O., Vembu	Manalayam	0.20

91	C.Surendran Kani Kizhakkumkara puthen veedu Elanjiyam, P.O.	Njaraneeli	0.23
92	J.Suseela Kani Thadatharikathu puthen veedu Marangad, P.O.	Methottam	0.40
93	K.Thankappan Kani Idukkumkara veedu Chettiyakunnukayam Mylamoodu, P.O.	Mylamoodu	0.41
94	K.Thankappan Kani Attarikathu puthen veedu Vazhottukala, Mylamoodu, P.O.	Mylamoodu	0.38
95	K.Thankappan Kani Nedumpara Vadakkumkara veedu Elavattam, P.O., Vembu	Manalyam	0.36
96	P.Thankappan Kani Charuvilaputhen veedu Elanjiyam, P.O.	Njaraneeli	0.40
97	C.Thulasidevi Kani Vidhyabhavan, Parandode, P.O.	Theviyarukunnu	0.23
98	L.Ushakumari Kani Kizhakkumkara veedu Elavattam, P.O., Vembu	Manalayam	0.35
99	P.Valsala Kani Vishnu Bhavan Marangad, P.O.	Methottam	0.31
100	P.Vamakshy Kani Thadatharikathu veedu Marangad, P.O.	Methottam	0.23



101	J.Varadharajan Kani Kilikode Thadatharikathu veedu Meenankal, P.O.	Theviyarukunnu	0.39
102	S.Vasudevan Kani Thadatharikathu Veedu Elavattam, P.O., Vembu	Manalayam	0.23
103	T.Visalakshy kani Kuttappara thadatharikathu veedu Meenankal, P.O.	Kuttappara	0.36
104	S.Visalam Kani Karottukavu thottarikathu veedu Mennankal, P.O.	Theviyarukunnu	0.24
105	K.Viswambaran Chettiyampara coleny thadatharikathu veedu Vinobhanikethan, P.O.	Chettiyampara	0.38

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