INCOME, LIVELIHOOD AND EDUCATION OF TRIBAL COMMUNITIES IN KERALA – EXPLORING INTER-COMMUNITY DISPARITIES

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by

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DEPARTMENT OF APPLIED ECONOMICS

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Ph.D. Thesis under the Faculty of Social Sciences

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Certificate

This is to certify that the thesis titled *"Income, Livelihood and Education of Tribal Communities in Kerala – Exploring Inter Community Disparities"* is a record of bona fide research work carried out by Mr. Binu P. Paul under my supervision and guidance. This is an original piece of research and has not formed the basis for award of any degree, diploma, associateship, fellowship or other similar title of any other University or Board and is worth submitting for the award of Doctor of Philosophy under the Faculty of Social Sciences of Cochin University of Science and Technology.

D. Rajasenan
Supervising Guide

Declaration

I hereby declare that the dissertation titled *"Income, Livelihood and Education of Tribal Communities in Kerala – Exploring Inter Community Disparities"* is a record of the bona fide research work done by me and that it has not previously formed the basis for the award of any degree, associateship, fellowship or any other title of recognition.

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Acknowledgement

It has been an eventful journey in many aspects with many an exciting sojourn in between. There are many who have helped me immensely in this journey to achieve the highest earned academic degree. I hope to use this section to thank them; to let them know that it would not have been possible without their help and support.

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31st July 2013 BINU P. PAUL

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Chapter I

Introduction

1.1 Background of the Study

The acclamations and critical appraisals to the Kerala Model of Development over the years have aroused considerable interest from many corners about the sustainability of its drivers, and the turns in the development trajectory. With the excessive focus on the sustainability dimension of Kerala Model, which was adorned as the jewel in the crown in discussions relating to Kerala's development experience, the challenges created by such development received disproportionate attention among academia and policy makers. As some studies observe the discussions were focused more on the average than the outliers (Kurien, 1995). In fact all the while when Kerala fared exceedingly well in the human development indicators, simple averages which rightly serve the purpose of drawing generalizations about the state of affairs, the variability in the indicators within and across the sections in the society was transforming from challenges that needed to be addressed to restraints capable of inflicting serious dent in the socio economic advancements made by the state.

There are indications that sections of the society that depend on traditional resources (like coir, bamboo, fishery, cashew etc) for livelihood and the vulnerable sections like Scheduled castes and tribes in the state were left out from Kerala's development experience (Kurien,1980; Ministry of Rural Development, 1993; Kurien,1995; CSSEIP, 2010). When comparing the status of these outlier communities to the general population one can observe that the factors that were kingpins in the chariot of Kerala's development experience- like high literacy, favorable sex ratio, better demographic indicators, Government spending in service sector, remittance income etc- have played only a limited role in the human development of these communities.

The development status of tribal communities, whom the Indian constitution recognizes as a vulnerable group requiring special attention, has not been any different from that of other outlier communities in Kerala. Among the outlier communities tribal communities are perhaps the most disadvantaged ones. Overseas migration, a factor that played an important role in improving the economic status of many communities seems to have completely eluded the tribal communities. The percentage of tribal population in emigrants, return emigrants and nonresident Keralites are

the lowest among all sections of the Kerala society (Zachariah and Rajan, 2004). There are studies that substantiate the view that tribal communities have not benefitted from the land reforms initiated by the Government of Kerala (Ravi Raman, 2003 and 2005). The development experience of tribal communities assume great importance in the Kerala context as Kerala's development experience owes much to the enlightened state policies based on equity and public action (Shyjan and Sunitha, 2008).

1.2 Tribal Communities and Development

Article 342 of the Indian constitution defines 'tribal folk' as "People living in a particular place, who enter into marriage relationship among themselves, who have no specific skills in any work, traditionally or ethnically ruled by adivasi leaders, who speak any special language, have own beliefs, customs and tradition". The criteria of geographical isolation, distinctive culture, primitive traits, shyness of contact with others and economic and social backwardness, are in general, considered relevant in the definition of tribes in India. Their poverty, social and economic backwardness are highly visible in the literature.

Article 46 of the Indian Constitution explicitly recognizes the need to protect the interest of the weaker sections in the society and particularly that of the Scheduled castes and Scheduled tribes.

"The founding fathers of our constitution desired to secure justice, social, economic, and political for all citizens. They realized that the inequitable forces embedded in the socio-economic system and also political organizations, had resulted in deprivation and disadvantages for the poor and the weaker sections of the society. They, therefore, considered it necessary to provide specific safeguards in the constitution for the Scheduled Castes and Scheduled Tribes, who, due to tradition and a combination of circumstances, were the most deprived, weak and vulnerable amongst the various sections of the society. The various safeguards and protective measures sought to ensure for them all round development and freedom from exploitation and social injustice so that they could form part of the mainstream of the society" (G.o.I, 1986).

Kunhaman (1997) discusses the various approaches followed by the authorities to the development of tribal communities in India, namely –Isolationist, Assimilationist and Integrationist –all of which were based on different perspectives about where the tribal communities need to be placed in the general scheme of discussion about development. All the approaches recognized the apparent and consequent differences of tribal communities from the

general population and accepted the need for a pragmatic yet non mundane framework for addressing the problems faced by the tribal community; however the potential outcomes of each of the approaches could/would have been as different as possible and would elude any metric to compare the benefits. While the isolationist approach was by and large based on the idea that tribals are best when they are left alone, the assimilationist approach contended such line of thought and insisted that tribals become part of the main stream society as fast possible. Both the approaches had limitations and failed to address the development of tribal communities; while the former approach implicitly expected tribal communities to bootstrap their development the latter expected tribal communities to be developed in terms of the main stream society, even discounting critical aspects of tribal identity. The failure of both the approaches led to the new thought of an integrationist approach to tribal development, where the development was to be achieved by means of protective and promotional measures. The protection is offered for the upkeep of tribal identity and promotional measures are offered to help them combat the strictures, socioeconomic and otherwise, in their development. (Varghese, 2002) provides a comprehensive description of the various central and state level development initiatives for tribal development in India over the years.

The concept of development and well-being has undergone significant changes from the time of its inception during the past century. The notion of well-being has shifted from just material attainment or physical means of development to outcomes that are either desirable in themselves or desirable because of their role in supporting better opportunities for people. The World Human Development Report (1997) states, "*Income is clearly only one option that people would like to have, though an important one. But it is not the sum total of their lives. Income is also a means, with human development, the end*". Thus, the latest notion of development assumes that human development is the end and economic growth is just a means to this end. It is against this background that an attempt was made by UNDP to map the state of human development in the member countries, in the early 1990's.

Though, Kerala has achieved remarkable social sector development, celebrated as 'Kerala Model of Development', it is observed that the development process fell short to encompass tribal communities in its development process (Davis and Sunitha, 2008), which makes them outliers in the Kerala model of development (Kurien, 1996). They are considered as the most vulnerable

community in the state. Economic review, (2011) reports that 24.2 per cent of tribes fall Below Poverty Line where as the state average is only 9.4 percent.

Table 1.1 Incidence of Poverty among Different Sections in Kerala

Sl.No	Category	Share of BPL	% of total population
1	Scheduled Castes	19	9.81
2	Scheduled Tribes	3	1.14
3	Others	78	89.05

Source: Economic Review, (2011)

The incidence of poverty among scheduled tribes in Kerala is only half of the all India level which suggests that the poverty alleviation measures implemented in the state have been more effective compared to the rest of India (Economic Review, 2011). However, taking cue from table 1.1 when the incidence of poverty is examined at the state level, the situation reveals the vulnerability of the tribal community in the state. The incidence of poverty among the scheduled tribes in Kerala constitutes 3 percent of the total BPL population in Kerala, while their total population in the state is only 1.1.4 percent. When comparing the incidence of poverty among all sections we find that the incidence of poverty in ST population is about 3 times that of the general population.

The scheduled tribes, the ethnic minority groups in India, constitute around 8 percent of the total population. There are 573 Scheduled Tribes living in different parts of the country (Census, 2001). They are educationally backwardness prompted the government to make elementary education a priority in all the tribal sub-plans from the 5th five year plan and it got a thrust with the formulation of national education policy (National Policy on Education,1986). This was not only because of the constitutional obligation (Article 15(4) AND (5) stipulates creation of equality promoting conditions including reservation of seats in educational institutions), but also because of the felt necessity for the total development of tribal communities in the changing socio-economic scenario which was possible only through the instrument of education. Education is a powerful indicator of social and economic development among the backward groups including tribes (Mitra and Singh, 2006). Since the tribal communities reside, normally, in the remote interiors which are inaccessible and therefore underdeveloped. Also they live in small habitations without basic infrastructures like transportation and communication. Besides they have their own structural impediments which make them deprived and excluded with regard to almost everything that a contemporary mainstream society has.

In many societies there exists discrepancy between the mainstream population and the marginalized including tribes in acquiring human capital (Mitra and Singh, 2006). Here too Kerala is no exception. The situation in Kerala is not different, as the structural impediments preventing the tribal communities from being on par with the mainstream communities are in existence here as well. The literacy rate among the Scheduled Tribes in the state is only 57 percent as against 90 percent among the general population and 79 percent among the Scheduled Castes (NCSC, 2002). Likewise, the share of ST students in the total school enrolment in the state is only 1.63 percent in 2008-09 (Govt. of Kerala, 2009). The disparity in the literacy and educational level between the STs and the general population is continuing despite a number of educational support programs made available to them. The two major reasons for this situation are the low enrolment ratio and high dropout ratio of ST children in educational institutions as compared to general students and even SC students (Govt. of Kerala, 2009)..

In the state, school education is free, students belonging to SC/ST and other eligible sections are being provided with lump sum grants to the tune of Rs 140-330 for buying study materials, cloths etc. (Praveen, 2009). There are many reasons for this sorry state of affairs. One major reason is the prevailing high rate of poverty and the other is the over dependence on natural resources/agriculture. Because of the dependence on agriculture and natural resources for livelihood getting educated in the formal system is considered a wasteful expenditure of time by many tribal communities. Poverty is a significant deterrent to tribal children as they often dropout of school for helping their family in occupation and their families cannot afford the cost of education as they are deprived of economic resources.

1.3 Statement of the Problem

Albeit the distinctions that characterize individual tribal communities in the schedule, the development policies as well as discourses on tribal development usually attribute a convenient common cloak for all tribal communities. Administrative conveniences often forces individual community identity to be dwarfed by the collective tribe identity often resulting in the masking of the true nature of stratified development in the tribal community (Singh, 1982). While the approach of aggregating the issues of tribal communities and offering one-size fit all policies dovetails with the objective of framing policies at the aggregate level it compromises heavily on the effectiveness of such policies at the individual tribal community level (Singh, 1982).

The income and livelihood situation of tribal communities in Kerala presents a mixed picture. While some communities like KattuNaika are still in hunter gatherer stage, other communities who have lost their land to settlers and encroachers work as agricultural or non agricultural labourers (Wayanad Initiative, 2006). At the same time there are communities that are far ahead of other communities and also the general population in Kerala (CSSEIP, 2010; Joseph, 2004; Balakrishnan, 2004; George, 2007). The livelihood options of majority of the tribal communities are dependent on primary sector with very minimal dependence on other avenues of employment. Even though there is not much variation in the reported income of tribal communities there is substantial difference in the levels of indebtedness among land owning communities like Kurichya and Kuruma and the backward communities (Wayanad Initiative, 2006; Balakrishnan, 2004).

It has also been observed that there exist marked differences in the level of development within the tribal community in Kerala as some communities seem to be better off than others. (CSSEIP, 2010). Building on this observation one might imagine the possibility of the benefits of reservation in Government jobs and the other focused support and schemes offered by the Government to tribal communities are not shared equally between tribal communities. This observation is also shaped by the findings of an earlier study of the Babu Vijayananth commission report (1982). There have been efforts to unearth this issue in some manner (George, 2007; Joseph, 2004). Deriving insights on the disparate levels of development within the common classification of 'scheduled tribe' calls for disaggregation of the sources of development at the individual community level. The difference between the indicators at the aggregate level and indicators at the individual community level could point to sources of such differences and help the policy makers to frame appropriate policies aimed at more inclusive growth within tribal communities and across all sections in the state.

There have been many academic attempts aimed at detailing the development status and process tribal communities in Kerala (Karunakaran, 1983; Kattakkayam, 1983; Joseph, 2004; Varghese, 2002; Balakrishnan, 2004; George, 2007). These studies have focused on individual tribal communities or have focused on comparing the situation of two or three communities at a time. The discussions in such studies have greatly benefitted the academia in terms of in depth understanding of the communities under study; nevertheless while these studies have achieved

the status of rich sources of information about certain communities they remain poor documents for understanding the development status of tribal communities in Kerala as a whole.

An attempt is made in the thesis to describe the development of tribal communities in the state of Kerala in terms of their income and livelihood opportunities as well as the level of educational attainment. To do justice to the above ambition a large scale survey was needed and it was made possible because the PhD scholar was part of the research team at CSSEIP[1], CUSAT that was involved in the preparation of the Tribal Human Development Report.

1. 4 Objectives of the Study

The overall objective of the study is to examine whether the tribal communities in Kerala can be considered a coherent group in terms of select indicators of development by focusing on nine major tribal communities. The study also aims to bring out the intercommunity differences if any in aspects of livelihood options and education level of the tribal communities in Kerala.

The specific objectives of the study are

- To depict the income, livelihood and educational attainment of tribal communities in Kerala
- To depict the disparities, if any, among tribal communities in terms of income and livelihood options
- To depict the disparities, if any, among tribal communities in terms of educational attainment
- To depict the disparities if any in reservation benefits enjoyed by tribal communities in the case of Government jobs

1.5 Scope of the Study

There have been numerous studies on individual tribal communities in Kerala. However the general picture of tribal communities in Kerala cannot be understood from those studies as the communities differ from each other in their culture, traditions, livelihood options and socioeconomic status. The attempt in the present study is to depict the genral situation of tribal

[1] Center for the Study of Social Exclusion and Inclusive Policy (CSSEIP) is a center sanctioned by the University Grants Commission to conduct studies on vulnerable groups facing the threat of social exclusion. The Center was awarded the project for preparing a study on the development status of tribal communities by the Kerala State Planning Board in 2009. The report was submitted to the Planning Board in 2010. The survey results in the thesis are based on the survey conducted for the preparation of the Tribal Human Development Report and since the PhD scholar was the research associate in the project the thesis borrows extensively from the THDR in terms of approach and analysis.

communities and also bringout the differences between tribal communities.To make a meaningful study that will provide a general picture of the tribal communities in Kerala an exhaustive study of all tribal communities is required. However due to limitations with regard to time and financial resources of the research project the study was decided to be conducted among 9 tribal communities in Kerala. The survey which was conducted a part of the research project awarded to the Center for the Study of Social Exclusion and Inclusive Policy, CUSAT covered three districts where the selected tribal communities were located. The socioeconomic status of these tribal communities captured using a sample survey forms the basis for the conclusions drawn from the study. The scope of the study is limited to the socioeconomic status and educational attainment of communities. The study only makes a casual perusal to the historical and sociological aspects of the communities under study.

1.6 Methodology

Our approach to the problem at hand is focused on two aspects; income, livelihood options and educational attainment of tribal communities in Kerala. Since the study is focused on bringing out the differences between tribal communities we have framed the study to be primarily descriptive in nature with minimal attempts to explain causation. While we believe that have made good analytical use of the data from the primary and secondary sources and have indicated the areas that may warrant the attentions of policy makers we also have made deliberate efforts not to suggest policy prescriptive. We acknowledge that such an approach would have made the effort more meaningful; but we also realized that any such attempt could definitely enlarge the theoretical scope of the study as there are competing versions of development and subaltern development.

1.6.1 Data

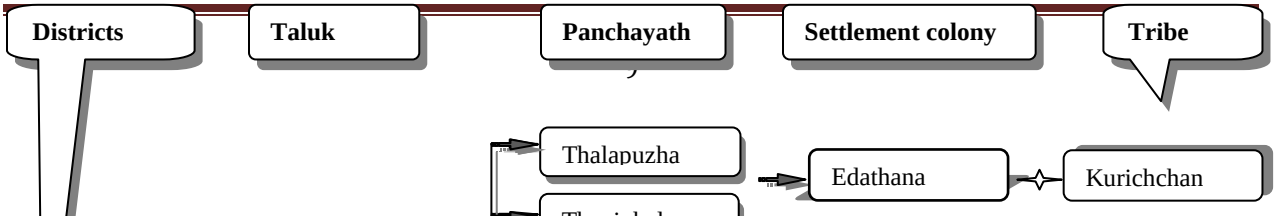
The study used both primary and secondary sources of data. Primary data at the individual and household level were collected using a semi structured interview schedule and participatory research appraisal method was used for getting qualitative information at the tribe level. In addition to this, discussions were conducted with activists and Government servants in tribal area for ensuring that elements of socio cultural aspects that did not reflect in other sources of data also had a chance in shaping the study. The major secondary sources of data included published

reports from various multilateral agencies and Government departments, reports from NGOs working in tribal area, academic articles and news paper clippings about tribal issues.

1.6.2 Sampling Design

The study employed multistage stratified proportionate random sampling. The sample was selected in three stages i.e., at the tribe level, district level and at the Settlement level. Out of the 35 tribal communities noted in the scheduled tribe list in Kerala, 12 communities constitute around 90 percent of the tribal population in the state. The study was decided to be conducted among 9 of these 12 communities. The list of all tribal settlements in the state was identified as the sampling frame. From the sampling frame a separate list with all the settlements of the 9 communities selected for study was prepared. The district from where settlement for each community was to be selected was decided on the criterion of 'maximum percentage of the tribal community as a percentage of the total population in the district'. By employing this criterion Wayanad was selected for studying six tribal communities (Paniya, Adiya,Kuruma, Kurichya, Urali and KattuNaika), Idukki was selected for studying two communities (Malayarayan and Muthuvan) and Palakkad was selected for studying one community (Irula). After selecting the district for a community, all the settlements for the community was grouped at the Taluk level and the settlement to be studied for the community was selected from the randomly selected Taluk. The number of households for each community in the sample was fixed as a proportion of the community's population in the total population of the selected communities. To ensure statistical significance for the results of the study, inter Taluk and inter Panchayath comparisons were avoided. Schematic presentation of the sampling method is given in figure 1.1.

Figure 1.1 Schematic representation of actual samples selected



1.7 Limitations

The study had many limitations which may be broadly classified into two – inherent limitations for a study in tribal area and general limitations for any (social science) research project. The limitations could have impacted on data collection and report writing.

1.7.1 Some of the Inherent Limitations

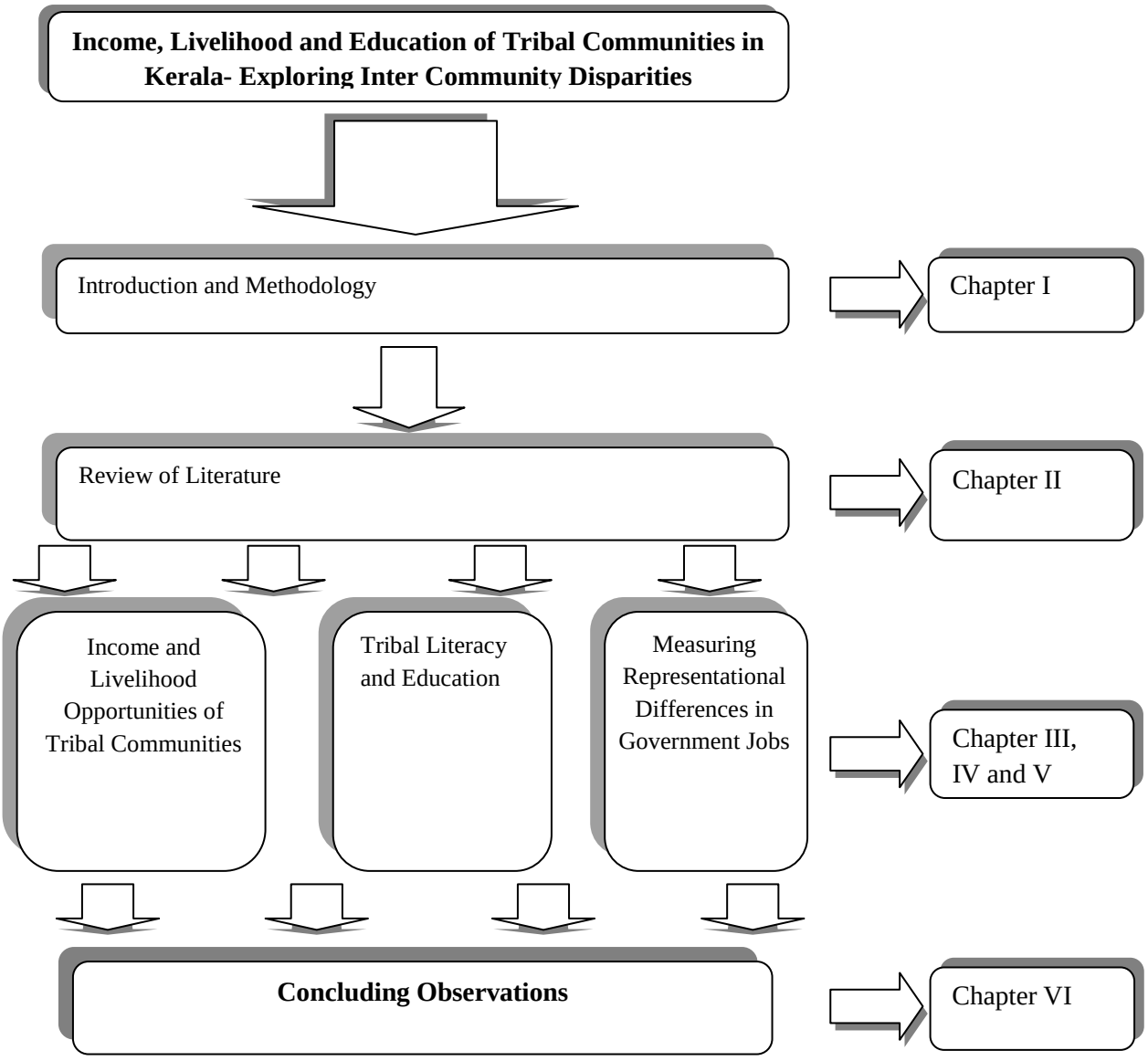
The communication with members in the tribal community is difficult and very time consuming because of language barrier. The extended time required for communicating with the households could have affected the quality of data collected especially regarding questions that seek to understand perception about various factors. The recall period of tribal communities is very poor and this has proved to be a difficult to manage component in estimating income, expenditure, lost working days, number of days worked in NREGA etc. The non availability of disaggregated data at the individual tribe level was a major impediment in making meaningful comparisons about the effectiveness of Government programmes. The studies on the socio economic aspects of 'tribal community in Kerala as a whole' have received only scant attention from the academia. Most of the extant studies are in the form of case studies and status reports of individual community/development project experience with paucity of composite status reports.

1.7.2 Some of the General Limitations

The availability and use of secondary information from Government offices proved to be more difficult than initially expected. This was primarily because the data pertaining to older periods on many aspects were not electronically available and also because of the 'inherent difficulties' associated with obtaining data from Government offices.

1.8 Scheme of the Study

The study is given in six chapters starting from introduction and methodology in the first chapter. The second chapter is the review of relevant literature. Chapter numbers three and four presents and analyses the income and educational situation of tribal communities in Kerala. Fifth chapter measures the extent of representational difference of scheduled tribes and the sixth chapter offers the concluding remarks. See figure (1.2).


Income, Livelihood and Education of Tribal Communities in Kerala- Exploring Inter Community Disparities
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Chapter II

Review of Literature and Details of Tribal Communities Under Study

2.1 Review of Literature

One of the first attempts to document the indigenous people of Kerala; the then region with the erstwhile princely states was undertaken by Samuel Mateer (1883). He discusses at length the characteristics of the original inhabitants of the then Travancore region. While the objective of Mateer's visit was to promote missionary work in the Travancore region Mateer also studied on various aspects of local life. The study by Mateer titled 'Native Life of Travancore' is a vivid representation of the life, customs and practices of people of Travancore at that time. The rigidity in the society on caste dimensions and organization of economic activities based on caste can be found in the study. The study by Mateer was descriptive in nature and covered almost all the sections in the society and gave special importance lower castes and also to tribal communities. The missionary team led by Mateer found the lower caste sections to be more receptive to their religious ideas; an idea and a system of belief that promised deliverance from the oppression faced by them for centuries on account of religion and caste.

While the southern area of Kerala was covered by Mateer, the northern side was described by another study titled 'Malabar Manual'. The work was undertaken by Logan (1887), and the purpose of which was to give information on the socioeconomic situation and lives of the people of Malabar region. Malabar Manual also discusses in detail the slavery system, called at that time as the 'adima' system. The ruthless exploitation of the tribal community and the other lower castes like Cheruma by the feudal land lords and the plight of the tribal communities can also be seen in the work of Logan. The work also mentions the repercussions of the Slavery Abolition Act passed by the British Government in 1843. One can understand from the work that slavery in the form that existed in Kerala at that time was more to do with a mental status tempered by the socio cultural factors and not just purely of economic exploitation. The dependence of the lower classes on the land lords was not just for the necessities of life; the affiliation was also part of their identity at that time.

Particular mention of the Kurichya tribe is made by Logan (1887), gives detailed account of the Kurichya community and the report is a good source of information on their culture and traditions. One can see explicit admiration from the author on the valor as well as combat abilities and skills in using arrows and bows of Kurichya community. The role played by the community in assisting Pazhassi Raja, the ruler of the erstwhile princely state of Kottayam is detailed in the work which also gives information about the socio political factors that triggered the resistance the British rulers faced in the area.

Thrustone (1909) gives descriptions of the tribes and lower caste sections of the Kerala society. The work of Thrustone 'Castes and Tribes of South India' gives information about the customs, religious beliefs and general way of life of tribal communities in Kerala. Thurstone also gives detailed account of communities like Paniya, Kurichya, Adiya, Kuruma and Kattunaika. Thurstone also mentions about the slavery system that existed in Wayanad region where the Paniyas were bought and sold along with the land they were attached to. While the study by Thurstone gives rich details of the ethnographic features of the tribes the economic angle is almost completely ignored in the study. One possible reason for that could be a 'non existent tribal economy'; for the transactions involving an economic component in the strict sense of the term finds relatively limited relevance in a subsistence set up where the nature of ownership of productive assets is collective at best in some cases and no ownership in most cases.

'Cochin Castes and Tribes'; the study made by Iyer (1909), which was published in four volumes gives detailed account of the socio-cultural aspects of the tribal communities in the Travancore – Cochin area. These studies were conducted primarily to understand the way of life of tribal communities in Kerala and are considered as rich information sources; though limited in scope as the studies focus only on the ethnographic and sociological issues.

One of the first studies that focus on Kanikkar tribe was done by Iyer (1923). The study gives information on the manner in which the tribe faced slavery, and how the religious beliefs they embraced changed the original belief systems. The author notes that the introduction of the tribe to the main stream society influenced their lives and systems to a great extent and consequently the tribe was stripped of many of their practices that identified the tribe. Karunakaran (1983) also gives information about Kanikkaran community in south Kerala. The socioeconomic condition of the community and statistical information on select dimension can be found about the

community in addition to their culture, livelihood means and their expertise making herbal medicines and treating diseases using traditional methods.

An anthropological account of Kadar community with information on the livelihood issues of the community can be found in Ehrenfels (1952). The study brought out many issues faced by the community like lack of work, limited access to government support and the difficulties faced by the community to cope up with the changes in the society. The need to provide special support to the primitive tribes because of their comparatively deplorable economic conditions is brought out in the study.

The study made by Luiz (1962), former chairman of the Kerala State Tribal Enquiry Committee, which was published as a book titled 'Tribes of Kerala' is one of the earliest account of tribal communities in Kerala which gives some information about the economic activities of tribal communities. The book tries to situate the socioeconomic situation of tribal communities in Kerala against the general development pattern in the state. The work of Luiz is among the first works that has tried to evaluate the welfare policies for tribal communities. The most significant contribution of the study was the tracing of the changes in the lives of tribal communities against the changes that happened in Kerala society.

One of the first studies that brought out the social factors that constrict tribal education is made by Ayyappan (1968), and he focuses on tribes of the erstwhile Malabar region. The study brings out in detail the problems faced by the aborigines in Malabar area; especially the problems faced by Kurichya and Paniya communities. He tries to situate the educational backwardness of both the communities in the context of their socio-cultural peculiarities and gives information on the strictures and stigmas that prevented these communities from getting educated. In the case of Kurichya community while the gender driven practices prevented Kurichya girls from getting educated, the general attitude of Paniyas as a tribe towards education as a means for social advancement and economic progress had resulted in poor educational attainment of the community. The significance of such nuances in tribal education cannot be underestimated or relegated for later consideration while framing policies to improve education of tribal communities.

In another study that traced the development of Kurichya community Ayyappan and Mahadevan (1990) give elaborate account of the community and evaluates the temporal changes that happened in the Kurichya community. The study accords the economic security of the community in terms of land holding, and the matrilineal set up of the community as among the factors that have helped the community in scoring better in terms of health and longevity of the community members. The study throws some light into how the priorities of a system- patriarchal as against- matrilineal- is consequential in determining the utilization of resources and the resultant progress achieved by the society.

Mathur (1975) and Kunhaman (1981) discuss the land alienation and the livelihood issues of tribal communities in Kerala. While Kunhaman's work is essentially on the situation of tribal communities in Attappady, the work of Mathur is an overall account of the tribals in Kerala. The reasons for land alienation and the ineffectiveness of the state machinery in combating alienation of tribal land are discussed at some length in both the works. The study of Mathur tries to link the levels of indebtedness among tribals in Kerala to the problem of land alienation faced by them. Both the studies point out deteriorating traditional livelihood means of tribal communities, which were primarily forest and land based. The studies seem to suggest that the one of the outcomes of land alienation is the forced dependence on newer livelihood options that require tribal communities to have different skill sets. It is evident from the two studies that the socio cultural strictures, albeit self imposed by the past society and fortified by the tribal communities, are impediments that stop them from acquiring new skills.

Mathur (1977) is a detailed account of the socio economic and linguistic features of tribal communities in Kerala. The work is a good source of descriptive information on the historical aspects of tribal life in Kerala and covers aspects on bonded labour system, the lives and problems of tribal women and the lack of infrastructural facilities in tribal dominated areas in Kerala. The study suggests that the troubles faced by tribal communities on account of geographical isolation are accentuated by the limited presence of required infrastructure. One can also understand from Mathur (1977) that the socio cultural practices of the tribal communities act as barriers to be involved with the mainstream society and that the development policies for tribal communities must also factor in these aspects for effectiveness. One may infer that the disconnect between the 'need for policies and the needed policies' is the result of the cleavage

between tribals' understanding as to why they need to change and the policy makers understanding as to why the tribals do not want to change.

Among all the tribal communites in Kerala probably the most studied communites include Kurichya, Paniya and Malayaraya. Many studies (Ayyappan, 1968; Ayyappan and Mahadevan, 1990; Oommen, 2002) have tried to describe, analyse and offer suggestions about what could be done to improve the situation of these three tribal communities. All these studies have emphasized the role that education can play in improving the lives of tribal communities.The pertinent observations made by the researchers revolve around the socio cultural practices of the communities that have set the stage in which these communities operate and perceive the outside world. The studies also provide useful hints on the need to have policies armed with a socio cultural dimension sensitive to tribal communities, as in the case of most policies the effectiveness was not affected by insufficient resource allocation.

The study made by Kattakkayam (1983) provides rich information about the life, culture, livelihood and tradition of Uralis. The study makes an attempt in discussing the transformation undergone by the community in various spheres and the sources of such transformation. The interaction of the community with the settlers and the forced adoption of many 'modern' practices have resulted in the community losing much of its traditional values. While this study is an elaborate account of Uralis, a community under the present study, one cannot understand from the study about where the Uralis stand in terms of their socioeconomic development compared to other tribal communities in Kerala.

A number of studies were also conducted by the Government of Kerala to understand the situation of tribal communities in Kerala (GoK, 1963; Gok, 1968; Gok, 1970; Gok, 1977; Gok, 1979; Gok, 1982[a];Gok, 1982[b]; KSPB,2010). In addition to these dedicated efforts the Economic Review published by the Kerala State Planning Board every year also gives information on the welfare schemes implemented for the scheduled caste and tribe communities.

Gok (1963) was aimed at evaluating the development status tribal communities in Kerala along with that of scheduled castes and other backward communities. The need to improve the educational attainment of tribal communities to bring them to the main stream is highlighted in the report. The issues faced by tribal communities like land alienation and the consequent negative impact on their livelihood are also discussed in the report. The Government

programmes aimed at up liftment of tribal communities is also reviewed and discussed in the report.

Gok (1968) is popularly known as Kumara Pilla Commission report. The report had reservation for tribals and other communities as the main objective. The report gives detailed information on the tribal situation at that time and also brings to discussion the inequalities among the tribal communities characterized by geographic location. The report explicitly acknowledges the need for education and points out that as the critical factor that can make positive discrimination efforts of the state more effective. Gok (1970) also tried to address the issues of job reservation for backward communities. The report also draws similar conclusion as that of the Kumara Pilla commission report on the reasons for the backwardness of the scheduled tribes. After a critical examination of the policies aimed at educational improvement of tribal communities the report stresses on the need to improve the institutional infrastructure providing tribal education that will pay attention to the peculiarities of tribal communities.

While pointing out the plight of the tribal communities in Attappady, Gok (1977) also discusses the insufficient reach of tribal development policies. The report mentions that tribal households who are unaware of the welfare schemes offered by the Government are forced to live in economic decrepitude. The review of policies specifically made for the tribal development block were found to be ineffectively employed as one can understand from the differences in allocated and actual expenditure under various heads and the number of tribal households who benefitted from the programmes.

One of the first exhaustive surveys on tribal communities in Kerala was conducted by the Directorate of Economics and Statistics, Government of Kerala in 1976-78. The survey gives comprehensive information on the educational level, employment condition and asset situation of tribal communities in Kerala. The survey report also details the land affiliated issues faced by tribals and also provides information on the issues faced by tribal agriculturists. Land alienation, subsistence agriculture mode adopted by the tribal communities and the outdated cultivating technologies followed by them were among most important factors that choked the agriculture (Gok, 1979).

In a similar study with a wider scope the economic, socio cultural aspects of tribal communities living in the Integrated Tribal Development Project (ITDP) areas in Kerala is brought out by Gok

(1982[a]). The report titled 'A Benchmark Survey of Integrated Tribal Development Project' provides information on the extent of poverty among tribal households in the ITDP areas and also mentions the major livelihood activities of the tribal communities in these areas. The report identified that the tribal communities are at different levels of development and explicated the need to have tribe specific policies. This suggestion was made as the socioeconomic condition of individual tribal communities differed significantly from each other rendering some policies effective on average but ineffective at the individual tribe level. The major beneficiaries of such policies were the advantaged among the disadvantaged; a problem that still looms large in the case of tribal communities in Kerala.

Gok (1982[b]) popularly known as Vijayanath Commission report, with the title 'Socio-economic Conditions of SCs and STs gives very detailed information on the tribal communities in Kerala. The report was the result of an exhaustive survey conducted in all the districts in Kerala. The commission also collected information from all the Government departments, Government companies and the aided organizations about the number of employees from each tribal community at all the levels of employment. The benefits of reservation enjoyed by the tribal communities form a significant component of the report. The conspicuous picture of unfilled vacancies and the concentration of tribal community members in the lower rungs of the state government jobs can be found in the report. The report also very clearly brings out the disproportionate representation of members from certain tribal communities in Government jobs. The report clearly highlights the over representation of members from communities like Malayaraya, and also brings out the complete absence of certain tribal communities like Kattu Naika in Government services. The skeweness in the distribution of benefits like reservation in Government jobs is very evident from the Vijayanath commission report. The report also suggests to treat those communities that were enjoying a superior position vis-à-vis other communities as a single group and make changes in the reservation policies accounting for such differences.

Kunhaman (1980) explores reasons for the intra regional variation in the living standards of tribal communities in Kerala; the north south divide in terms of development status of tribal communities. The differences are contrasted against the support received by the tribal communities in the regions of Travancore and Cochin and Malabar. The study echoes view that

the attitude of the state towards the downtrodden determines the progress achieved by them. In the case of tribal communities in Travancore and Cochin areas the benevolence of the rulers helped to give a congenial shape to the socioeconomic setting in which the tribal communities could progress; whereas, the author notes, the British rulers in Malabar region were not concerned about the tribal communities, which kept them in a state of underdevelopment. The policy implications of Kunhaman's analysis are relevant even today. The tribal communities in those areas where the local rulers were able to create protective measures to safeguard the interest of tribal communities by being sensitive to the needs of the tribal communities had better chances in the society. In the present case also the progress of tribal communities through affirmative actions critically depend on how sensitive the State is to the requirements of the communities.

Some of the recent studies that have examined the tribal communities in Kerala and deserve to be mentioned include (Varghese, 2002; Joseph, 2004; Balakrishnan, 2004; George, 2007). All these studies were undertaken as doctoral studies in the area of tribal development.

Collecting information about the Paniya community in Wayanad Varghese (2002) reviews the impact of developmental schemes on tribal communities in Kerala. The various approaches to development are discusses by the author who also comments on the role played by religious organizations and NGOs in the development of tribal communities. The need to classify the objective of tribal development on the basis of time frame- short term and long term- are discussed while evaluating the progress of tribal communities against the development programmes. The study also touches upon the life styles of tribal community and opines that the rather simple life led by the tribal community and the minimal needs of the tribala are identified as reasons by the author for the presence of a market system that operates pretty much in the lines of barter economy- the tribals sell the forest produce and buy in return daily requirements. Based on standard development indicators like Gender Disparity Index (GDI), Gender Empowerment Measure (GEM) and Human Development Index (HDI) the author tries to compare the development status of tribal communities with that of non tribals. While the tribals have low overall HDI measure, they score above the non tribals in both GDI and GEM. Nevertheless the measures on the gender aspect of development for tribal community need to be interpreted with caution as it could be because both males as well as females are doing equally

bad. The study also mentions the issues of land alienation and suggests that the tribal areas be kept as no-migration zones for non tribals to check the exploitation faced by tribals.

A detailed account of the development trajectory of Malayarayan community can be found in Joseph (2004). The study tries to give a perspective to tribal development and draws on elements from a spectrum of development thoughts ranging from Gandhian perspective to the Marxian perspective. An in depth understanding of Malayarayan tribe can be had from the work which traces the historical, anthropological and sociocultural origins of Malayarayan tribe. The reasons for the divide in the development status of Hindu and Christian Malayarayans are explored in the study. The author cites historical advantages of the community like land ownership, favor from the rulers and organization structure of the community as the factors that have helped the community to be at the top of the tribal communities in Kerala. The role played by the church in the development of tribal communities is also brought out in the study. The author notes "The conversion of many of them to the Christian faith led to exogamous marriages with non-tribals who belonged to the Church of South India and other Christian denominations. This paved the way for the greater mobility of the Malai Arayan population. When they came into close contact with the non-tribal urban population, they assimilated many of the social practices of the non-tribal society" (Joseph, 2004).

Balakrishnan (2004) has explored the economic dimension of tribal development by making an indepth study of two tribal communities- the Paniyas and Kurichyas in Wayanad. The limited attention paid to the economic angle in tribal lives is brought out by Balakrishnan; which is true as most of the studies accorded only limited importance to the economic organization of tribal communities and their economic development; exceptions are Gok (1982) and Kunhaman (1980). The existence of a distinct tribal economy is acknowledged in the study that goes on to trace the impact of historical forces and socioeconomic setting on the economic development of the communities. The study corroborates the earlier observations that there exist considerable inter tribe variation in terms of educational attainment and economic status. The study finds that most of the Paniya families had lower income and lower educational attainment compared to Kurichya families. The study also noted that gender also plays an important role in how the tribal communities perceive and respond to development policies of the Government. Through his work the researchers argues, along with others, that the development of tribal communities is

dependent not just on how much funds are allocated but depends more importantly on how sensitive the policies are to the needs of the tribal communities.

Reviewing the effectiveness of affirmative action for the downtrodden through reservation in Government jobs George (2007) tries to analyse the factors that have helped some of the communities to outperform the others. The study focuses on three hill tribes in Kerala namely Malayarayan, Urali and Ulladan and tries to unearth the factors that have caused disproportionate representation of Malayaryan community in Government jobs. Building on earlier studies (Gok.1982; Joseph, 2004) the author builds the case for analyzing the progress achieved by Malayarayan community vis-à-vis other communities. The distinction between Christian Malayara and Hindu Malayaraya is also made in the study as there exist marked difference in the development levels of these two sections as noted by earlier study (Joseph, 2004). Based on socioeconomic development index the researcher was able to establish that the living standards of Christian Malayarans were better compared to Hindu Malayarans and that the living standards of Malayarayans were better in general compared to Ulladan and Urali tribes. The author attributes the difference to the difference in the educational attainment of the tribes under study. The author also justifies the claim that higher educational attainment has helped Christian Malayarans in effectively exploiting reservation benefits offered by the Government and hence are able to lead a better life compared to Hindu Malayarans who in general have higher land holdings than Christian Malayarayans.

Dilip (2010) employed cohort analysis based on National Family Health Survey (NFHS) data and argues that scheduled tribes have been the least benefitted community in terms of educational enrollment, schooling continuity and educational attainment. Using survival analysis the author establishes that students from scheduled tribe communities have the lowest probability in completing various levels of education (Dilip, 2010). The concerns raised in some earlier papers (Kumar and George, 2009) like private costs, inadequate Government support etc are also echoed in Dilip's work.

Chathukulam et. al (2011) analyse the formulation and implementation of Tribal Sub Plans (TSP) in Kerala. By looking at the formulation and allocation of funds from TSP the study explains that education, healthcare and housing has been the focus of the policy makers. Nevertheless there is a disturbing gulf between allocation and expenditure of resources. The

study also mentions that the implementation of the Rights to Forest Act, an Act that recognizes the right of scheduled tribes and other traditional forest dwellers, can help the forest dependent communities to a great extent. The study also reviews some performance of some of the schemes like Swarnajayanti Gram Swarozgar Yoja, Indira Awaz Yojna, Mahatma Gandhi National Rural Employment Guarantee Scheme etc on the livelihood and living conditions of tribal communities in Kerala. Based on data from the implementation of schemes the researchers also notes that the level of awareness on Government assistance is the highest amomg some communities like Malayaraya, Kuruma, Kurichya that they have been the biggest beneficiaries of the various schemes.

George (2011) discusses the inclusiveness of higher education in Kerala. The problems faced by the SC/ST students in obtaining admission, remaining in the course as well as passing out are discussed from various angles. The issues associated with private costs of education, the change in the composition of institutions in higher education sector; specifically the increase in the number of private self financing institutions and the decreasing involvement of the state in the sector, are discussed. Analysis of the utilization of funds earmarked for educational assistance of SC/STs reveal that scheduled tribes are far behind scheduled castes in utilization of funds for higher education. Quoting from the data on gross enrollment ratios for poor and non poor population the study indicates the possibility of the presence of non financial entry barriers for ST students, as the enrollment ratios for the STs are lower than the other groups in both poor and non poor classification. The author points out that the growing trend of the middle class Keralite to abandon Government schools in favor of private schools has left a weak Government education system, as a major stakeholder; parents, are no longer concerned and hence less vocal about the quality of the education offered there. The study also conjectures that unchecked deterioration in the quality of public education system at school level fails to impart the required skills and knowledge to children from socioeconomically challenged backgrounds, especially ST students. This in turn negatively impacts their admission to higher education in an environment characterized by competition and apathy to the down trodden.

Taking cue from the engineering admissions data Rajasenan, et.al, (2010); Paul and Rajasenan, (2011) discuss the under representation of students from scheduled castes and scheduled tribes in engineering education in Kerala. By looking at the ranks of students in the engineering entrance

examination at various performance levels (first 25, first 100 ranks etc) the studies quantify the extent of representation of students from different from socioeconomic backgrounds. The data reveal that the students from SC/ST communities do not figure in the top performing ranks at all. Both the studies also looked at the gender dimension at different levels of performance and finds that gender representation is unfavorable to females in the top performing ranks and in engineering admissions in general for all communities. Interestingly in the case of SC/ST communities the overall representation of female students is greater and that there exists practically no gender disparity in most performance levels. However the authors also warn that the absence of disparity could also be because both male and female students perform equally bad.

Kakkoth (2012) has examined in detail the issues and perceptions of educational drop out among tribal children in Kerala by studying reasons for children from primitive tribe group discontinuing their education. The dropout of CholaNaikkan and Kattu Naikkan children from Ashramam schools, residential schools set up exclusively for educational advancement of children from primitive tribe group, is described in the report. Ashramam schools in Kerala were instituted as per the recommendations of the Dhebar commission and National Policy on Education; which after taking into cognizance the fact that dropout of tribal children is higher compared to non tribal children and within tribal groups the dropout rates of children from primitive tribal group is alarmingly high. The two Ashramam schools in Kerala are located in Palakkad and Malappuram districts. The schools in Palakkad caters to Kadar and Kurumbar and the one in Malappuram caters to Chola Naikkan, Kattu Naikkan communities (Kakkoth, 2012). The author opines that the reason for high dropout even after policy measures to check, which included relocation of school closer to tribal hamlets in addition to special care, free boarding and lodging; lies in cultural aspects. The purpose of formal education is not translated into the tribal children as they have minimal intention of making a living out of such education. The author also suggests to rethink the idea of schools exclusively for primitive tribe group and argues that the policy is serving as an explicit blinder for the children from these communities as they do not get to interact with children from other communities; which fortifies their beliefs and attitudes towards formal education which they consider as unnecessary intervention into their natural life. The work by Kakkoth reemphasizes the earlier observation that cultural dimension

of education and the social setting of the beneficiaries need to be juxtaposed with the failure /success of policies meant for educational upliftment of tribal communities.

Based on recent data Chandran (2012) offers an assessment of the situation of tribal communities in the state. She opines that the situation of tribal communities in the state is nothing short of a 'paradox within a paradox'. Much of the background information for this coinage is borrowed from the observation raised by earlier research studies on the incompatibility of Kerala model of development to the situation of outlier communities (Kurien, 1980; Kurien, 1995). Nevertheless the claims made by the author commands merit as it employs recent data to highlight the fact that the situation has not changed much in close to two decades. To substantiate the claim that tribal communities are still outliers the author constructs a deprivation index based on household and basic amenities availability and brings to notice the plight of the tribal households. The data used for the study suggests that almost half of the households do not even own a radio (Chandran, 2012). However based on Census data for 2001 and 2011 the author explains that compared to tribal communities from other parts of India the situation in Kerala is better in terms of housing and basic amenities and that due to sustained policy interventions the cleavage in housing and basic amenities between tribal and non tribal population has come down in the last decade.

2.2 Tribal Communities under Study

2.2.1 Malayarayar Community

The community is mainly concentrated in the Idukki district (51.85 percent) of Kerala. The spread of the community in Kerala is shown in table 2.1. The community has profusely benefited from missionary activities (Oommen, 2002). In this regard a large number follows Christianity. They are comparatively better educated and are the major beneficiaries of the reservation policy of the central and state governments in education and governmental jobs. The land holding capacity of the community is relatively high compared to other adivasi communities and income generation from agriculture is also high among the community. The community can be considered the most developed among all tribal communities in Kerala, owing to their educational attainment, land holding, participation in governance initiatives etc (Joseph, 2004). However it must also be noted that Malayarayan community members following Hindu religious beliefs suffer from economic backwardness and exhibit most of the characteristics of other backward tribal communities in Kerala (Joseph, 2004). For the purpose of the present study

Malayarans are treated as a single community ignoring the difference in religious beliefs. The district wise population is given in table 2.1.

Table 2.1 Distribution of Malayaraya Population in Kerala

Malaiarayar	Number	percent
Kasaragod	57	0.176296
Kannur	82	0.253619
Wayanad	202	0.624768
Kozhikode	170	0.525795
Malappuram	116	0.358778
Palakkad	178	0.550538
Thrissur	95	0.293827
Ernakulam	1472	4.552765
Idukki	16764	51.84956
Kottayam	11346	35.09217
Alappuzha	124	0.383521
Pathanamthitta	1070	3.309415
Kollam	77	0.238154
Thiruvananthapuram	579	1.790795
Total	32332	100

Source: Worked out from census data, (2001)

2.2.2 Paniya Community

The word 'Paniyan' is derived from 'pani' which is a Malayalam word, meaning work. Majority of this community works as agricultural laborers (CSSEIP, 2010). It is believed that they were brought to Malabar to work in the fields of *Janmies*, the then land lords. Traditionally they were bonded labourers and historical account of the community explains that contracts for bonded labour were made during the Valliyoorkav temple festival season (Thurstone, 1909; Mathur, 1977). Paniya community forms about 22 percent of the total tribal population in Kerala (Census, 2001). The community as a whole does not fare well in terms of its health, education and income indicators (Balakrishnan 2004). Despite being the most populous tribal community Paniyas do not have adequate representation in local bodies or other governmental bodies (CSSEIP, 2010). Table 2.2 shows the district wise distribution of Paniya population in Kerala.

Table 2.2 Distribution of Paniya population in Kerala

Paniyan	Number	Percent
Kasaragod	10	0.012204
Kasaragod	10961	13.37686
Kannur	60801	74.20186
Wayanad	2484	3.031486
Kozhikode	6906	8.428118
Malappuram	473	0.577252
Palakkad	34	0.041494
Thrissur	20	0.024408
Ernakulam	176	0.214791
Idukki	19	0.023188
Kottayam	9	0.010984
Alappuzha	6	0.007322
Pathanamthitta	6	0.007322
Kollam	35	0.042714
Total	81940	100

Source: Worked out from census data, (2001)

2.2.3 Kurichya Community

Kurichya is a major tribal community in Wayanad constituting about 17.5 percent of the total tribal population in the district (CSSEIP, 2010). Logan (1887) explains the archery skills of Kurichya community and notes the close link the community had with Pazhassi Raja. The community traditionally has been land owners and engages in cultivation of various cash crops (Balakrishnan, 2004). Kurichya community considers themselves superior to other communities and follows a set of practices that could be called as untouchability with other tribal communities (Mathur, 1977). The community is matrilineal and follows a sort of joint family system which requires that the land ownership as well as cultivation is done jointly. Ayyappan and Mahadeven (1990) posit that the matrilineal system followed by the community has helped them to have better longevity and life standards compared to many other tribal communities. The community has made reasonable advances in social and political field. The first minister from among tribal communities in Kerala, Smt. P K Jayalakshmi is from Kurichya community; she represents Mananthavady constituency in Wayanad. She is the minister in charge of tribal affairs in the Oommen Chandy Government that assumed office after the 2011 state elections. The population distribution of the community is given in table 2.3.

Table 2.3 Distribution of Kurichya Community in Kerala

Kurichyan	Number	Percent
Kasaragod	2	0.006108
Kannur	8028	24.51597
Wayanad	22939	70.0513
Kozhikode	1570	4.794479
Malappuram	16	0.048861
Palakkad	4	0.012215
Thrissur	15	0.045807
Ernakulam	86	0.262627
Idukki	5	0.015269
Kottayam	5	0.015269
Alappuzha	37	0.112991
Pathanamthitta	2	0.006108
Thiruvananthapuram	37	0.112991
Total	32746	100

Source: Worked out from census data, (2001)

2.2.4 Kuruman Community

Kurumas are the one of the dominant tribal communities in Wayanad. The main occupation of the Kurumas was wood cutting and collection of minor forest products (Thurston, 1909). Kurumas have different subdivisions: Mullu Kuruma, (Mullu means bamboo) who collects bamboo from forest. Then Kuruma (Who collects honey from forest) are also known as Cholanaikans. Urali Kuruma also Known as Bettu Kuruma (principally wood cutters and fish hunters). Presently majority have the occupation of cultivation and hunting (CSSEIP, 2010).

Kuruman community is found mainly in Sultan Bathery Block of the district. They form 17.51 percent of the total tribal population of Wayanad. This Malayalam speaking community is believed to be the descendants of Vedas, the ancient rulers of Wayanad. The community is also found in adjoining areas of Gudallur Taluk of Nilgiri District of Tamil Nadu (The International School of Dravidian Linguistics, 1996). Traditionally they were settled agriculturists. Majority of them work as agriculture labor or as marginal farmers. Mullu Kuruman is one of the adivasi communities in the state that has remarkably benefited from the welfare programs of the State. Many of the community members are active in the public life of Wayanad (CSSEIP, 2010). The community is also represented in government services and also has representation in the local bodies in Kerala (CSSEIP, 2010). The distribution of Kurman population in Kerala is shown in table 2.4.

Table 2.4 District wise distribution Kurumans of population

Kurumans	Number	Percent
Kasaragod	8	0
Kannur	35	0.1
Wayanad	25083	95.8
Kozhikode	156	0.6
Malappuram	410	1.6
Palakkad	212	0.8
Thrissur	58	0.2
Ernakulam	95	0.4
Idukki	24	0.1
Kottayam	9	0
Alappuzha	10	0
Pathanamthitta	7	0
Kollam	17	0.1
Thiruvananthapuram	53	0.2
Total	26177	100

Source: Worked out from census data, (2001)

2.2.5 Urali Community

Urali community, forms 2.69 percent of the total Adivasi population in Wayanad and are found mainly in Sultan Bathery and Mananthavady Blocks of the district. Traditionally they were artisans involved with basketry and pottery. They were considered to be experts in hunting and fishing and also engaged collecting forest produce (The International School of Dravidian Linguistics, 1996).

Table 2.5 District wise distribution of Urali population

Urali	Number	Percent
Kasaragod	2	0
Kannur	2	0
Wayanad	3466	31.2
Kozhikode	55	0.5
Malappuram	1	0
Thrissur	14	0.1
Ernakulam	89	0.8
Idukki	6438	58
Kottayam	675	6.1
Alappuzha	1	0
Pathanamthitta	187	1.7
Kollam	84	0.8
Thiruvananthapuram	89	0.8
Total	11103	100

Source: Worked out from census data, (2001)

However, today most of the community members are agricultural laborers. Only a negligible section of them has any land holding (CSSEIP, 2010). They are also known as *Betta Kuruman*

and speak a dialect of Kannada. Though, they are often locally identified as Kurumans, they have no ethnic affinity with Mullu Kurumans, aforesaid tribal community of Wayanad. (George, 2007) gives an excellent overview of the Urali community and discusses at length the cultural, economic and social structure of the community. The distribution of Urali population in Kerala is shown in the table 2.5.

2.2.6 KattuNaika Community

Kattunaickans are notified as 'primitive tribal communities' owing to their relative stage of development. They are found mainly Sultan Bathery Block of the Wayanad district. The community, also known as *Thenu Kurumba*, was traditionally hunters and gatherers[2]. Till the beginning of the last century the community was leading more or less an independent life, depending on the forest resources. Even today a collection of Non-Timber Forest Produces is their major economic activity (Mathur, 1977; Luiz, 1962; CSSEIP, 2010). The community inhabits mainly within the forests or in the fringes. Those living within the forest cultivate in the areas allocated to them by the forest authorities. Occasional forest labor and wage labor in agriculture sector also contribute to their income.

Table 2.6 District wise distribution of Kattunaikan population

Kattunaikan	Number	Percent
Kasaragod	448	3.044512
Kannur	51	0.346585
Wayanad	12039	81.81448
Kozhikode	184	1.250425
Malappuram	1547	10.51308
Palakkad	119	0.808699
Thrissur	35	0.237853
Ernakulam	1	0.006796
Idukki	40	0.271831
Kottayam	100	0.679579
Alappuzha	54	0.366972
Pathanamthitta	11	0.074754
Kollam	42	0.285423
Thiruvananthapuram	44	0.299015
Total	14715	100

Source: Worked out from census data, (2001)

Shrinking forest resources and lessening opportunities in agriculture sector has substantially affected the community, making them one of the most vulnerable sections in the Adivasi communities of the State. 81 percent of the total Kattunaickan population of Kerala is in

[2] http://www.keralatourism.org/wayanad/kattunayakans-tribal-sect.php accessed on 3rd February 2009.

Wayanad district. Owing to their relative isolation, the tribal structure of the community is fairly intact with very little outside influence. The community speaks a dialect of Kannada but younger generation can converse in Malayalam. In comparison with the other Adivasi communities of Wayanad, they are the least exposed to 'modernity' (CSSEIP, 2010). The distribution of Kattunaickan population in Kerala is shown in table 2.6.

2.2.7 Adiyan Community

One of the prominent tribes in Wayanad is Adiya. They mainly reside in various parts of Mananthavady Thaluk and Pulpally region of Bathery Taluk.. It is believed that they were brought in from different regions of Mysore for work in fields of Brahmins, Chetties and Gounders (Kunhaman, 1982; Iyer, 1937). Since they had to be six feet away from the Landlords they are called as adiyar and are considered as the attached labourers of landlords like Brahmins, Chetties and Gounders and hence were called Adiyan meaning slave laborer (Ramachandran, 2004; CSSEIP, 2010). They live as groups in *Kunt* (the residing place of many households) which is attached to the concerned land lord. Historical accounts on Adiyans reveal that traditionally they were slaves to local landlords and later bonded laborers attached to these families (Kunhaman, 1982; Mathur, 1977). Even in the seventies, bonded labor in its residual form existed among this community and community members had a "patron-client" relationship with their erstwhile landlords (CSSEIP, 2010). The distribution of Adiyan community is given in table 2.7.

Table 2.7 District wise distribution of Adiyan population

Adiyan	Number	Percent
Kasaragod	258	2.407839
Kannur	407	3.798413
Wayanad	9939	92.75782
Kozhikode	20	0.186654
Malappuram	15	0.139991
Thrissur	1	0.009333
Ernakulam	23	0.214652
Idukki	4	0.037331
Kottayam	1	0.009333
Pathanamthitta	11	0.10266
Thiruvananthapuram	36	0.335978
Total	10715	100

Source: Worked out from census data, (2001)

2.2.8 Irula Community

Irulas are a major tribal community in Kerala. Majority of the Irula community reside in Attapadi village and in the Silent valley areas of Palakkad district; almost 99 percent of the Irula population live in Palakkad district. The community is also having presence in Coimbatore and Pollachi districts of Tamil Nadu. (Luiz, 1962; Ayyappan, 1965; Mathur, 1977) give information about the life , culture and transformation in the Irula tribe in Kerala. While the studies of Luiz and Mathur were on tribes in Kerala as a whole , Ayyappan focused exclusively Irulas and gave a detailed account of the Irula tribe. The word Irula has been derived from the Tamil word, Irul either implying the dark complexion of the Irulas or their being constantly spotted by villagers in the ancient past as distant silhouettes in the forests. There are 171 tribal hamlets in Attapadi out of which 135 are Irula hamlets (villages). The hamlet legislature of Irula community consist of a Moopan- the chief of the hamlet ,a Vandari - treasurer , Koordala- something like the chiefs attendant. He takes outsiders to chief; and takes care of whatever need the Moopan may have. Mannukaran- literally "Person of the Mud" like the head agriculturist and he sometime performs agricultural rituals (CSSEIP, 2010). The distribution of Irula population is given in table 2.8.

Table 2.8 District wise distribution of Irular population

Irular	Number	Percent
Kasaragod	3	0.012501
Kannur	9	0.037503
Wayanad	5	0.020835
Kozhikode	2	0.008334
Malappuram	6	0.025002
Palakkad	23766	99.03325
Thrissur	79	0.329194
Ernakulam	21	0.087507
Idukki	17	0.070839
Kottayam	2	0.008334
Alappuzha	1	0.004167
Kollam	60	0.250021
Thiruvananthapuram	27	0.112509
Total	23998	100

Source: Worked out from census data, (2001)

2.2.9 Muthuvan Community

Muthuvan were believed to have migrated to the Western Ghats form the planins of Tamil Nadu. Half of the Muthuvan population of Kerala resides in Idukki district (51.85 percent). They are scattered in several areas like Devikulam, Adimali, and Nedumkandam block Panchayth of

Idukki district. The origin of these Muthuvan tribal societies has got a significant history behind. As per the observation of many anthropologists of the Indian territory, the Muthuvan tribes serve as obedient subjects of the royal dynasty of Madurai (Iyer, 1909; Iyer, 1937; Mathur, 1977). In fact the popular legend is that when the dynasty was thrown out of power, these existing royal members immigrated to several places of the central Kerala, like Travancore, and accomplished the famous dynasty of Poonjar (Mathur, 1977; Luiz, 1962). While going to Kerala state, the Muthuva tribes carried along with them the images of the deity of the royal family, Madurai Meenakshi, at the back of their bodies. What is also interesting is that the word Muthuvan has been taken from the word "muthuku" which stands for back in both Malayalam and Tamil languages. Development schemes offered by the Government have had only minimal impact on the life and development of the Muthuvan tribe as they have managed to develop only very minimal connections with the outside world (CSSEIP, 2010). The distribution of Muthuvan population in Kerala is shown in the table 2.9.

Table 2.9 District wise distribution of Muthuvans population

Muthuvans	Number	percent
Kannur	10	0.047023
Wayanad	40	0.188094
Kozhikode	812	3.818302
Malappuram	2672	12.56466
Palakkad	4223	19.85799
Thrissur	45	0.211605
Ernakulam	2340	11.00348
Idukki	11026	51.84802
Kottayam	6	0.028214
Alappuzha	6	0.028214
Pathanamthitta	10	0.047023
Kollam	60	0.282141
Thiruvananthapuram	16	0.075237
Total	21266	100

Source: Worked out from census data, (2001)

It can be said that the extant literature on tribal communities in Kerala have successfully managed to highlight the backwardness of the tribal communities. The efforts made by the scholars to detail the plight of the tribal communities have provided a sound foundation for building on the observation that tribal communities are economically backward and have by and large been living in undesirable conditions. The reports by the Governments as well as pieces of individual scholarship in the area certainly indicate that there is much to be desired from the

welfare policies targeted at tribal communities. The differences between individual tribal communities have resulted in some communities usurping the benefits meant for scheduled tribes as a whole. Many studies (ChathuKulam, 2011; CSSEIP, 2010; George, 2007; Joseph, 2004; Gok, 1982) have made evidence based observation that communities like Malayaraya have been the primary beneficiaries of affirmative actions from the Government and that on many parameters they are even above the non tribal population (Joseph, 2004; CSSEIP, 2010). While one cannot blame a community for having exploited the benefits offered to them and evolved to be competent enough to be placed on par with the mainstream, it is imperative that this fact is taken into cognizance while designing future policies. The Government have, after taking into consideration the extremely poor living conditions of certain communities, formed the primitive tribe group and offers special assistances to them. But here, as many studies note (Logan, 1887; Kunhaman, 1980; Kunhaman 1981; Balakrishnan, 2004, Paul and Rajasenan, 2010) the policies often fail to account for the tribe specific issues that are disabling such efforts. The micro facts on individual tribal communities are often obliviated when discussing about tribal communities in general. The scholarship on the area suggests that tribe level understanding of the reasons for success/failure of policies is critical in framing effective policies capable of addressing the issues of inter tribe disparity and ensuring parity with the mainstream.

Chapter III

Income and Livelihood Opportunities of Tribal Communities

3.1 Income and Livelihood of Individual Communities

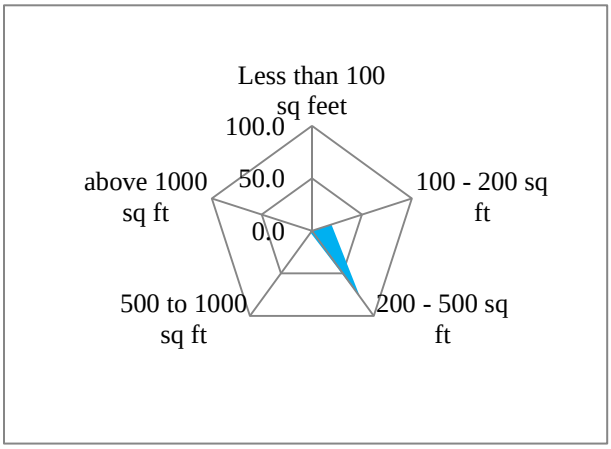
The section aims to provide a brief description about the income and livelihood options of the tribal communities selected under the study. The idea is to introduce each community in terms of select indicators which will help us subsequently in endorsing the idea of disparate levels of development between the tribal communities in Kerala. This will help to build a case for the perspective that each community needs to be treated differently as there are wide variations in the income and livelihood options and general development of the tribal community in Kerala, which renders to some extent the broad classification of 'scheduled tribe' ineffective in addressing community specific issues.

3.1.1 Kuruma

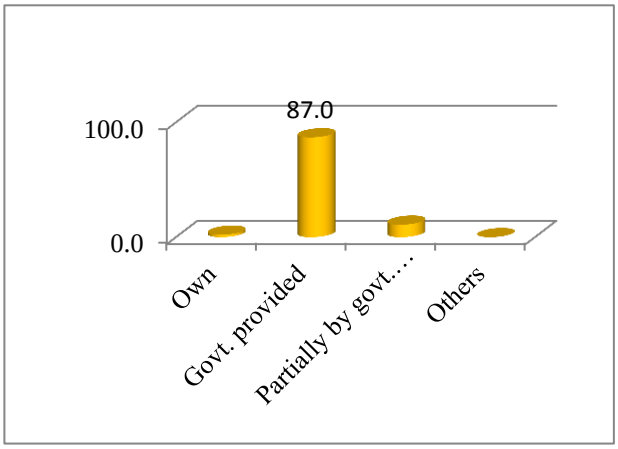
Among the Kuruma community the average size of most of the houses are in the 200-500 sqft range (see figure 3.1). Kuruma community lives in reasonably well houses and most of the Kuruma houses are built with semi pucca materials. The Government programmes for providing house construction has been effective among Kuruma community as is evident from the graph showing nature of ownership of houses. The range of average monthly household income reported by Kuruma families is from Rs.850 to Rs.2350 (figure 3.2). The main source of employment for the community has some spread though majority of the Kuruma households work in the primary sector which is their principal source of employment. NREGS is another source of main employment for Kuruma community and though very negligible we can also find people employed in Government and private sector. Kuruma community, being a land owning community, has availed loans from the bank for agriculture purpose and this features as the most important purpose for which the community has obtained loan.

Figure 3.1 Combined figures for General Living conditions-Kuruma

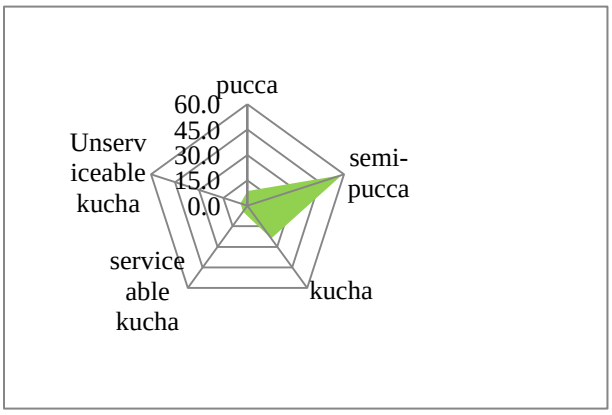
Area of house



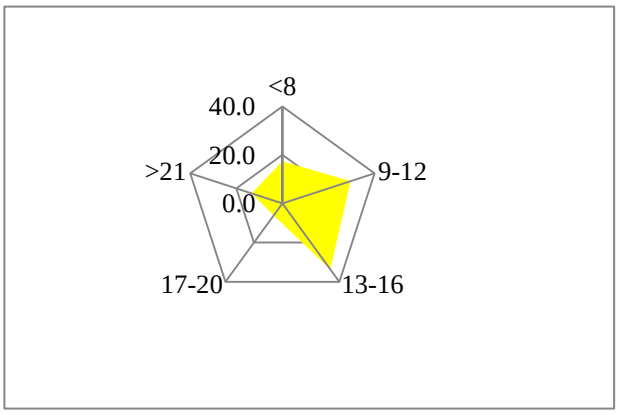
Nature of ownership of house



Type of house



Days worked last 30 days



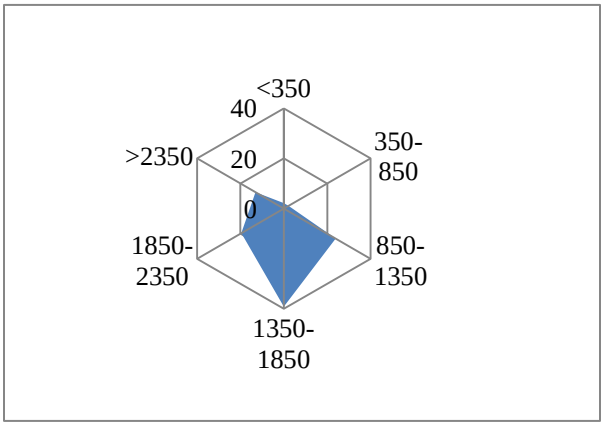
Source: Survey Data

The other purposes for which the community has availed loan from bank included rearing livestock construction and maintenance of house and education. A quick look at the purpose of indebtedness among the community reveals that even though the community has availed credit (from bank or other sources) for non revenue generating purposes[3], the activities like maintenance and construction of house as well as education dominate the list with very few households reporting to have incurred debt for meeting day to day expenditure as shown in figure 3.2.

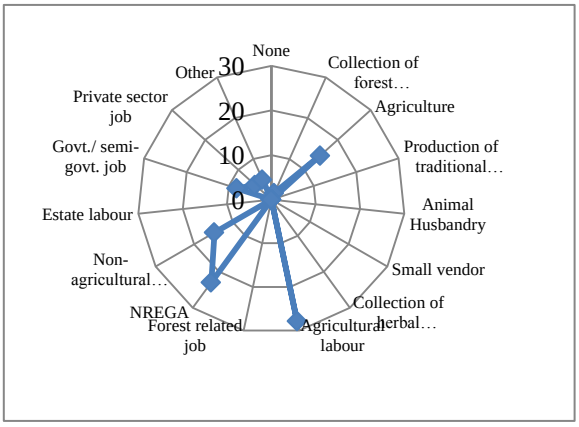
[3] For the purpose of analysis the purpose of indebtedness is classified into two-revenue generating and non revenue generating. The purposes like Agriculture, livestock and self employment are classified under revenue generating purposes and the rest are classified as non revenue generating.

Figure 3.2 Combined Figures for Income, Employment and Indebtedness - Kuruma

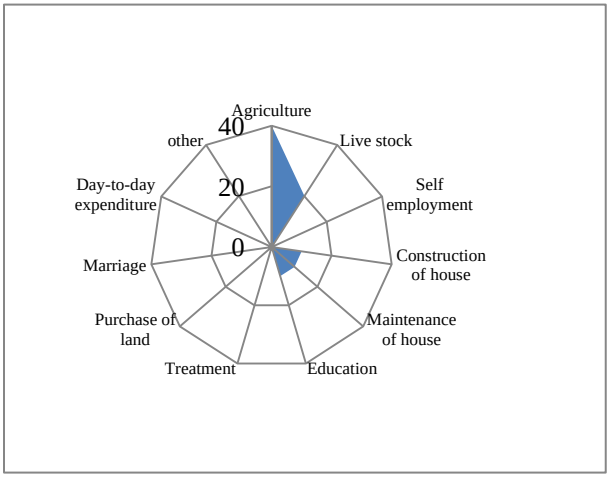
Average income classification



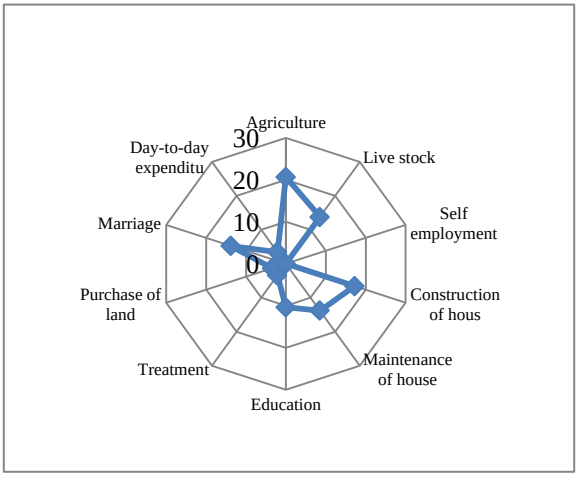
Main employment



Purpose of bank loan



Indebtedness



Source: Survey Data

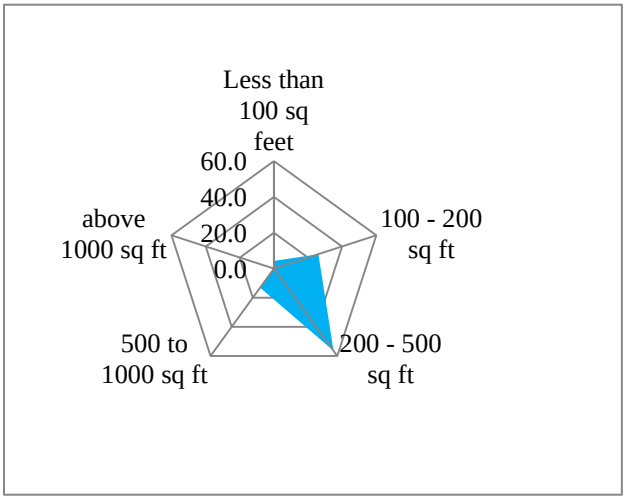
3.1.2 Kurichya

In the Kurichya community, though the Government schemes for constructing houses have been popular, most of the houses are owned by the people. Most of the Kurichyas live in houses that are mostly built with semi pucca materials though Kucha houses and pucca houses together contribute, in almost equal numbers, to around 30 percent of the total houses surveyed (figure 3.3). The range of income for Kurichya community is from Rs. 350- Rs.2350 with majority of the households reporting a monthly income in the Rs.1350-Rs.1850 category. Kurichyas are predominantly dependent on land and most of them work in their own land. Since the introduction of NREGS it has also become an important main source of employment. Being a

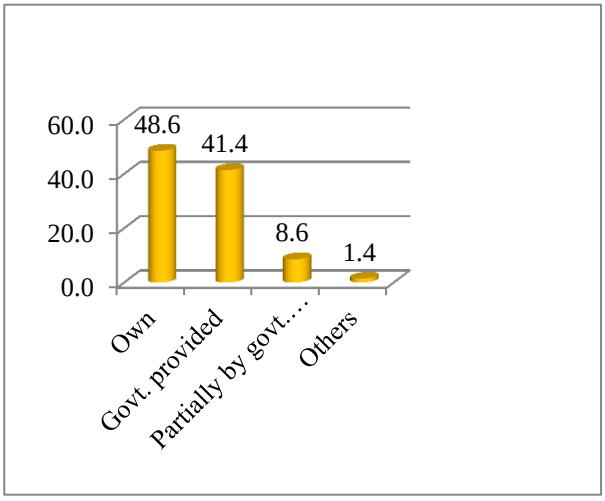
traditionally land owning community and due the dependence on agriculture Kurichyas have availed bank loan for agricultural activities.

Figure 3.3 Combined figures for General Living conditions- Kurichya

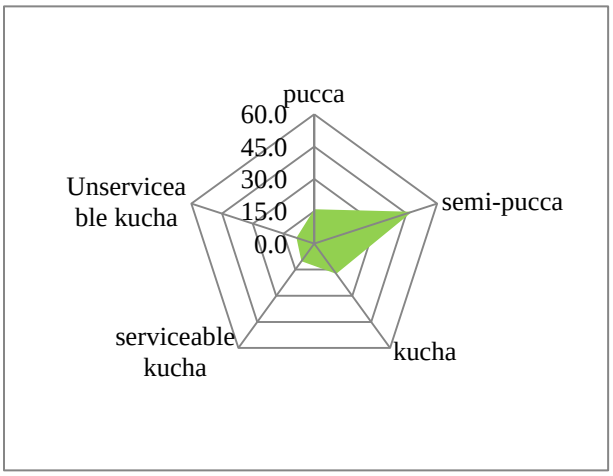
Area of house



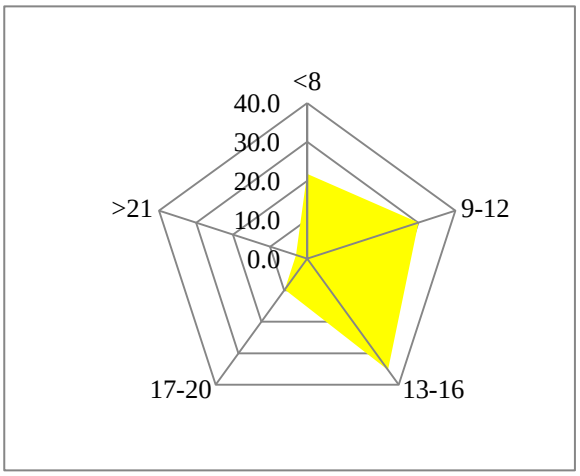
Nature of ownership of house



Type of house



Days worked last 30 days

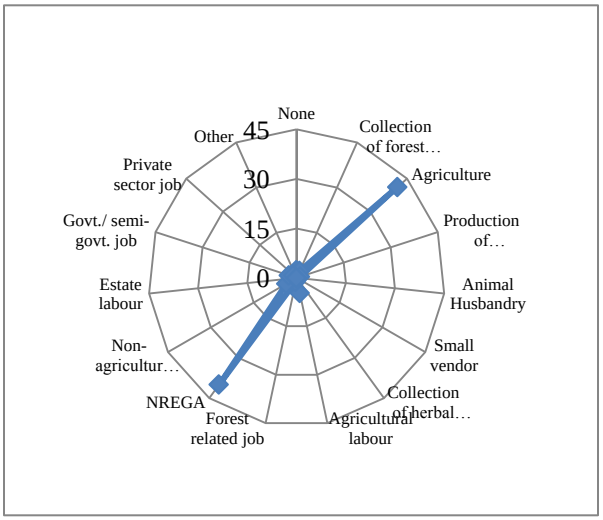


Source: Survey Data

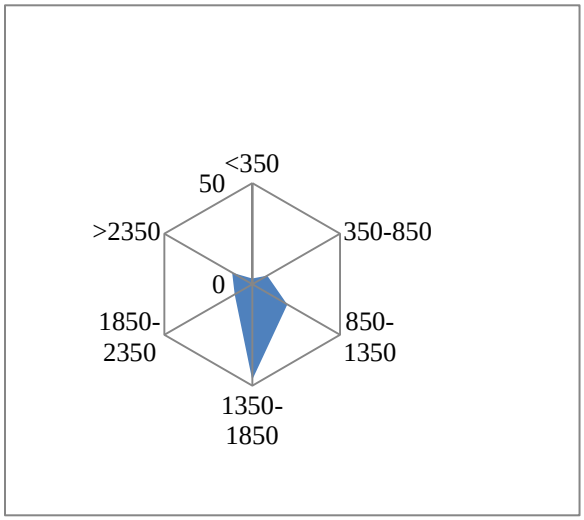
The figure 3.4 depicting the purpose of debt for Kurichya community shows that most of the households incur debt for meeting day to day expenditure. The seasonal nature of the earnings from agriculture which is their main source of employment could be the reason for this. Kurichyas also incur debt for treatment expenses. The debt incurred for treatment expenses may not strictly be for treatment in hospitals as there are Government schemes that provide free treatment facilities to tribal community. The extra expenses are normally incurred in connection with the travel, and expenses of the person(s) accompanying the sick person.

Figure 3.4 Combined Figures for Income, Employment and Indebtedness- Kurichya

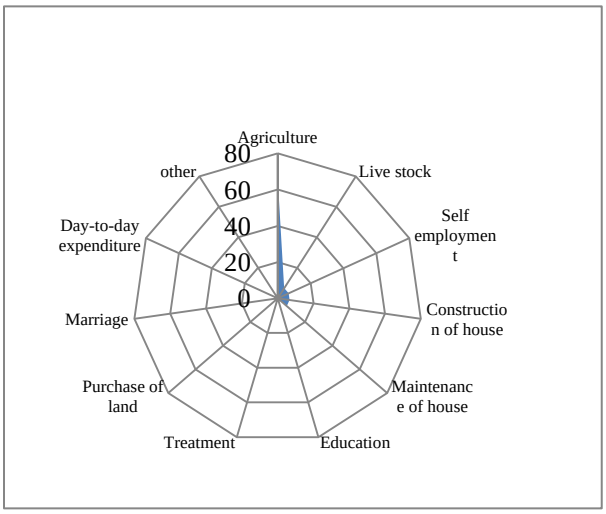
Main employment



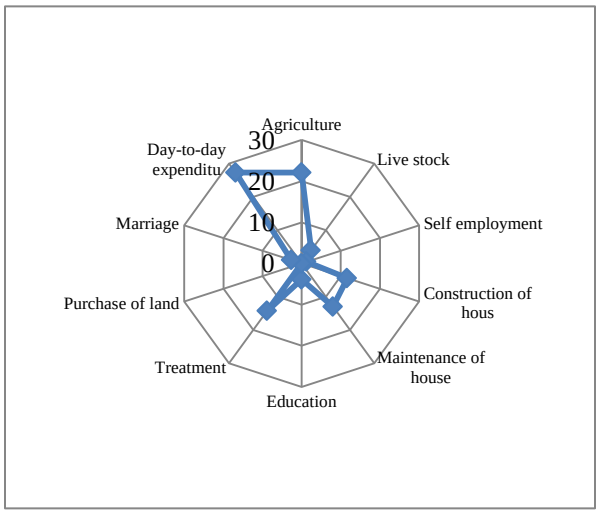
Average income classification



Purpose of bank loan



Indebtedness



Source: Survey Data

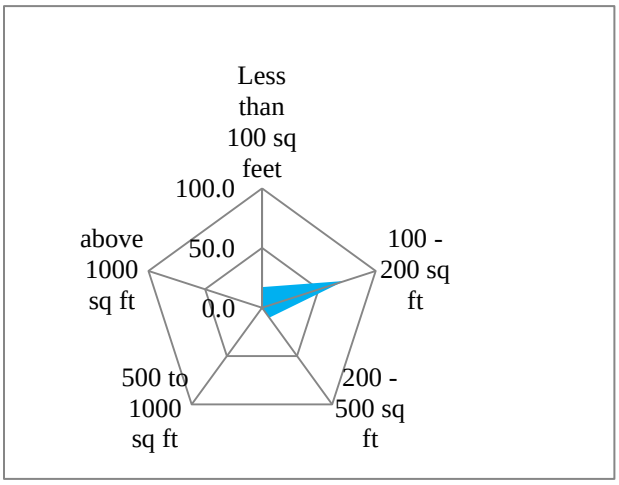
3.1.3 Kattunaika

KattuNaika is one of the least developed among all tribal communities in Kerala. The quality of housing among KattuNaika is low compared to other tribal communites. Figure 3.5 shows that they live in very small houses that are less than 200 sqft. Most of the houses are built with kucha and serviceable kucha materials. There are very few semi pucca houses and practically no pucca houses among KattuNaika community. The sources of employment for the members in the community shows very limited spread and most of them are either agricultural or non agricultural labourers. The NREGS which other communities have reported as a main source of

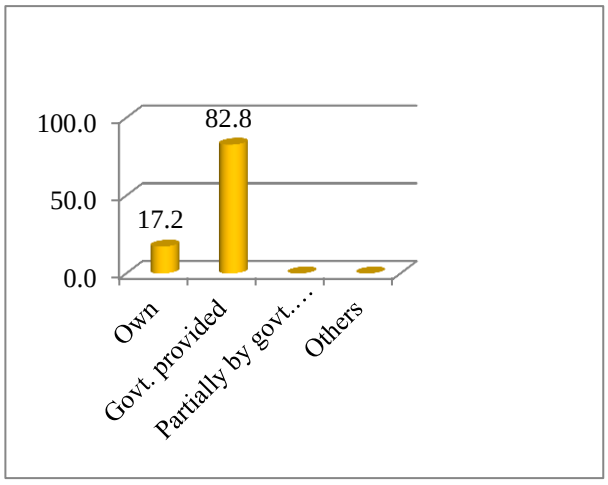
employment seems to have been ineffective among KattuNaika community. One reason for this could be that this tribe dwells in areas that are far away from main stream society because of which the wage rate offered under NREGS is uneconomic for them when considering the expenses associated with joining the NREGS activity.

Figure 3.5 Combined figures for General Living conditions- KattuNaika

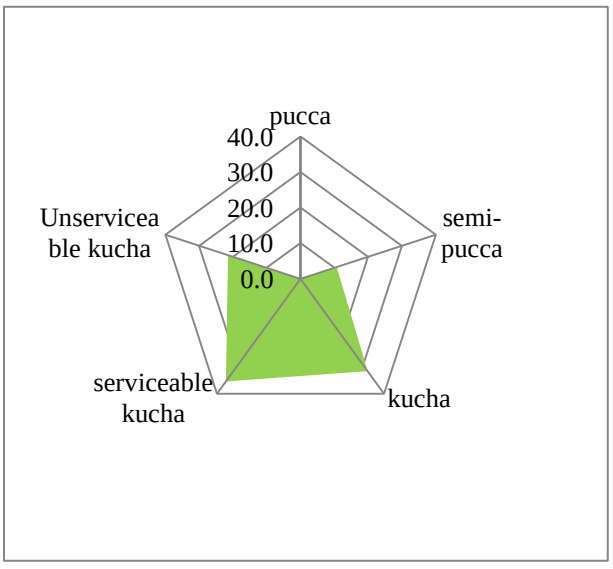
Area of house



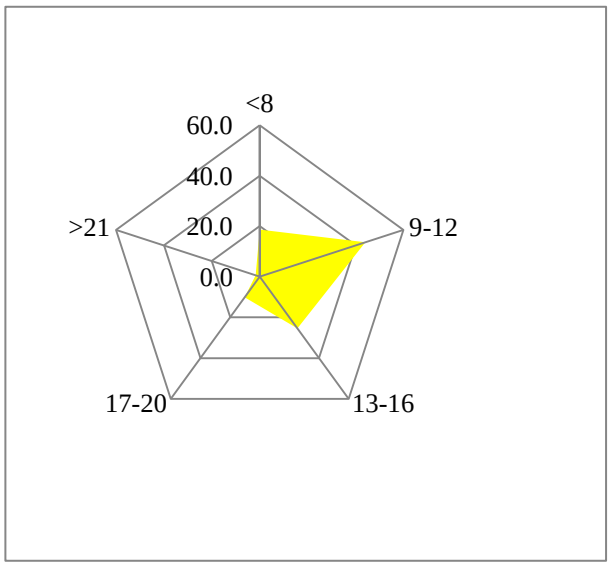
Nature of ownership of house



Type of house



Days worked last 30 days



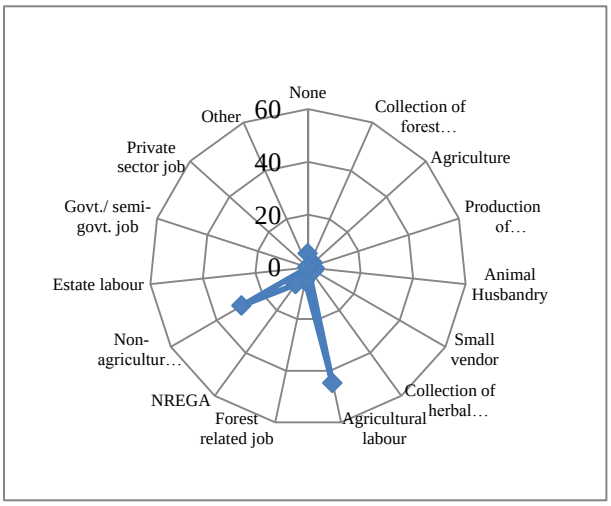
Source: Survey Data

The average monthly income of KattuNaika households is in the range Rs.850- Rs.1350 most of the KattuNaika community reported that they earn on an average between Rs.1350 and Rs.1850 every month (see figure 3.6). Bank loans are practically nonexistent in the community and the

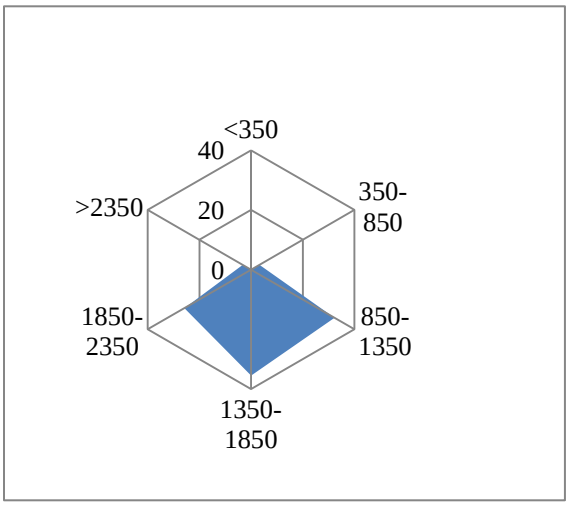
reason for this is that most of them do not have bank accounts. The only purpose for which the KattuNaika incur debt is for meeting the day to day expenditure. Non availing of bank loans, excessive dependence of the community on land and related employment where employment is seasonal and the need for incurring debt for meeting day to day expenditure points to the fact KattuNaika community are at the mercy of local money lenders/shop keepers.

Figure 3.6 Combined Figures for Income, Employment and Indebtedness- KattuNaika

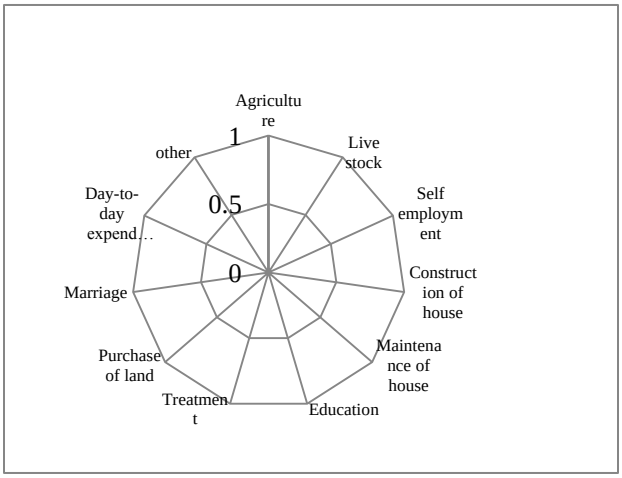
Main employment



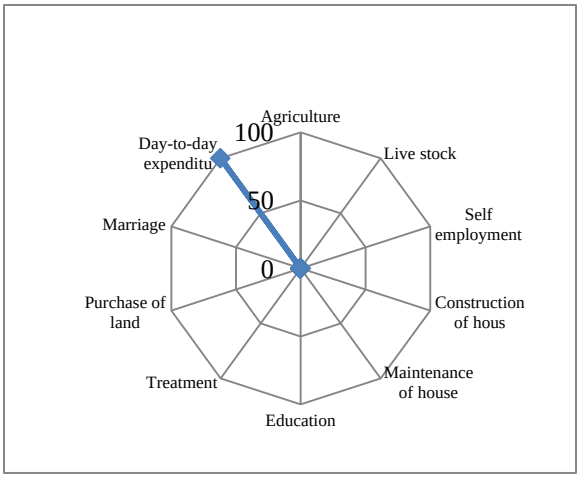
Average income classification



Purpose of bank loan



Indebtedness



Source: Survey Data

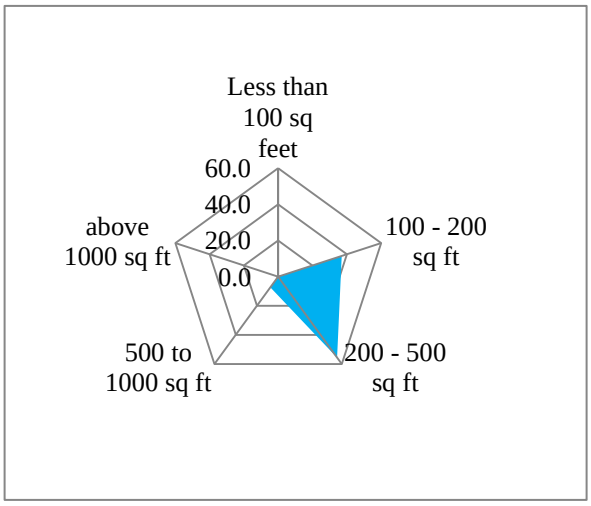
3.1.4 Adiyan

The most of the Adiyan community lives in Government provided houses. The housing quality among Adiyan community is moderate compared to the general tribal situation in Kerala. The

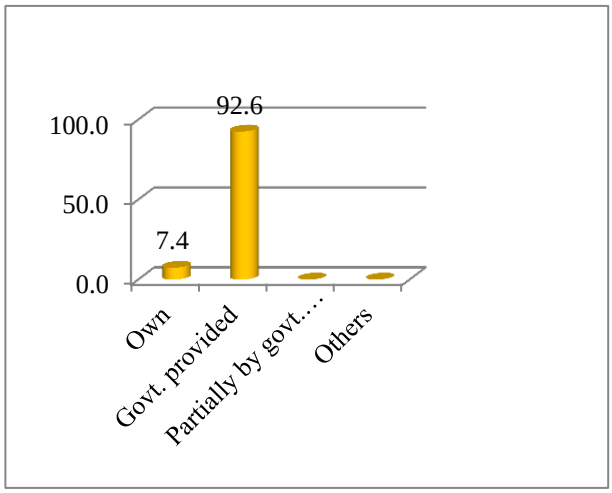
majority of the houses has an area in the 200-500 sqft range and is built with semi pucca and kucha materials. There are no pucca houses and some houses are built with serviceable and unserviceable kucha materials (see Figure 3.7).

Figure 3.7 Combined figures for General Living conditions- Adiyan

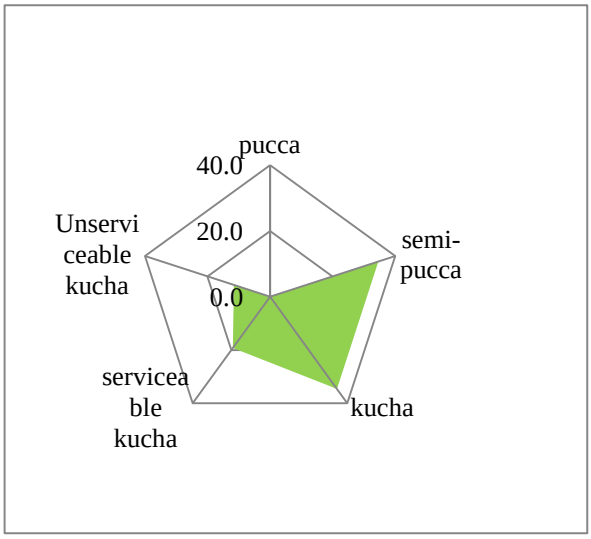
Area of house



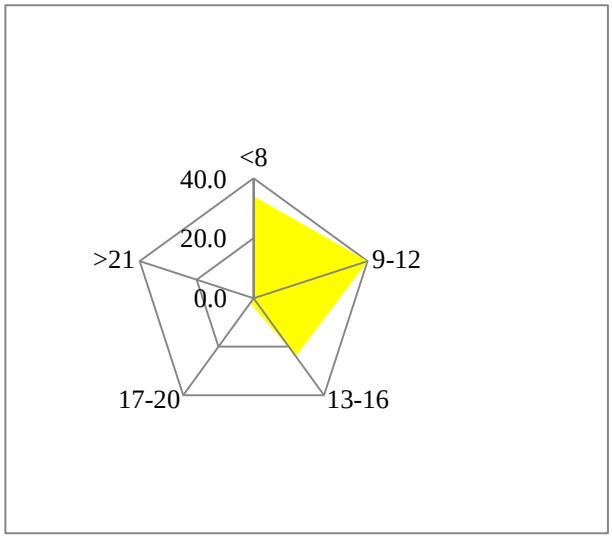
Nature of ownership of house



Type of house



Days worked last 30 days tribe wise



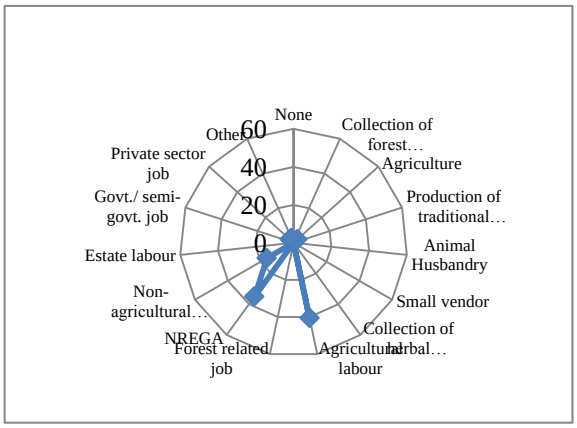
Source: Survey Data

Most of the members in the community work as agricultural labourers which is the main source employment in the community. Among the communities surveyed, Adiyan has the highest presence in estate labourers. NREGS is also an important source of employment in the community. Most of the households in the community reported the average income to be either between Rs.850 and Rs.1850 as shown in figure 3.8. Most of the people in Adiyan community

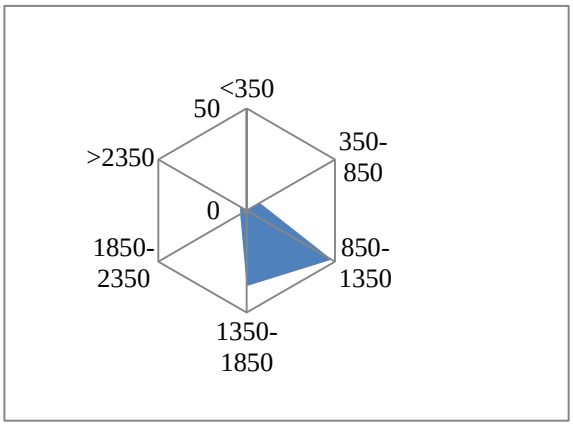
who have availed bank loan have availed it for agricultural purpose or for purchase of land. The major purpose of indebtedness among Adiyan community is for meeting day to day expenditure (see Figure 3.8).

Figure 3.8 Combined Figures for Income, Employment and Indebtedness- Adiyan

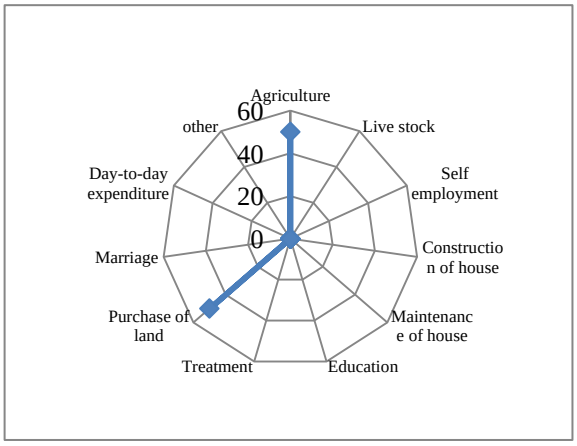
Main employment



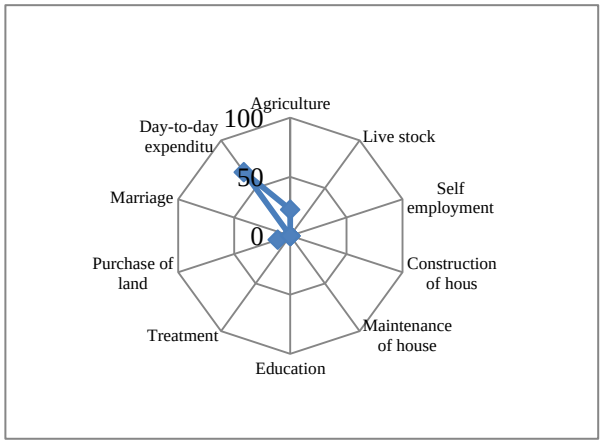
Average income classification



Purpose of bank loan



Indebtedness



Source: Survey Data

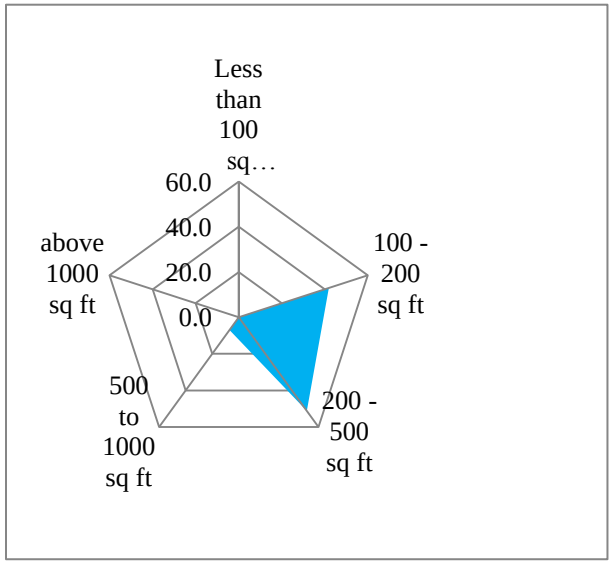
3.1.5 Irula

The survey data gives a mixed picture about the quality of housing among Irula community. The quality of housing shows wide variation within the community with as the houses in the community are distributed almost equally within pucca, semi pucca and serviceable kucha categories (see figure 3.9). Almost 30 percent of the houses surveyed were built with pucca materials. But the result from survey data should be dealt with carefully before making this to be

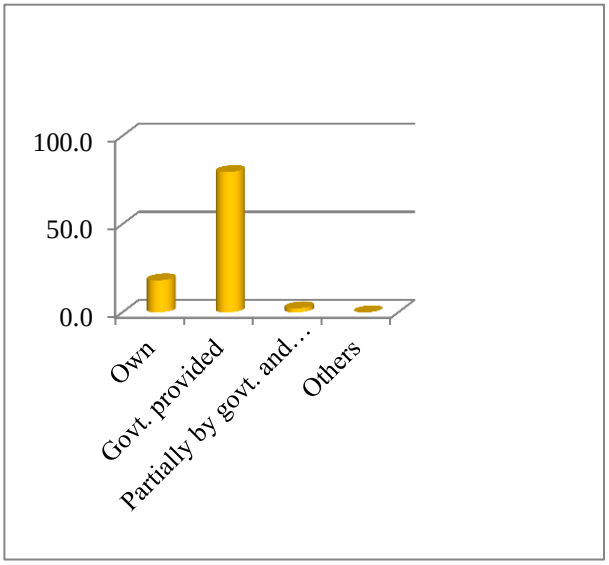
the general situation, as all the houses in one of the settlement under study was provided by AHADS[4].

Figure 3.9 Combined figures for General Living conditions- Irula

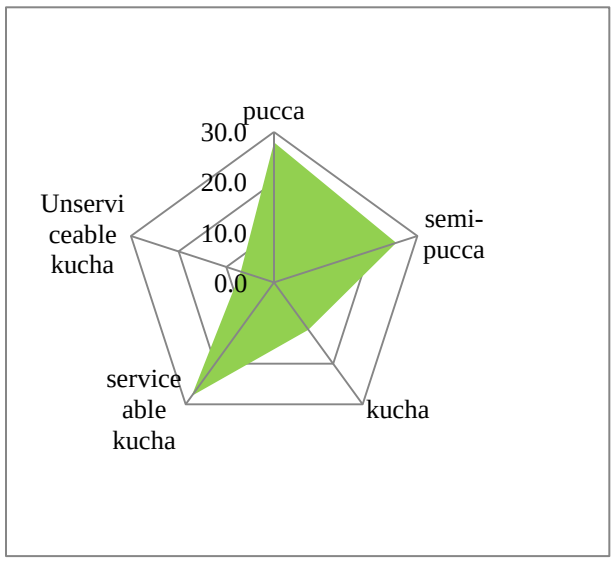
Area of house



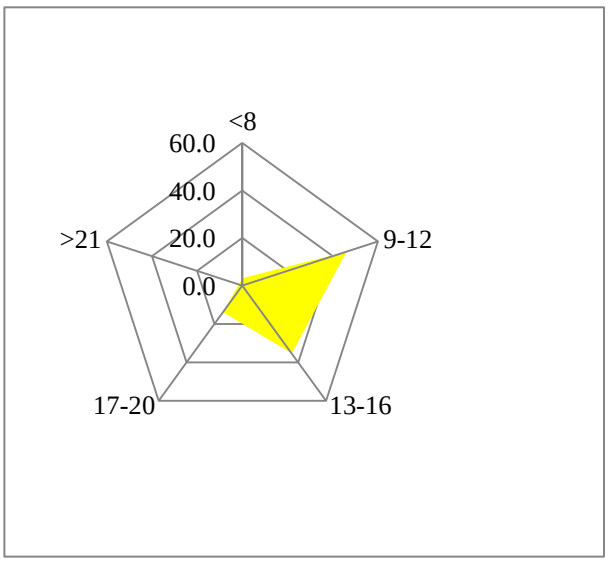
Nature of ownership of house



Type of house



Days worked last 30 days tribe wise



Source: Survey Data

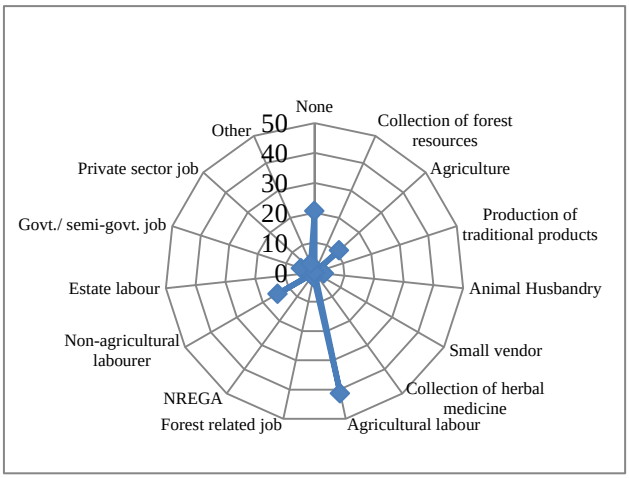
Most of the members in the community are agricultural labourers and the average household income range from Rs.350 to Rs. Rs.2350. Most of the households reported their average

[4] Attappady Hills Area Development Society

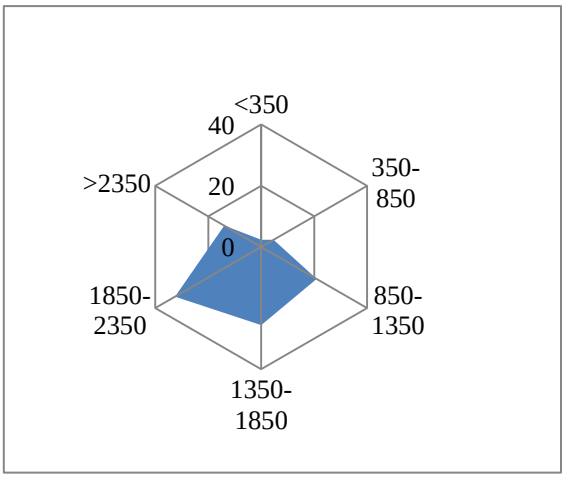
monthly income as given in figure 3.10 to be in the Rs.1850-Rs.2350 range. Irulas have availed/utilized bank loan for rearing livestock, maintenance of house and for treatment expenses. The purpose of indebtedness shows treatment expenditure and education expenditure to be the categories for which most Irulas have incurred debt.

Figure 3.10 Combined Figures for Income, Employment and Indebtedness- Irula

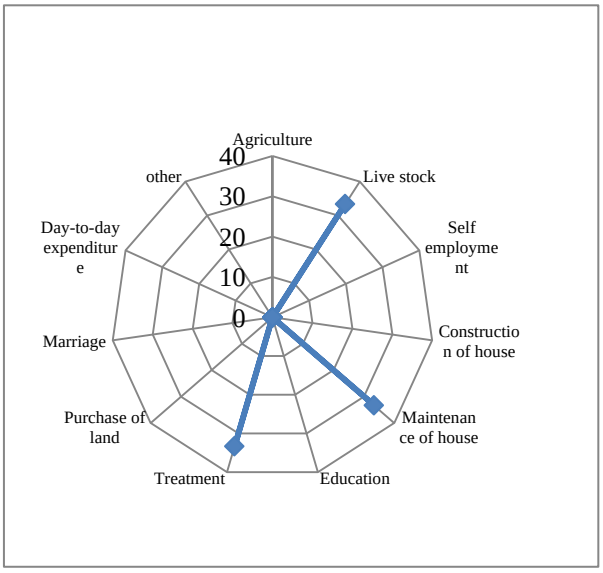
Main employment



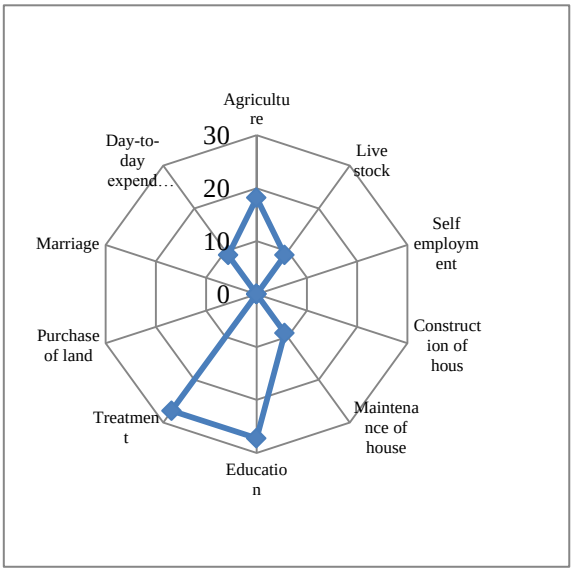
Average income classification



Purpose of bank loan



Indebtedness



Source: Survey Data

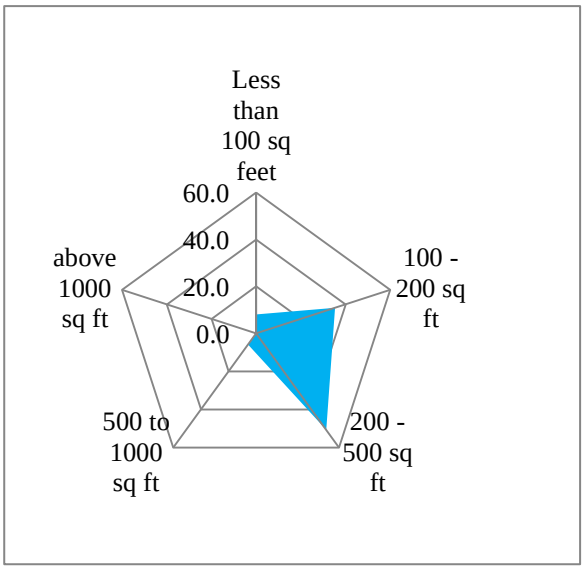
3.1.6 Paniya

The quality of Paniya housing is moderate and most of the houses are between 200- 500 sqft. (see figure 3.11). Most of the houses are provided by the Government and are built using semi

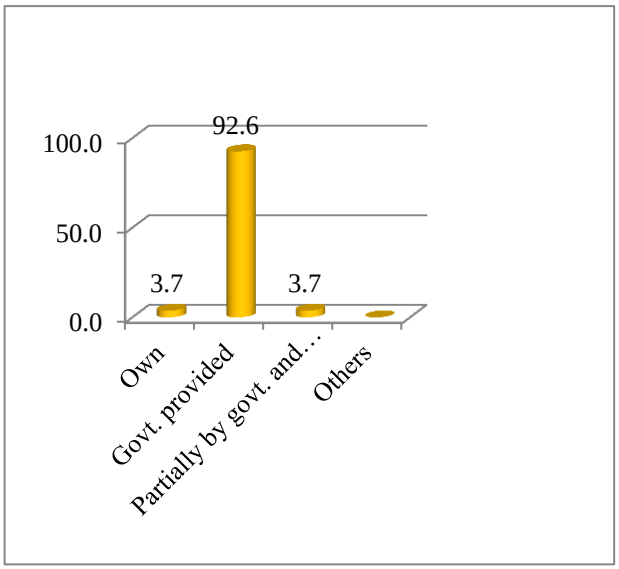
pucca materials. Non agricultural labour is the most important source of employment for Paniya community and most of the households earn an average monthly income in the Rs.1350-Rs.1850 range. NREGS and agricultural labour are the other main sources of employment among the community.

Figure 3.11 Combined figures for General Living conditions- Paniya

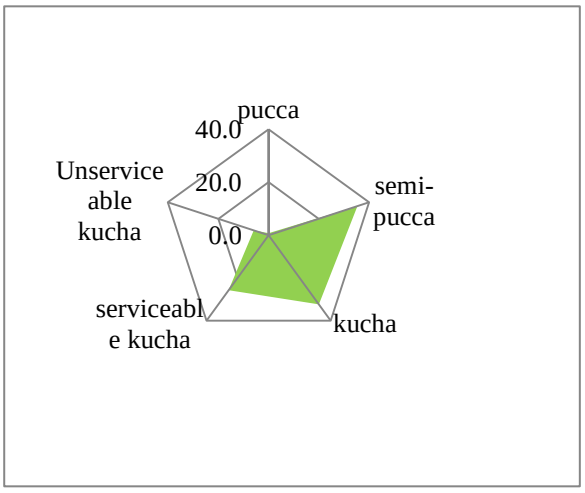
Area of house



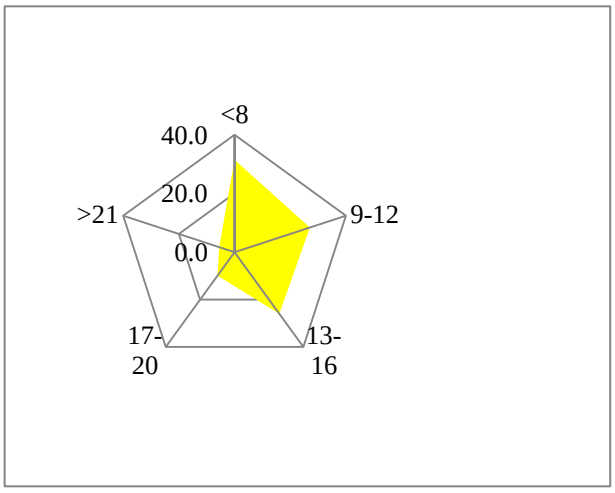
Nature of ownership of house



Type of house



Days worked in the last 30 days



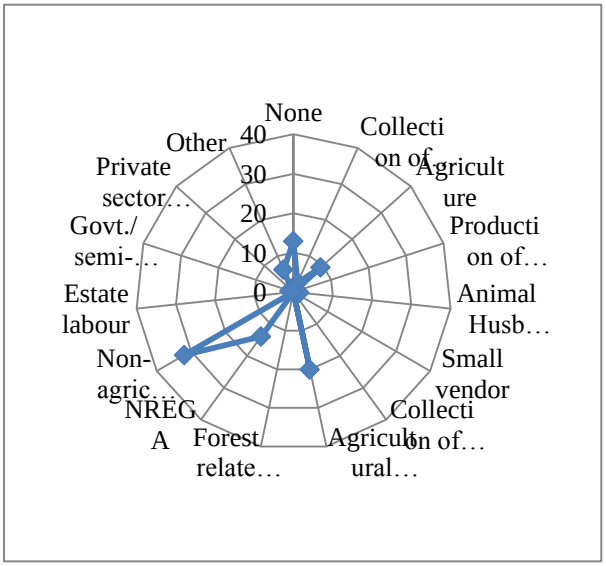
Source: Survey Data

Most of the Paniyas have reported that the average number of days of employment for them is less than 8 days. It can be seen from the figure 3.12 that most of the Paniyas work for only less than 12 days a month. The major purpose for which Paniya community has availed bank loan is

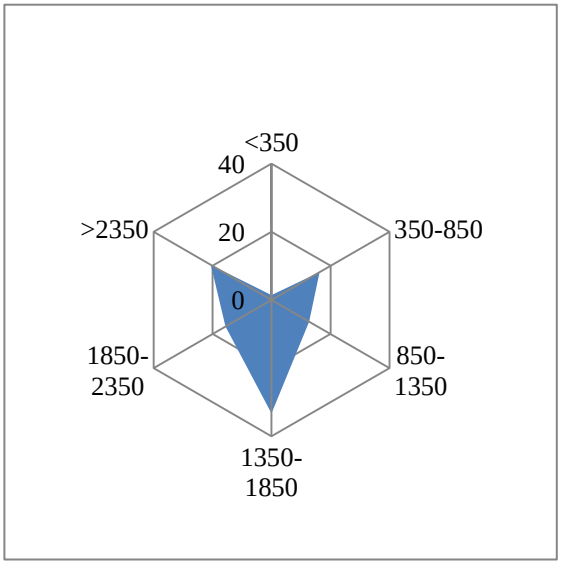
for construction of house. Most of the Paniyas who have incurred debt have incurred it for meeting day to day expenditure and some households have incurred debt for education purposes.

Figure 3.12 Combined Figures for Income, Employment and Indebtedness- Paniya

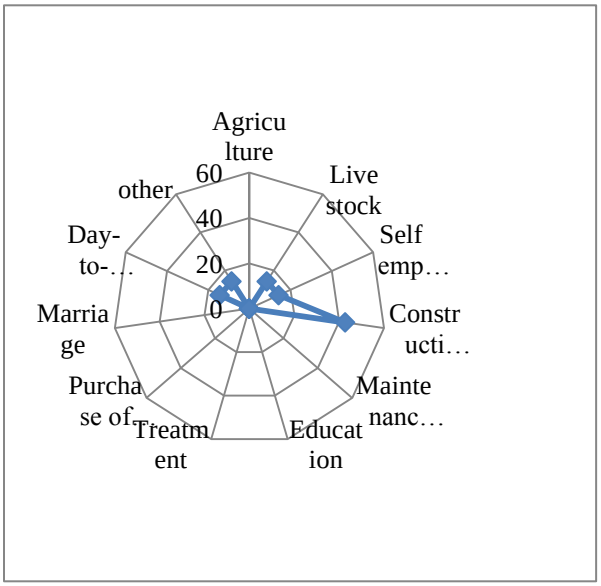
Main employment tribe wise



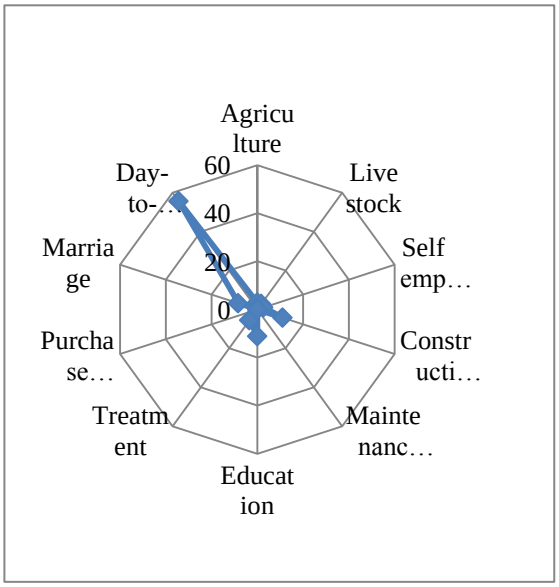
Average income classification



Purpose of bank loan



Indebtedness



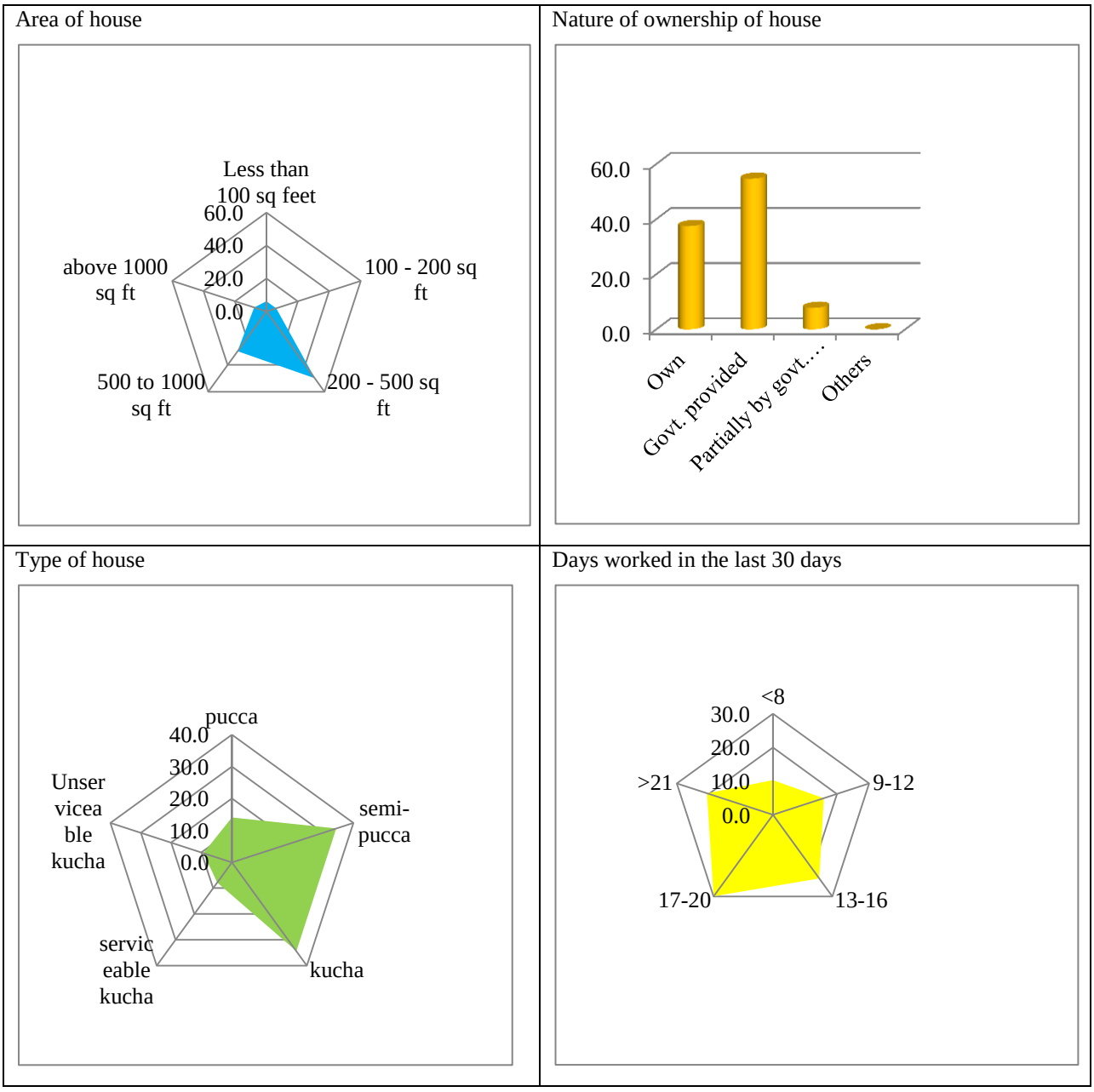
Source: Survey Data

3.1.7 Malayarayan

The average quality of housing in Malayarayan community is better than most of the other tribal communities and their share of own houses are the largest among among all tribes. Most of the

houses are built with semi pucca or kucha materials. Most households in Malayarayan community reported that they work 13 to 20 days in a month with 30 percent of the households reporting to have worked between 17- 20 days in a month as highlighted in figure 3.13. Close to 40 percent of the Malayarayan households reported that they do not have any source of employment.

Figure 3.13 Combined figures for General Living conditions- Malayarayan

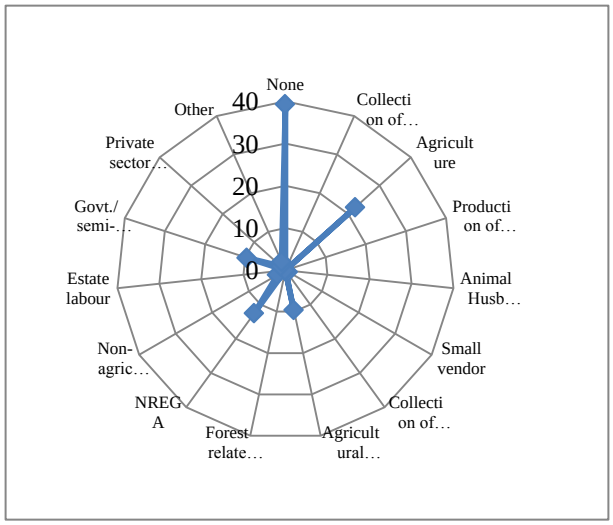


Source: Survey Data

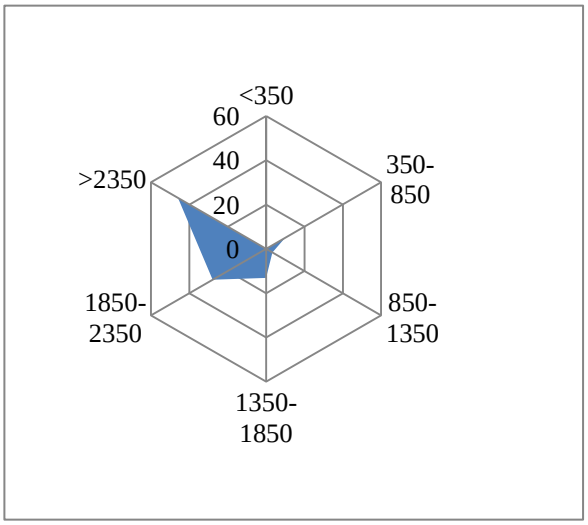
However the field experience suggests that this figure need to be cautiously used for any generalization[5]. Most of the households in the community have reported the average monthly household income to be more than Rs.2350. The purpose for which the community have availed bank loan reveals substantial spread compared to the rest of the tribes. Agriculture is the major purpose for which loan is availed in the community.

Figure 3.14 Combined Figures for Income, Employment and Indebtedness- Malayarayan

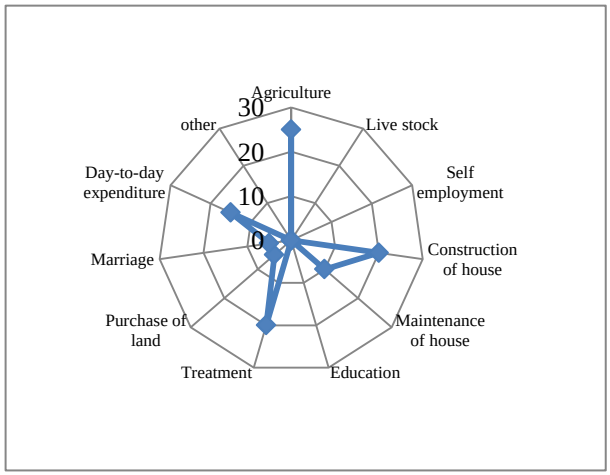
Main employment



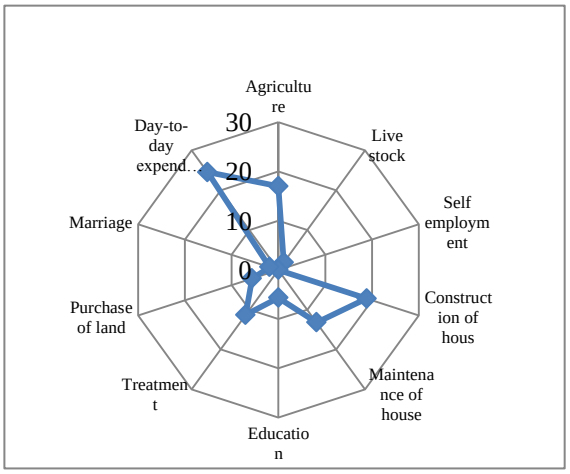
Average income classification



Purpose of bank loan



Indebtedness



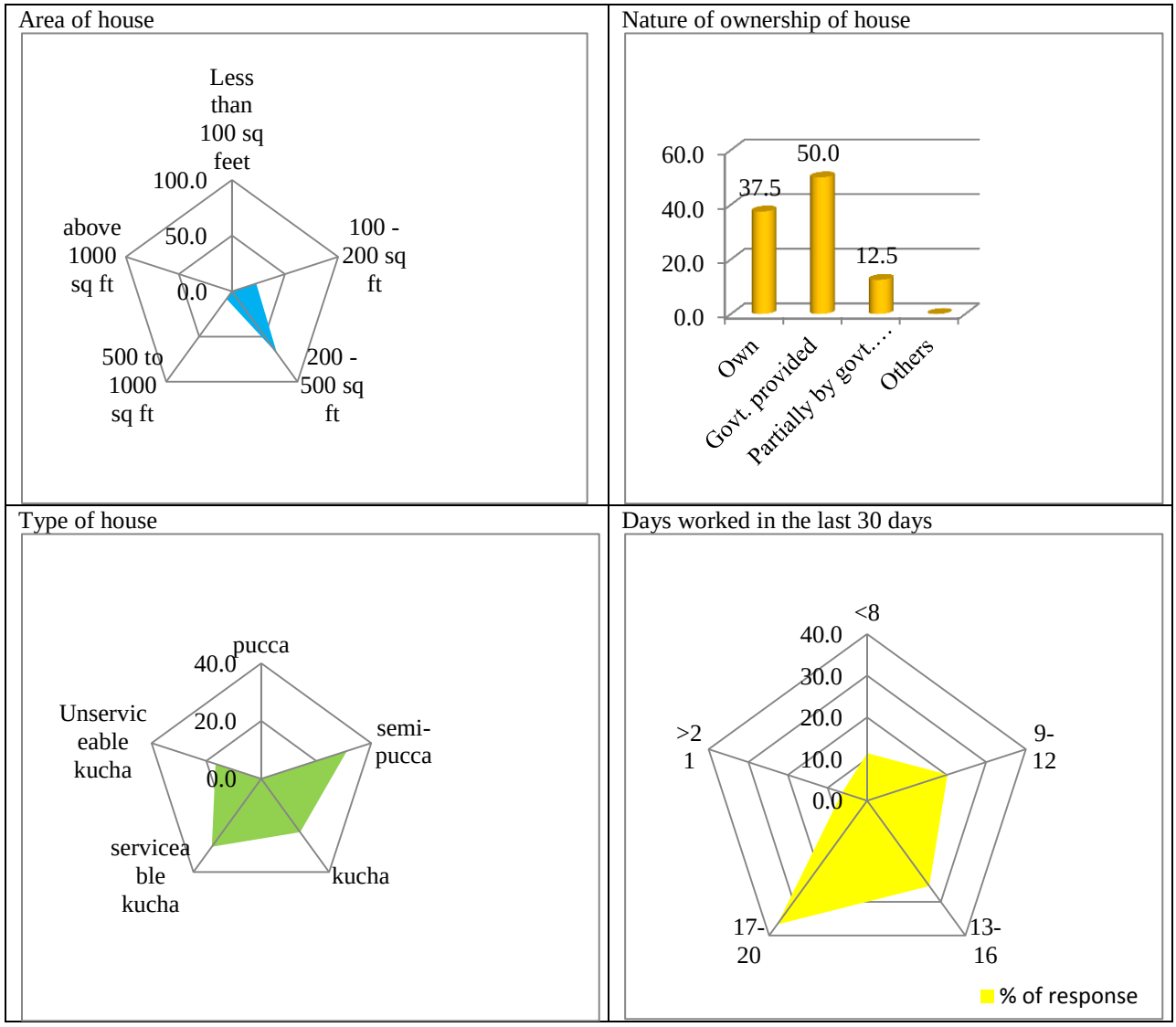
Source: Survey Data

[5] There is a possibility that the respondents have misreported the status of main employment for the fear of being excluded from the Scheduled Tribe list if their true income and employment status are revealed. Another reason for the households to have reported no employment is that even though the settlements were selected randomly the houses in the settlement were selected by the ST promoters who, from the experience of the enumerators, according to the decision of the Mooppan and other elders in the community, selected only those houses which are comparatively poor in the community.

Some households have reported (see figure 3.14) to have used loan availed from bank for treatment expenses and for construction and maintenance of house. Even though after analyzing the data we report 'meeting day to day expenditure' as the main purpose of indebtedness among the community we would suggest the readers to be cautious about using this information, based on the qualitative information supplied by the enumerators.

3.1.8 Muthuvan

Figure 3.15 Combined figures for General Living conditions- Muthuvan



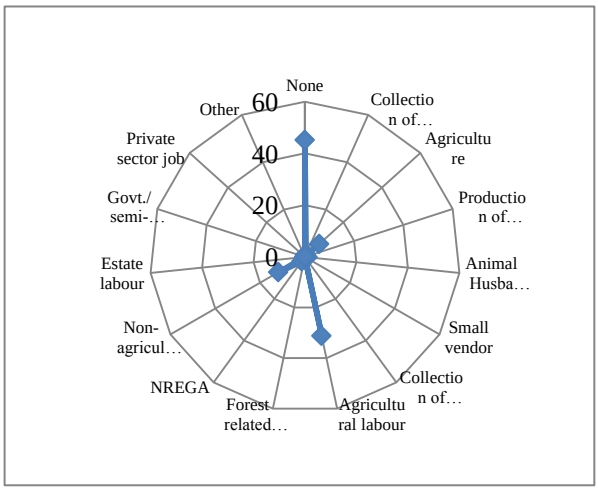
Source: Survey Data

The quality of the dwelling place of Muthuvan community is low. The houses are mostly in the 200 – 500 sqft size and fifty percent of the families live in Government provided houses. Close

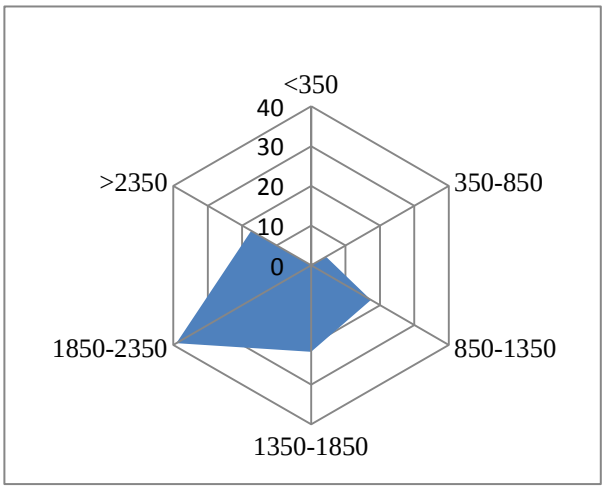
to 40 percent houses are owned by the households and this shows that a vast majority of the people in the community are yet to receive any form of Governmental assistance for their housing needs. Majority of the houses are built with Kucha, serviceable kucha or unserviceable kucha materials and the survey data suggests only remote possibility for pucca houses in the community. Most of the Muthuvan households have worked for more than 17 days in the 30 days prior to the survey as given in the figure 3.15.

Figure 3.16 Combined Figures for Income, Employment and Indebtedness- Muthuvan

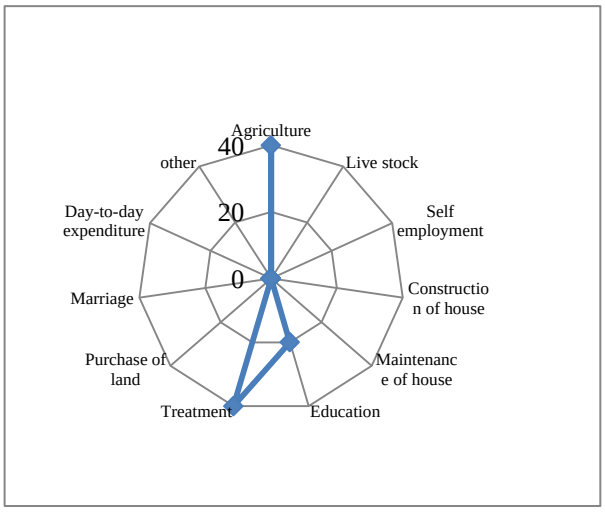
Main employment



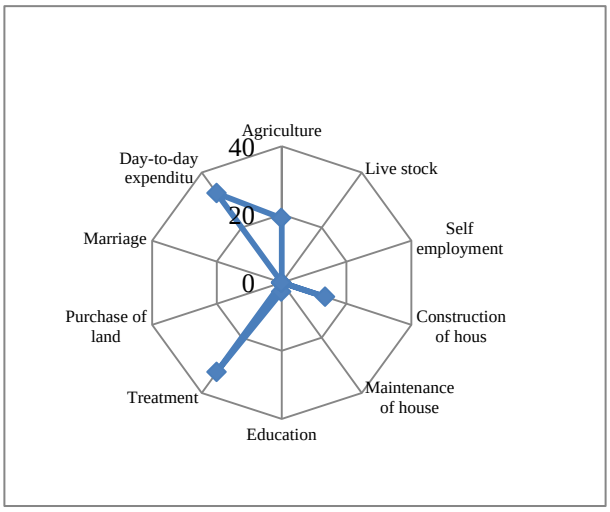
Average income classification



Purpose of bank loan



Indebtedness



Source: Survey Data

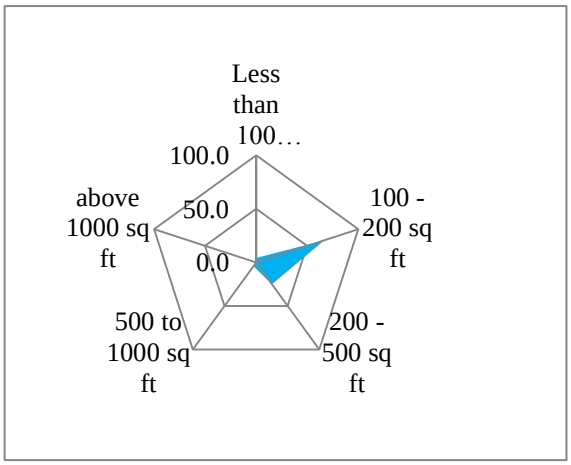
At the same time close to 50 percent of the working age population in the community reported to have no employment at all. Agricultural labour is the main source of employment for most of the

working age population in the community and there is very limited diversity in the communities' main source of employment opportunities, with agriculture, agricultural labour and non agricultural labour being the only sources of income for the community. The major purpose for which members in the community has availed bank loan is for agricultural purposes. The households in the community incur debt for meeting the day to day expenditure, treatment related expenditure and construction of house (see figure 3.16). The relatively high percentage of houses built without Government support could be the reason for making 'construction of houses' as a major purpose of indebtedness in the community.

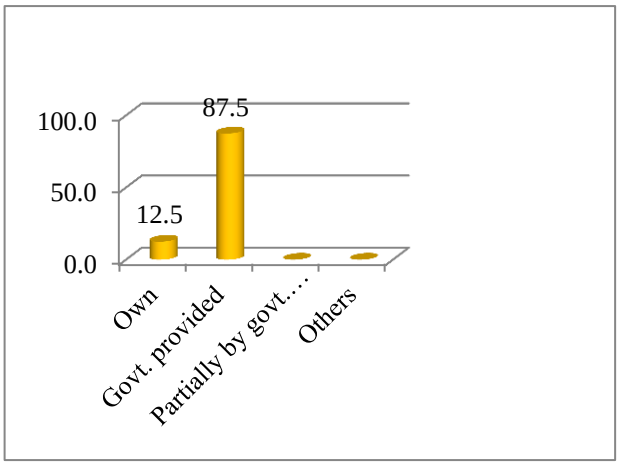
3.1.9 Urali

Figure 3.17 Combined figures for General Living conditions- Urali

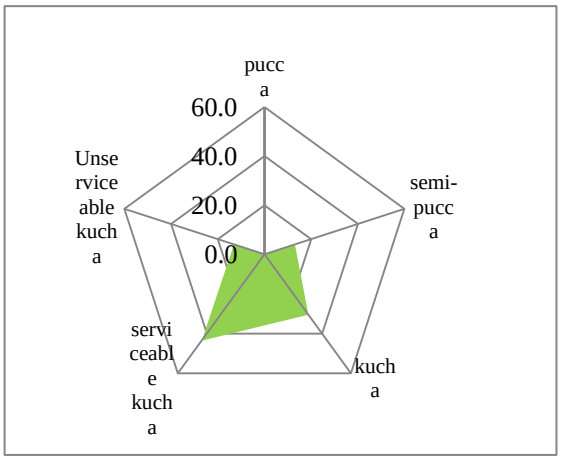
Area of house



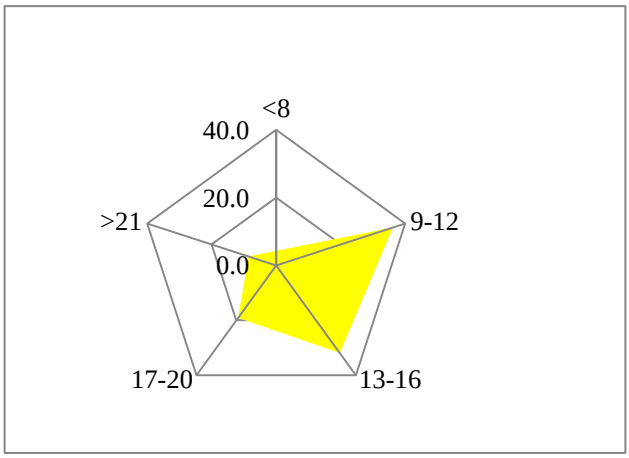
Nature of ownership of house



Type of house



Days worked last 30 days tribe wise

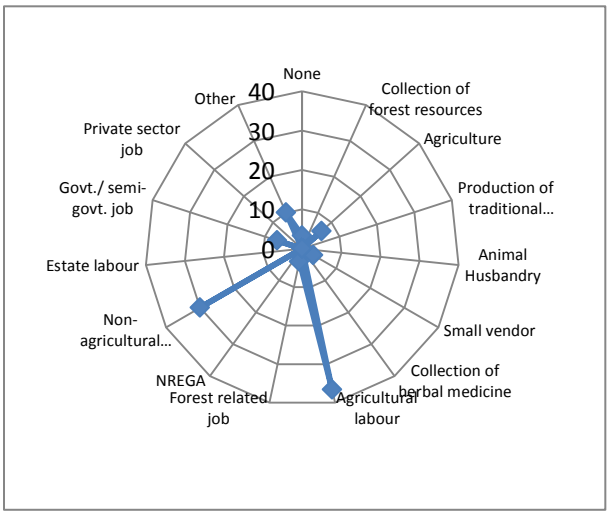


Source: Survey Data

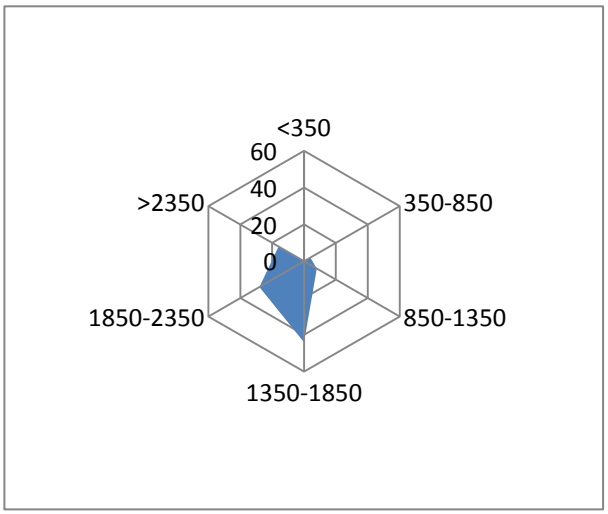
The quality of housing in Urali community is poor compared to the rest of the tribal community. The houses are congested with most of the families living in houses with less than 200 sqft. Most of the houses are built with serviceable kucha materials. However close to 90 percent of the families reported that they are living in houses built with Government provided houses (see figure 3.17). This suggests that the house in which the majority of the community lives in is old and that they are probably spending a considerable amount of their income for maintenance of the houses.

Figure 3.18 Combined Figures for Income, Employment and Indebtedness- Urali

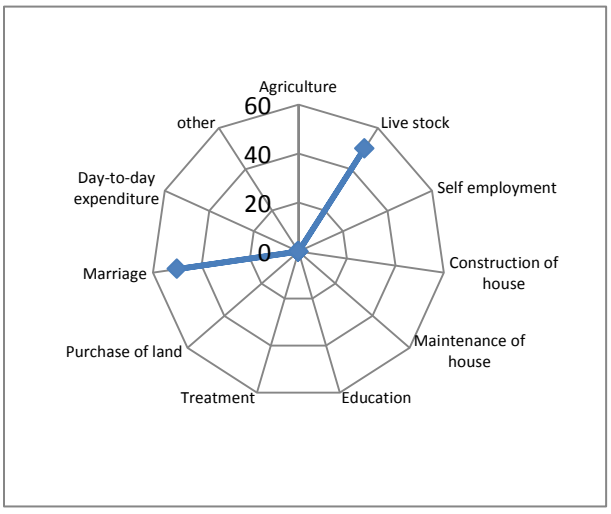
Main employment tribe wise



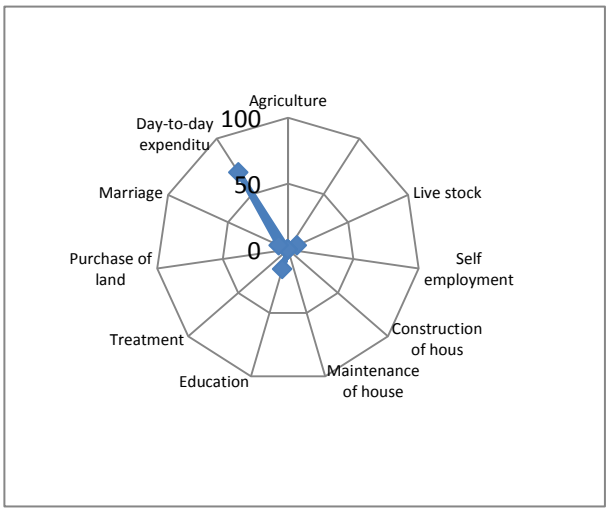
Average income classification



Purpose of bank loan



Indebtedness



Source: Survey Data

Most of the members in the community are either agricultural or non agricultural labourers. Most of the households have reported an average monthly income of Rs.1350 and above and the major purpose for which the members in the community have used bank loan are for rearing livestock and for meeting marriage expenses. 80 percent of the Urali households who have incurred debt have reported the purpose of indebtedness to be meeting day to day expenditures as shown in figure 3.18.

3.2 Income and Livelihood Opportunities of Tribal Community in Kerala- The General Picture

This section is a descriptive account of the income and livelihood of tribal communities in Kerala based on select indicators with the aim of putting in place a comparative picture of tribal communities selected under study which will help in drawing inferences about the general level of development in the income and livelihood dimensions. The present section builds on the previous section, where communities were looked at individually, and proceed to draw a broad classification of tribes in Kerala into- 'forward and backward'. The views of the experts and field experience gave us some broad indications on the situation of individual tribal communities. The historical and cultural factors, like whether the communities were traditionally land owners or bonded labourers, the level of interaction with main stream society, diversity in livelihood options and exhibited adaptability to changes in general society served as broad guidelines that motivated the idea of proceeding with classification.

3.2.1 Classifying the Tribal Communities Based on Standard of living Index (SLI)

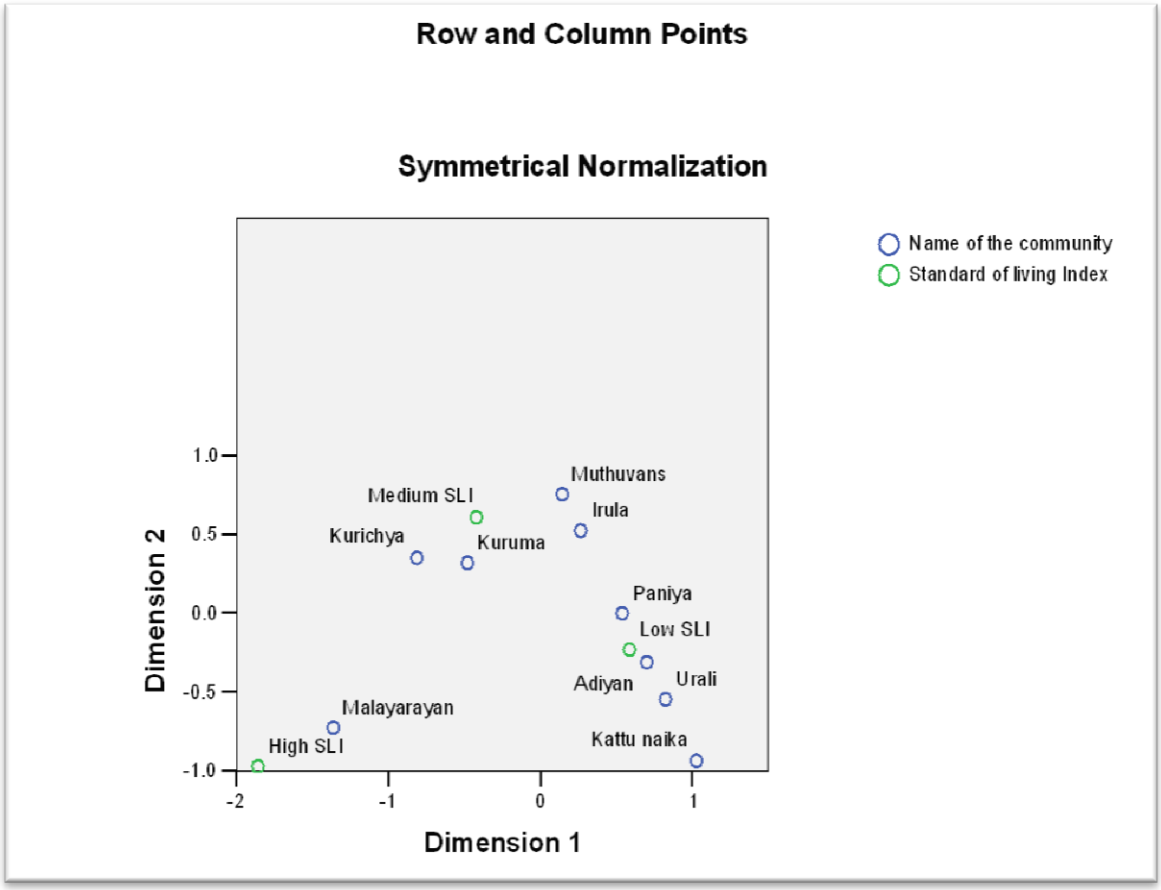
Field experience and the discussions with experts and Government servants revealed that there was considerable difference in the living standards of different tribal communities. It was understood from the discussions that communities like Malayaraya, Kuruma and Kurichya enjoyed better living conditions compared to the rest of the tribal communities. To verify the understanding of 'differential levels in achieved development' between tribal communities, a standard of living index was constructed from the survey data for each tribal community and a correspondence analysis was performed. The result from the correspondence analysis[6]

[6] Correspondence analysis is an exploratory data analysis technique used to analyse correspondence between variables represented in the rows and columns. This is a useful technique to identify systematic relationships between variables when, unlike in hypothesis testing, there are no prior expectations about the relationship of the variables.

substantiates the understanding from the field and accordingly tribes that had a medium and high standard of living were classified as forward and tribes with poor standard of living conditions were classified as backward communities.

SLI is an index constructed to understand the general living conditions of tribes taking into consideration ten different indicators on living standards. These included type of housing, availability of toilets and drinking water, possession of different type of durable assets, fuel used for cooking and energy used for lighting. Each indicator was given scores in the band of one to three, where 1 is given for minimum value or poor quality of living 2 for medium value or medium quality of living and 3 for maximum value or best quality of living available in tribal region. So 30 is the maximum score and 10 is the minimum score if there is 100 per cent response rate. These scores were grouped into three categories, Low SLI, Medium SLI and High SLI.

Figure 3.19 Correspondence analysis of Standard of Living Index



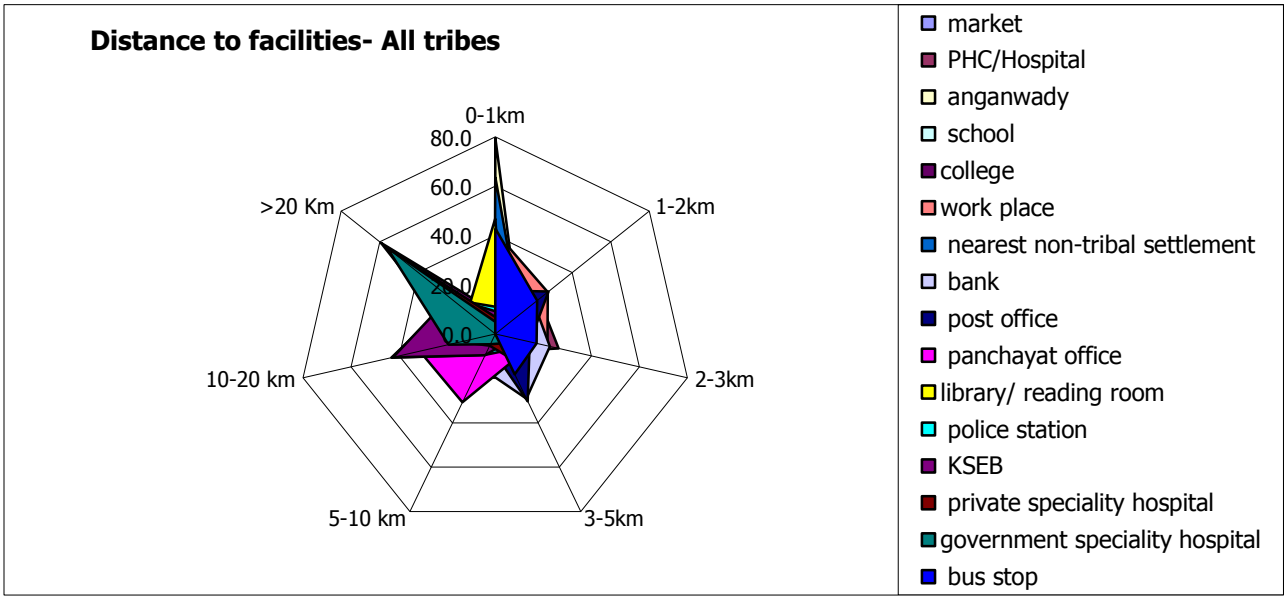
Source: Survey Data

It is found from the correspondence analysis (figure 3.19) that while Malayarayan community has the highest standards of living, Kuruma and Kurichya have medium standard of living and Paniyan, Adiyan, Urali, Kattunaikan, Muthuvan and Irula communities live in poor conditions. Accordingly we would treat Malayaraya, Kuruma and Kurichya to be forward communities and the rest of the communities under study to be backward communities.

3.2.2 Access to General Facilities

The accessibility of facilities to tribal community is a major issue as majority of the tribal settlements is located in geographically challenged areas (hilly areas or rural areas where the roads are not 'Pucca'). The survey data as given in figure 3.20 reveals that Government offices (Panchayat office, KSEB) are mostly in the range of 5-10 Km and that most of the nearest Private and Government specialty hospitals are at least 20 Kms away. 75 percent of the Tribal households surveyed reported that the nearest college/ institution of higher education was at least more than 10 Kilometers away and that for 60 percent of the tribal households had to travel at least 20 Kilometers to reach colleges/institution of higher education. However most of the tribal settlements (63%) surveyed had bus stops within three kilometers and 48 percent had access to banks within three Kilometers. Work related travel is very limited to tribals as nine out of ten tribals surveyed reported that their work place is within 3 Kilometers of the residence.

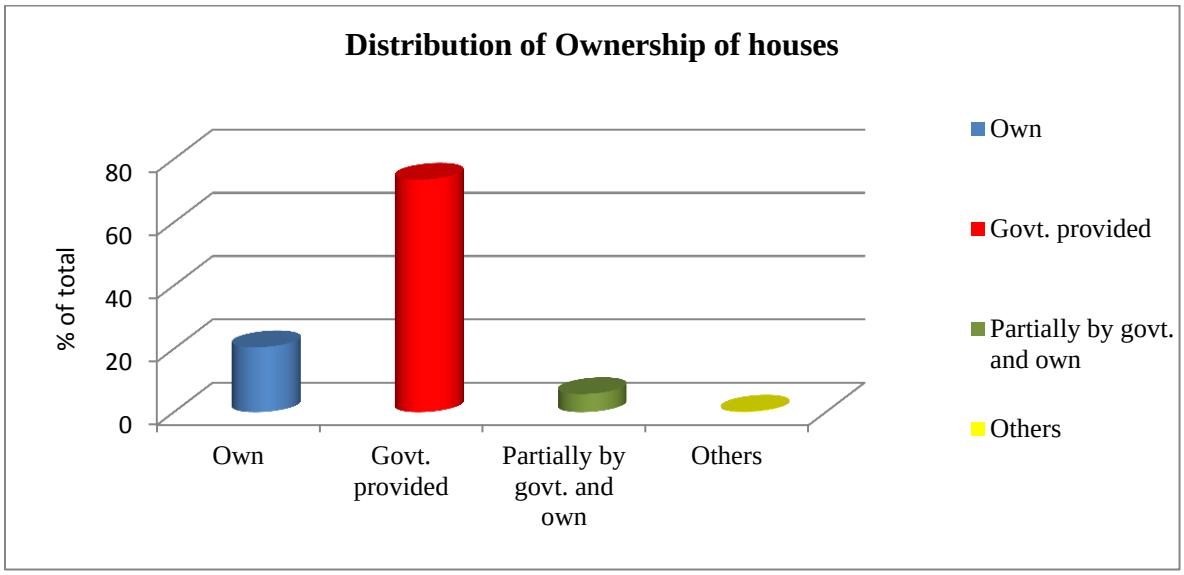
Figure 3.20 Access to Facilities – All Tribes



Source: Survey Data. Details and basic analysis for this figure can be found in Appendix 1 to Appendix 32

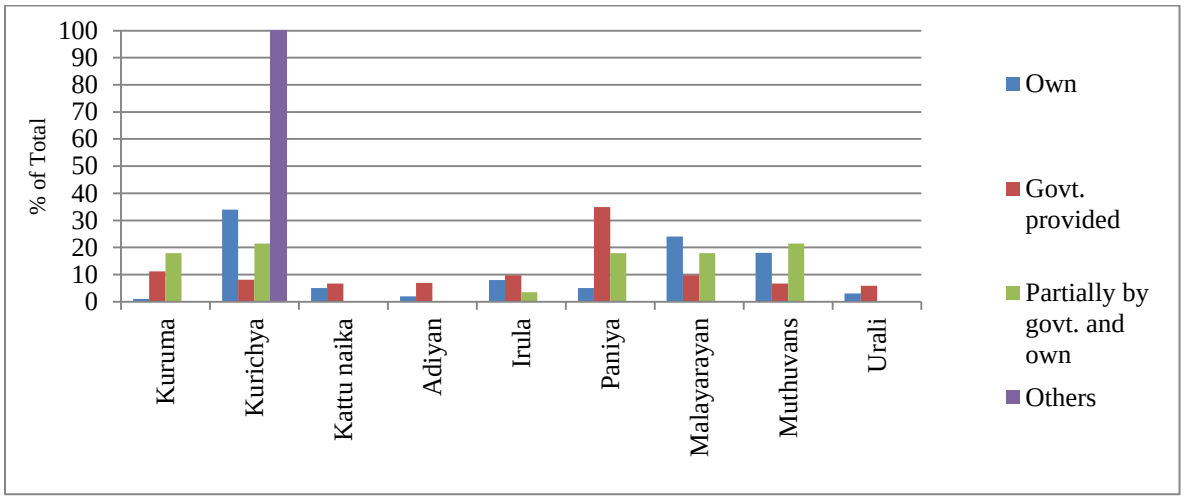
3.2.3 Quality of housing

Figure 3.21 Ownership of houses



Source: Survey Data

Figure 3.22 Distribution of Nature of Ownership

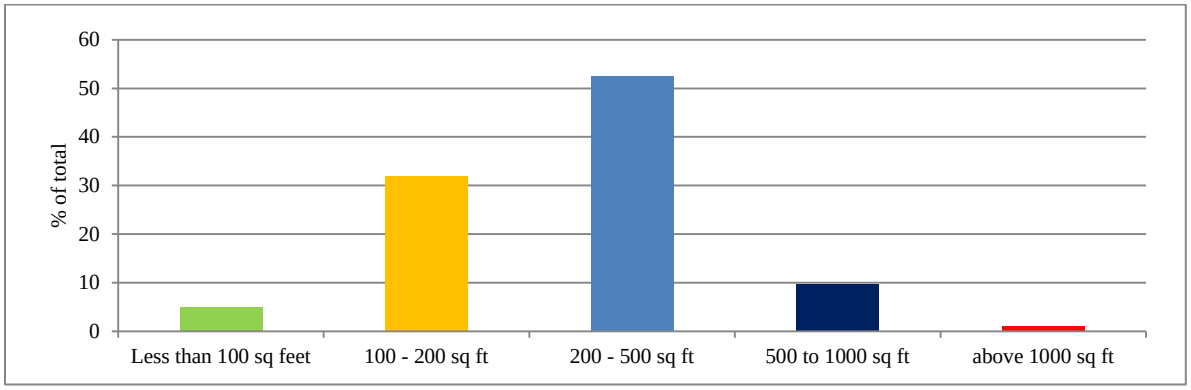


Source: Survey Data

As evident from figure 3.21, Government has played an important role in providing housing facilities to the tribal community. Majority of the tribal community (73.5%) is living in houses provided by the Government (The houses are either constructed by the Government and handed over to tribes or the Governments at various levels provide financial assistance under various schemes to the tribal community for construction). The distribution of the nature of ownership of houses with in tribes in figure 3.22 shows that the backward tribes (KattuNaika, Paniya Irula

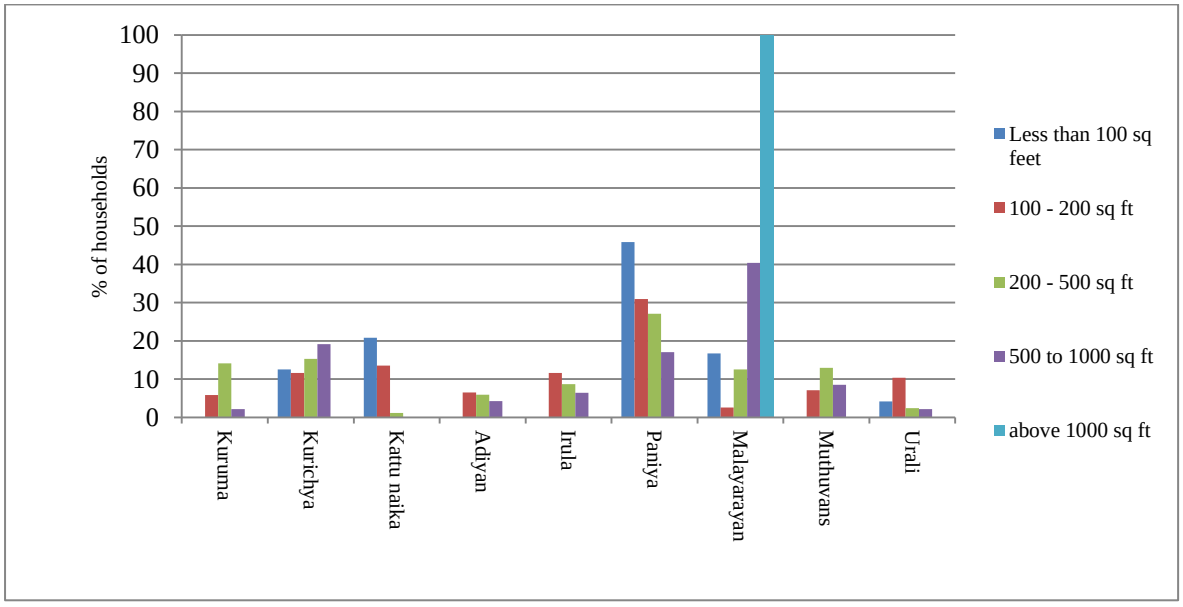
and Irula together account for 70 percent of the Government provided houses) are almost completely dependent on Government provided housing. At the same time even though only three percent of the tribals have own housing, the forward communities (Kurichya, Malayaran and Kuruman) together account for 59 percent of the own houses) has the majority share in that category. Kurichya community has reported the maximum number of houses under the category 'others' and this is because they still live in houses jointly owned.

Figure 3.23 Area of Houses



Source: Survey Data. Data for the graph is given in Appendix 34

Figure 3.24 Distribution of houses categorized by area



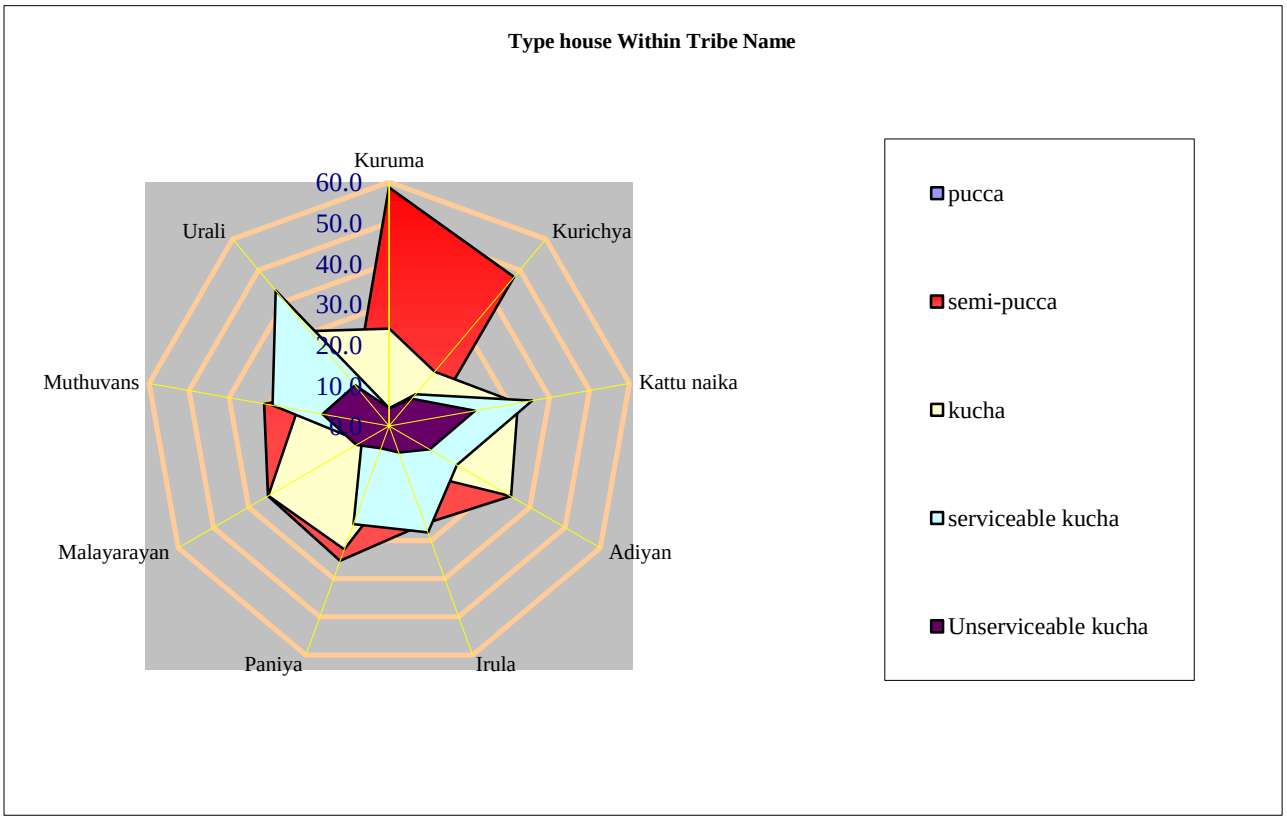
Source: Survey Data. Data for the graph is given in Appendix 34

Most of the tribal houses that were observed as part of the primary survey were small and the data shows that 52.2 percent of them are in the 200-500 sq. ft category (Figure 3.23). Only 10 percent of the houses are more than 500 sqft and only a tiny fraction (1.2%) of the houses were

more than 1000 sqft. When placing the average size of the houses against the average household size of 4.8 member (as calculated from the survey data), we see from figure 3.24 that the members in the community are living in congested houses with very limited personal space.

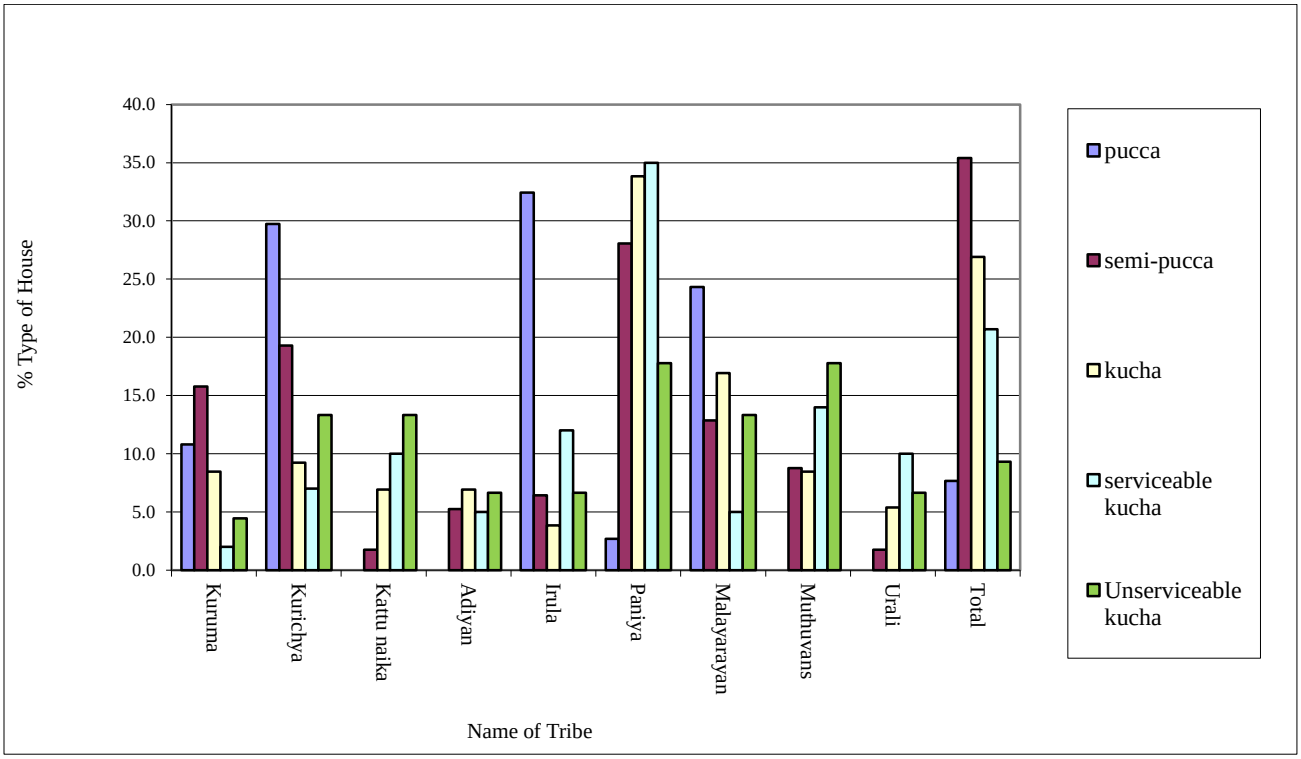
When we look at the distribution of the area wise category of houses (Figure 3.24) we find that only Malayarayan (a forward tribe) community has houses that are more than 1000 sqft and that in the 500-1000 sqft category more than half of the houses (59%) are possessed by Malayarayan and Kurichya communities(both are forward tribes). Figure 3.24 also depicts that close to 70 percent of the houses that are less than 100sqft are occupied by three back ward communities Paniya (45.83%), KattuNaika (20.83%) and Urali (4.17%). The distribution of area of houses occupies by tribal communities reveal that even though the tribal houses are on average small (200-500 sq ft)there is considerable disparity in the size of the houses occupied by forward and backward tribes.

Figure 3.25 Types of Houses



Source: Survey Data. Data for the graph is given in Appendix 36

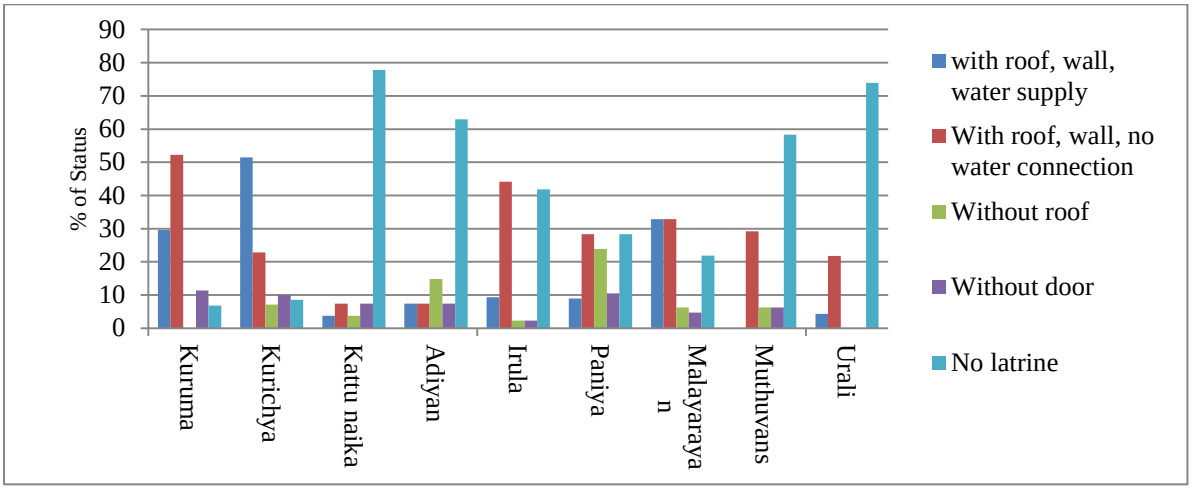
Figure 3.26 Distribution of Type of houses



Source: Survey Data. Data for the graph is given in Appendix 36

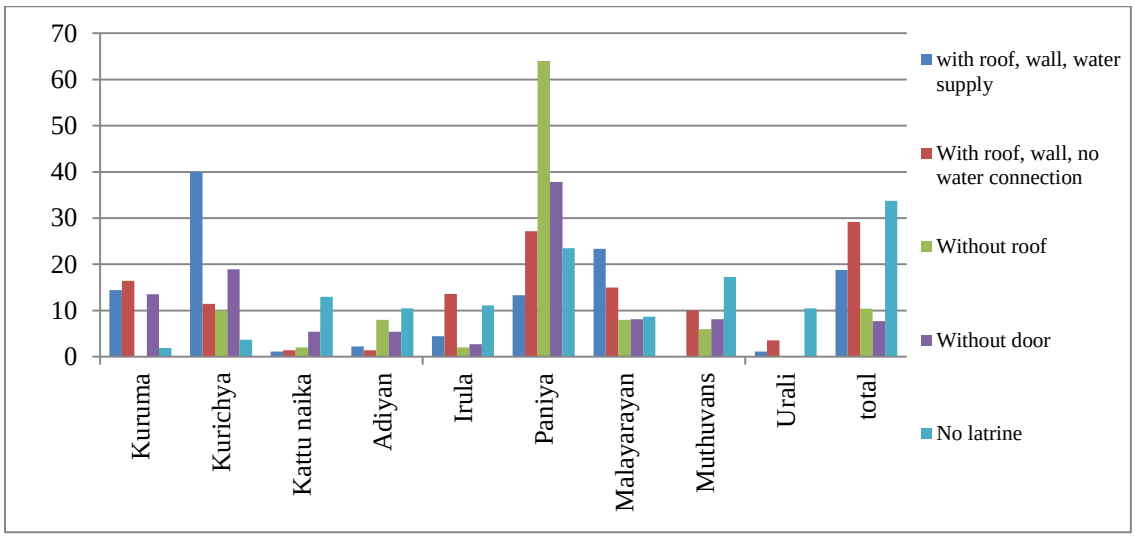
Most of the houses of tribal population fall in three categories 'semi pucca', 'Kucha' and 'serviceable kucha'. These three categories accounted for 83 percent of the houses surveyed. The quality of housing among tribes is moderate in nature as very good houses (pucca houses) and very poor houses (unserviceable kucha) accounted for only 7.7 percent and 9.3 percent respectively (see figure 3.25). When looking at the distribution of the type of house as given in figure 3.26 among tribal communities we see an increased presence of unserviceable kucha houses among the backward tribes. Even though the forward tribes occupy 65 percent of the pucca houses, interestingly one of the backward tribes (Irula) accounts for the highest percentage (32.4%) of pucca houses among all tribes. This is because these houses were constructed and given to them under the housing scheme of AHADS (Attappadi Hills Area Development Society).

Figure 3.27 Status of Sanitary Latrines - All Tribes



Source: Survey Data. Data for the graph is given in Appendix 46

Figure 3.28 Distribution of the status of Sanitary Latrines



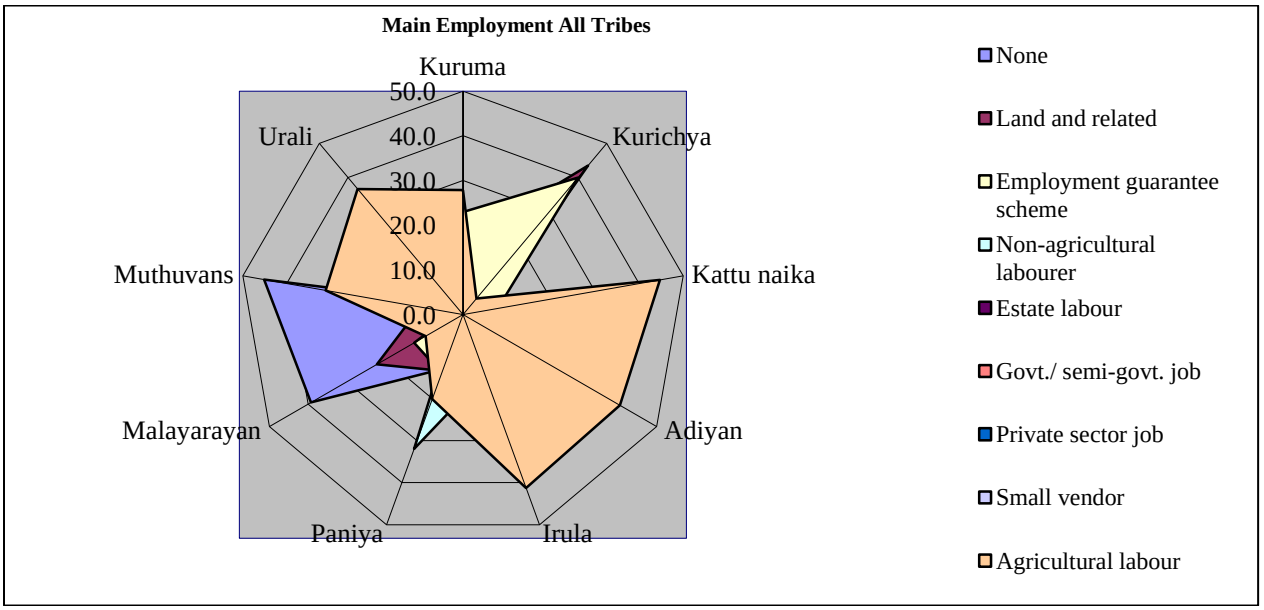
Source: Survey Data. Data for the graph is given in Appendix 46

Only less than one-fifth of the tribal houses have proper sanitary latrines. Most of the houses in the backward communities (especially KattuNaika, Urali and Muthuvan) do not have sanitary latrines (see figures 3.27 and 3.28). It may be understood that the Government schemes for providing financial assistance to construct sanitary latrines have not been effective at all in backward communities like Kattu Naika and Urali where more than 75 percent of the houses do not have sanitary latrines. In the case of backward communities like Muthuvan and Adiya also close to 60 percent of the houses do not have sanitary latrines. The intra community difference is negligible in the status of sanitary latrines in communities that have reported no latrines.

However we can find significant variation in the status of sanitary latrines in the case of Irula community, where 59 percent have sanitary latrines while 41 percent houses reported no latrines. The variation is because while most of the Irula houses surveyed were built by AHADS (most of the houses are new), some of the Irula houses are old where the latrines are not usable. The situation of Paniya is better compared to other backward communities where only 28 percent houses do not have sanitary latrines. One reason for this could be that the Paniya settlements surveyed were closer to main stream society compared to other backward communities which could have had an influence in constructing/maintaining a sanitary latrine. Even in houses that have sanitary latrines, 77.6 percent do not have water connection in the latrine. The forward communities jointly account for 77 percent of the houses that have proper sanitary latrines. Among the forward communities Kurichya community occupies houses 40 percent of the houses that have proper sanitary latrines.

3.2.4 Income and Livelihood Options

Figure 3.29 Main employment with in tribe

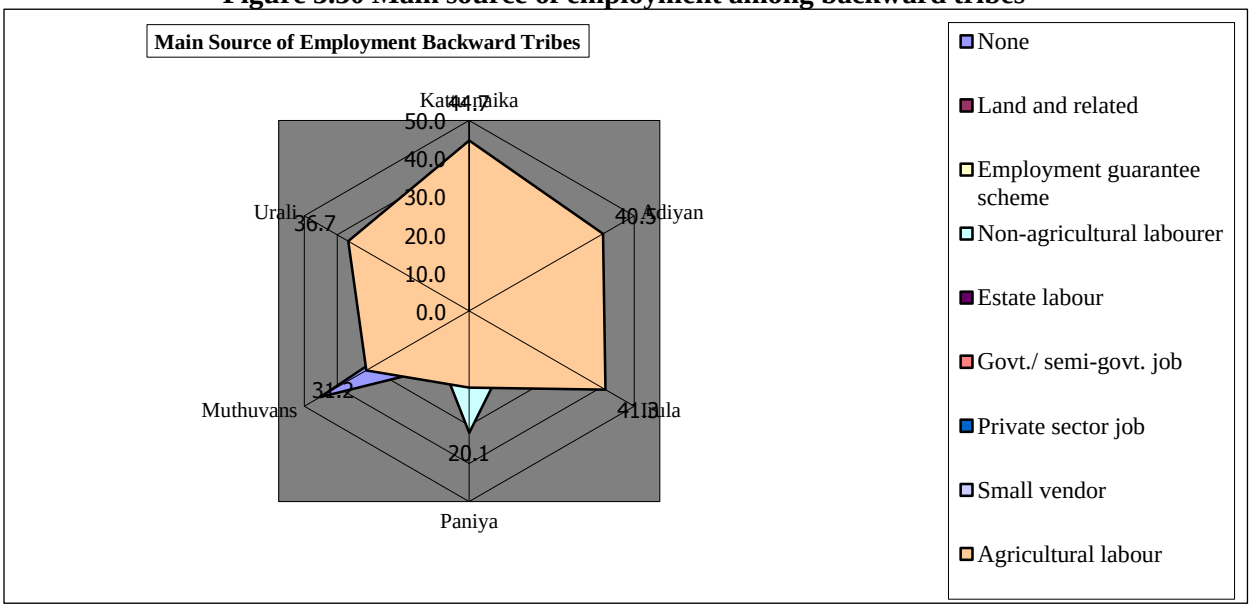


Source: Survey Data. Data for the graph is given in Appendix 40

The main employment of all tribes as given in figure 3.29 reveals a mixed picture though agricultural labor and employment guarantee scheme dominate as the major sources of employment. The forward tribes like Kuruma and Kurichya have reported NREGA as a major source of employment for them. Most of the Adivasi population in Kerala are either wage laborers, agriculture labourers or farmers. Paddy cultivation was a major source of income for

many Adivasi communities including some of the most backward communities like Paniya and Adiya. With the conversion of paddy fields for other crops they now mostly work in/cultivate crops like cardamom, pepper, ginger, coffee etc. The income they receive from the agriculture produce is mostly sold in the local market and goods for their necessities are purchased with that money. The employment generation in agriculture sector is mostly seasonal in nature. Low educational standards have increased the community's dependence on agriculture as a source of income which can be attributed as an important factor for the backwardness of most of the adivasi communities. Most of the tribal population are working as agriculture labourers in the lands which where once occupied by them.

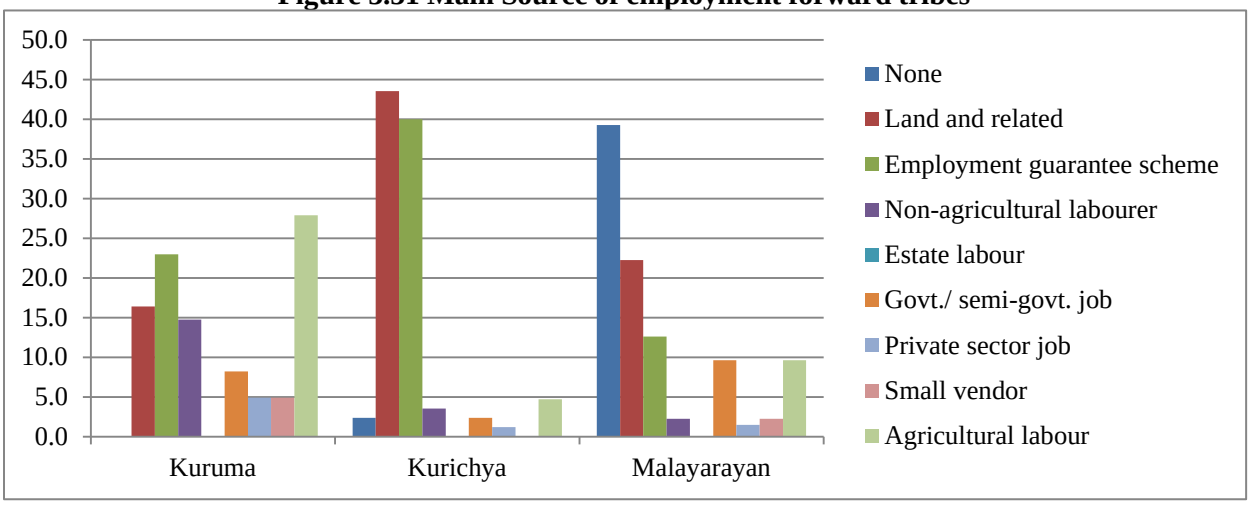
Figure 3.30 Main source of employment among backward tribes



Source: Survey Data. Data for the graph is given Appendix 40

When the data for main source of employment is disaggregated and analysed after classifying the tribes into forward and backward, the picture becomes different. The data reveals that agricultural labor and non agricultural labour are only main employment sources for backward communities as shown in figure 3.30. The spread in the main source of employment is very limited among the backward tribes and it also shows excessive dependence on the primary sector.

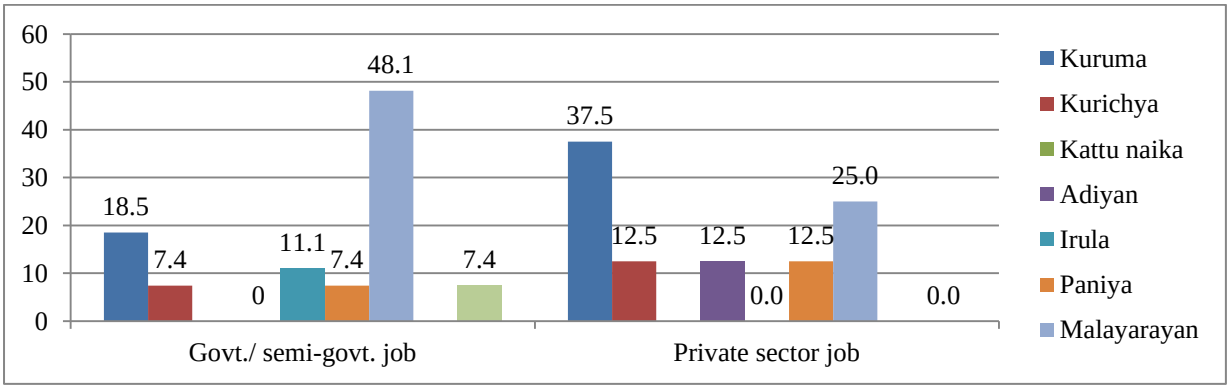
Figure 3.31 Main Source of employment forward tribes



Source: Survey Data. Data for the graph is given in Appendix 40 and Appendix 41

The main sources of employment for forward tribes shows comparatively bigger spread though employment on land related activities command a significant share (see figure 3.31). The higher land ownership among these communities is the reason for the increased share of land related employment among these communities. It can be seen that NREGA has become an important source of employment for the forward communities.

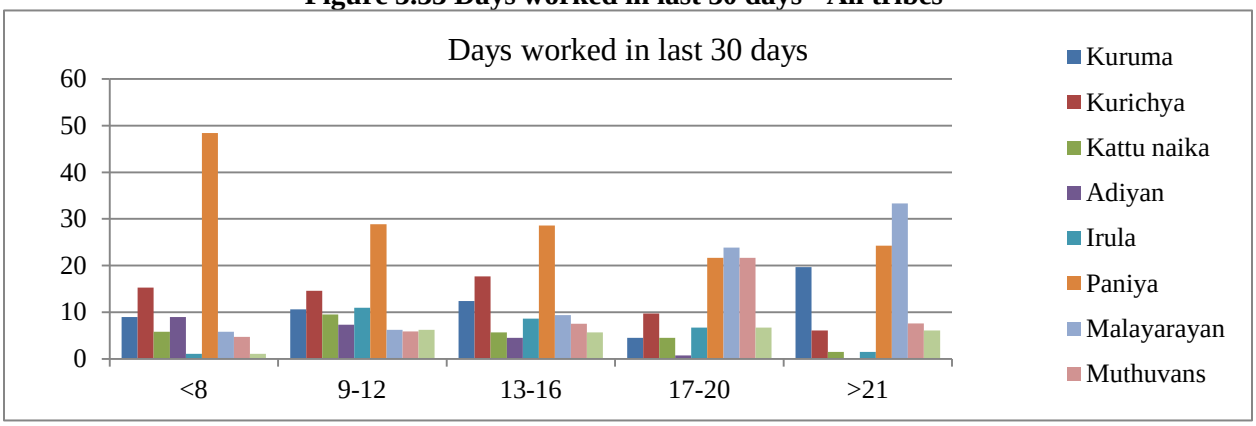
Figure 3.32 Government and Private Sector jobs- All tribes



Source: Survey Data. Data for the graph is given Appendix 40 and 41

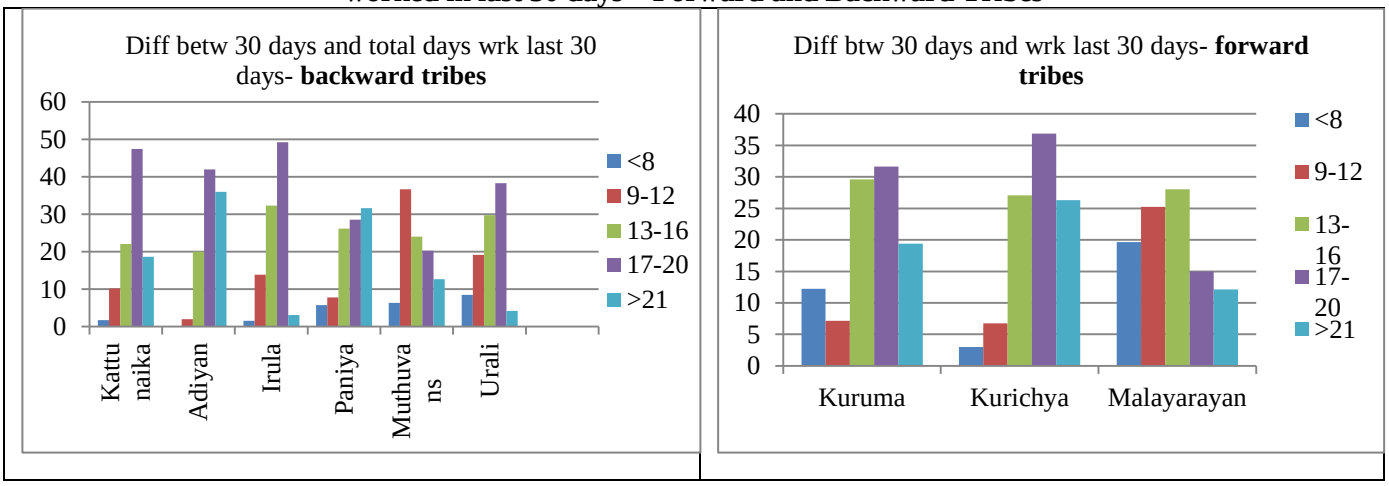
It can be observed that from figure 3.32 that employment in the Government and private sector is dominated by the forward communities and that some of the backward communities like KattuNaika are practically nonexistent in these employment classifications. In the case of Government/ semi Government sector jobs Malayarayan community has the single largest representation among all tribes and they occupy almost double the number of Government/semi Government jobs occupied by both the other forward communities Kurichya and Kuruma.

Figure 3.33 Days worked in last 30 days - All tribes



Source: Survey Data. Data for the graph is given in Appendix 38 and Appendix 39

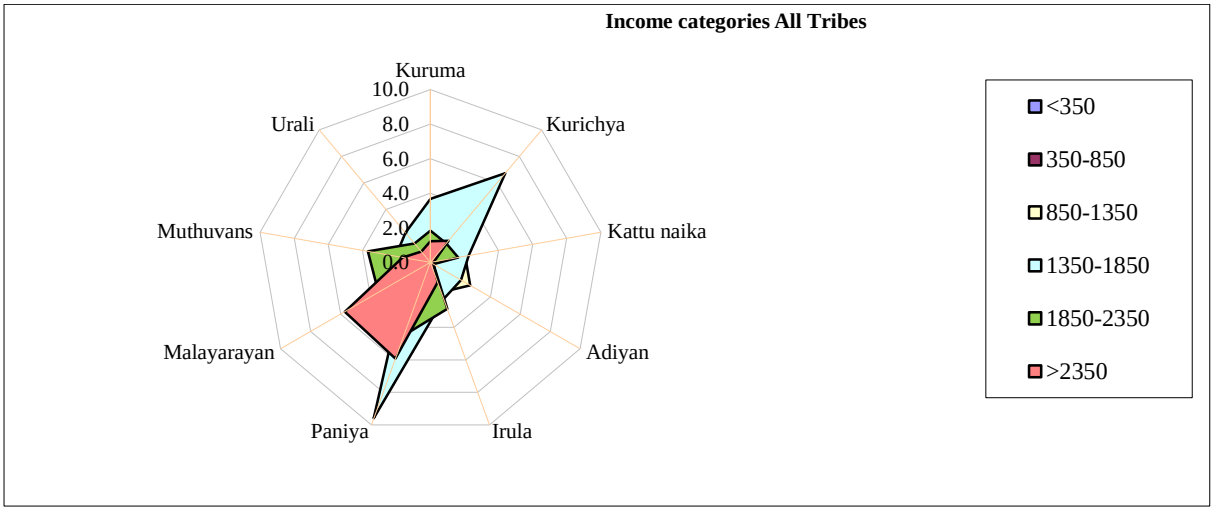
Figure 3.34 Combined Figure showing the difference Between 30 days and total number of days worked in last 30 days – Forward and Backward Tribes



Source: Survey Data. Data for this graph is given in Appendix 38 and Appendix 39

The number of days worked in the last 30 days (see figure 3.33) is a good indicator of the kind of employment and the regularity of employment. Categorizing the data on the number of days worked into different ranges show that Paniya who are mainly agricultural or non agricultural labourers form the biggest number of respondents who have worked less than 8 days in the last 30 days. The data suggests that most of the tribal communities get work somewhere between 9 days to 16 days in a month. The variation in these two (9-12 and 13-16) categories across tribes is minimal as can be observed from the figure 4.33. Malayrayan community has a strong presence in the higher categories (17 days and above) which indicates that they are employed mostly in activities that are regular in nature. Irregular employment is a major issue faced by tribal communities, especially the backward communities.

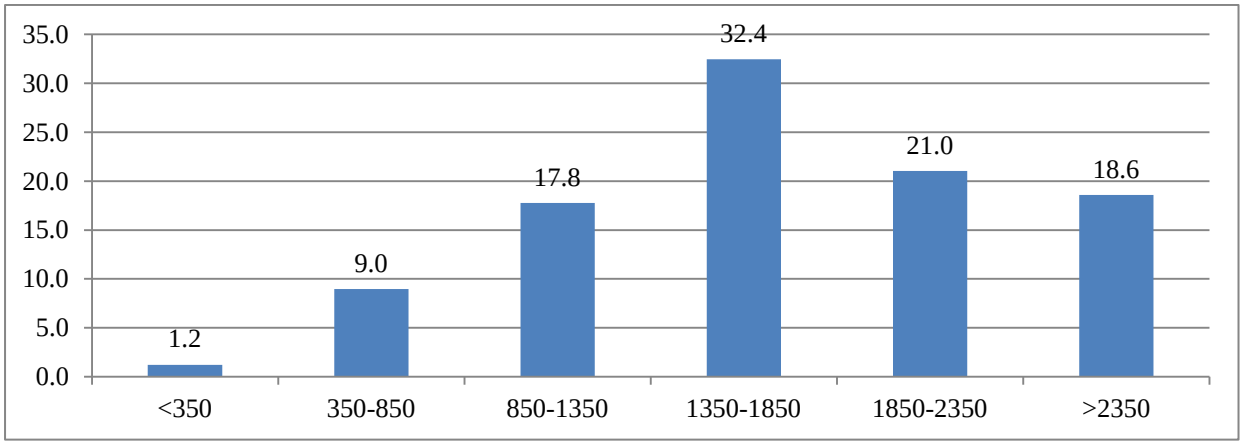
Figure 3.35 Levels of Income classification- All tribes



Source: Survey Data. Data for the graph is given Appendix 42

Estimating the income of tribal households is very difficult as they do not keep accounts of their income or expenditure. The exercise is further burdened by the poor recall period among tribes relating to number of days worked or the amount spent .Based on the data compiled from survey data it can be seen that most of the tribal households fall within the average monthly income category of Rs.1350-1850 as shown in figure 3.35.

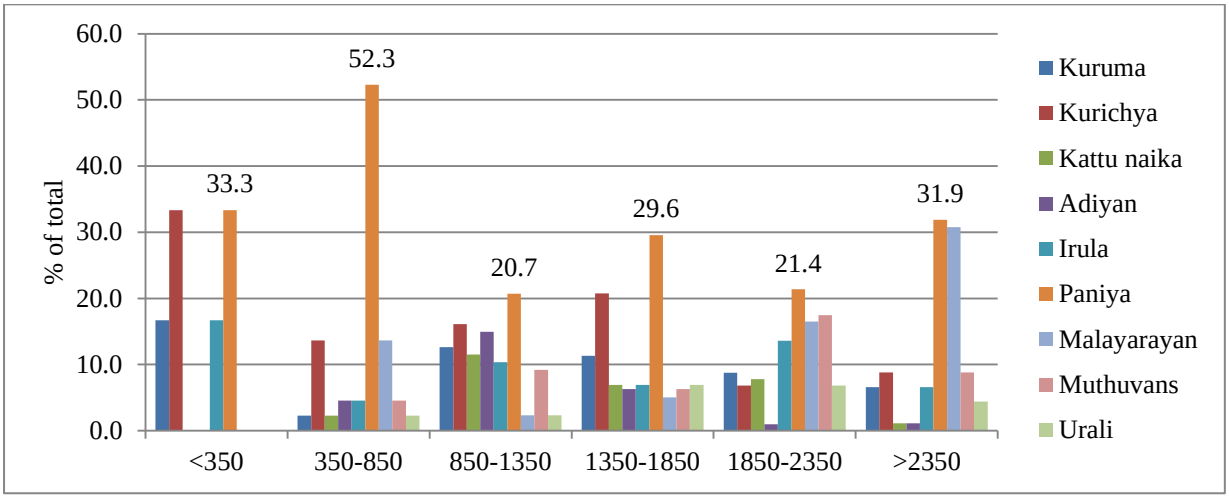
Figure 3.36 Distribution of Income categories



Source: Survey Data. Data for this graph is given in Appendix 42

Figure 3.36 reveals that only a negligible number of households fall in the lowest category (1.2 percent). The survey data shows that only 28 percent tribal households come in the lowest three income categories defined in the study and that the highest two categories account for close to 40 percent of the income of tribal households.

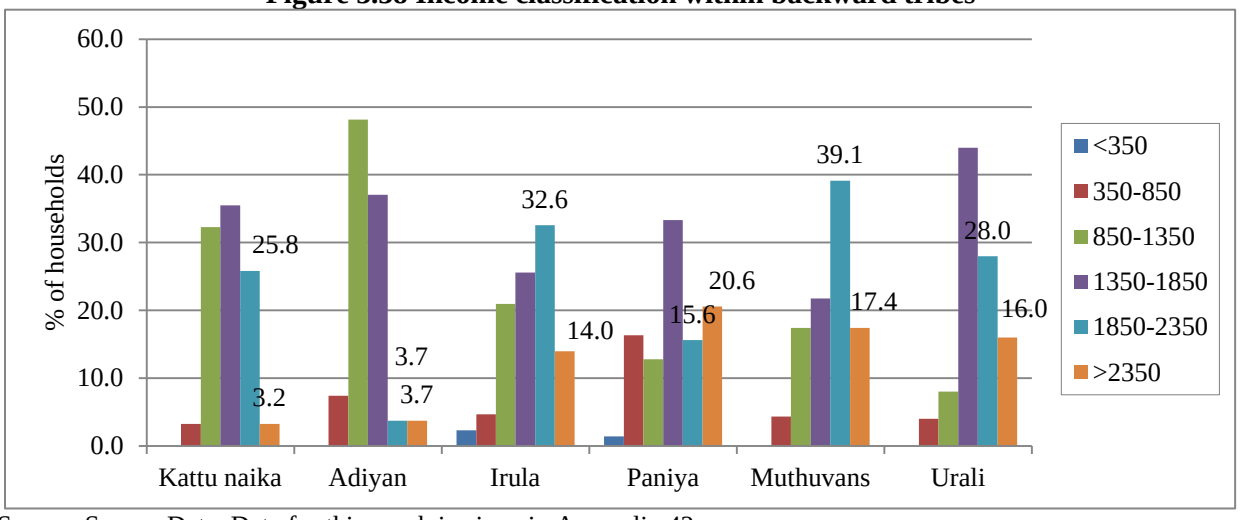
Figure 3.37 Distribution of tribes within Income categories



Source: Survey Data. Data for this graph is given Appendix 42

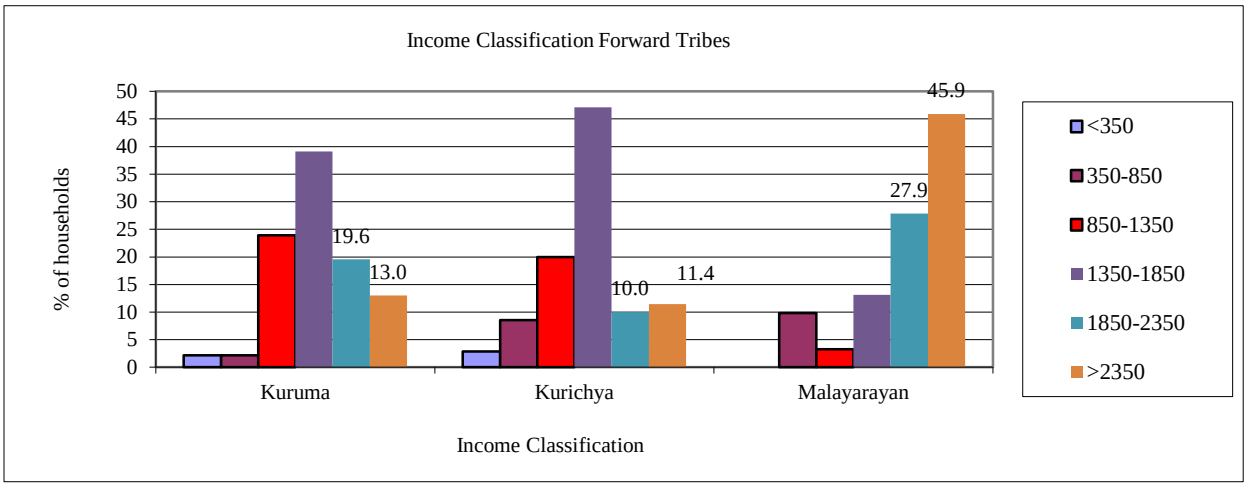
As can be seen from the figure 3.37, Paniya is the dominant community in all income categories. We also see from the data that the forward communities like Kurichya and Kuruma also have reported higher representation in the lowest income categories. Given the qualitative observations from the field, underreporting of income is suspected in the case of these communities. However there are limitations in crosschecking the income reported by them as both these communities have reported land and related employment as their major source of employment.

Figure 3.38 Income classification within backward tribes



Source: Survey Data. Data for this graph is given in Appendix 42

Figure 3.39 Income classification within forward tribes



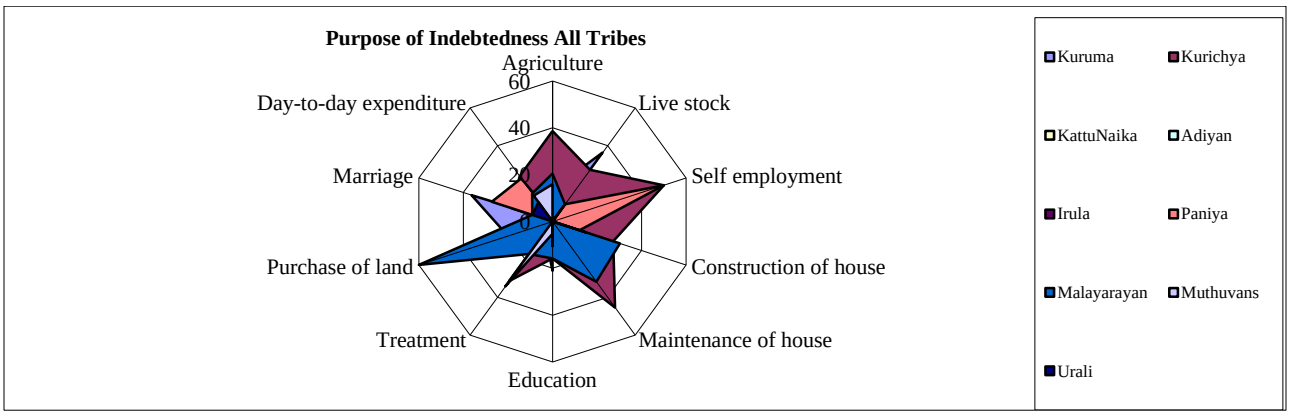
Source: Survey Data. Data for this graph is given in Appendix 42

Comparing the distribution of income categories within forward and backward tribes See figures 3.38 and 3.39) we see that with the exception of Adiya (from backward community) and Kurichya (from forward community), more than one fourth of the households in other tribal communities have reported a monthly household income of more than Rs.1850. The average household income for tribal communities is much lower than the state average

4.2.4 Indebtedness

Only 38 percent of the tribal households in the primary survey reported any form of indebtedness. However the nature and purpose of indebtedness among tribal communities varies.

Figure 3.40 Purpose of Indebtedness- General Situation

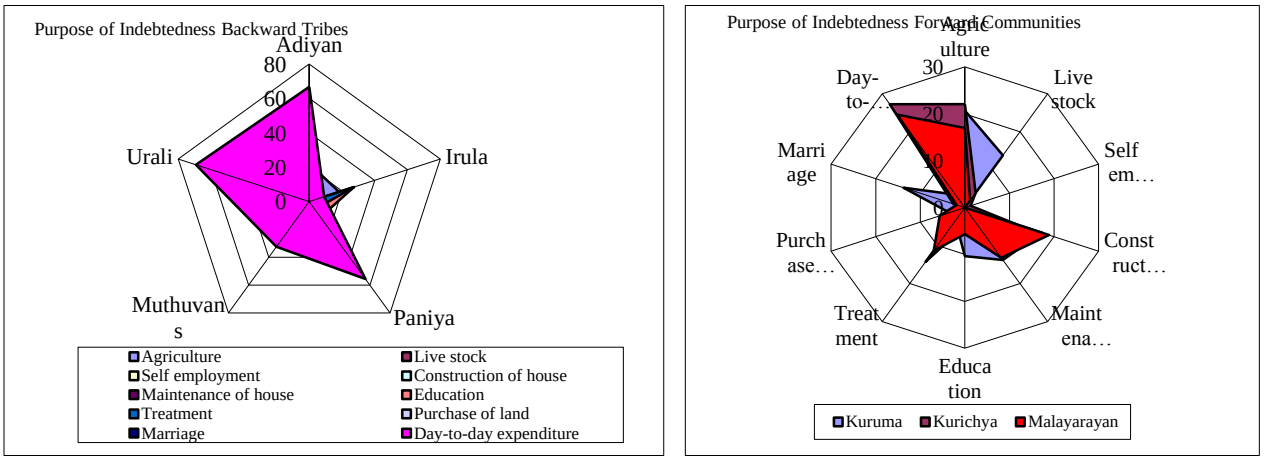


Source: Survey Data. Data for this graph is given in Appendix 43

When we look at the overall picture of the purpose for which tribals have incurred debt the impression is that the debt is primarily incurred for revenue generating activities and for purchase/ maintenance of assets as shown in figure 3.40. The share of debt incurred for day to

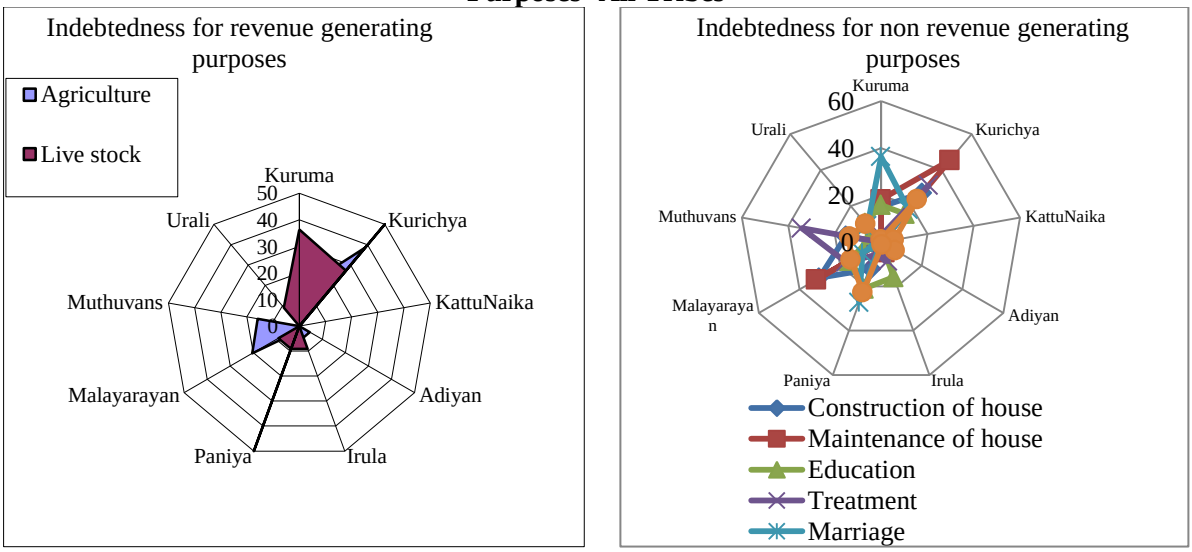
day expenditure in total debt incurred among tribal community as a whole is low. The figure 3.41 classify the purpose of indebtedness into two- revenue generating and non revenue generating.

Figure 3.41 Combined Figure showing Purpose of indebtedness among Forward and Backward Tribes



Source: Survey Data. Data for this graph is given in Appendix 43

Figure 3.42 Indebtedness for Revenue Generating Purposes and Non Revenue Generating Purposes- All Tribes



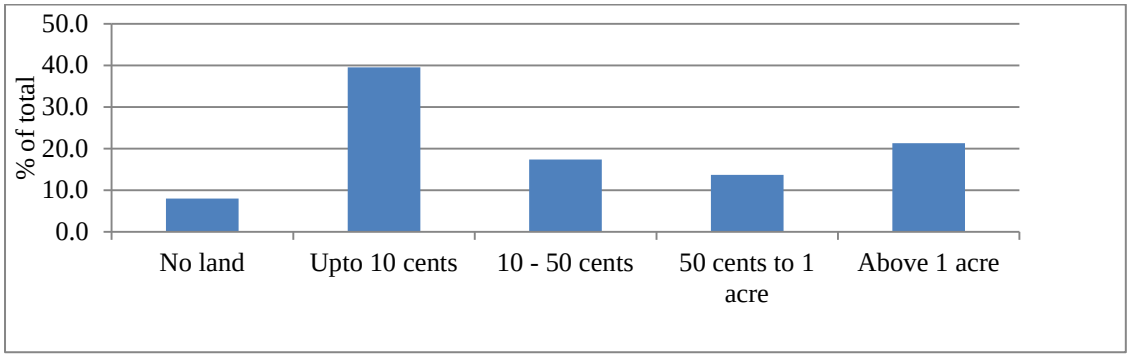
Source: Survey Data. Data for this graph is given in Appendix 44 and Appendix 45

The section of the figure 3.42 depicting the debt incurred for 'revenue generating purposes' shows that the majority group in the classification is forward tribes. The backward tribes like Urali, Muthuvan, Irula and Paniya have only negligible presence in the debt incurred for revenue generating activity classification. At the same time the indebtedness among tribes for non

revenue generating activities shows an increased presence of backward tribes as well. In this classification, most of the backward tribes have incurred debt for meeting day to day expenditures. Another distinct feature in this classification is that the the forward tribes like Malayarayan, Kurichya and Kuruma have incurred debt for meeting requirements like 'construction and maintenance of houses'.

3.2.5 Landholding among Tribal Communities

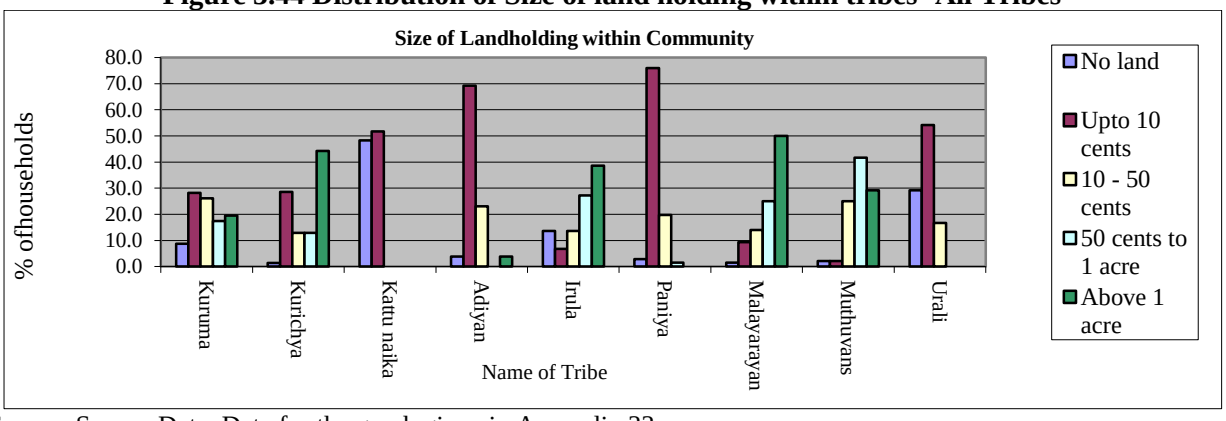
Figure 3.43 Distribution of the Size of Land holding



Source: Survey Data. Data for this graph is given in Appendix 33

The average size of land holding (figure 3.43) among STs (0.68 acres) is higher than that of SCs (0.32 acres) OBCs (0.40 acres) and others (0.63 acres) (Nair and Menon as cited in Kerala HDR, 2005). However the issues of land encroachment and alienation are perceived to be major threats to the income and livelihood of tribal communities.

Figure 3.44 Distribution of Size of land holding within tribes- All Tribes

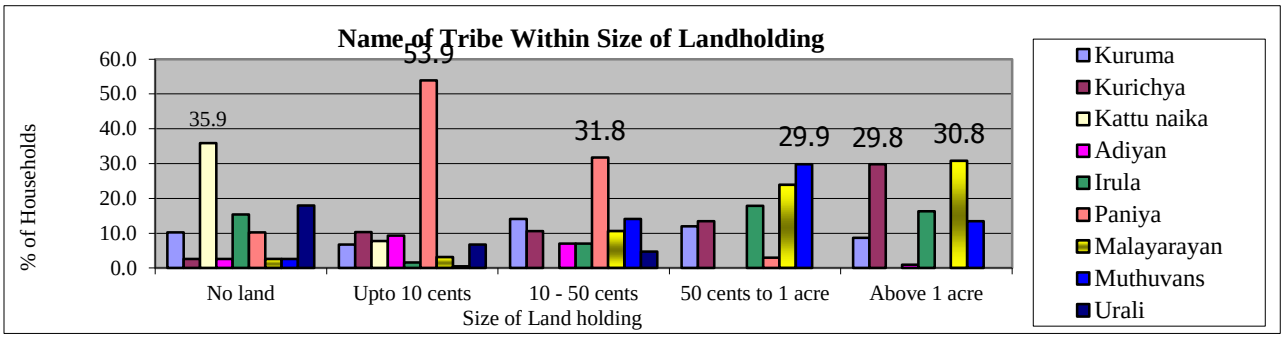


Source: Survey Data. Data for the graph given in Appendix 33

There is considerable variation in the size of landholding within and across tribal communities as highlighted in figure 3.44. While the size of land holding within communities like Adiyan, Paniya show only limited variation (in both the communities the majority households reported

land holding upto ten cents), other communities exhibit substantial variation in the size of land holding. In KattuNaika

Figure 3.45 Distribution of Name of tribe within size of land holding

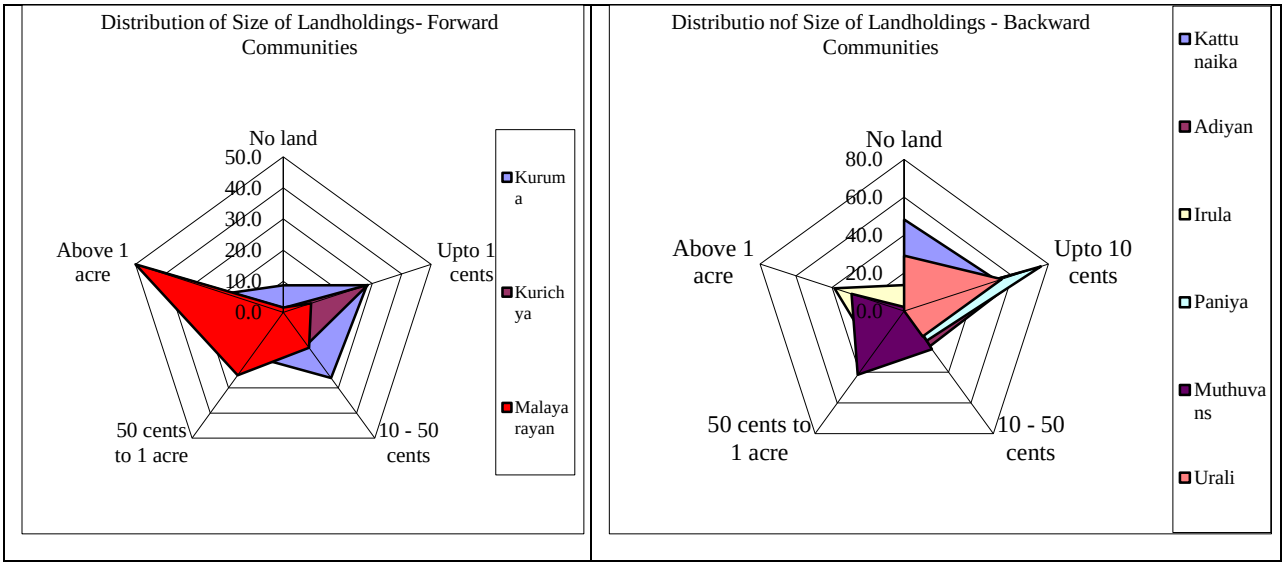


Source: Survey Data. Data for the graph is given in Appendix 33

Figure 3.45 depicts the variation in tribal communities within different size of land holdings. Paniyas account for 54 percent of all tribal households in the land holding category 'upto 10 cents'. Among all tribes who do not have any land holdings 36 percent were from KattuNaikan community. The landless category also features forward communities like Kuruma, Kurichya and Malayaraya. The presence of forward communities in this category is more likely to be because the land is jointly held in the family and that the partition has not taken place. More than 50 percent of all the tribal households that have more than one acre of land are from the two forward communities, Kurichya and Malayarayan.

The primary data suggest that within the forward communities Malayarayan community as whole hold more land than the other two communities. 75 percent of Malayaran households reported a land holding size of 50 cents or more and 50 percent reported their land holding size to be more than one acre. However, as mentioned earlier, since the Kuruma and Kurichya community still follow a distant version of joint family system, the true landholding size of the individual households is difficult to estimate. Among the backward communities, only Muthuvans and Irula have reported to be holding more than 50 cents and most of the other communities have reported land holding of less than 10 cents or no land at all as given in figure 3.46.

Figure 3.46 Distribution of size of land holding within forward and backward communities-Combined



Source: Survey Data. Data for the graph is given in Appendix 33

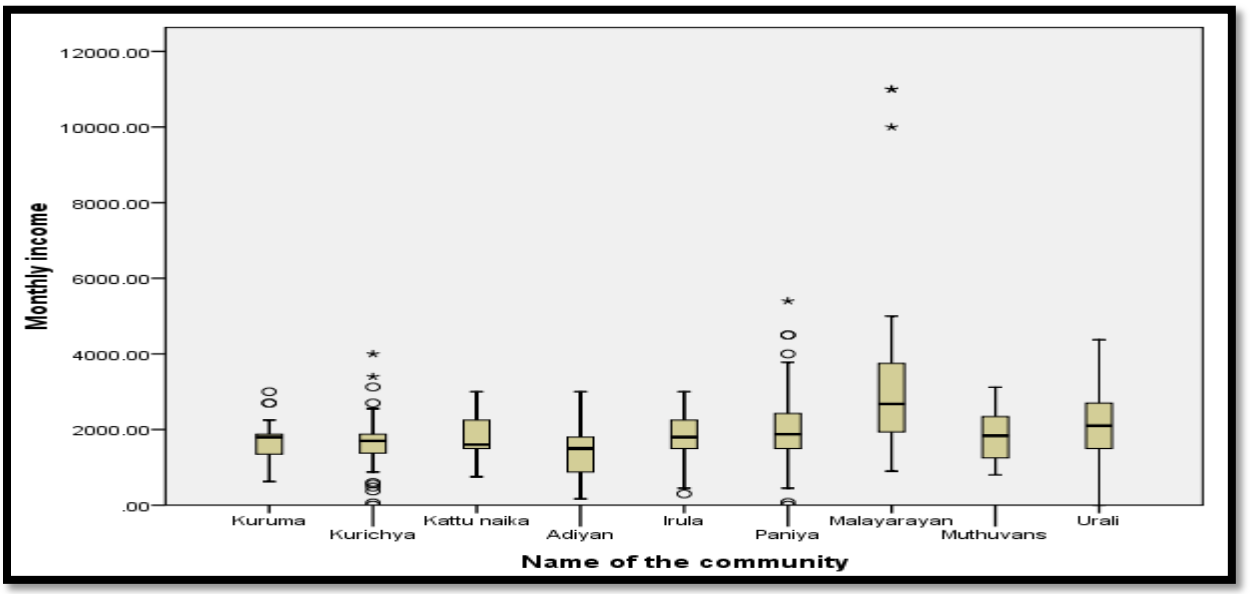
It is clear from this chapter that the situation of income, livelihood and general development among tribal community in Kerala presents a mixed picture. The forward communities like Kurichya, Kuruma and Malayaraya are better off in aspects like landholding size, representation in Government and private sector jobs and in general living standards. Though the general level of income is comparable across tribes, the main source of employment, the level of indebtedness and the purpose of indebtedness varies across the forward and backward tribes.

Table 3.1 Monthly income and expenditure of all tribal communities

	N	Minimum	Maximum	Mean	Std. Deviation
Monthly income	382	.00	11000.00	1995.4	1156.04950
Monthly expenditure	500	1000.00	20300.00	2479.2	1797.44620

Table 3.1 gives informaiton about the monthly income and expenditure of all tribal communities together. The average monthly income is Rs.1995.4 and the average monthly expenditure is Rs.2479.2. The minimum monthly income as per the data collected zero as some of the families reported no income.

Figure 3.47 Box plot with total montly income levels of the communities



Source: Calculations Based on Survey Data

The box plot shows the spread in the monthly income of the different communities under study. As can be seen from the figure 3.47 the average income of most of the communities is above Rs.1500. Table 3.2 gives details about the monthly income and expenditure of different communities. Table 3.2 clearly depicts that the there is difference in the monthly income and expenditure reported by the tribal communities. The data seems to suggest that most of the tribal communities except Malayarayan are not able to meet their monthly expenditure with their income. Some of the households have reported no income at all and the survey could not objectively validate those claims. But the number of households who reported no income are only a meager percentage (<1%) and hence they are retained in the sample for further analysis, lest we will end up compromising on the sample size for other analysis.

Table 3.2 Income and Expenditure of Individual Tribal Communities

Name of communities	Income				Expenditure			
	mean	Max	min	Sd	mean	max	min	sd
Kuruma	1703.59	3000	624	574.35	2187.5	4800	1000	1159.81
Kurichya	1664.64	4000	0	727.21	2559.86	6850	1500	1534.38
Kattu naika	1818.33	3000	750	589.85	1904.84	3700	1000	922.35
Adiyan	1422.15	3000	168	684.31	2464.81	6700	1400	1188.63
Irula	1834.58	3000	300	670.31	2060.91	3600	1300	864.76
Paniya	2000.63	5400	0	945.74	2740	20300	1600	2674.47
Malayarayan	3415.69	11000	900	2457.88	2898.92	10100	1200	1576.65
Muthuvans	1844.74	3120	800	622.19	2321.98	6600	1600	1124.07
Urali	2117.05	4375	0	866.55	2035	3500	1300	946.45

Source: Calculations Based on Survey Data

Table 3.3 Difference between monthly income and expenditure of tribal communities

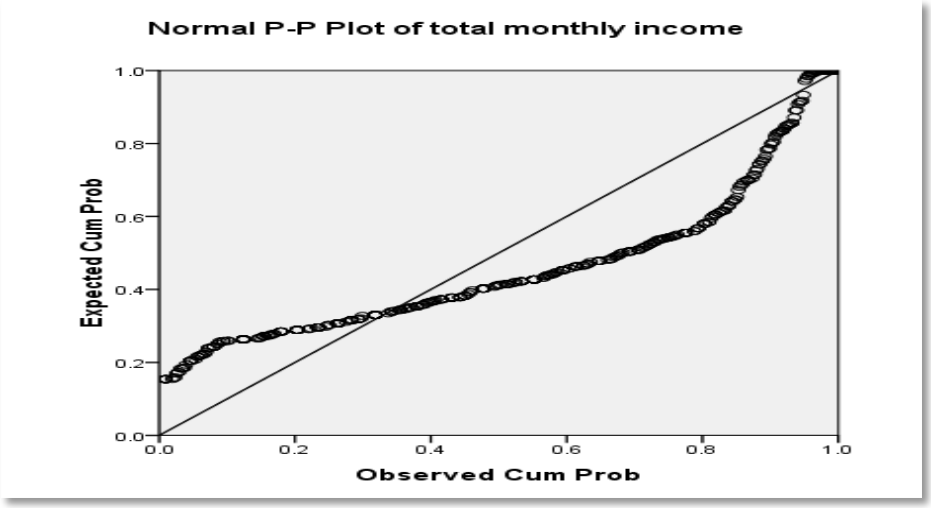
Name of communities	Mean diff	Max diff	Min diff
Kuruma	-483.91	-1800	-376
Kurichya	-895.22	-2850	-1500
Kattu naika	-86.51	-700	-250
Adiyan	-1042.66	-3700	-1232
Irula	-226.33	-600	-1000
Paniya	-739.37	-14900	-1600
Malayarayan	516.77	900	-300
Muthuvans	-477.24	-3480	-800
Urali	82.05	875	-1300

Source: Calculations Based on Survey Data

Table 3.3 suggests that most of the communities experience shortfall in their income to meet the expenditure. However the veracity of these figures could not be checked owing to practical difficulties. Here the highest average monthly short fall levels are found among the Adiyan community. Malayaran is the only community whose average monthly is sufficient to meet the expenditure.

With the differences observed in the descriptive statistics we will now proceed to test if the differences in monthly income are statistically significant or not. To check for the mean differences we use ANOVA. The data is plotted and the second and third moments are calculated to test for normality of the data, since normality is an assumption of ANOVA.

Figure 3.48 PP plot for total income of all Tribal communities.

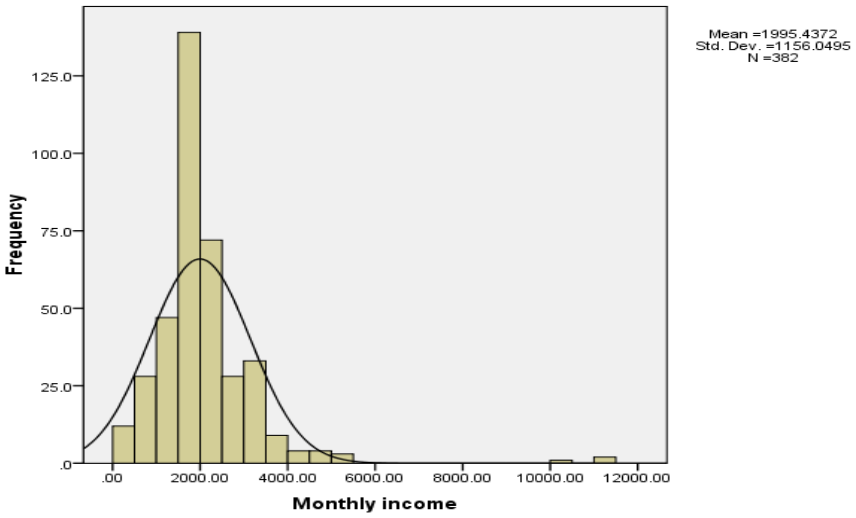


Source: Calculations Based on Survey Data

The PP plot in figure 3.48 suggests that the data is not normal. The third and fourth moments of the income distribution are calculated to check the extent of non normality. The skewness and kurtosis values of the distribution reported by the software are 3.680 and 18.032. This suggests a

leptokurtic distribution with a long right tail. The leptokurtic nature of the distribution is most probably caused by the relatively large number of Paniya households (28.2 % of the sample) in the sample as we had adopted population proportionate sampling. The mean income of the tribal communities as a whole (Rs.1995.4) is very close to that of the mean income of the Paniya community (Rs.2000). The distribution of monthly income is given in figure 3.49.

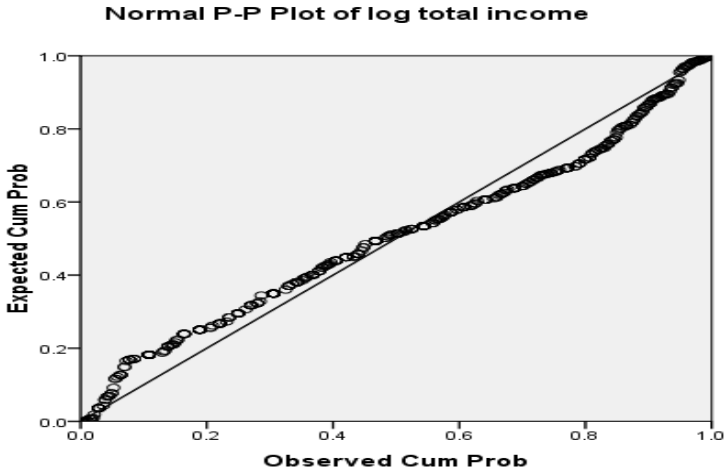
Figure 3.49 Monthly Income Distribution of Tribal Communities



Source: Calculations Based on Survey Data

To make sure that the assumption of normality is satisfied for employing ANOVA we have employed log transformation of the income data. The PP plot after log transformation is given in in figure 3.50.

Figure 3.50 PP plot log income of tribal communities



Source: Calculations Based on Survey Data

The PP plot suggests that log transformation seems to considerably reduce the problems of the skewness and this is substantiated by the measure of skewness (.93) and hence we will be using log of income as the test variable.

To check the differences in the mean the following hypothesis is formulated

Ho There is no significant differences between the incomes of tribal communities

H_1 There is significant difference between the income tribal communities

Table 3.4 Result of ANOVA of income of tribal communities

Tests of Between-Subjects Effects

Dependent Variable:log total income

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	32.600[a]	8	4.075	7.424	.000
Intercept	24398.152	1	24398.152	4.445E4	.000
Tribenam	32.600	8	4.075	7.424	.000
Error	264.568	482	.549		
Total	31875.439	491			
Corrected Total	297.167	490			

The significant F value (table 3.4) of the model offers statistical support to our observation that monthly income of tribal communities are different. Since the F value is significant at more than 1 percent level the null hypothesis is rejected and we conclude that tribal communities are not homogeneous from the point of income. To check for the sources of the differences we also administered the post hoc tests and found that the most of the differences between the average income levels between tribal communities in Kerala can be explained by the income levels of Malayaran community. The relevant portion of the multiple comparison results of the post hoc test is given in table 3.5

As can be seen from the post hoc results in table 3.5 the major source of difference in income levels between tribal communities can be explained by the income levels of Malayaran community. This statistical significance of the source of difference is substantiated by the above table where the p values are significant at 0.01 percent in all cases except for Muthuvans and Urali communities.

Table 3.5 Post hoc results of ANOVA for income- Malayarayan with other communities

(I) Name of the community	(J) Name of the community	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Malayarayan	Kuruma	.6504*	0.14329	**0**	0.2039	1.0968
	Kurichya	.6705*	0.12921	**0**	0.2679	1.0731
	Kattu naika	.6755*	0.16297	**0.001**	0.1677	1.1833
	Adiyan	.9274*	0.17083	**0**	0.3951	1.4597
	Irula	.8061*	0.14703	**0**	0.3479	1.2642
	Paniya	.7534*	0.1129	**0**	0.4017	1.1052
	Muthuvans	0.4205	0.14509	**0.092**	-0.0315	0.8726
	Urali	0.5217	0.17552	**0.075**	-0.0253	1.0686

As already explained in the earlier sections in the chapter the livelihood options of tribal communities exhibit some differences. To check if there is a significant difference in the sources of employment for tribal communities we have employed correspondence analysis; a technique that uses Chi Square distance measure the similarity of the row points and column points. A Chi Square value that is not statistically significant indicates that the row and column points are by and large the similar in their underlying characteristic.

H_0 There is no difference in the livelihood options of tribal communities in Kerala

H_1 There is significant difference in the livelihood options of tribal communities in Kerala

Table 3.6 Summary of the Correspondence Analysis for Livelihood options of tribal communities

Dimension	Singular Value	Inertia	Chi Square	Sig.	Proportion of Inertia	
					Accounted for	Cumulative
1	0.604	0.365			0.458	0.458
2	0.481	0.231			0.29	0.748
3	0.272	0.074			0.093	0.841
4	0.226	0.051			0.064	0.905
5	0.181	0.033			0.041	0.947
6	0.142	0.02			0.025	0.972
7	0.119	0.014			0.018	0.99
8	0.09	0.008			0.01	1
Total		0.797	**285.24**	.000a	1	1
a. 126 degrees of freedom						

The Chi-Square test gives a high value and the associated p value is also significant at more than 1 percent (see table 3.6). The results indicate that there is substantial difference between tribal communities and also the employment options. Hence we reject the null hypothesis that there is no difference in the livelihood options of tribal communities. Correspondence analysis reveals

that the first two dimensions explain about 75 percent of the variation in the data and hence we will be only looking at these two dimensions. Moreover none of the other dimensions have an inertia that satisfies the condition of >= 0.125 for rows and 0.076 for columns in this case. The value of 0.125 and 0.076 is derived from the generally accepted condition that for a dimension to be considered capable of explaining the row or column data it should have an inertia of at least 1/(r-1) or 1/(c-1);where r= number of rows and c= number of columns.

Table 3.7 Contribution of individual employment options to Extracted Dimensions in Correspondence Analysis

Overview Column Points									
Main employment	Mass	Score in Dimension		Inertia	Contribution				
		1	2		Of Point to Inertia of Dimension		Of Dimension to Inertia of Point		
					1	2	1	2	Total
None	0.182	-0.521	1.263	0.172	0.081	0.603	0.173	0.812	0.985
Collection of forest resources	0.006	-0.219	-0.782	0.018	0	0.007	0.009	0.093	0.102
Agriculture	0.151	0.868	0.25	0.095	0.188	0.02	0.727	0.048	0.775
Production of traditional products	0	.	.	.	.	.	.	.	.
Animal Husbandry	0.006	-1.338	-0.891	0.034	0.017	0.009	0.178	0.063	0.241
Small vendor	0.003	0.378	2.497	0.014	0.001	0.036	0.017	0.591	0.609
Collection of herbal medicine	0		.	.	.	.	.	.	.
Agricultural labour	0.24	-0.719	-0.413	0.101	0.205	0.085	0.742	0.195	0.937
Forest related job	0.003	-1.311	-1.801	0.041	0.008	0.019	0.071	0.107	0.178
Employment guarantee scheme	0.235	0.966	-0.308	0.153	0.363	0.046	0.865	0.07	0.934
Non-agricultural labourer	0.12	-0.746	-0.629	0.081	0.11	0.099	0.499	0.282	0.782
Estate labour	0	.	.	.	.	.	.	.	.
Govt./ semi-govt. job	0.028	0.659	0.082	0.048	0.02	0	0.154	0.002	0.156
Private sector job	0.003	0.378	2.497	0.014	0.001	0.036	0.017	0.591	0.609
Other	0.025	-0.365	-0.869	0.027	0.006	0.04	0.074	0.334	0.408
Active Total	1			0.797	1	1			

The contribution of each of the employment options that characterize the two dimensions are given in table 3.7. The options Employment guarantee scheme, agriculture labour, non agricultural labour and agriculture are the most defining elements of dimension 1; with employment guarantee scheme being the biggest contributor. The people who are unemployed

(option none) is the most significant contributors to dimension 2. The highest mass[7] in the case of different employment options goes to employment guarantee scheme. The options like production of traditional products, estate labour and collection of herbal medicine have no mass at all; making them insignificant in the analysis. On a normative note these options could be characterized as the traditional livelihood employment options of the tribal communities.

Table 3.8 Contribution of individual communities to Extracted Dimensions in Correspondence Analysis

Overview Row Points									
Name of the community	Mass	Score in Dimension		Inertia	Contribution				
		1	2		Of Point to Inertia of Dimension		Of Dimension to Inertia of Point		
					1	2	1	2	Total
Kuruma	0.087	0.715	-0.457	0.068	0.073	0.038	0.396	0.129	0.525
Kurichya	0.134	1.47	-0.072	0.19	0.479	0.001	0.92	0.002	0.922
Kattu naika	0.064	-0.792	-0.866	0.096	0.067	0.1	0.254	0.241	0.495
Adiyan	0.05	0.382	-0.89	0.049	0.012	0.083	0.092	0.395	0.487
Irula	0.078	-0.826	0.009	0.056	0.088	0	0.579	0	0.579
Paniya	0.24	-0.133	-0.376	0.04	0.007	0.071	0.063	0.404	0.467
Malayarayan	0.165	0.228	1.201	0.127	0.014	0.494	0.041	0.903	0.944
Muthuvans	0.131	-0.94	0.671	0.11	0.192	0.123	0.635	0.258	0.892
Urali	0.05	-0.899	-0.927	0.061	0.067	0.09	0.4	0.339	0.74
Active Total	1			0.797	1	1			
a. Symmetrical normalization									

While analyzing the contribution of tribal communities to the extracted dimensions (see table 3.8) we can see that the Kurichya and Muthuvan communities contribute the most to the first dimension and that Malayarayan and Muthuvan communities contribute the maximum to the second dimension. The mass of the individual tribal communities are by and large the same as their population proportion.

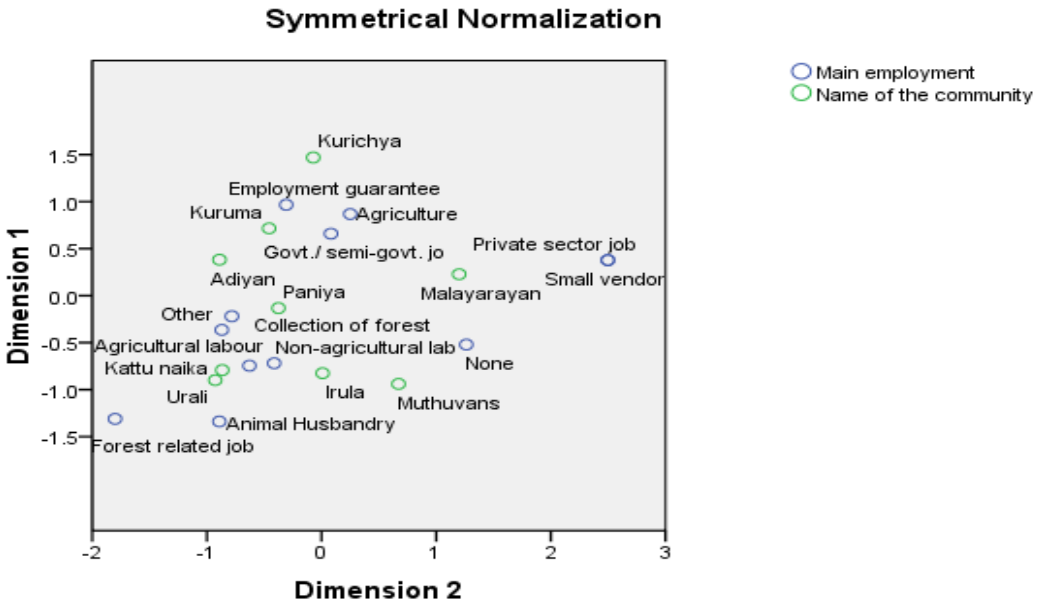
The correspondence graph given in figure 3.51 gives us some more information about the livelihood options of tribal communities.

As can be seen from figure 3.51 the Malayarayan and Muthuvan and Kurichyan communities are away from other communities in respect of their livelihood options. We can also see that the employment options 'animal husbandry and forest related activities, private sector jobs and small vendor' are away from the other livelihood options. It can also be observed that most of the tribal communities are scattered around agricultural labour and non agricultural labour. This suggests that the relative employment of tribal communities in these options is different from the other

[7] Mass of an individual cell is the relative frequency of the row or column total.

options. A further inspection reveal that Kurichya and Kuruma communities are the closest among all communities to the option employment guarantee scheme and this suggest that these communities could be making use of this option much more than the other communities on relative basis.

Figure 3.51 Correspondence graph for livelihood options of tribal communities



The graph suggests that the tribal communities are different from each other in terms of their employment options. The result of this analysis reveals two things

1. The dependence of tribal communities on their traditional livelihood options are minimal.
2. The popularity of schemes like NREGA among the tribal communities as an employment option is indicative of the fact that Government is playing an important role in the livelihood of tribal communities.

Nevertheless these Government schemes are popular among tribal communities that have been identified to be forward. The communities that have been identified to be backward do not seem to be benefitting from such schemes.

Chapter IV

Tribal Literacy and Education

Literacy and Education are among the major indicators that emanate the parlance "Kerala Model" in any discussion on the development of the state. In this theme the East Asian nations are ahead of Kerala, exemplifying the decisiveness of education in boosting economic development (and thereby furthering social development). Despite the visible inequity in emphases given to different levels of education, and the same inequity in the quality-quantity equations, Keralas could gain remarkable achievements. Again this inequity instills into various layers of social strata as well, excluding those already panting in the process of education. There are exceptions in educational attainment the state boasts of; and that really made the state an exception among the states in India. In this chapter, an appraisal of tribal literacy and education is made.

4.1 Tribal Literacy- The Present Situation

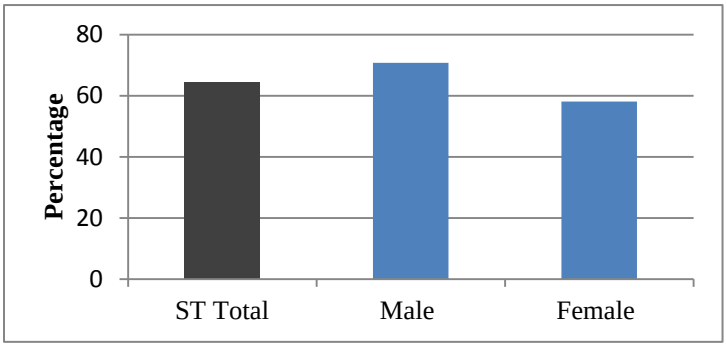
The STs are the most backward communities in the state with regard to achievements in both literacy and education. This should be read with the other characteristics and peculiarities they have; the level of poverty, deprivation and the consequent exclusion being the prominent ones. There exists a culture of poverty[8] that instills into all aspects of their life including social and economic development.

The tribal communities are outliers with regard to literacy in Kerala. The state has an overall literacy rate of 90.92 percent as (Census, 2001), but that of tribes is just 64.35 percent (where as the national overall rate is 65.38 and tribal literacy rate is 47.08 percent). The literacy rate of tribal males is 70.78 percent whereas that of tribal females is only 58.11 (figure 4.1). It is notable that the difference between the overall and tribal literacy rates at the state level (26.57 percent) is higher than the difference between the same rates at the national level

[8] Culture of poverty concept is a social theory introduced by Oscar Lewis in his book "Five Families: Mexican Case Studies in the Culture of Poverty" (1959), explaining the cycle of poverty Based on the concept that the poor have a unique value system, the theory suggests that the poor remain in poverty because of their adaptations to the burdens of poverty. Lewis argued that though the burdens of poverty were systemic and therefore imposed on the poor, they led to the formation of an autonomous sub culture.

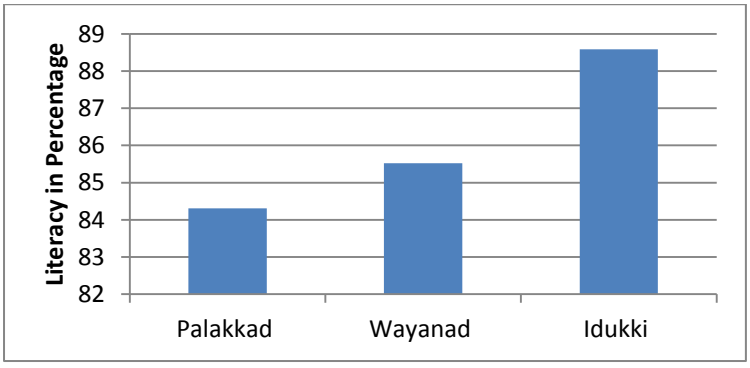
(18.30 percent). The district wise data (figure 4.2) show that the 3 tribal districts[9] (Palakkad-84.31 percent, Wayanad-85.52 percent, and Idukki-88.58 percent) constitute the 3 least literate districts in the state (Census, 2001).

Figure 4.1 Tribal literacy, 2001



Source: Census Data 2001

Figure 4.2 Least literate districts in Kerala



Source: Census Data 2001

4.2 Impediments in Tribal Literacy

There are numerous hurdles in the road to achieve full literacy among the tribal communities. The major ones are as follows. These were identified after discussions with experts in the Government and NGOs who work in the area.

4.2.1 Inaccessibility to the settlements

The tribal settlements in the state are mostly situated in inaccessible terrains. While some are connected with comparably good roads, despite being remote, others are almost cut off from the outside world. Also many of the settlements are in the deep forest, making access to

[9] Districts with most number of tribal communities in the state. These districts lag behind others in most of the development indices, a condition largely contributed by the tribal population

education difficult and; moreover the system of education offered is unattractive to those tribal communities, like KattuNaika, who live in the deep forest as there are definite disconnects with what they perceive to be important in their lives. All these affect the efforts towards the betterment of tribal literacy.

4.2.2 Language barrier

Language is the identity of any known community. The tribal communities have their own dialects (languages without script or writing). This situation really puts them in difficulty as they have to learn languages other than those they are familiar with. The situation creates hurdles for both the teachers and the taught.

4.2.3 Cultural barriers

The tribal communities in general are seen to be lethargic and lazy and lack ambition required for self upliftment. This state of affair has many dimensions. First, rhythm is one of the master values of tribal communities[10] (on the contrary speed is one of the master values of mainstream communities) and consequently they are not much anxious of any loss of time, resulting in a state of sluggishness. The lack of time consciousness and ambitions in life pulls back this section in literacy as well as any other development efforts.

4.2.4 Lack of tribal sensitive functionaries

Lack of tribal sensitive functionaries puts blockades in the development endeavors designed for tribes not only in literacy but also in other programmes as well. The sensitivity of the functionaries assume critical significance while implementing the development schemes as many a times the reason for the failure of the development scheme has much to do with the limited understanding about the socio cultural aspects of tribal communities. The failure to take into cognizance such factors at the design stage of the programmes has been pointed out by experts as a reason for the ineffective performance of many tribal development schemes.

4.2.5 Lack of Access to "Vayanasalas" (libraries)/Reading Materials

"Vayanasala" (library) movement in the state was at the centre of the achievements of the state in literacy and education. This caused spreading of libraries and reading rooms in every

[10] Acknowledge the observation made by Fr Mani, who is a selfless volunteer working for the cause of tribes in Palakkad.

nook and corner across the state. However the tribal communities in the state mostly do not have these facilities, depriving them of a fine apparatus for facilitating literacy and its continuity.

4.2.6 Lack of Continuing Efforts

Achievements in literacy cannot be maintained without continuing efforts to that effect. The newly literate should be continuously motivated to sustain their literacy, failure of which they are likely to go back to the previous mode, putting in vain all the efforts made. As seen, the reach of library and reading room facilities are almost nil among the tribes, contributing to lesser continuing efforts.

4.2.7 Non-access to Mass Media

Mass media are important instruments for sustaining literacy and other informal education. It is particularly significant in the current era of Information and Communication Technology (ICT) revolution happening in the country and in the state[11]. Not just literacy and informal education, but the success of democracy also is dependent on the access to media which enable the citizens to make informed decisions. The communities largely do not have access to media including newspaper and television. The main reason for this situation is the geographical isolation and lack of power supply.

4.3 Educational attainment of tribes

The educational attainment of tribal communities is an exception to what the state boasts to have achieved compared to not just the other states in the country but also many of the developed nations in the world. Primary evidence shows that of the nine communities under study, there is no significant difference between the sexes in the matter of illiteracy (table 4.1). The educational achievement generally shows a diminishing trend with some exceptions. Kattunaika stands far below in educational achievement than all other counterparts. Both Kattunaika and Muthuvan do not have any graduates and only Kurichiya, Paniya and Malayarayan have representation in post graduation level, that too very nominal.

[11] Despite the state efforts to reduce the digital divide by diffusing computer education at the grass root level, the intereaction with various stakeholders reveal tribal communities remain digitally deprived.

Table 4.1 Sex wise inter-tribe difference in Educational attainment

Tribe	Sex	Education %							
		Illiterate	Newly literates	Primary	Up tp SSLC	Pre-degree/ Plus 2	Graduation	Post graduation	Others
Kuruma	Male	15.30	4.60	22.40	31.00	19.60	1.30	--	--
	Female	17.50	3.50	21.30	31.80	19.10	2.20	--	--
Kurichiya	Male	8.00	4.20	24.00	46.30	8.60	2.20	0.40	0.60
	Female	8.80	3.00	21.40	44.00	10.20	2.40	1.10	1.80
Kattunaika	Male	30.70	0.00	33.00	33.00	3.30	--	--	--
	Female	29.70	0.70	29.70	37.80	2.00	--	--	--
Adiyan	Male	32.50	1.80	28.00	22.90	9.60	2.20	--	--
	Female	32.70	2.10	28.90	25.70	7.00	1.40	--	--
Irula	Male	33.60	1.40	34.30	18.60	2.50	1.10	--	--
	Female	36.60	1.00	34.90	17.80	2.30	0.70	--	--
Paniya	Male	24.20	2.80	35.60	29.70	4.60	1.00	0.40	0.30
	Female	23.30	3.00	34.60	30.60	4.60	1.80	0.50	0.50
Malayarayan	Male	3.70	3.50	24.60	27.60	26.00	3.90	1.60	--
	Female	4.60	2.20	23.90	26.00	27.80	5.20	1.50	--
Muthuvan	Male	36.70	4.40	35.50	18.50	3.20	--	--	--
	Fmale	35.70	3.90	37.20	18.70	3.00	--	--	--
Urali	Male	31.80	--	19.20	38.90	5.40	1.30	--	--
	Female	30.90	--	18.70	42.70	5.00	1.50	--	--

Source: Survey Data

4.4 Government Efforts towards Tribal Education

There are numerous efforts taken by the government at various points of time for the betterment of tribal education. Tribal sub-plans gave thrust to tribal education. The Department of ST development, Social Welfare Department, Social Welfare Board etc. are providing stipend to students and running exclusive hostels for them. Besides, initiatives like noon-meal programme, distribution of food grains during festive seasons etc are being undertaken. However, the fact that despite all these efforts, the educational dropout rate of tribal communities in the state remained almost four times that of general dropout rate raises serious questions on the efficacy of all these efforts and initiatives.

4.5 School Enrolment

The ST students constitute 1.63 percent of total enrolment in schools. While their enrolment at the primary school is promising as it is slightly greater than their share in the total population of the state, it is disappointing at the higher levels (figure 4.3) (Govt. of Kerala, 2009). Thus the school enrolment of ST students shows a decreasing trend towards the successive stages i.e. 2.03 percent at Lower Primary (LP), 1.68 percent at Upper Primary

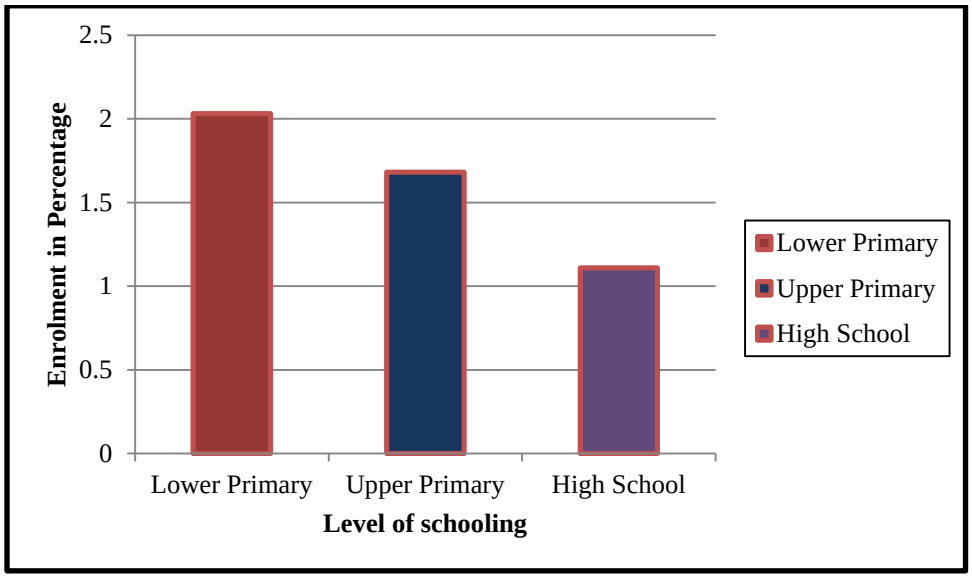
(UP) and 1.11 percent at High School (HS) (table 4.2). This could be partly because of the drop out happening at every successive stage of their schooling.

Table 4.2 Enrolment of ST students at school level 2008-09

Section	Total	ST	% to total
LP	1665993	33781	2.03
UP	1452540	24449	1.68
HS	1427293	15882	1.11

Source: Directorate of Public Instruction.

Figure 4.3 School enrolments of STs 2008

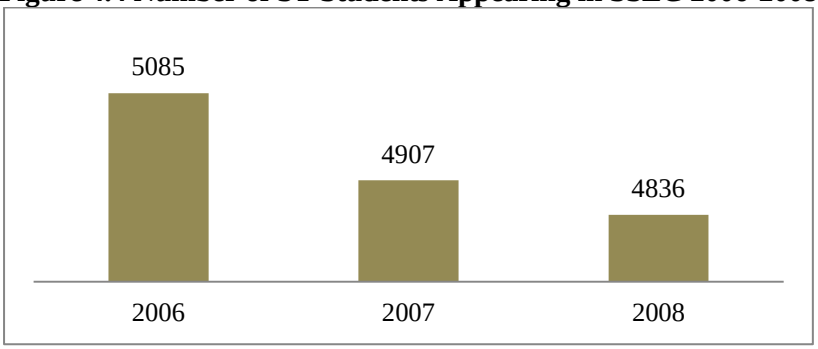


Source: Directorate of Public Instruction.

4.6 Pass Out

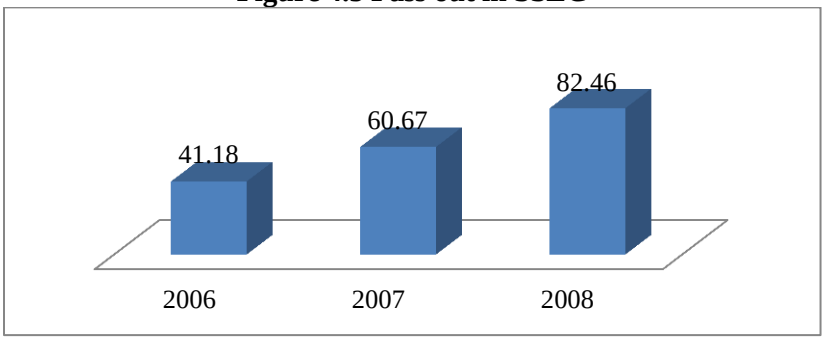
The passing out ratio is an important indicator of the educational achievements of the tribes. The data on the results of ST students in SSLC Examinations for the years 2006 to 2008 (figure 4.4) show that the total number of students appearing the examination has been steadily decreasing (5085 in 2006, 4907 in 2007 and 4836 in 2008). Against this trend, it is interesting to observe that the percentage of successful candidates has been steadily increasing (41.18 percent in 2006, 60.67 percent in 2007 and 82.46 percent in 2008) (figure 4.5). This could be because of the fact that it is the disinterested students who largely drop out.

Figure 4.4 Number of ST Students Appearing in SSLC 2006-2008



Source: office of the Commissioner of Government Examinations

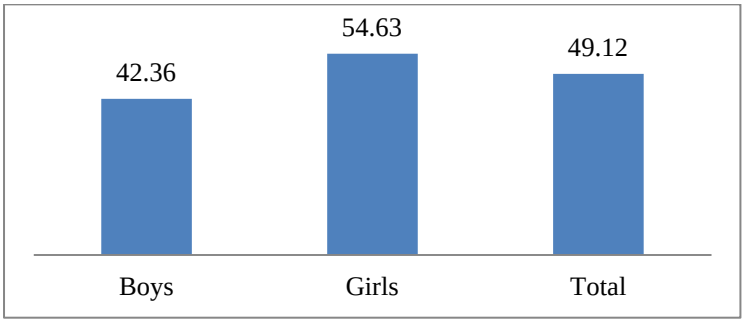
Figure 4.5 Pass out in SSLC



Source: Office of the Commissioner of Government Examinations

In the matter of Higher Secondary examination, the total students appeared were 3392 (1525 boys and 1867 girls) in the year 2007-2008. The percentage of pass is only 49.12 percent. This is lower compared to that of SSLC (82.46 percent in the same year). It's notable that girls (54.63 percent) were much ahead of their male counter parts (42.36 percent) in this regard (figure 4.6).

Figure 4.6 Passing Percentage-HSS

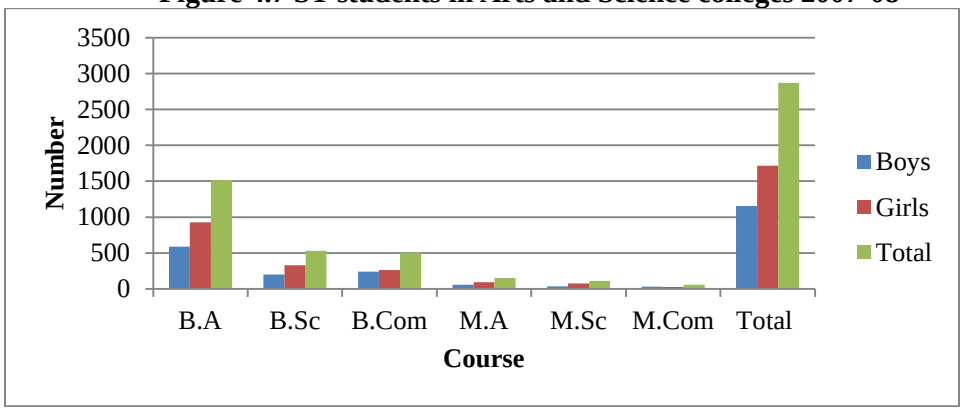


Source: Directorate of Higher Secondary, 2008

In the year 2007-08, the total number of ST students studying in the arts and science colleges in the state was 2870, out of which 40.24 percent (1155) were boys and 59.76 (1715) girls (figure 4.7). Girls far excelled boys in all levels of higher education except M.Com. The

preponderance of girls among tribes in higher education is an irony. One possible explanation for this phenomenon is that the opportunity cost associated with higher education for tribal females is less compared to that of males. Nevertheless, this just remains as a potential explanation and deserves to be investigated seriously in its own right.

Figure 4.7 ST students in Arts and Science colleges 2007-08

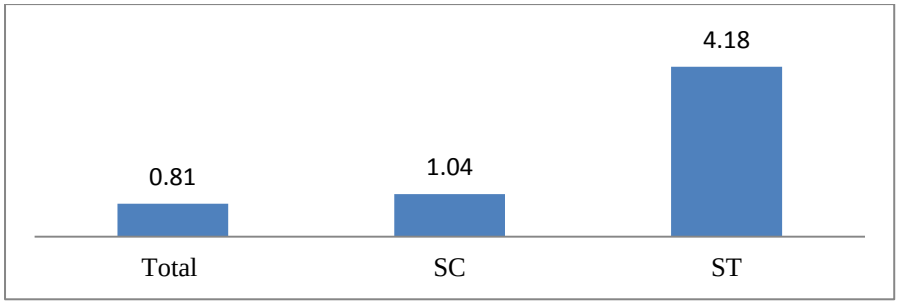


Source: Directorate of Collegiate Education, (2008)

4.7 Drop out

Kerala has the distinction of being the state with the lowest rate of dropout among school students in India. In the year 2006-07, the total dropout among school students in the state was 0.81 percent.

Figure 4.8 Category-wise dropout rate in Kerala, 2006-07

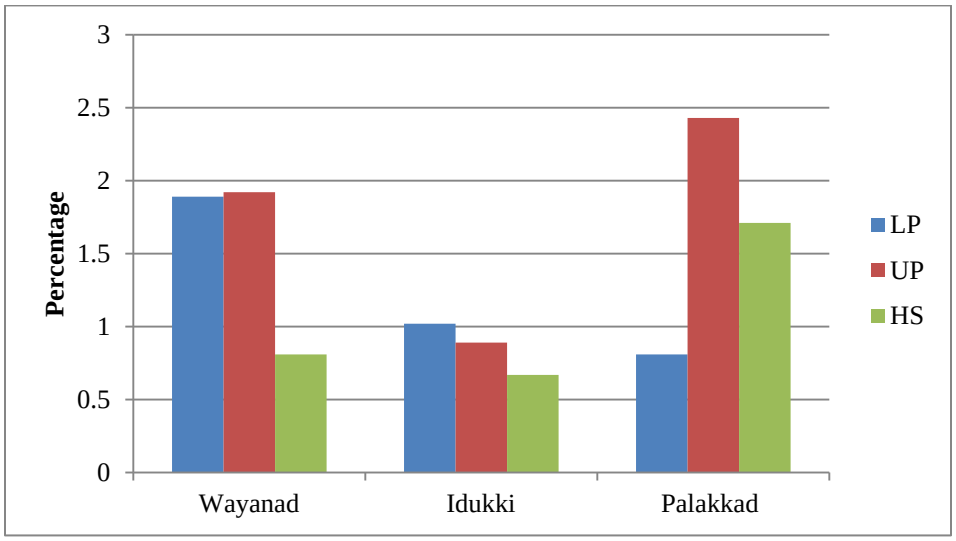


Source: DPI, Govt of Kerala, (2008)

The drop-out ratio in Lower Primary, Upper Primary and High School Sections were 0.59 percent, 0.52 percent and 1.38 percent respectively. However, dropout ratio among the ST students was more than five times that of the state level ratio (4.18 percent). It should be noted that the dropout ratio of SC students was only 1.04 percent during the same period (Govt. of Kerala, 2008). Thus it is evident that dropout among tribal students is more than four times compared to that of SCs, a section of the society considered to be equally backward (figure 4.8).

The district-wise data shows that the most tribal populated districts have the highest dropout ratio (figure 4.9). Wayanad district leads with 1.89 percent in Lower Primary, 1.92 percent in Upper Primary and 2.56 percent in High School section, followed by Idukki (LP-1.02, UP-0.89 and HS-2.43 percent) and Palakkad (LP-0.81, UP-0.67 and HS-1.71 percent). This could be attributed to the high level of tribal dropout.

Figure 4.9 District-wise school dropout



Source: Director of Public Instructions, (2008)

Statistics show that despite the government initiatives including the tribal sub plans giving greater emphasis on the education of tribals, the problem of educational drop out is high among them compared to the mainstream population (Mitra and Singh, 2006). It is high even compared to the other backward sections including Scheduled Castes. This is of particular significance in Kerala, the state excelling other states in almost all development indices. Further investigation is required to understand in detail the determinants, dimensions and effects of educational dropout among the tribal communities.

The significance of education in the development of tribes is evident from the example of Kurumas and Kurichiyas. Educational drop out is the least among them and they are the most advanced tribes in Wayanad district. On the contrary drop out is very high among the Paniya, Adiya, Kattunaika, Uralis coupled with low enrolment. According to ST promoters who work among these tribes the high dropout and low enrollment is partially due to their migratory nature. For example, when they go to visit their relatives on occasions, they may come back after several months, putting hurdles to their education.

Table 4.3 District-wise Drop Out Ratio in Schools: 2006-07

Sl No	Districts	L P Stage			U P Stage			H S Stage		
		Enrol-Ment	Drop-out	Percet-age	Enrol-Ment	Drop out	Perce-ntage	Enrol-ment	Drop out	Perce-ntage
1	Trivandrum	166280	1162	0.7	133653	834	0.62	137177	1213	0.88
2	Kollam	121256	432	0.36	108232	427	0.4	110689	847	0.77
3	Pathanamthitta	49111	188	0.38	44165	107	0.24	48326	238	0.49
4	Alappuzha	90771	258	0.28	79554	187	0.24	85102	641	0.75
5	Kottayam	91610	338	0.37	75982	230	0.3	77473	621	0.8
6	**Idukki**	54008	551	**1.02**	43580	387	**0.89**	40639	989	**2.43**
7	Eranakulam	137941	843	0.61	117553	559	0.48	121582	1419	1.17
8	Thrissur	168608	552	0.31	138214	605	0.44	132212	1397	1.06
9	**Palakkad**	166697	1347	**0.81**	134475	906	**0.67**	129844	2217	**1.71**
10	Malappuram	300760	1583	0.53	235536	1262	0.54	228669	4191	1.83
11	Kozhikodu	174909	918	0.52	141463	589	0.42	144097	2514	1.74
12	**Wayanad**	52818	999	**1.89**	38232	735	**1.92**	35346	906	**2.56**
13	Kannur	135066	591	0.44	112017	461	0.41	114553	2556	2.23
14	Kasargodu	79582	744	0.93	61425	350	0.57	60269	446	0.74
Total		**1789417**	**10476**	**0.59**	**1464081**	**7641**	**0.52**	**1465978**	**20195**	**1.38**

Source: Economic Review, (2008)

The district level data (of Wayanad) show that dropout of tribal students constitutes the greater majority of total dropout (table 4.4) warranting immediate corrective intervention to that effect.

Table 4.4 Drop out of Tribal Students in Wayanad in the Year 2007-2008

STD	All Communities			Scheduled Tribes		
	Boys	Girls	Total	Boys	Girls	Total
I	182	154	336	93	76	169
II	174	127	301	116	87	203
III	97	60	157	76	40	116
IV	95	81	176	69	62	131
V	162	105	267	134	82	216
VI	129	106	235	99	79	178
VII	151	124	275	117	104	221
VIII	285	125	410	126	92	218
IX	306	144	450	90	73	163
X	58	53	111	17	29	46
Total	**1639**	**1079**	**2718**	**937**	**724**	**1661**

Source: Office of DD of Education, Wayanad , (2008)

Discussions with the NGOs and ST promoters have pointed at the lack of familial support for the tribal children in enrolling or continuing education. Factors like illiteracy, consumption of alcohol etc. of parents, loose family relations, informal and early marriage, (informal) divorce (even among the educated ones) etc.

4.8 Underreporting of Dropout

The official figures of drop out, it is understood, do not reveal the reality as there is underreporting. There are various factors contributing to this situation. Consequent to the different policies and programmes for the cause of tribal education, the tribal students get various assistances including financial aid. There are instances in which the students are retained in record, despite being dropouts, so as to facilitate them/their families to avail these benefits. This could be because of either parental pressures or philanthropic attitude of teachers Another important reason is the threat to the job of teachers and staff. If the number of students comes down to a lower level (in that case the school is likely to be 'uneconomic'), the employment prospect of the teachers might be at risk.

4.9 Culture of Dropout and Culture of Poverty

The concept of Culture of Poverty[12] means that poverty generates its own culture and this culture perpetuates overtime. In other words, poverty will produce poverty only. The people living in the culture of poverty have a strong feeling of marginality, helplessness, dependency, and of not belonging to the mainstream. They are virtually aliens in their own country, convinced that the existing institutions do not serve their interests and needs. Besides this feeling of powerlessness, there is a feeling of inferiority and personal unworthiness. Efforts to understand the attitude of the tribal communities towards the Government revealed that most of the communities expect that the Government is to take care of them and that they are entitled to the benefits offered by the Government. Since most of the benefits offered to promote tribal education are not linked to performance (lump sum grant , scholarship, noon meal etc) the communities think of these more as their rights as opposed to initiatives to incentivize them to get educated. The culture of dropout is reinforced as most of these tribal communities live in tribal settlements where the younger children going to school feel it is OK to dropout since the elder ones have droppedout.

[12] Culture of poverty concept is a social theory introduced by Oscar Lewis in his book "Five Families: Mexican Case Studies in the Culture of Poverty" (1959), explaining the cycle of poverty Based on the concept that the poor have a unique value system, the theory suggests that the poor remain in poverty because of their adaptations to the burdens of poverty. Lewis argued that though the burdens of poverty were systemic and therefore imposed on the poor, they led to the formation of an autonomous sub culture as the children were socialized into the behaviours and attitudes that perpetuated their inability to escape the underclass. Source: http://en.wikipedia.org/wiki/Culture_of_poverty

4.10 The AHADS initiative

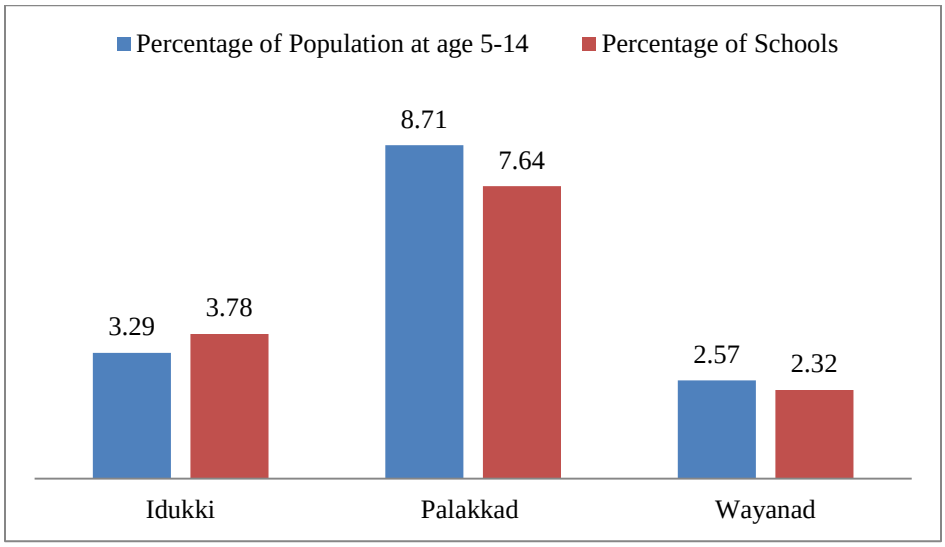
Box 6.1 AHADS Initiative

The Attappadi Hill Area Development Society (AHADS) made an attempt in 2005 to reduce the dropout rate of tribal children in Palakkad. It made an attempt to bring the drop out children again to school. Initially the attempt was made through the schools but failed since a large number of students were studying outside Attappady. Therefore they opted literacy classes as their field of operation. Each mother was individually attended and the problem of their children were traced and sorted out. They opted to operationalise the scheme through mothers as they are more concerned with children's education.

4.11 Educational Infrastructure

Educational infrastructure is a decisive factor in determining the educational attainment of the tribes. The state has a total of 12647 schools, of which 2803 are High schools, 3042 U P schools and 6802 L P schools. The Three tribal districts, except Idukki, have schools below the ratio of their population at school going age (i.e. 5-14 years) (figure 4.10). Wayanad has a share of 2.57 percent of the total state population but has only 2.32 percent of total schools in the state. For Palakkad they are 8.71 percent 7.64 percent respectively (Govt of Kerala 2009). Low distribution of schools is observed in some other districts as well requiring further inquiry in this regard.

Figure 4.10 District wise population at schooling age and percentage of schools in 2009



Source: Economic Review (2009)

The availability of infrastructure, both in terms of quantity and quality, is a determinant factor for the educational advancement of the tribal community as any other section.

Table 4.5 District wise details of Govt. Schools having Pucca Buildings (2007-2008)

District	Population 5-14 years	High Schools		UP Schools		LP Schools		Total	
		Total	PB	Total	PB	Total	PB	Total	PB
Thiruvananthapuram	533739	119	99	98	92	299	298	516	489
Kollam	413756	78	78	61	61	268	268	407	407
Pathanamthitta	193174	48	48	42	42	168	168	258	258
Alappuzha	319849	59	59	67	67	192	192	318	318
Kottayam	299291	60	60	67	67	168	168	295	295
Idukki	**182284**	**55**	**55**	**40**	**40**	**85**	**85**	**180**	**180**
Eranakulam	470604	87	87	91	91	181	181	359	359
Thrissur	489240	80	80	55	55	115	115	250	250
Palakkad	**481755**	**61**	**61**	**63**	**63**	**194**	**194**	**318**	**318**
Malappuram	832939	82	82	113	113	350	350	545	545
Kozhikodu	508356	70	70	74	74	181	181	325	325
Wayanad	**142415**	**40**	**40**	**34**	**34**	**91**	**91**	**165**	**165**
Kannur	423672	83	83	76	76	114	114	273	273
Kasargod	**240307**	**77**	**77**	**72**	**72**	**141**	**141**	**290**	**290**
Total	5531381	999	979	953	947	2547	2546	4499	4472

Source: Economic Review (2009)

Table 4.6 District wise details of Govt. Schools having Urinal/Latrines (2007-2008)

District	Population 5-14 years	High Schools		UP Schools		LP Schools		Total	
		Total	U/L	Total	U/L	Total	U/L	Total	U/L
Thiruvananthapuram	533739	119	119	98	95	299	296	516	510
Kollam	413756	78	76	61	56	268	259	407	391
Pathanamthitta	193174	48	48	42	42	168	167	258	257
Alappuzha	319849	59	59	67	66	192	187	318	312
Kottayam	299291	60	60	67	67	168	161	295	288
Idukki	**182284**	**55**	**47**	**40**	**39**	**85**	**82**	**180**	**168**
Eranakulam	470604	87	85	91	91	181	181	359	357
Thrissur	489240	80	80	55	55	115	109	250	244
Palakkad	**481755**	**61**	**61**	**63**	**63**	**194**	**174**	**318**	**298**
Malappuram	832939	82	82	113	113	350	335	545	530
Kozhikodu	508356	70	70	74	73	181	169	325	312
Wayanad	**142415**	**40**	**40**	**34**	**34**	**91**	**89**	**165**	**163**
Kannur	423672	83	83	76	75	114	100	273	258
Kasargod	**240307**	**77**	**74**	**72**	**72**	**141**	**137**	**290**	**283**
Total	5531381	999	984	953	941	2547	2446	4499	4371

Source: DPI, Govt. of Kerala (2008).

Cent percent schools in all the four major tribal districts in the state have pucca buildings (see table 4.5). This points to the fact that educational infrastructure is nearly satisfactory in the case of the tribal communities in general.

Apart from building, urinals, latrines, drinking water etc are the most common facilities that educational institutions do and should have. It is seen that with regard to urinals and latrines too there is not much difference between the tribal dominated districts and others (see table 4.6).

Table 4.7 District wise details of Govt. Schools having Drinking Water (2007-2008)

District	Population 5-14 years	High Schools		UP Schools		LP Schools		Total	
		Total	DW	Total	DW	Total	DW	Total	DW
Thiruvananthapuram	533739	119	119	98	94	299	297	516	510
Kollam	413756	78	77	61	56	268	258	407	391
Pathanamthitta	193174	48	48	42	42	168	168	258	258
Alappuzha	319849	59	58	67	67	192	192	318	317
Kottayam	299291	60	60	67	65	168	157	295	282
Idukki	**182284**	**55**	**51**	**40**	**37**	**85**	**69**	**180**	**157**
Eranakulam	470604	87	86	91	87	181	178	359	351
Thrissur	489240	80	80	55	54	115	111	250	245
Palakkad	**481755**	**61**	**61**	**63**	**61**	**194**	**170**	**318**	**292**
Malappuram	832939	82	82	113	107	350	333	545	522
Kozhikodu	508356	70	70	74	74	181	167	325	311
Wayanad	**142415**	**40**	**37**	**34**	**34**	**91**	**88**	**165**	**159**
Kannur	423672	83	83	76	75	114	101	273	259
Kasargod	**240307**	**77**	**73**	**72**	**71**	**141**	**127**	**290**	**271**
Total	5531381	999	985	953	924	2547	2416	4499	4325

Source: DPI, Govt. of Kerala (2008).

With regard to drinking water facilities also there is not much difference between the tribal districts and others (see table 4.7). All these show that infrastructure and basic facilities in the state, among the government run schools in both the tribal concentrated districts and other districts, are fairly equally distributed throughout the state. This is of particular interest because the reason for educational drop out and consequent backwardness lies somewhere else, and not in the lack of infrastructure.

4.11 Specific Educational Facilities

Both the availability and utilization of educational facilities are important in assessing the educational scenario of the tribal communities in the state.

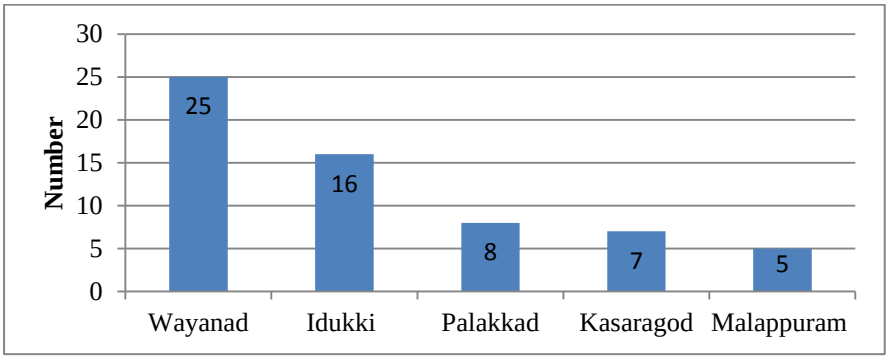
Table 4.8 Distribution of Model Residential Schools in the State

Sl. No	MRS	Category	Type	Year of startup	District
1	Kattela	HSS	Girls	1991	Thiruvananthapuram
2	Nalloomadu	HSS	Boys	1991	Wayanad
3	Manjeri	UP	Mixed	1993	Malappuram
4	Munnar	HS	boys	1997	Idukki
5	Attappady	HS	Girls	1997	Palakkad
6	Munderi	HS	Girls	1997	Wayanad
7	Pathanamthitta	HS	Boys	1998	Pathanamthitta
8	Chalakudy	HS	Girls	1998	Thrissur
9	Pattuvam	HS	Boys	1998	Kannur
10	Uduma	HS	Girls	1998	Kasargod
11	Kulathupuzha	HS	Boys	2000	Kollam
12	Pinnakkanadu	HS	Girls	2000	Kottayam
13	Pookode	HS	Mixed	2000	Wayanad
14	Thirunelli	LP	Mixed	2000	Wayanad
15	Palakkad	UP	Mixed	2000	Palakkad
16	Thodupuzha	HS	Mixed	2001	Idukki
17	Noolpuzha	HS	Mixed	1991	Wayanad
18	Njaraneeli	LP	Mixed	2003	Thiruvananthapuram

Source: Study on MRS in Kerala, State Planning Board, (2006)

There are a total of 18 Model Residential Schools in Kerala (table 4.8) established during the period 1991-2003, of which 6 are for Girls, 5 for Boys and 7 for both Girls and Boys (Mixed). Wayanad, the most tribal populated district, has the highest number of MRSs (five) and while Palakkad, Idukki and Thiruvananthapuram have two schools each, Malappuram, Pathanamthitta, Thrissur, Kannur, Kasargod, Kollam and Kottayam have one each.

Figure 4.11 District wise details of new schools



Source: DPEP Kerala: A Retrospect, (2003)

Even after the government efforts taken through various departments, agencies and programmes (including DPEP) to find solutions for the low enrollment and high dropouts, there remained the

problem of geographical isolation. Towards this end, the DPEP has started 61 schools in five districts, with the four tribal districts topping the list (figure 4.11).

With regard to higher education, the state has a total of 189 Arts and Science colleges, of which 39 are Govt. colleges and the remaining (150) are Private Aided colleges. Except Palakkad (13), all the four tribal districts (Wayanad-6, Idukki-8 and Kasargodu-5) have the least number of Arts and Science colleges in the state (table 4.9). This shows that educational infrastructure is shorter in availability to the tribes at the higher levels, constraining their access to higher education.

Table 4.9 District wise Number of Arts and Science Colleges (Govt and Private Aided) in Kerala

Sl No	District	Govt.	Private	Total
1	Thiruvananthapuram	8	12	20
2	Kollam	1	12	13
3	Pathanamthitta	--	9	9
4	Alappuzha	--	12	12
5	Kottayam	1	21	22
6	Idukki	2	6	**8**
7	Eranakulam	4	21	25
8	Thrissur	3	17	20
9	Palakkad	4	9	**13**
10	Malappuram	3	8	11
11	Kozhikkodu	6	8	14
12	Wayanad	2	4	**6**
13	Kannur	2	9	11
14	Kasargodu	3	2	**5**
Total		**39**	**150**	**189**

Source: Directorate of Collegiate Education, (2008)

4.11.1 Multi Grade Learning Centres (MGLCs)

Table 4.10 District-wise, area-wise Distribution of MGLCs in the state

DISTRICT	Tribal area	Costal area	Working children	Total
Thiruvananthapuram	10	35	0	45
Idukki	104	0	0	104
Palakkad	29	0	1	30
Wayanad	60	0	0	60
Kasargodu	36	2	0	38
Total	263	43	1	307

Source: Directorate of General Education, Thiruvananthapuram, (2008)

At present there are 300 MGLCs throughout Kerala spanning 6 DPEP districts with a total intake of 6655 children. This includes 3481 boys and 3174 girls in the age group of 5-14 roughly constituting 0.34 percent of the school going children in Kerala studying in classes 1 to 4. A good number of MGLCs are set up in tribal colonies or settlements, the tribal children being the

major target group in the DPEP's drive for universalization of primary education. As on 2002 86.67 percent of the MGLCs set up are in the tribal areas (tables 4.10 and 4.11).

Table 4.11 District-wise, Category-wise Distribution of MGLCs in the state

DISTRICT	SC	ST	OBC	General	Total
Thiruvananthapuram	2	24	74	0	100
Idukki	25	52	0	23	100
Palakkad	11	73	15	1	100
Wayanad	0	100	0	0	100
Kasaragod	23	11	53	13	100
Total	**14**	**52**	**24**	**10**	**100**

Source: Directorate of General Education, Thiruvananthapuram

The standard-wise strength of ST students in the state in the year 2008-2009 shows that the tribal education is largely dependent on government infrastructure (Govt. of Kerala, 2009). Their representation in the total student population in the Government Schools is 2.89 percent followed by Private Aided Schools (1.18 percent) and Private Unaided (0.34 percent). This is significant as any possible (and prevailing) failure of the government mechanism would have far reaching effect on the human capital acquisition and thereby on the mobility option of the tribal communities.

Analysis of the standard-wise strength of students (table 4.12) in the state in Government and Private aided schools (where the majority of the ST students enroll) during the year 2008-2009 shows that their number decreases as the standard/level of schooling increases up to the 10^{th} standard (Govt. of Kerala, 2009). Thus more dropout happens at higher levels of schooling among the ST students in the state.

Table 4.12 Standard-wise strength of ST students in Kerala: 2008-2009

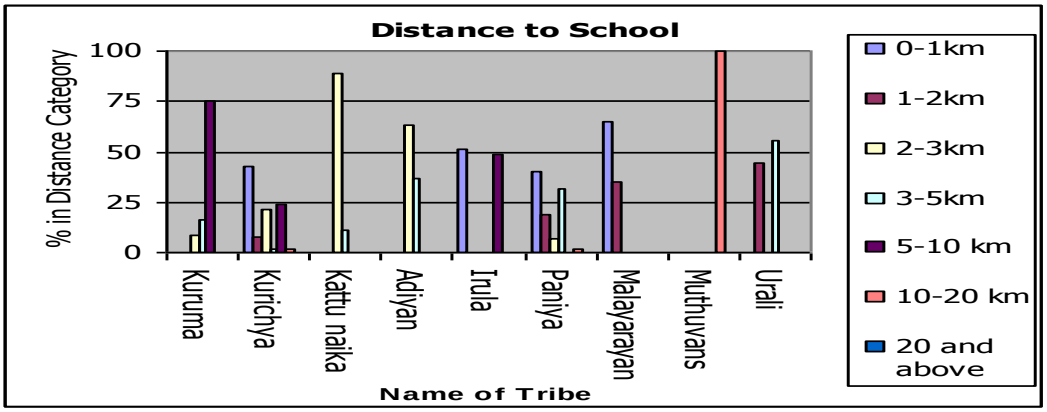
Std	Govt. School			Pvt. Aided			Pvt. Unaided		
	Total	ST	Percent-age	Total	ST	Percent-age	Total	ST	Percent-age
I	112234	4392	3.91	218876	3846	1.76	41497	103	**0.25**
II	125398	4478	3.57	241727	3935	1.63	41934	110	**0.26**
III	137637	4571	3.32	256102	3955	1.54	42551	113	**0.26**
IV	143670	4399	3.06	261790	3792	1.45	42577	87	**0.2**
V	129955	4556	3.5	299001	4089	1.37	36403	162	**0.44**
VI	137174	4285	3.12	316065	3728	1.18	35716	154	**0.43**
VII	140250	3938	2.81	324706	3385	1.04	33270	152	**0.46**
VIII	155396	3691	2.37	305207	2421	0.79	31575	140	**0.44**
IX	153446	3022	1.97	302822	2280	0.75	30994	109	**0.35**
X	142181	2439	1.71	275529	1666	0.6	30143	114	**0.38**
Total	**1377341**	**39771**	**2.89**	**2801825**	**33097**	**1.18**	**366660**	**1244**	**0.34**

Source: Directorate of Public Instruction, Thiruvananthapuram

4.12 Access to Educational Institutions

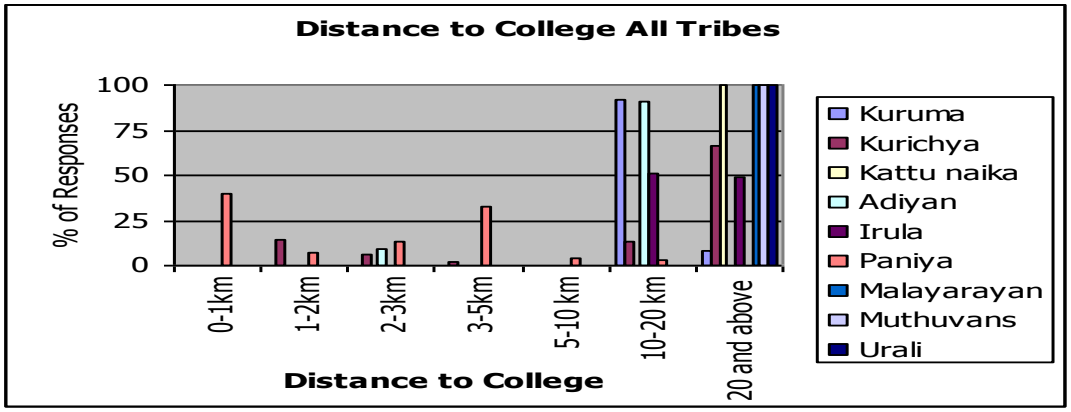
Access to educational institutions is a major factor for the educational backwardness of the tribal communities despite a number of policy and programme interventions. Since they largely live in remotely situated hamlets, they cannot have easy access to schools, colleges etc. Kerala's higher achievement in literacy and education is greatly contributed by the easily accessible settlement pattern that the state has been known for since very past (Tharakan, 1986). It is seen that the most forward tribes (Kurichya, Malayaraya and Kuruma) have greater access to schools where as the backward ones have less access (figure 4.12). Inaccessibility is highly visible with regard to higher education (figure 4.13) as the majority of all tribes do not have access to colleges. This helps to draw a parallel between low access to education and backwardness and to draw conclusions as such.

Figure 4.12 Distance to school



Source: Survey Data. Data for this graph is given Appendix 26

Figure 4.13 Distance to college all tribes



Source: Survey Data. Data for this graph is given in Appendix 26

4.12.1 External factors affecting education

There are a number of external factors that hinder tribal education. The schools in the tribal areas do lack the basic necessities. There is shortage of teachers. Even the majority of available teachers are not 'tribal sensitive'[13] leading to structural problems in tribal education. The remuneration of teachers of alternate schools is meager. For example an instructor of Girivikas working there since its very inception get only Rs. 2500 per month.

4.13 Efforts towards Tribal Education

4.13.1 The District Primary Education Programme (DPEP)

DPEP aims at providing "universal access to primary education through formal schools or their alternatives". This initiative was introduced in six educationally backward districts in the state including the three tribal dominated districts namely Wayanad, Palakkad and Idukki. The programme tried to find solutions for the low enrollment and high dropouts, the major problems in tribal education, caused by geographical and social isolation, poverty, language barrier, lack of educational infrastructure, discrimination, lack of awareness and initiative among tribal parents etc. The DPEP made attempts to sensitize the parents of the necessity of education through their frequent informal meetings with an objective of increasing enrollment and arresting dropout.

4.13.2 Model Residential Schools (MRSs)

Model Residential Schools (MRS) were started in Kerala in 1990-91 aimed at the educational development of STs. There are 18 MRS in the state (see table 4.8). The admissions to the MRS are done through a common admission test conducted by the ST Development Department after applications are invited in December/January every year. For SC/ST students, there is an upper income limit of Rs 40000 per annum. Admissions are provided in the ratio of 19 ST students, 13 SC students and 3 backward students. Sometimes students from forward communities are also provided admissions to enable the ST students to rise up to the mainstream society. As the name indicates, these are residential schools requiring the students to stay in the school premises. The students are provided all the facilities free of cost such as accommodation, food, dress including uniform, books etc. (CSES, 2007).

[13] Responsive to sentiments and weakness of tribal communities.

4.14 Auxiliary Education

4.14.1 Girivikas

Previously there were no tutorial facilities to take care of the tribal students who did not pass in SSLC[14] and Plus Two[15]. Realising that the opportunities for those who failed in the tenth standard as well as Plus Two were very minimal and that given sufficient special attention these students could pass the Girivikas scheme was conceived in Palakkad district.

Girivikas project was started during 1993-94 in Palakkad district as an experiment project for providing education and congenial environment for the study of the tribal students of Palakkad district. The scheme was started as per the suggestion of Mr. Ajaykumar the then district collector and was implemented by Nehru Yuva Kendra. This scheme was implemented mainly as voluntary initiative of youth and social workers who were interested in the development of scheduled tribes of Palakkad district. The result of the SSLC examination during 1992-93 was very poor especially in the case of scheduled tribe students in Attapady tribal areas. This had kindled the spirit for implementing Girivikas project.

The basic objectives of this project are to enable the scheduled tribes to pass the SSLC examination and to mould the personality of the tribal youth by inculcating in them the importance of vital aspects of living like hygiene, morality, discipline and hard work.

A pass in the SSLC examination is one of the major criteria for any type of employment in government and in other sectors. As far as the tribal youths are concerned, it is a major hurdle that they used to face during their education. The atmosphere in the schools, houses and in the hostels is not congenial for their studies. The absolute absence of parental pressure to pass an examination and deleterious presence of earlier dropouts were identified to be important factors that dissuaded the tribal children from reapplying as well as making an effort to pass the SSLC exam once they failed. The lack of sufficient number of teachers also affected the regular study of children. Taking into account of the above factors, Girivikas project was launched to provide adequate tutorial input to create effective learning environment and consistent motivation.

Girivikas project has proved that the tribal students are not behind in their studies compared to the students from the general communities. Provided with adequate tutorial input and creating

[14] Now there is no failure in SSLC as grading system is being implemented.
[15] The former equivalent was Pre-degree which was attached to university via affiliated colleges.

efficient and suitable facilities for the study and sustainable motivation has resulted in creating history in tribal education. The result during 1993-94 was 85 percent whereas in 1998-99 it rose to 98 percent. Among the scheduled tribe girls the result was 100 percent.

NYK which is the district unit of Nehru Yuva Kendra Sangathan, an autonomous organization of Govt. of India under the Department of Youth Affairs and Sports has been bestowed with the responsibility of running the project where as the overall supervision was vested with the managing committee headed by district collector. The other members in the managing committee are District Planning Officer, Deputy Director of Education and Project Officer of ITDP. Tribal Development Officer, Executive Engineer, Irrigation Malampuzha and the Medical Officer, PHC Malampuzha are the other members in the managing committee. The project is financed by the Scheduled Tribe Development Department, Govt. of. Kerala through the integrated tribal development project, Attapady. (NYK, Palakkad 2000).

Initially it was only for boys (30 students were admitted the first year). In the second year girls were also admitted. At the beginning those failed in SSLC were accommodated and later (in 2000) failures in Pre-degree were also accommodated.

4.14.2 Gurukulam

Gurukulam (started in 2003-04 in Palakkad) is another institution for the cause of tribal students helping them continue their study after failure in SSLC and Plus Two courses. This is established and run by Attappadi Cooperative Farming Society (ACFS), with the Revenue Divisional Officer (RDO) functioning as Managing Director and Collector as Chairperson and Assistant Director, Tribal Development as Secretary. All the basic facilities are provided by ACFS and salary and running expense are met by the government. There is an allocation of Rs. 1000 per month per student for food expenses.

Initially there were students who failed in 6^{th} to 10^{th} standards. At present there are 35 students including 3 SSLC failed and the remaining Plus Two failed. In 2008, 22 students (out of 39) passed. Currently a total of 40 students (4 SSLC and 36 Plus Two; 22 girls and 18 boys) are there preparing for their examinations. 90 percent of the successful candidates go for higher education. During the five year period from 2004 around 240 adivasi students have gone successfully through this institution, of which almost half have managed to take up higher education. The students come from around 35 tribal settlements in Attappadi.

There are a number of factors which distinguish Gurukulam from other similar institutions. It is functioning under the Attappadi Co-operative Farming Society, an outfit of tribal communities themselves coming under the Department of Tribal Development. Wardens of hostels in Gurukulam are from the community itself.

The curriculum in Gurukulam is flexible and classes are conducted in a semi-formal situation. The class rooms are formal but the students need not wear any formal dress. Apart from the curriculum, it organizes discussions and debates on every Saturday in which guests belonging to various walks of life (like doctors, engineers, nurses etc) make presentations on various topics and interact with the students. This provides them training in leadership qualities and abilities for public speech and handling different situation. There is also facility for sports like volleyball and badminton for both girls and boys. Besides, there is promotion of tribal arts-music and dance-with a nearby troupe providing music instruments and other supports. Thus education is made as much interesting as possible and also made equated with tribal culture. Besides training on farming and cookery is given to the students.

4.15 Alternative Education

4.15.1 Multi Grade Learning Centres (MGLCs)

The DPEP in Kerala, in its efforts to universalize education confronted the fact that there exist so many sparsely populated remote tribal colonies in the interiors of thick forests and high hills that have little or no contact with the outside world. This had resulted in the deprivation of schooling of the tribal children. The main reason for this is that children have to trek long stretches ranging from 5 to 20 kms through dense forest to reach the nearest school under the constant threat of being attacked by wild animals, and of finding their paths flooded by landslides. Adding fuel to fire, Kerala Education Act and Rules (KEA&R) that govern establishment and administration of schools in the state do not allow formal schools in inaccessible areas. It was under this situation that the DPEP Kerala decided to establish single teacher, one-roomed school at remote settlements.

The DPEP thus initiated Alternative Schooling to address the problem of inaccessibility to formal schooling among the tribal students. The perspective of this initiative is a tribal friendly education system for the most disadvantaged and backward communities. It aims at both the dropped out and those structurally constrained from enrolling. MGLC is a system of vertical

grouping in which students of different ages and grades learned together, mostly with the help of Self Learning Materials (SLM) and the teacher being a mere facilitator. Separate SLMs were provided for grade I, II, III and IV to facilitate the mobility of child to the next higher level. Apart from pedagogic learning, co-scholastic training was given in art, craft, music, athletics etc. On completion of their education in these MGLCs, the students were issued Transfer Certificate (TC) and were channelized into the regular schooling in class V, once they clear an eligibility test (CSES, 2007).

In 2009-10, there were a total of 53 MGLCs under SSA Wayanad. The number of MGLCs coming under each BRCs viz. Vythiri, Mananthavady and Sulthan Bathery are 12, 23 and 18 respectively (DD, Wayanad 2009).

4.15.2 Kanavu

Kanavu is a voluntary organization near Sulthan Bathery in Wayanad, dedicated to the overall development of tribal students with specific attention to tribal education, started in the year 1993. It was started by Shri. K J Baby, a musician and dramatist cum social activist who initially gave tuition, at his own residence, to those ST students who wanted to study but at the same time were either not interested to or could not go to school. Then he founded the organization Kanav, the literal translation of the word into English is ‘dream’. Later it secured 6 acres of land with the help of a Bangalore based NGO ‘Visthar’ Charitable Trust. 2000 onwards it is run by a trust formed by the inmates called Kanavu Makkal Trust. 15 senior students of the institution run it.

It has own cultivation of paddy, coffee, coconut, banana, vegetables etc through organic farming, all carried out by the inmates themselves. It has a good library in a spacious building. Inmates are living in 5 houses it owns (separate ones for boys and girls). It also has a large hall for conducting classes and performance of art forms. They find income from cultural programmes (folk dance, songs and Kalari) performed both within and outside the state. This income is used for the functioning of the institution.

The inmates of Kanavu belong to Mullakuruma, Kattunaika and Paniya communities. In 1994, there were 60 inmates and at present 30. The lowest age of students is 6-7 years. Up to 2000 informal education alone was provided here. Then onwards the inmates have been sent to normal schooling. At present 10 out of total 30 inmates go for normal schooling. Others are given lessons in arts, music, dance, painting, sculpture, pottery etc.

4.16 Impediments in Tribal Education

There are numerous factors which can impede the educational development of tribal communities in the state. Even the most unimaginable factors can act as impediments to the successful completion of education among the tribes.

4.16.2 Poverty -Illiteracy/low education

There is a vicious reinforcement of poverty- ill-health-Illiteracy/low education at work among them. The illiteracy/low education of parents is an effective hindrance to their children's educational development. The poor living conditions of tribal households have been pointed out by many NGOs and teachers in schools as a major factor that impedes enrollment as well as continuing education of tribal children.

4.16.4 Lack of Tutorial Facility

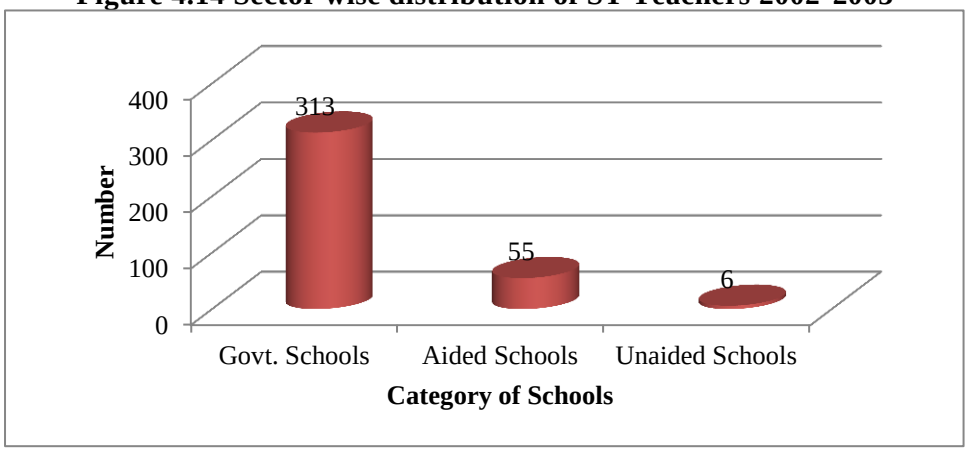
There is no tutorial facility for students in tribal hostels at lower levels. At present, all the tribal hostels have tutors for students from 8^{th} standard. Nevertheless the need for tutorial facility even at the lower levels cannot be discounted in the case of tribal students because of their innate disposition towards dropping out and the difficulties faced by them due to language and cultural barriers.

4.16.5 Higher Cost

Educational dropout among tribes is not entirely due to poverty for a lot of facilities for their education are provided by the government free of cost. Despite the financial assistance given, dropout is there. More important is their culture as they are ill-motivated.

Even though no fee is charged on the tribal students in schools and colleges, there involve many hidden costs. They are in the form of special fees, cost of reading and writing materials, clothing, travelling, study tours, donation to Parent Teacher Association (PTA), private tuition, etc.

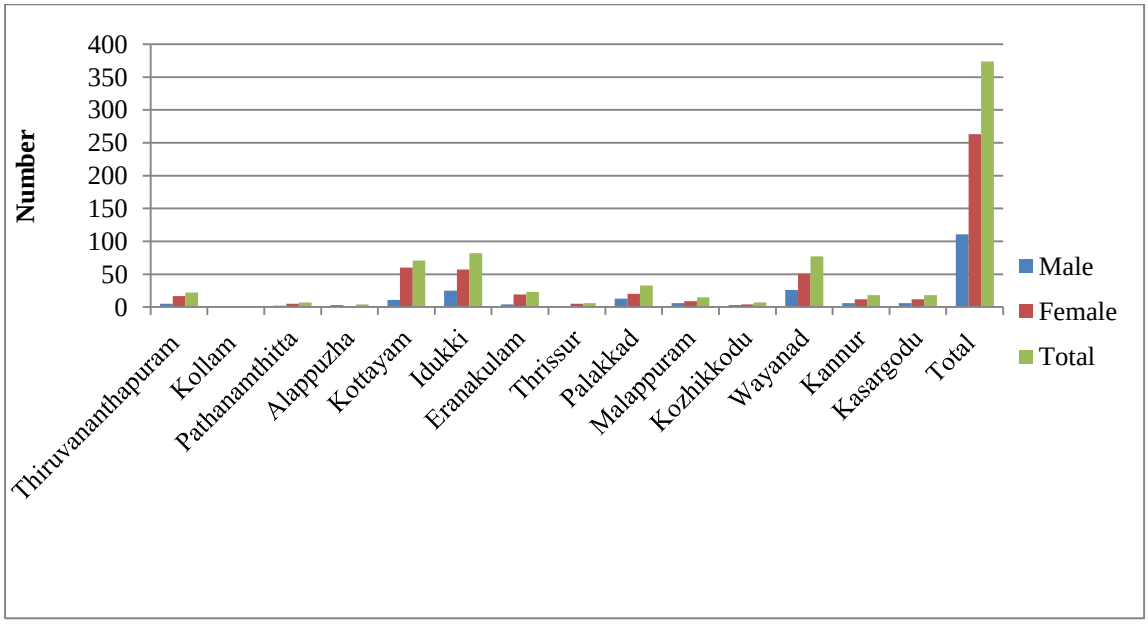
Figure 4.14 Sector wise distribution of ST Teachers 2002-2003



Source: Educational Statistics since Independence, (2004)

Insensitivity of officials and teachers is a major but often taken for granted constraint in tribal education. Informal estimation shows that about 80 percent of the workers in the Anganvadis of tribal areas are non-tribal. Even the tribal oriented projects like AHADS do not employ tribes in its important levels. Officials in the tribal areas come either on condition of punishment transfer (in which case they are not only without any commitment but also have hostile attitude towards the public) or as promotion and are eager to go back at the earliest. Studies have shown that tribal students like the teachers and the subjects taught by teachers belonging to the same community (CSES, 2007).

Figure 4.15 District wise number of ST teachers 2002-03



Source: Educational Statistics since Independence, (2004)

Of the total 1, 76,200 school teachers in the state, only 374 belonged to STs whereas 5110 belonged to SCs. Among the ST teachers 313, 55 and 6 were the respective share of Govt., Aided and Unaided schools (figure 4.14). The district wise number of ST teachers (figure 4.15) shows that the Palakkad, the second most tribal populated district has very few teachers from the tribal communities where as the situation in other important tribal districts is also far below satisfactory level.

4.16.7 Language Barrier

Language barrier is yet another major hindrance in tribal education which acts at multiple levels as the tribal communities have their own mother tongues (though mostly dialects). First, Malayalam, the common medium of tribal education in the state itself is alien to them. Again the second language i.e. Hindi and third language English are all alien. Therefore everything is strange for them.

Language is one of the major constraints in the educational development of tribal communities in the state. For instance, in Irula dialect, the term "Amma" means father as against in Malayalam where it means mother. Again in the old syllabus which had been in effect for a long time, the first lesson of standard 1 has a picture of a modern house with tiled floor. The words intended to be taught was "thara" meaning floor. The mainstream students could easily catch up the concept and word which were familiar to them whereas difficult for the tribal students. First the concept of a fine floor was alien to them, equally alien was the term as they call the floor "pally". In such a situation the tribal students are rated as inferior in learning and ostracized. A teacher who is not tribal sensitive would definitely accuse the tribal students and rate them as worthless. They complaint to the parents who are helpless and eventually the students end up their education. The language problem also causes inferiority complex among them.

4.16.8 Lack of Motivation from the Parents

Another barrier in tribal education is the attitude of the parents towards the education of their students. The majority do not take any initiative in this matter nor do they give any incentives to their children. The fathers (even if they spend good sums for smoking and drinking) do not usually buy a pen or pencil for their kids. Besides, they take the stand that everything should be provided by the Government.

4.16.9 WiCSSEIPawing Nature

There are instances in which many tribal students who go to towns for their study faced ragging and eventually terminated their study. They do not get opportunity and training in leadership and public speech so cannot face or address a group.

4.16.10 Problems in Tribal Hostels

Most of the tribal hostels are overpopulated. Information from the field visits as part of the research indicated instances in which 100 students were staying where the actual capacity is just 30. The existing food menu is insufficient for a community which is inherently nutrition deficient. Besides, they have to share personal articles like soaps and towels due to financial crunch resulting in the spread of skin diseases etc.

4.16.11 Taking Care of Youngsters

In most of the tribal families, both parents go out (as demanded by their poverty) to make both ends meet. This exigency pulls the elder children out of school as they have to take care their youngsters in the absence of their parents.

4.17 Social Exclusion and Education

"Social exclusion describes a situation where certain groups within a society are systematically disadvantaged because they are discriminated against. Such groups are often differentiated by race, ethnicity, age or gender. Social exclusion exists to some degree in all societies, and can occur across a number of dimensions: economic, social, political and cultural. These different forms of disadvantage form a self-reinforcing cycle"[16]. Social exclusion takes place at different spheres including income, livelihood, health, education etc. Processes of exclusion can either be explicit and deliberate or be implicit and unintentional. Exclusion is often a product of history, especially in developing countries, like colonial rule.

The concept of social exclusion helps us to focus on groups of people rather than individuals, and leads us to look into the causes of and solutions for systematic deprivation. One of the strengths of the concept of social exclusion is that is focuses attention on agency – who is being excluded and who is actively excluding others. It also draws our attention to the organisational or

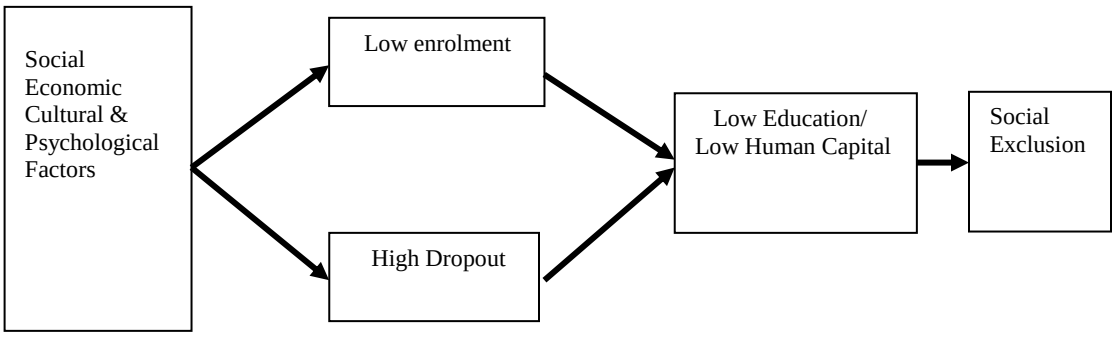
[16] Sally Neville, Governance and Social Development Resource Centre, http://www.gsdrc.org/go/topic-guides/social-exclusion accessed on 09/09/2009

institutional structures that serve to include or exclude. This places an emphasis on process, and helps us to focus on issues of power.

4.17.1 Low Education and Social Exclusion

Social exclusion happens among the tribal communities in the state in various ways. There are numerous factors, both inherent and extraneous, including social, economic, cultural and psychological that brings about exclusion of these communities. These factors result in low enrolment and high dropout among the tribal students which in turn results in their lower educational attainment or in other words, low human capital acquisition (see figure 4.16). This situation eventually leads them to a state of perpetual social exclusion.

Figure 4.16 Process of social exclusion as happening among the tribal communities



4.17.2 Exclusion of Tribal Communities in Enabling Programmes.

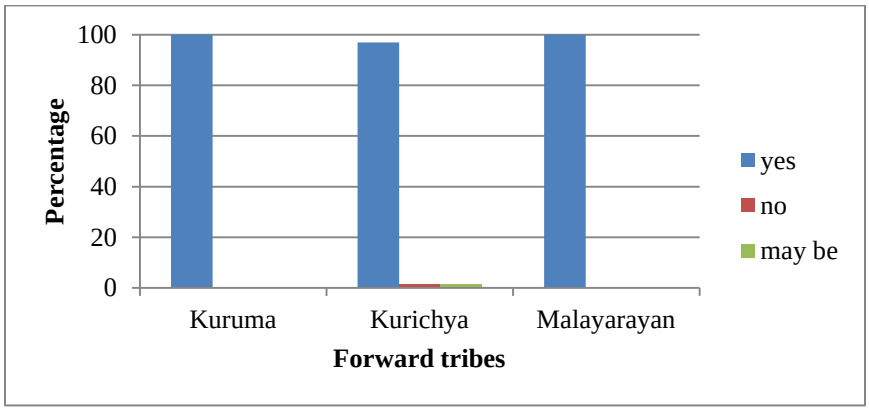
Most of the enabling and empowering efforts carried out successfully in the mainstream society either do not succeed or do not find a place among the tribes. An example in point is the central government is funded project on tranining for skill development of students in association with core groups (core groups here means registered youth clubs affiliated to NYK). It's a seven-day non-residential course (including food and equipments). It is a fact that in tribal areas, there are few youth clubs (core groups) in their communities. Visibly this programme can not be carried out in tribal areas.

4.18 Perception on Education

It is interesting to have a look on the perception of the communities on education. Almost all the communities under study, both forward and backward, held that they really wanted to send their children to school irrespective of the situation whether they actually went to school or dropped

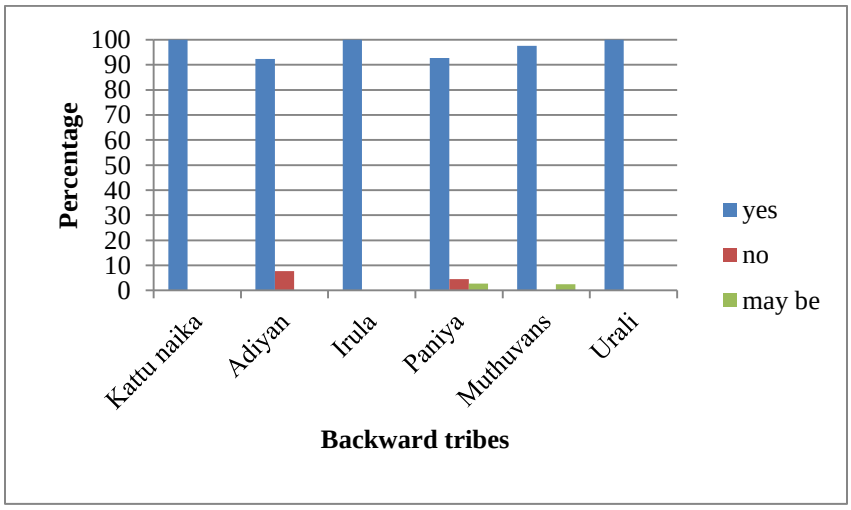
out (figures 4.17 & 4.18). Among the forward tribes, cent percent of the respondents among the Kuruma and Malayaraya, expressed their desire for sending children to school. Among the backward tribes, the majority among all the tribes held the same view, however it is important to note that the most backward tribes like Adiyan, Paniya and Muthuvan showed less interest in this regard.

Figure 4.17 Wanting to send children to school- Forward Tribes



Source: Survey Data

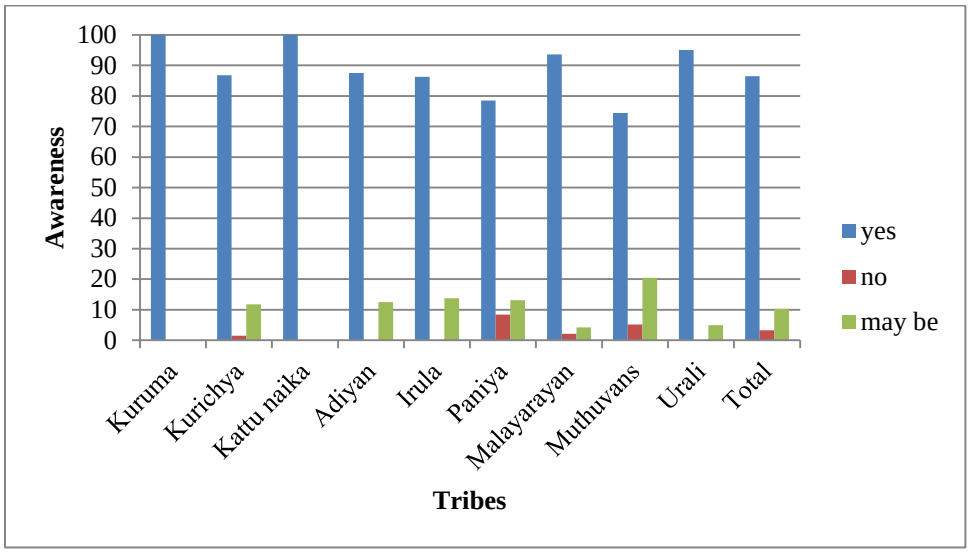
Figure 4.18 Wanting to send children to school-Backward Tribes



Source: Survey Data

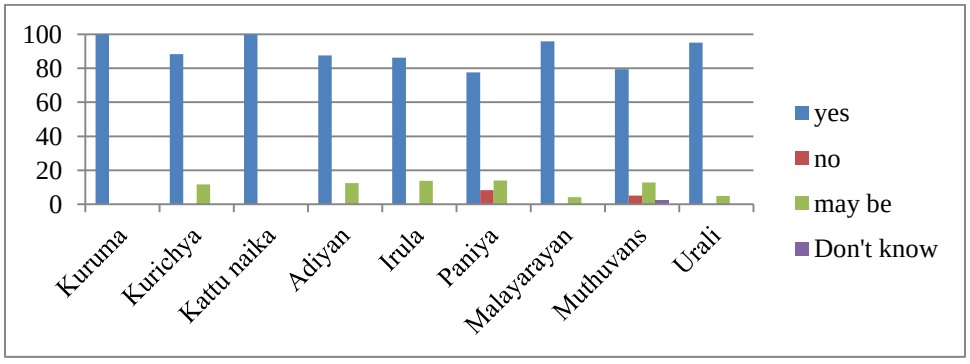
Same is the case with their perception that education is a means to overcome poverty. It is seen that with some variation all the tribes held the same view (figure 4.19). It is interesting to note that cent percent respondents in all the forward tribes except Muthuvans held that education is a means to defeat poverty. Almost similar view is held by the majority of tribes in their perception that education helps them for finding better livelihood (figure 4.20).

Figure 4.19 Education as means to overcome poverty



Source: Survey Data

Figure 4.20 Education and better livelihood



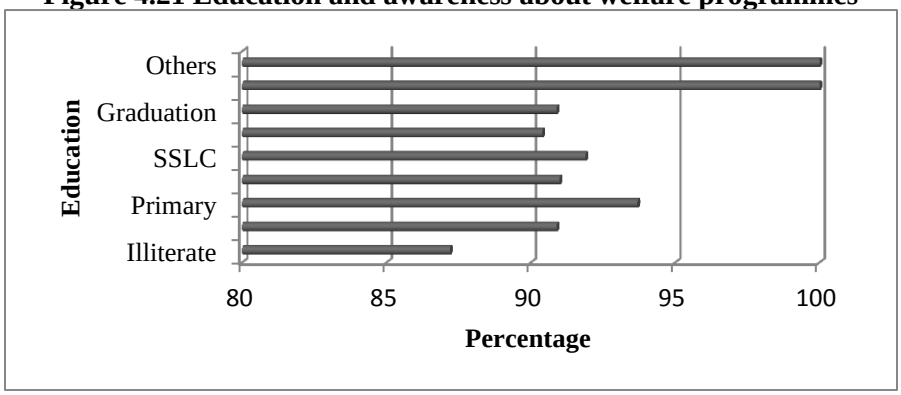
Source: Survey Data

4.19 Consequence of Education among Tribes

Education is a powerful means as well as indicator of development of a community. Education or its absence makes a lot of difference in their life and development. Here it is found that tribal people in general, except some slight differences, are aware of the welfare programmes aimed at their growth and progress. This could be attributed partly to the efforts of tribal promoters who convey the messages of all development and welfare programmes. This could also be due to the fact that the communities have largely become 'passive recipients' of benefits. That is they believe that the govt. should provide them everything and they need not initiate anything on their `own. This sort of passive attitude is harmful for the communities in their long march towards comprehensive growth. The development programmes too are designed in such a way that except

dispersing some or other benefits they do not evolve any empowering or enabling agenda, thus very often effectively emasculated the tribal communities leaving them in a state of perpetual incapability.

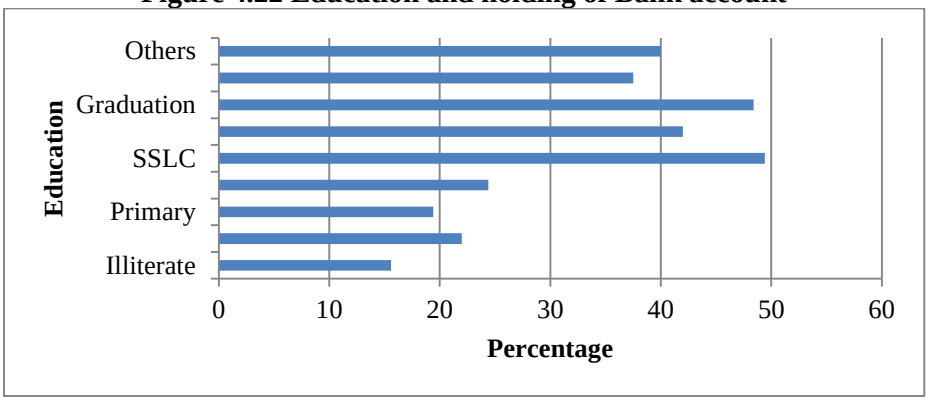
Figure 4.21 Education and awareness about welfare programmes



Source: Survey Data

The level of education has a strong influence on the awareness of the community about the various welfare and development programmes implemented by the central, state and local governments. It is found that the educated have a fairly good awareness of the welfare programmes aimed at the tribal communities (figure 4.21). It is interesting that even the illiterates are fairly aware of these.

Figure 4.22 Education and holding of Bank account

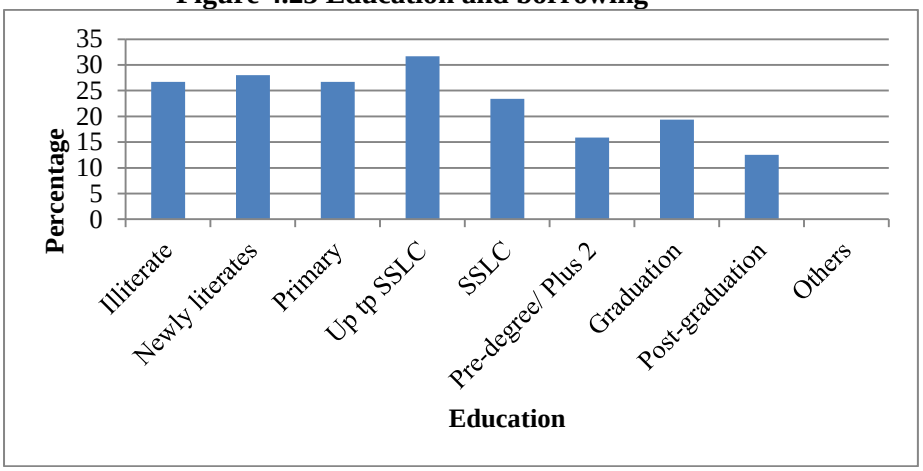


Source: Survey Data

Access to banking and credit is instrumental in the current age to the economic development. Here also education plays a deciding role as the more educated are more prone to make use of these facilities (figure 4.22). Besides higher the level of education the higher would be the income, consumption, saving etc. The tribal communities in general lag very much behind the general population in holding bank accounts mainly due to inaccessibility to banks, unawareness, cultural barriers etc.

Education is also seen as a determinant in deciding their borrowing habits. Figure 4.23 shows that as the level of education increases the habit of borrowing decreases.

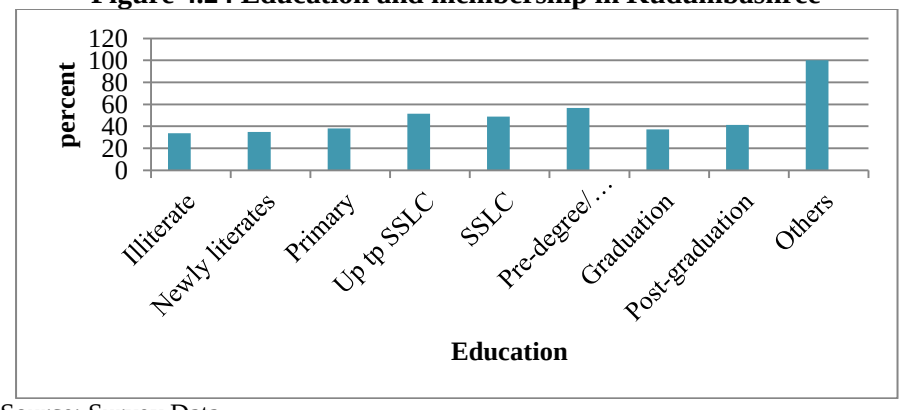
Figure 4.23 Education and borrowing



Source: Survey Data

The Kudumbashree project is one of the most acclaimed poverty eradication efforts the state has ventured in to. However when it comes to the tribal situation, it could not make any headway in elevating the tribal communities (figure 4.24). It lacks tribal perspective as there is no tribal specific programme, plans, schemes or training envisaged in it. Even the panchayat system, with which Kudumbashree is converged, is not tribal sensitive as there is no standing committee for tribal affairs. Access to bank is a salient feature of this project, but the tribal communities in general and tribal women in particular do not have access to banks (see figure 4.22).

Figure 4.24 Education and membership in Kudumbashree

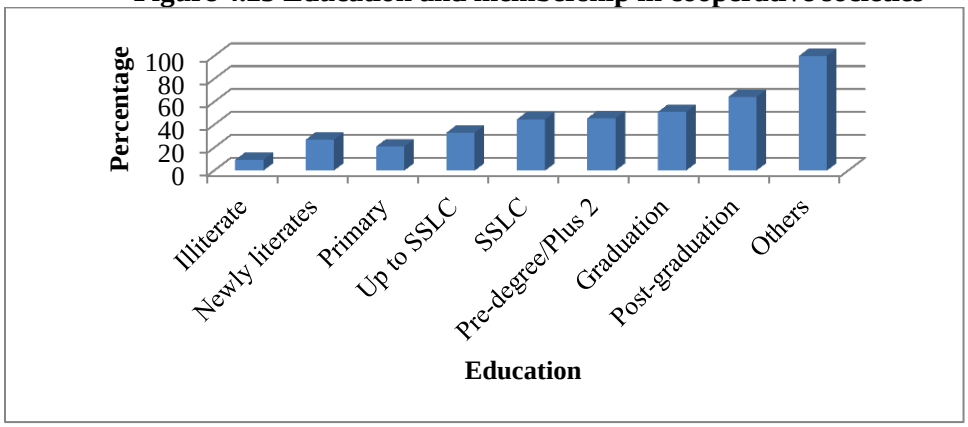


Source: Survey Data

The cooperative institutions of mutual help, provide livelihood to the unemployed and the marginalised. In India, over 13.8 million jobs have been created by cooperatives of which 92 percent are in worker cooperatives as self-employment (Mohanan, 1998). According to the

International Cooperative Alliance (1999), India has the largest number of cooperatives with 1829 lakh members. Of the total members in India, about 0.7 million are women. The cooperative movement in Kerala had a tradition of over 100 years and has made substantial achievement in development of the deprived. However the efficacy of this apparatus in the economic empowerment of the tribal communities, which are the most backward ones in the state, is well below satisfactory level. There are of course, many hindrances, low education being the most important one. The primary investigation shows that their membership in tribal cooperatives increases along with the increasing level of education (figure 4.25). Thus it is evident that the level of education greatly influences the membership of tribal communities in cooperative societies.

Figure 4.25 Education and membership in cooperative societies



Source: Survey Data

The appraisal of tribal situation points to the reality that the tribal communities in the state as a whole are still outliers with regard to literacy and education. The fact that the three tribal districts are the most illiterate districts corroborates this situation. Besides there is wide spread intra community differences including sex difference as females outnumber boys in almost all examinations. Poverty acts in a numerous, often the most unimaginable ways to impede the educational development of tribes. Thus more than mere poverty it's the culture created and sustained by poverty that is always at work. Education being the most enabling factor of human kind, any possible and also real failure in attaining the same would attract heavy penalty, especially with regard to human development.

4. 20 Education Analysis

Based on the above information we wanted to test if the differences in educational attainment of tribal communities found in the survey data is by chance or if the actual the educational attainment differs between communities. Accordingly we formulated the following null and alternate hypothesis.

H0: There is no difference between the tribal communities in their educational attainment

H1: Tribal Communities differ in their educational attainment

To test the hypothesis information about the educational attainment of tribal communities were collected and the same is presented in table 4.13.

Table 4.13 Educational Profile of Individual Tribal Communities

General education	Kuruma	Kurichya	KattuNaika	Adiyan	Irula	Paniya	Malayaraya	Muthuvan	Urali	Total
Illiterate	21.3	14.7	53.3	60	50	36.1	3.4	72.3	65.2	36
Newly literates	2.1	7.4	0	0	0	3	1.7	4.3	0	2.8
Primary	17	20.6	23.3	20	18.4	21.8	30.5	17	17.4	21.3
Up tp SSLC	27.6	45.6	23.4	20	21.1	32.3	28.8	6.4	17.4	27.8
SSLC	21.3	5.8	0	0	2.6	3	23.7	0	0	7
Pre-degree/ Plus 2	6.4	1.5	0	0	7.9	1.5	10.2	0	0	3.2
Graduation	4.3	2.9	0	0	0	1.5	1.7	0	0	1.5
Post-graduation	0	1.5	0	0	0	0.8	0	0	0	0.4
Others	0	0	0	0	0	0	0	0	0	0
Literacy rate	79.7	85.3	46.7	40	50	63.9	96.6	17.7	34.8	64
Total	100	100	100	100	100	100	100	100	100	100

Source: Survey Data

According to 2001 census the literacy rate among tribal communities in the state is 64.35 percent; in other words about one third of the tribal population is illiterate. The overall literacy rate among the survey respondents also follows the census figure very closely; with 64 percent of the respondents claiming basic literacy and above. Nonetheless if we pay attention to table 4.13 we can see that the rate of literacy between tribal communities is very different as explained by the second last row of the table. Kuruma, Kurichya and Malayaraya community are far ahead of the other communities in terms of literacy; with Malayaraya community leading the pack with 96.6 percent. The literacy rate of Malayaraya community is in fact 6 percentage points higher than the state average. Even the Kurichya and Kuruma communities have a literacy rate that is higher than the overall national literacy rate of 65.38 percent. The survey reports the that

Muthuvan community has the lowest literacy rate among all the communities (17.7 percent), followed by Urali (34.8). The Paniya community has a literacy rate (63.9) closest to that of the reported literacy rate of tribal communities in the state (see table 4.4).

The data collected was subjected to correspondence analysis to see if the educational attainments of tribal communities are different or not. Correspondence analysis employs distance based calculations to determine whether there is any systematic relation between the variables under study. This method was chosen as there is no information available at the aggregate level about the difference in the educational profile of tribal communities. While we did not make any a priori assumptions about which community would be more educated, we did hypothesize based on the analysis and results from the previous chapters that there could be difference between tribal communities in their educational attainments.

Table 4.14 Distribution of Tribes According to Education

	Name of community									
General education	Kuruma	Kurichya	KattuNaika	Adiyan	Irula	Paniya	Malayarayan	Muthuvan	Urali	Active Margin
Illiterate	10	10	16	15	19	48	2	34	15	169
Newly literates	1	5	0	0	0	4	1	2	0	13
Primary	8	14	7	5	7	29	18	8	4	100
Up tp SSLC	13	31	7	5	8	43	17	3	4	131
SSLC	10	4	0	0	1	4	14	0	0	33
Pre-degree/ Plus 2	3	1	0	0	3	2	6	0	0	15
Graduation	2	2	0	0	0	2	1	0	0	7
Post-graduation	0	1	0	0	0	1	0	0	0	2
Others	0	0	0	0	0	0	0	0	0	0
Active Margin	47	68	30	25	38	133	59	47	23	470

Table 4.15 gives information about number of dimensions extracted by correspondence analysis and also the amount of variation in data explained by each dimension. With the Chi-square value being highly significant we can surmise that the educational attainment of tribal communities is considerably different across different tribal communities. In other words the inter tribe differences are significant and deserves policy attention. This is also clear indication that the policy initiatives aimed at bringing tribal communities to the mainstream through educational achievement need to factor in these differences caused by individual tribe membership.

Table 4.15 Summary of Correspondence Analysis for Educational differences of Tribal Communities

Dimension	Singular Value	Inertia	Chi Square	Sig.	Proportion of Inertia		Confidence Singular Value	
					Accounted for	Cumulative	Standard Deviation	Correlation
1	.504	.254			.705	.705	.033	.324
2	.278	.077			.215	.919	.046	
3	.126	.016			.044	.963		
4	.083	.007			.019	.982		
5	.079	.006			.017	.999		
6	.013	.000			.000	1.000		
7	.008	.000			.000	1.000		
Total		.361	169.620	.000[a]	1.000	1.000		

a. 64 degrees of freedom

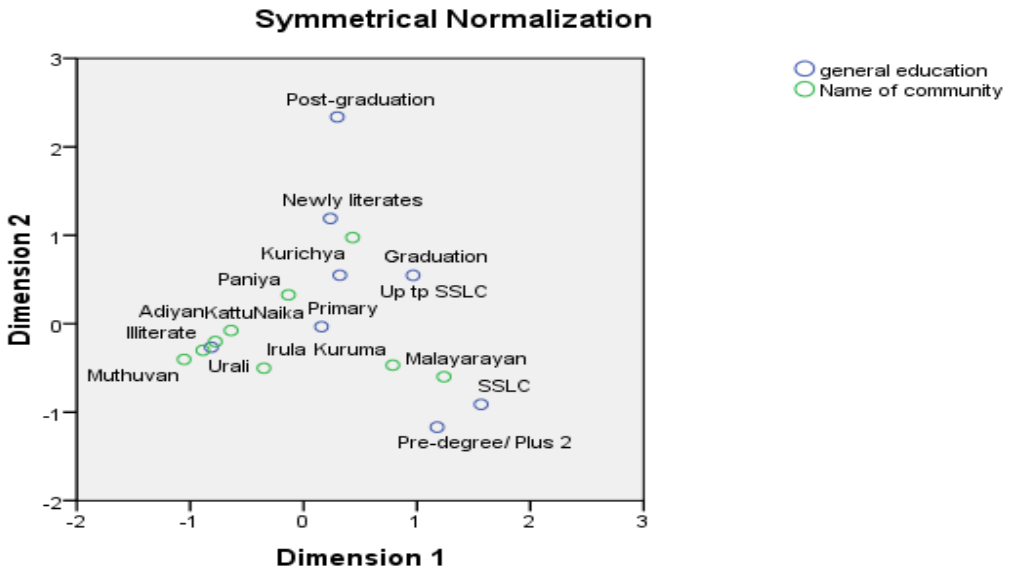
The first two dimensions explain about 92 percent of the total variation captured by correspondence analysis. Of which the first dimension explains about 70 percent of the total variation in the data. The analysis of the row and column points in juxtaposition with the dimensions extracted provides some insights in to the educational profile of tribal communities in Kerala. The first dimension is determined to a large extent by whether the respondents were literate or not. Out of all the respondents 36 percent were illiterate. Illiteracy contributes about 47.2 percent in shaping dimension one. The second factor that has a significant contribution is whether the respondents actually had completed SSLC successfully. As can be seen from the table 4.16 it is this factor that shapes close to 35 percent of the first dimension.

Table 4.16 Overview Row Points[a]

general education	Mass	Score in Dimension		Inertia	Contribution				
					Of Point to Inertia of Dimension		Of Dimension to Inertia of Point		
		1	2		1	2	1	2	Total
Illiterate	.360	-.814	-.266	.128	.472	.091	.939	.055	.994
Newly literates	.028	.237	1.190	.019	.003	.141	.040	.563	.604
Primary	.213	.159	-.033	.008	.011	.001	.355	.008	.363
Up to SSLC	.279	.320	.548	.040	.056	.301	.361	.585	.946
SSLC	.070	1.566	-.912	.107	.341	.210	.815	.152	.968
Pre-degree/ Plus 2	.032	1.178	-1.169	.040	.088	.157	.554	.301	.855
Graduation	.015	.967	.547	.012	.028	.016	.567	.100	.667
Post-graduation	.004	.298	2.338	.007	.001	.084	.028	.944	.972
Others	.000	.	.	.	.	.	.	.	.
Active Total	1.000			.361	1.000	1.000			

a. Symmetrical normalization

Figure 4.26 Correspondence Graph for Educational Differences of Tribal communities



The correspondence graph gives the visual explanation for what is explained in tables 4.14, 4.15 and 4.16. The communities that are clustered together in terms of educational attainment are Adiyan, KattuNaika, Muthuvan and Urali. It is interesting to note that these communities lie closest to the option 'illiterate" indicating literacy levels among these communities are very low. The educational profile of Kurichya community is seen different from the other communities and this is because almost half of all the newly literates from among the total respondents are from Kurichya community. Correspondence graph (figure 4.26) also places Malayarayan community away from the other communities and we can see that the community lies closer to the points "SSLC" and "Pre-Degree" indicating the strong presence of the community among all the communities surveyed in this category. Close to 42 percent of all those who passed SSLC and 40 percent of all those who passed Pre- degree are from Malayarayan community.

Since the correspondence analysis confirmed that the discrepancy in educational attainment of tribal communities is indeed not random we reject the null hypothesis and accept the alternate hypothesis that tribal communities differ in terms of their educational attainment.

Table 4.16 Chi-Square Tests for Education difference backward communities

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	21.615[a]	35	.963
Likelihood Ratio	25.236	35	.888
Linear-by-Linear Association	6.349	1	.012
N of Valid Cases	306		

a. 32 cells (66.7%) have expected count less than 5. The minimum expected count is .08.

Probing further for the differences between tribal communities we grouped the communities into forward and backward based on the earlier classification scheme employed in chapter III. This exercise was undertaken with the objective of helping us substantiate our earlier attempt of grouping tribal communities into forward and backward and to check whether the communities in the groups were homogenous with regard to the variable under study.

In order to check whether there is any difference in the educational attainment between the backward communities we ran a chi-square test and the result is given in table 4.16. Since the chi square test returned a value that is not significant at all we conclude that in terms of educational attainment the tribal communities labeled as backward tribes are a homogenous group.

Table 4.17 Chi-Square Tests for Education Differences Among backward communities Using Resampling method

				Monte Carlo Sig. (2-sided)			Monte Carlo Sig. (1-sided)		
					99% Confidence Interval		99% Confidence Interval		
	Value	df	Asymp. Sig. (2-sided)	Sig.	Lower Bound	Upper Bound	Lower Bound	Upper Bound	Sig.
Pearson Chi-Square	21.615[a]	35	.963	.948[b]	.942	.954			
Likelihood Ratio	25.236	35	.888	.866[b]	.857	.875			
Fisher's Exact Test	27.488			.904[b]	.896	.911			
Linear-by-Linear Association	6.349[c]	1	.012	.011[b]	.008	.014	.004	.008	.006[b]
N of Valid Cases	306								

a. 32 cells (66.7%) have expected count less than 5. The minimum expected count is .08.

b. Based on 10000 sampled tables with starting seed 624387341.

c. The standardized statistic is 2.520.

Since 66.7 percent of the cells in the Chi-square test procedure had an expected count less than 5 we applied the resampling procedure using Monte Carlo simulation to check the veracity of the original result that the educational attainment of communities within the backward community group are indeed the same. The result from the simulated sample chi square is given in table 4.17 and it confirms the original results substantiating our claim about the group backward tribal communities.

We performed the same analysis in the case of forward communities as well with the objective of checking how homogenous our classification is. A chi square test was performed and we found that the forward tribes as a group is not homogenous as the since the chi-square test returned a statistically significant result rejecting our hypothesis. The results are presented in table 4.18.

Table 4.18 Chi-Square Test for Education Differences Among forward communities

				Monte Carlo Sig. (2-sided)			Monte Carlo Sig. (1-sided)		
					99% Confidence Interval		99% Confidence Interval		
	Value	df	Asymp. Sig. (2-sided)	Sig.	Lower Bound	Upper Bound	Lower Bound	Upper Bound	Sig.
Pearson Chi-Square	32.277[a]	16	.009	.003[b]	.001	.004			
Likelihood Ratio	33.960	16	.006	.003[b]	.002	.005			
Fisher's Exact Test	30.164			.003[b]	.002	.005			
Linear-by-Linear Association	8.146[c]	1	.004	.004[b]	.002	.006	.001	.003	.002[b]
N of Valid Cases	181								

a. 15 cells (55.6%) have expected count less than 5. The minimum expected count is .27.

b. Based on 10000 sampled tables with starting seed 957002199.

c. The standardized statistic is 2.854.

In order to further probe the reason for the difference in the educational attainment of forward communities we conducted a post hoc analysis. The post hoc analysis based on the comparison of the standardized residual (2.6) and adjusted residual (3.3) which are greater than the alpha value of 2.56 for 1 percent significance level revealed that the high number of illiterates in Kuruama community compared to Malayaraya and Kurichya communities is responsible for the differences and the significant test result. Nevertheless we decided to retain the Kuruma

community with in the forward community group as on all other levels of education the community did not exhibit a disturbing deviation from the other two communities.

The relevant portion of the result of the post hoc test is given in table 4.19.

Table 4.19- Post hoc Analysis for Educational differences between forward communities

			forward communities			
			Kuruma	Kurichya	Malayaraya	Total
general education	Illiterate	Count	16	8	8	32
		Expected Count	8.5	12.2	11.3	32.0
		Residual	7.5	-4.2	-3.3	
		Std. Residual	2.6	-1.2	-1.0	
		Adjusted Residual	3.3	-1.7	-1.4	

Chapter V

Measuring Representational Differences in Government Jobs

5.1 Representation Differences

Addressing the differences between the income and standard of living of communities within the scheduled tribe category is important both as an academic pursuit and as a policy challenge. If there are substantial differences between the components of a group, then what it essentially means is 'that the logic based on which the group is created' need to be revisited. As espoused in chapter III in the case of tribal communities in Kerala the individual communities claim distinct identity not just in terms of culture and practices but also in terms of their economic situation. With some communities better placed compared to others there is a non trivial chance of benefits of reservation in government jobs or for that matter any other special opportunity set apart for tribal communities as a whole to be apportioned by the communities that are better off. If this indeed is the case then the very mechanism that was put in place to check disparity in representation (reservation in government jobs) itself is breeding disparity.

One way to check the veracity of classifying different elements into a group is by demanding that the elements are homogenous as far as the variable of interest is concerned. In the case of the present study we are interested in understanding the extent to which scheduled tribes in Kerala can be treated as a group for offering reservation benefits in Government jobs. We intend to check this by looking at how equitably the individual communities have approproiated the government jobs. We make a reasonable requirement that to treat a community to have made equitable representation in government jobs they should be represented in each class of government jobs according to their population proportion. The strand of literature on inequality measurement that focuses on differences between groups instead of differences between individuals is termed as horizontal inequality (Subramanian, 2002; Jayadev and Reddy, 2008)

5.2 Horizontal Inequality

For ease of understanding the difference in the orientation of vertical and horizontal inequality measures let us invoke the trivial, yet relevant analogy of 'cake sharing exercise'. Consider the situation where the objective is to share a cake of definite size completely among a finite and

homogenous population. The outcome of this exercise can be termed equal if everyone in the population gets an equal share of the cake and consequently the measure of inequality will be zero; indicating perfect equality. Any measure of inequality/discrimination/representation to quantify this exercise can be looked at as an attempt to measure difference in the size of the cake claimed by all individuals in the group; a topic that forms the subject matter of vertical inequality analysis. Opening another dimension of the cake sharing problem we can look at a situation where the population is made of heterogeneous groups. Making the reasonable assumption that the individual members in the groups are homogenous the cake sharing exercise can claim equity if the outcome ensures that the cake is divided between the groups according to their population proportion. Any measure of inequality/discrimination/representation to quantify this can be looked at as an attempt to measure the size of the cake claimed by a group and is the subject matter of horizontal inequality analysis. It needs to be emphasized that the implicit assumption in all such measures is that the entire cake is divided among the society and that no portion of it is left over.

5.3 Measuring Representation Difference in the Presence of Reservation Policy

Our primary interest is on the issue of horizontal inequality; since the study is about a particular social group, the scheduled tribes and the problems faced by them. For taking the discussions forward let us acknowledge that the actual outcomes of the cake sharing exercise could fit the intended outcomes in varying degrees of perfection. It is possible that all the groups claim their share exactly; or not. An easy yet informative check for this would be to insist that the population proportion of each group and their respective share in the cake be equal, and where this condition is met for all the groups there is no inequality in the society.

We can directly apply the cake sharing logic to analyze inequality in the distribution of government jobs between different social groups if there is no reservation for any social group. However we will need to improvise the logic in cake sharing problem to apply it in a context where reservation in Government jobs exist. This is because here we find that there is a constraint, ‘that some portion of the cake is set apart for a certain group’ which will be either eaten by them or no one. In the case of Government jobs the reservation benefits announced

cannot be re appropriated even if there is insufficient number of intended beneficiaries.[17] Because of the constraint of 'reservation' in Government jobs an *unqualified* attempt to measure inequality based on population proportion alone will not be sufficient to provide complete information about inequality. Consider the following to appreciate the merit in the above statement. Suppose that the total population can be defined with the two simple labels backward and forward communities- based on any of the popular classification criteria- with the population proportion x and 1-x respectively. Let us say that upon looking at the distribution of total government servants we find that the proportion of employees from the backward communities who are entitled to the benefit of reservation is q and that from the forward category is p. If, (1-q)> (1-x) can we conclude that Government jobs are disproportionately distributed between reserved and unreserved categories and that the unreserved category enjoys more jobs compared to their population proportion? In the same way if (1-q) < (1-x), can we claim that backward class is dominating the forward class in the case of Government jobs? Similarly can we correctly conclude that both the social groups are enjoying what is rightfully theirs even if q = x and p = (1-x) ? All these questions can be satisfactorily answered only if we know what the reservation percentage is and the difference between the actual and filled up number of Government jobs.

To drive the discussion forward let us introduce the following terms

Y= the proportion of reserved jobs in Government

y= x (i.e., making the reasonable assumption that the population proportion of backward communities and the reservation for them is equal)

TG= Total Government jobs

TG= yTG+(1-y)TG

AG= actually filled up positions in Government jobs

rAG= number of actually filled up reserved positions

urAG= number of actually filled up unreserved positions

[17] The merits offering reservation from a normative angle (whether we should support reservation and in case the reserved portion of the cake is not claimed by the intended beneficiaries can it be offered to someone else who is equally materially poor etc.) is not of any immediate consequence for this thought exercise.

AG= rAG+urAG

Dur = (1-y) TG-urAG

Dr =yTG-rAG

Now with the above information we can say that if both Dur and Dr are zero then both the forward and backward communities are properly represented and that there is no inequality. This can be achieved only if all the vacancies are completely and exactly filled up by the respective claimant groups. If Dur and or Dr have any value other than zero then we can correctly claim that the representation is not proper, however we cannot confidently claim that there is inequality in the distribution of Government jobs unless we have more information. This can be reasoned out as follows. The only values that Dur can take are zero and positive; where zero indicates proper representation and a positive value indicate that some seats are vacant. This means that from a real sense of the term inequality, forward class who do not have any reservation cannot be a source of inequality (they cannot be occupying more jobs than their population proportion) as the maximum employment possible to them is limited by (1-y) TG. However in the case of the backward communities this is not the case. They have an assured share of the Government jobs to the extent of yTG because of reservation and in addition to that there is no restriction for them to be admitted in the unreserved category. So inequality in Government jobs in the above situation is only possible if Dr is negative; indicating that the backward communities are employed more than their population proportion. Though what we have presented is a simple thought exercise the implications of the line of reasoning adopted is not trivial. The above effort points out the limitations of unqualified inequality measures based on population proportion in bringing out the nuances of inequality measurement in the presence of reservation policy.

5.4 On Some Measures of Discrimination and Representation

Subramanian (2001)[18] proposed an index of discrimination for any social group based on its population proportion and the share in well being classifications. The measures of discrimination for individual social groups are aggregated to derive a society wide measure of discrimination. The maximum possible level of discrimination in the society is calculated by finding the maximum distance between a zero vector (indicating no discrimination) and the vector with

[18] On an index of Discrimination

values of actual discrimination indices for each social group. The overall extent of discrimination in the society is then expressed as a ratio of actual aggregate discrimination to the maximum aggregate discrimination.

Subramanian chooses a simple social setting with two identity groups and two well being levels and proposes an index of discriminationδ. The measure is '*the proportionate deviation (in absolute terms) of the proportion of the population belonging to social group i in a well being category j to the normative share the identity category i in well being category j'*.

In a hypothetical 'two social group two well being category' situation, the only data needed to compute the value of the overall index of discrimination are (1) the proportion of each identity category's population in the total population (2) the proportion of each well being category's population in the total population and (3) for each identity category, the proportion of its population in each of the well being categories.

Formally

$\delta_{ij} = \left|(tij/t^{\#}_{ij})-1\right|$; i= 1,2 ; j=1,2

Where $t^{\#}_{ij}$ is the ideal situation where the identity category 'i' has population proportionate representation in well being category j and tij= the proportion of social group i (i=1,2) in well being category j (j=1,2).

The following additional information is provided

1) Share of identity category i (i=1, 2) in the total population is designated by a_i

2) Share of well being category j (j=1, 2) in total population is designated by b_j

3) $t_{11} + t_{12} = a_1$; $t_{21} + t_{22} = a_2$; $t_{11} + t_{21} = b_1$; $t_{21} + t_{22} = b_2$

Further an aggregative measure of asymmetry of access for the identity group is proposed by Subramanian (2001) which is simply the sum of the δ_{ij} for identity group i at each level of j.

$$Di = \sum_{j=1}^{2} \delta ij$$

The author stipulates that the absolute value of δ_{ij} be taken for the purpose of obtaining an unambiguous aggregative measure of discrimination. That is if one were to use the signed value of δ_{ij} then a positive value in one of the levels j and a negative value of the same magnitude in another level j will give a value of 0 which could be misinterpreted as a case of symmetric access being enjoyed by identity group i in all well being category.

The measure D_i offered has the advantage of simplicity as well as intuitive understanding since it is bounded by 0 and 1; where 0 indicates perfect symmetry and 1 indicates absolute asymmetry in overall representation of identity group i.

Jayaraj andSubramanian (2006)[19] presents some similar simple measures for measuring the relative disadvantage faced by groups. Their measures for relative disadvantage for a group are expressed in terms of the distance between the population share and the share of income of the group. They further show that the measure of horizontal inequality (inequality when the population is divided into group) lead to corresponding measures of vertical inequality (inter personal inequality) in the special case when each individual in the population constitute a group; put it differently when the number of groups in the society are as many as the number of individuals in the society.

5.5 Considering Information on Reservation While Measuring Representational Disparity in Availing Government jobs

Keeping in mind the backwardness of tribal communities the constitution offers them special consideration and have been designing many policies with the view of bringing them to the mainstream society. One such policy is reservation in Government jobs. However as noted in chapter III there is considerable differences between tribal communities in terms of their standard of living.

Since reservation is offered for the scheduled tribes as a whole the effectiveness of reservation policy, which we propose to measure by checking whether the total number of reserved vacancies are completely filled or not, need to be looked at the aggregate as well as disaggregate level; i.e., for tribes as a whole as well as for the individual tribal communities.

Let T and P represent the tribal population and total population in Kerala respectively. Consequently let the population proportion of tribal communities T/P be represented by p. Let T be composed of t tribal communities, (t=>2) and let Q be the mutually exclusive and completely exhaustive set of all tribal communities in Kerala, with elements $q_{1,}$ $q_{2,}$,… q_i,..,q_t representing the population of the respective community. Also let γ_i be the population proportion of the ith community i.e., $\gamma_I = q_{i/} \sum q_{i;}$ *; i= 1 to t*

[19] Jayaraj, D and Subramanian, S (2006), "Horizontal and Vertical Inequality: Some Interconnections and Indicators", Social Indicators Research, 75: 123-139

Let us consider a hypothetical case where all the tribal communities have the same population; $\gamma_1= \gamma_2= \gamma_3= \gamma_i=\ldots. =\gamma_n$. In this special case the population proportion of each of the tribal community in total tribal population T will be the same and let it be represented by γ. Now let us assume that the Government has decided to reserve r% ($p<r<1$) of G of the Government jobs at each level[20] represented by ψ_j, where j=1 to n; to members from tribal communities. Let us further assume that at each level of ψ_j the number of opportunities available to tribal communities by virtue of reservation is always at least equal to t, setting the stage for the minimum possible representation from each tribe, i.e., employment of at least one person from each tribe at each ψ_j. In this case every member from q_i has a chance which is at least equal to the γi, the population proportion of that tribe in the total tribal population, of getting employed at each ψ_j. If $rG\psi_j > t$ then each qualified member from every tribe has a more than population proportionate chance to get represented in the Government job at level j by a factor of $rG\psi_j/t$.

In order to check if the reservation policy has been *effective on average* we offer the following check condition. Let T_j represent the total number of tribal people employed at a particular level of Government job. Average effectiveness of reservation can be measured by checking whether the total number of members from tribal community is at least equal to $rG\psi_j$ at each ψ_j; i.e., $T_j = rG\psi_j$. The value of T_j will be bounded by 0 and $G\psi_j$; $0<= T_j <=G\psi_j$. Four possible situations are given below.

$T_j =0$; if nobody from the tribal community is employed

$0< T_j < rG\psi_j$; if all the reserved vacancies are not filled

$T_j = rG\psi_j$; if all the vacancies reserved for the tribal community members are completely filled

$T_j =G\psi_j$; if nobody other than tribal community members are employed

Any interpretation about the development status of tribal communities based on the value of T_j should be done carefully and in association with other development indicators. For example for the value of $T_j =0$ one might interpret that tribes are at great disadvantage, based on the argument that none from the tribal community are qualified to be employed in Government services. At the

[20] The classification of Government jobs in Kerala can be obtained as per KSR

same time someone more optimistic might argue that tribes are doing well that they might have willfully decided not to apply for Government jobs. The veracity of the interpretation can be corroborated by looking at other development indicators of the tribal communities.

Leaving aside the interpretational issues T_j is still a useful indicator. However T_j only reveals whether on average at a particular level of Government job the number of jobs reserved for tribal communities as a whole is filled up or not, it does not tell us anything about the community composition of the filled up total jobs .Making the argument clearer, in a situation where $T_j = rG\psi_j$. , indicating that all the reserved vacancies have been occupied, the community composition can vary from an absolutely equal situation where all communities have been employed according to their population proportion γ_i to an absolutely unequal situation where all the jobs reserved are filled up by only one community.

If we assume that all the reserved seats have been filled then $T_j = rG\psi_j$ will be the total number of people from tribal communities employed at level *j*. If we expect a situation of absolutely equal representation then at every ψ_j , $rG\psi_j$ can be exactly decomposed according to the population proportion of all tribal communities as given by $\gamma_1, \gamma_2, \gamma_t$

More formally at every level of employment

$rG\psi_j = \gamma_1 rG\psi_j + \gamma_2 rG\psi_j + \ldots\ldots + \gamma_t rG\psi_j$ ……(1)

Where

$\gamma_1 rG\psi_j, \gamma_2 rG\psi_j, \ldots\ldots, \gamma_t rG\psi_j \neq 0$

However the actual situation may be different from the ideal situation that we have mentioned above. To check the extent of representation of each community in $rG\psi_j$ let us introduce an additional term d_{ij} to represent the extent of representation difference of a community from its desired level of representation at a particular level of employment. In a case where the reservation percentage is equal to the population proportion of the tribal communities (r=P) we can express d_{ij} as

$d_{ij} = \{(q_i\psi_j/G\psi_j) - r\gamma_i\} * 1/(1 - r\gamma_i)$ ……(2)

Where $\psi_j q_i$ is the actual number of persons from tribal community q_i employed at level ψ_j.

The value of d_{ij} will be bounded by 0 and 1; $0 <= d_{ij} <= 1$.

A community is exactly represented at jth level of employment if d_{ij} is 0. The community is relatively underrepresented if $0< d_{ij} < r\gamma_i$ and relatively over represented if $r\gamma_i < d_{ij} < 1$. The community is absolutely over represented if $d_{ij} = 1$.

The average level of representation of each tribe in Government services can be computed by averaging the representation at each level and can be expressed as

$$\mathrm{Di} = \frac{1}{\mathrm{n}}.\ \sum_{j=1}^{n} \mathrm{Abs\ (dij)} \quad \text{.....(3)}$$

The advantage of such an expression is its decomposability. The D_i can be decomposed into di at j levels; j=1 to n. The value of D_i will be bounded between 0 and 1, and can be interpreted similarly to d_{ij}

$D_i = 0$; the ith community is exactly represented at all levels of employment

$0<D_i < r\gamma_i$; some of the vacancies reserved for the ith community are not filled up

$r\gamma_i < D_i <1$; the ith community has claimed more vacancies than what is due to them when considering the overall employment in all the levels of Government jobs

$D_i =1$; only members from the ith tribal community is employed in Government sector.

From D_i we can derive an aggregate measure of representation for tribal communities as a whole for all levels of Government jobs by averaging the individual D_i, where i=1 to n, calling this measure D_{At}.

$$\mathrm{D_{At}} = \frac{1}{\mathrm{t}}.\ \sum_{i=1}^{t} \mathrm{Di} \quad \text{..... (4)}$$

The measure D_{At} is an aggregate society wide measure for understanding the representational inequality between social groups when a social group has reservation benefits.

The advantage of D_{At} is that it recognizes the reserved portion of the cake and explicitly takes that into account in calculating the inequality. The measure can be rewritten by collecting all relevant terms as

$$\mathrm{D_{At}} = \left(\sum_1^t i \sum_1^n j\ \ Abs\left\{\left(\frac{\mathrm{q_i}\psi_j}{\mathrm{G}\psi\mathrm{j}} - \ \mathrm{r}\gamma_i\right) * \frac{1}{1-\mathrm{r}\gamma_i}\right\}\right) * 1/\mathrm{t} \quad \text{.....(5)}$$

D_{At} will also be bound by zero on the lower end and can be interpreted in the similar manner as D_i. i.e., if DAt = 0 all the tribal communities (in the case we are discussing) are exactly represented at all levels of employment and any value other than zero indicates a situation

otherwise. Other values of D_{At} elude specific meaning since we are dealing with the average representational difference for many sections together, however we can definitely conclude representational inequality in Government sector jobs for any value other than 0 for $D_{At.}$ The difference could be in favor of or against the tribal communities. The measure offered here is useful in that it addresses two issues simultaneously that are often discounted. One it ensures that the representational inequality measure explicitly takes into account the issue of reservation in calculation. Second and more importantly the value indicating no representational difference imposes the strict condition that the subgroups, if any, within the section enjoying reservation also must be represented according to their population proportion at each level of employment.

5.7 Calculating the Extent of Representation Difference in Government jobs

We have tried to calculate the extent of representational difference in Government jobs by using the data provided in a Government report. The report was the result of appointment of a commission by the Kerala State. In order to evaluate the progress achieved by the various castes and tribes in Kerala, the Government with order G.O (MS) No.80/78/DD dated 30-5-1978 appointed Dr. Babu Vijyanath as the commission. The commission was to understand the situation of scheduled castes and tribes in Kerala and suggest measures to improve their conditions. While the terms of reference of the commission were very extensive the most relevant one for the present discussion can be identified as point number (xi) in the terms of reference. This is about "the position regarding the representation of Harijans and Girijans in general (and individual castes and tribes in particular) in Government services as well as in various other professions (like Advocates, Doctors, Company executives, etc)". Though the commission assumed office on 01-06-1978, one can understand from the words of the commission that the support from the Government was minimal and that cooperation from the Government departments and public sector undertaking was at best passive (Gok, 1982 [b]). The commission report explicitly states the difficulties faced by the commission in collecting data from the Government departments due to the non cooperation of the departments. In order to ensure that the commission received data from the departments the Government of Kerala brought the commission under the Commissions of Inquiry Act 1952; an action that gave the commission the powers to summon data and "compel defaulters to furnish the statistical data required by the commission" (Gok, 1982[b], p.3).

Kerala State and Subordinate Service Rules 1958 ensures that the constitutional provision for the reservation of appointments to service or posts in favor of scheduled castes and tribes are implemented. The rules regarding reservation have remained by and large unchanged from the time of formulation of the rules in 1958. Out of a roster of 100 vacancies scheduled tribes will have claim to 2 and scheduled castes have claim to 8 vacancies. Prior to 1956, there was a provision of sub rotation among the major castes included in the list of scheduled castes where by the castes had to take turns In enjoying the reservation offered to them; but that provision does not apply any more.

The category of posts in Government departments where the study was conducted can be classified as follows

1) Class I

2) Class II

3) Class III

4) Class IV

5) Full time contingent employees

6) Part time contingent employees

The employees in the Public Sector Undertakings were classified as follows

I Those in the scales of pay the minimum of which is Rs. 1000 and above

II Those in the scales of pay the minimum is between Rs. 700-100

III Those in the scales of pay the minimum is between Rs. 400- 700

IV Those in the scales of pay the minimum is between Rs. 200-400

V Those in the scales of pay below Rs. 200

The following section will use data from the commission report to explain the proposed measure of representation inequality in Government jobs. As per the reservation rules it is mandatory that 10 percent of the appointments are to be made from the SC/ST category. The commission in its report (p.75) states that the 10 percent target is fulfilled in the following departments/public sector undertakings.

Government Departments

1. Archeology
2. Archives
3. Chemical Examiners Laboratory
4. Dairy Development
5. Fire Force
6. Fisheries
7. Forest
8. Government press
9. Harijan Welfare
10. Hindu Religious and Charitable Endowments
11. Indian Systems of Medicine
12. Museums and Zoos
13. National Savings
14. Ports
15. Public Library
16. Public Relations
17. Stationery Department
18. Tourism
19. Treasuries
20. Tribal Welfare
21. Ayurveda College
22. Weights and Measures

Public Sector Undertakings

1. Chalakkudy Refractories
2. Kerala Labour Welfare Fund Board
3. Kerala State Cashew Development Corporation
4. Kerala State Handicapped Persons Welfare Corporation
5. Kerala State Development Corporation for Scheduled Castes and Scheduled Tribes
6. Oil palm India Limited
7. Trivandrum Spinning Mills
8. Traco Cables
9. Kerala Agro Industries Corporation
10. Transformers and Electricals Limited
11. Kerala Garments Limited, Kannur
12. Kerala State Detergents and Chemicals, Kuttippuram

The information above tells us that out of 72 public sector undertakings only 12 managed to meet the statutory requirement regarding reservation of employment i.e., 16.6 percent; and out of 71 Government departments only 22 departments could meet the statutory requirement i.e., 30 percent. The overall representation of scheduled castes and tribes in Government departments and public sector undertakings as can be found in the report is given below

Table 5.1. Percentage of SC/ST Employees in Government Departments as on 1981

Class	SC	ST	Both
I	2.65	.06	2.71
II	4.25	.30	4.55
III	7.05	.35	7.40
IV	12.19	.97	13.16
V	7.42	.41	7.83

Source: GoK, (1982), [b]

Table 5.2. Percentage of SC/ST Employees in Public Sector Undertakings as on 1981

Class	SC	ST	Both
Pay Rs. 1000 and above	1.04	0.0	1.04
Pay Rs.700 -1000	2.56	.09	2.65
Pay Rs. 400-700	5.11	.04	5.15
Pay Rs. 200-400	6.04	.19	6.23
Less than Rs.200	7.52	.25	7.77
All	5.74	.16	5.90

Source: GoK, (1982), [b]

Table numbers 5.1 and 5.2 clearly communicates the extent and nature of representation of scheduled castes and tribes in Government departments and public sector undertakings. As can be seen the representation of SC/ST employees is more in the lower paying categories. Also we can find that the relative representation of scheduled tribes is much lower compared to that of the scheduled castes.

We venture into a comparison between SCs and STs in their relative representation in government jobs because very often in progressive policy making these sections are clubbed together; hence any policy evaluation done for SC ST as a whole could mask the differences between the level of improvement brought about by the policy in the two sections. For instance the implications of an analysis that a policy to improve the educational attainment of SC ST students have managed to improve the performance of 70 percent of its target audience will be very different based on how the benefits were distributed between the communities. One can be justified in questioning the logic of putting the two groups together if the benefits apportioned by the two groups do not follow some reasonable expectations.; like the benefits be distributed according to their population proportion. The manner in which the benefits are distributed is also important to frame/reframe policies. For example if the program reached overall 60 percent of the audience with 100 percent of one of the sections benefitting and nobody from the other section benefitting could indicate that the program does not fit the needs of one of the sections and that we need to devise different policies for them. On the other hand where the benefits of

the program reached both the sections by and large in equal proportion we can conjecture that while the program design is alright the implementation machinery needs to be streamlined to reach the entire target audience.

In similar terms to check if reservation policies have benefitted SCs and STs evenly we could resort to a relative comparison of their actual representation against the desired representation of each group. In this case the desired representation is taken to be the statutory representation as per KSSR. As per the reservation rules out of the 10 vacancies reserved out of a roaster of 100 vacancies for SC/ST communities together, 2 vacancies are set apart for members from the scheduled tribe category. To check whether SC and ST communities have benefitted equally we introduce the criterion that the relative representation of each of the sections should correspond to their desired level of representation, any aberration from this condition will indicate the presence of inequality in the distribution of reservation benefits.

To elicit this we seek the help of a simple decomposition technique. We can represent the total representation of SCs and STs as SC+ST .The advantage of such representation is that the share of each of these sections can be decomposed and expressed as a proportion of their total representation, i.e., $\frac{SC}{SC+ST}$ and $\frac{ST}{SC+ST}$. Now the new expression $\frac{SC}{SC+ST}+\frac{ST}{SC+ST}$ will be equal to one, and the share of each of the communities can be expressed as a value that ranges from 0-1. Now that we have decomposed the representation we can check whether the actual representation meets the criterion we introduced earlier; that is to treat these two groups as the same with respect to having apportioned the reservation benefits the level of representation must correspond to their desired level of representation as per the reservation rules, which is .2 and .8 respectively for ST and SC.

We can check the overall level of disparity between the two groups by insisting that the difference in the expected level of representation between the communities (i.e., .8-.2 =.6) be maintained in the distribution of total number of vacancies filled up by the two communities in each department across all classes of employment.

This can be easily achieved with the following expression $D_{dj(SC,ST)}= \left[\frac{SCj-STj}{SCj+STj}\right]-.6$, where $D_{ij\ (SC,ST)}$ denotes the representation disparity coefficient between SC ST in department d and

employment class j, such that $D_{dj(SC,ST)}$ is bounded by-1.6 and .4, -1.6 <= $D_{dj(SC,ST)}$ <=.4. Values and ranges of $D_{dj(SC,ST)}$ that can facilitate quick comparison are given below

$D_{dj(SC,ST)}$ = 0 indicates no disparity in representation

$D_{dj(SC,ST)}$ =.4 indicates that only SC community members are employed

$D_{dj(SC,ST)}$ =-1.6 only ST community members are employed

-1.6<= $D_{dj(SC,ST)}$ <-.6 ST community dominates

-.6< $D_{dj(SC,ST)}$ <=.4 SC community dominates

Using data from those departments satisfying the reservation requirements as identified by Vijayanath Commission report we make an attempt to check for the relative disparity if any between SC and ST communities in enjoying reservation benefits. For the purpose of analysis we have chosen all the Government departments and have omitted the Government companies.

Table 5.3 Representation Difference between SC and ST communities in Government Departments Identified to have met the reservation requirements as per Babu VIjayanath Commission Report

Departments	Class I	Class II	Class III	Class IV	Contingent	$D_{dj(SC,ST)}$ Total
Archeology	**	**	0.4	0.07	**	0.18
Archives	**	0.4	0.4	0.4	**	0.4
Chemical Examiners Lab	**	**	0.4	0.4	**	0.4
Dairy Development	**	0.4	0.15	0.4	**	0.23
Fire Force	**	0.4	0.3	0.4	0.4	0.31
Fisheries	0.4	0.4	0.24	0.23	0.26	0.25
Forest	0.4	0.15	0.24	-0.83	-1.6	-0.01
Government Press	**	0.4	0.4	0.11	0.6	0.37
Harijan Welfare	0.4	0.31	0.37	0.32	0.35	0.35
HRCE	**	0.4	0.4	-0.27	**	0.22
Indian Systems of Medicine	0.4	-0.44	0.36	0.14	0.4	0.29
Ports	**	0.4	0.4	0.25	0.4	0.31
Museums and Zoos	**	0.4	0.4	.25	0.4	.31
National Savings	**	**	0.4	-.27	0.4	0.2
Public Library	**	**	0.4	-0.27	0.4	0.2
Public Relations	**	-0.1	0.4	0.15	**	0.19
Stationery Department	**	0.4	0.29	0.4	0.4	0.33
Tourism	**	0.4	0.4	0.31	0.4	0.33
Treasuries	**	0.4	0.25	0.05	0.4	0.25
Tribal Welfare	**	0.4	0.25	-0.32	-1.12	-0.47
Weights and Measures	**	0.4	0.4	0.4	0.4	0.4
Ayurveda College	**	0.4	0.4	0.28	**	0.32

Source: Authors Calculation Based on:
Table II(a) Department wise Representation of Scheduled Castes and Scheduled Tribes as on -1-1-1981, Vijyanath Commission Report
** indicates no representation from either SC or ST communities

As can be seen from table 5.3 the scheduled castes have managed to benefit more than the scheduled tribes in almost all such departments where the reservation requirements were found to be met. Also it is worthwhile to note that across all classes of employment in all the departments analysed in table no 5.3 except in the case of class IV and contingent employees in forest department SC community have a definite upper hand in having exploited the benefits from reservation. It must also be mentioned that in the case of class I and class II levels of employment the presence of scheduled tribes is practically nil.

The last column in table 5.3 uses the same expression for finding the disparity at the aggregate level. While the total disparity in each department can be understood from such a measure, a value of zero indicating no disparity could be misleading. This is because it is possible for the aggregate measure to be zero, if the total number of SC/ST employees in the department are in the proportion of reservation, even if the reservation criteria is not met in each class of employment. To overcome this issue we propose the following improvement to $D_{dj(SC,ST)}$ and call the new aggregate measure as D_d^* . The new measure could express aggregate disparity as an average of the disaggregated disparities.

$$D_d^* = \frac{\sum_{j=1}^{n} Abs\left[\left(\frac{SCij-STij}{SCij+STij}\right)-.6\right]}{n}$$

Since we are taking the absolute value of the measure all values in the possible range (0 to1 .6) cannot have specific meaning, nevertheless we can conclude that reservation benefits have managed to reach both the sections in the desired proportion if the value is zero and can proclaim 'no disparity' without the help of any additional support measures. D_d^* is a superior measure compared to $D_{dj(SC,ST)}$ in that the value of zero, indicating no disparity at the aggregate level can be obtained if and only if both the sections have been represented as per the reservation requirements across all classes of employment in the concerned department. While D_i^* is a department level measure we can find an aggregate measure of disparity for all departments by simply taking an average of the department level measure D_i^* for all departments we may call that measure as D^* and write it as $D^* = \sum_{d=1}^{m} \frac{Dd*}{m}$ where i is a running index from 1 to m representing number of departments. Table 5.4 gives the values calculated for D_d^* and also $D_{dj(SC,ST)}$.

Table 5.4 Comparing Aggregate Disparity Measures $D_{iT(SC,ST)}$ and D_i^*

Departments	Class I	Class II	Class III	Class IV	Contingent	$D_{dj(SC,ST)}$	D_d^*
Archeology	**	**	0.4	0.07	**	0.18	0.09
Archives	**	0.4	0.4	0.4	**	0.4	0.24
Chemical Examiners Lab	**	**	0.4	0.4	**	0.4	0.16
Dairy Development	**	0.4	0.15	0.4	**	0.23	0.19
Fire Force	**	0.4	0.3	0.4	0.4	0.31	0.3
Fisheries	0.4	0.4	0.24	0.23	0.26	0.25	0.31
Forest	0.4	0.15	0.24	-0.83	-1.6	-0.01	0.65
Government Press	**	0.4	0.4	0.11	0.6	0.37	0.18
Harijan Welfare	0.4	0.31	0.37	0.32	0.35	0.35	0.35
HRCE	**	0.4	0.4	-0.27	**	0.22	0.21
Indian Systems of Medicine	0.4	-0.44	0.36	0.14	0.4	0.29	0.35
Ports	**	0.4	0.4	0.25	0.4	0.31	0.29
Public Library	**	**	0.4	-0.27	0.4	0.2	0.21
Public Relations	**	-0.1	0.4	0.15	**	0.19	0.13
Stationery Department	**	0.4	0.29	0.4	0.4	0.33	0.3
Tourism	**	0.4	0.4	0.31	0.4	0.33	0.3
Treasuries	**	0.4	0.25	0.05	0.4	0.25	0.22
Tribal Welfare	**	0.4	0.25	-0.32	-1.12	-0.47	0.42
Weights and Measures	**	0.4	0.4	0.4	0.4	0.4	0.32
Ayurveda College	**	0.4	0.4	0.28	**	0.32	0.22
Aggregate Disparity for all the 19 departments D^*	.27						

Source: Source: Authors Calculation Based on:
Table II(a) "Department wise Representation of Scheduled Castes and Scheduled Tribes as on -1-1-1981", Vijyanath Commission Report, (1981)
** indicates no representation from either SC or ST communities

As we can see D_d^* is sensitive to the number of valid levels of employment and also the relative representation of both the sections at all classes of employment. For example the aggregate disparity measure in forest department as provided by $D_{dj(SC,ST)}$ is 0.01 indicating a slight advantage for scheduled castes (see table 5.4). But upon examining the individual employment class we find that in the class I category there is absolute domination of scheduled castes and in the case of contingent employees the scheduled tribes dominate absolutely over scheduled castes. At the same time if one were to look at the new measure D_d^* we find a value of 0.65 indicating a higher level of disparity. However as mentioned earlier D_d^* being an aggregate measure obtained

by taking absolute values, one can only suggest that higher values indicate higher levels of disparity.

5.8 Disparity in Employment of Scheduled Tribes between Employment Classes and Government Departments

The next attempt is to measure the disparity in the employment of scheduled tribes between classes of employment and various Government departments. This is important as it helps to understand the distribution of the number of employed people from scheduled tribes. If the distribution is unequal between government departments /classes of employment then it could, if the policy makers wish, help in devising corrective policies like special recruitment for scheduled tribes. We intend to measure the disparity by using the Bray Curtis measure of dissimilarity, a well known measure in ecological studies. The Bray-Curtis measure[21] in the most general form is given as

$$b_{ii'} = \frac{\sum_{j=1}^{J} | n_{ij} - n_{i'j} |}{n_{i+} + n_{i'+}}$$

The measure is used to check for difference in species abundance in different sample sites in ecology. The indices i and i' represent sample sites and j represent the species in consideration. ij and i'j represent the *number* of species j in sites i and i' respectively. The value of $b_{ii'}$ ranges between 0 and 1; with 0 indicating no difference between the sample sites in terms of abundance and 1 indicating that the species is found only in one site.

While we will retain the spirit of the general Bray Curtis equation the form of the equation will be slightly changed to get a value that indicates the overall level of dissimilarity between government departments with respect to the number of employees from scheduled tribes. The measure can be expressed as

[21] Somerfield , Paul.J (2008) "Identification of the Bray-Curtis Similarity Index: Comment on Yoshioka", VOl.372, Marine Ecology Progress Series
Accessed from http://www.int-res.com/articles/meps_oa/m372p303.pdf on 25/7/2011

$D_{(STj)} = \sum_{d=1}^{m-1} \frac{|STdj - STd+1j|}{STd+} * \frac{1}{n-1}$;where $STd+$= row total

Where $ST_{dj} - ST_{d+1j}$ means the difference in the representation between scheduled tribes at the j^{th} level of employment in departments d and d+1. As in the Bray Curtis measure the value of $D_{(STj)}$ will be bound by 0 and 1, indicating no disparity between the number of scheduled tribe employees for a particular class of employment if the value is 0 and complete concentration in one department if the value is 1. Such a measure at the aggregate level for each class of employment is a ready reference to understand the distribution of ST employees in a particular class across departments.

Table 5.6 gives the aggregate disparity coefficient $D_{(STj)}$ calculated based on employment data from departments identified by Vijayanath commission as having met the statutory reservation requirement for SC/ST communities.

Table 5.6 Measuring Aggregate Disparity in the number of ST employees between Departments

Department	Class II	Class III	Class IV
Archeology	0.048	0.048	0.044
Archives	0.048	0.048	0.048
Chemical Examiners Laboratory	0.048	0.048	0.048
Dairy Development	0.048	0.073	0.048
Fire Force	0.048	0.073	0.048
Fisheries	0.048	0.085	0.055
Forest	0.108	0.296	0.462
Government Press	0.048	0.048	0.047
Harijan Welfare	0.108	0.052	0.055
Museums	0.048	0.052	0.05
National Savings	0.048	0.048	0.048
HRCE	0.048	0.048	0.044
Indian Systems of Medicine	0.714	0.065	0.062
Ports	0.048	0.048	0.044
Public Library	0.048	0.048	0.044
Public Relations	0.108	0.048	0.044
Stationery Department	0.048	0.049	0.048
Tourism	0.048	0.048	0.044
Treasuries	0.048	0.225	0.05
Tribal Welfare	0.048	0.058	0.165
Weights and Measures	0.048	0.048	0.048
Ayurveda College	0.048	0.048	0.044
Average	**0.086**	**0.073**	**0.072**
Standard Deviation	**0.142**	**0.063**	**0.091**
Coefficient of Variation	**1.639**	**0.858**	**1.254**

Source: Authors Calculation Based on:

Table II(a) "Department wise Representation of Scheduled Castes and Scheduled Tribes as on -1-1-1981", Vijyanath Commission Report, (1981)

The values given in table 5.6 provide information about how similar the departments are in employing members from scheduled tribes. In case the departments were similar in terms of the number of employees employed in a particular class we would have gotten a value of 0, indicating no dissimilarity in the number of employees employed. But as table 5.6 gives values other than 0 we can conclude that even within the those departments identified by the Vijayanath commission as having met the reservation requirements there is differences in the number of ST employees in various employment classes. By comparing the dissimilarity scores between two departments for the same class of employment could be a useful exercise. From the dissimilarity scores given above we can see that in the case of class II employment, all departments are similar with a score of (0.048) except Harijan Welfare, Indian Systems of Medicine, Forest and Public Relations. It may prove to be useful from a policy making perspective to club departments that are 'similarly dissimilar' and contrast them with other departments. Such an exercise could reveal specific information as to why certain departments are able to/not able to have more employees compared to other departments. The outcome of such an exercise could help policy makers to address recruitment/promotion bottlenecks in departments where the number of ST employees are small. Also the summary measures of the dissimilarity scores calculated for each of the different classes of employment suggests that the departments are most dissimilar in the case of class I employment ($\mu = 0.086$, $\sigma = .142$, cv = 1.64). The departments are least dissimilar in the case of class II employment category ($\mu = 0.073$, $\sigma = 0.063$, cv = 0.85).

By analysing the values for the same department across different classes of employment we can compare the extent of dissimilarity within the department. For instance the departments of Harijan Welfare, Forest, Weights and Measures and Government Press are equally dissimilar in all the three classes of employment. Whereas departments like Tribal welfare, Treasuries Chemical Examiners Laboratory and National Savings exhibit substantial variation in their dissimilarity between the numbers of ST employees in different classes of employment. For example the aggregate dissimilarity score for Indian Systems of Medicine in class II employment is 0.714 suggesting that the department is very different from the other departments in terms of number of ST employees in class II category. However the department is not very dissimilar from other departments in the case of class III and IV employment category as the dissimilarity scores calculated are .065 and .064 respectively.

Table 5.7 has arranged departments in descending order of dissimilarity. Such information is useful for quick comparison of departments. In the case of class II employment category the most dissimilar department is Indian Systems of Medicine. But the most dissimilar department in the case of class III and class IV employment is Forest department followed by Treasuries and Tribal Welfare in class III and class IV employment categories respectively.

Table 5.7 Order of Government Departments Based on the extent of Dissimilarity

Department	Class II Employment	Department	Class III Employment	Department	Class IV Employment
Indian Systems of Medicine	0.714	**Forest**	0.296	**Forest**	0.462
Forest	0.108	Treasuries	0.225	Tribal Welfare	0.165
Harijan Welfare	0.108	Fisheries	0.085	Indian Systems of Medicine	0.062
Public Relations	0.108	Dairy Development	0.073	Fisheries	0.055
Archeology	0.048	Fire Force	0.073	Harijan Welfare	0.055
Archives	0.048	Indian Systems of Medicine	0.065	Museums & Zoos	0.05
Chemical Examiners Laboratory	0.048	Tribal Welfare	0.058	Treasuries	0.05
Dairy Development	0.048	Harijan Welfare	0.052	Archives	0.048
Fire Force	0.048	Museums & Zoos	0.052	Chemical Examiners Laboratory	0.048
Fisheries	0.048	Stationery Department	0.049	Dairy Development	0.048
Government Press	0.048	Archeology	0.048	Fire Force	0.048
Museums & Zoos	0.048	Archives	0.048	National Savings	0.048
National Savings	0.048	Chemical Examiners Laboratory	0.048	Stationery Department	0.048
HRCE	0.048	Government Press	0.048	Weights and Measures	0.048
Ports	0.048	National Savings	0.048	Government Press	0.047
Public Library	0.048	HRCE	0.048	Archeology	0.044
Stationery Department	0.048	Ports	0.048	HRCE	0.044
Tourism	0.048	Public Library	0.048	Ports	0.044
Treasuries	0.048	Public Relations	0.048	Public Library	0.044
Tribal Welfare	0.048	Tourism	0.048	Public Relations	0.044

Weights and Measures	0.048	Weights and Measures	0.048	Tourism	0.044
Ayurveda College	0.048	Ayurveda College	0.048	Ayurveda College	0.044

Source: Authors Calculation Based on:
Table II(a) Department wise Representation of Scheduled Castes and Scheduled Tribes as on -1-1-1981, Vijyanath Commission Report, (1981)

5.9 Representational Difference between Scheduled Tribes in Government Departments

In the previous sections we tried to measure the inter departmental and inter employment class differences in the number of employees from scheduled tribes; but we did that exercise by treating scheduled tribes as a whole, without looking for the extent of representation of individual communities. In this section we try to quantify the extent of representational disparity for scheduled tribes as a whole by aggregating the representational disparity for individual tribal communities in the employment of Government services. A measure of representational disparity which is expressed as an aggregate of the representational disparity of individual communities is proposed as it is possible that all the vacancies reserved for scheduled tribes as a whole is filled by members from only one tribe. In such a case an aggregate measure that discounts disaggregated information could mask more what it reveals.

To explain how the two measures; one based on aggregate representational difference and the second one which is an aggregate representational difference measure based on the individual tribe level disparity measure, we have taken the employment data from three departments as per the Vijayanath Commission Report where the total number of ST employees is equal to two percent of the total employees in the department, the desired level of representation as per the reservation rules.

Table 5.8 gives information on the aggregate representation of scheduled tribes in the departments that have the minimum number of SC/ST employees as per reservation requirement. The percentage of ST employees in each class of employment to the total sanctioned posts in that class is given in the table. The last column gives the extent of overall disparity (expressed as (Total- 2)/(Total+2) of ST employees to total employees in each department. If one were to employ the simple criterion of meeting the minimum reservation percentage i.e., 2 percentage we can see that three departments qualify to be in the category of departments where there is no

representation disparity. Or in other words the representation of scheduled tribes in those meets the statutory reservation percentage. These departments are Forest, Tribal Welfare and Museums and Zoos.

Table 5.8 Percentage of ST employees to Total Employees in Each Class of Employment

Departments	Class I	Class II	Class III	Class IV	Total	Disparity
Archeology	0	0	0	2.86	1.33	-0.2
Archives	0	0	0	0	0	-1
Chemical Examiners Laboratory	0	0	0	0	0	-1
Dairy Development	0	0	1.13	0	0.86	-0.4
Fire Force	0	0	0.51	0	0.49	-0.61
Fisheries	0	0	0.96	1.14	0.95	-0.36
Forest	0	0.57	0.85	11.7	2.36	0.08
Government Press	0	0	0	1.27	0.13	-0.88
Harijan Welfare	0	2.5	0.27	1.08	0.65	-0.51
HRCE	0	0	0	4	1.09	-0.29
Indian Systems of Medicine	0	1.46	0.41	1.56	0.6	-0.54
Ports	0	0	0	1.41	0.53	-0.58
Public Library	0	0	0	7.14	1.75	-0.07
Public Relations	0	2.78	0	2	1.08	-0.3
Stationery Department	0	0	2.1	0	1.32	-0.2
Tourism	0	0	0	1.13	0.8	-0.43
Treasuries	0	0	0.9	1.58	0.91	-0.37
Tribal Welfare	0	0	0.93	9.69	4.02	0.34
Weights and Measures	0	0	0	0	0	-1
Ayurveda College	0	0	0	1.68	0.42	-0.65
Museums and Zoos	0	0	3.7	1.7	2.01	0
National Savings	0	0	0	0	0	-1

Source: Authors Calculation based on Table V(a) "Percentage of Scheduled Caste/Scheduled Tribe Employees in Each Department" , Vijyanath Commission Report, (1981)

However this does not tell us the whole story about the extent of representation; i.e., whether these departments have fair representation from all tribal communities. To check this we cull out information about the three departments where the overall representation of tribal communities has met the minimum reservation requirements. The representation of all the communities in each of the departments is given in table 5.9.

We can find that in all the three departments only 15 communities out of 34 communities have any sort of representation. Or in other words more than 50 percent of the communities have absolutely no representation in these departments. However if we take these departments to check for aggregate representation we find that the criteria of statutory requirement of 2 percent of scheduled tribe employees is met. Hence we would be missing out on the important aspect of horizontal inequality if we were to satisfy ourselves with the aggregate measure of representation.

Table 5.9 Number of Members from Each Tribal Community Employed in Departments identified by Vijayanath Commission as having Met Reservation Requirement of Scheduled Tribes

		Forest Department				Tribal Welfare Department				Museums and Zoos				
Tribal Community	% of ST population	Class I	Class II	Class III	Class IV	Class I	Class II	Class III	Class IV	Class I	Class II	Class III	Class IV	Total
Adiyan	3.67	0	0	0	0	0	0	0	1	0	0	0	0	1
0Arandan	0.05	0	0	0	0	0	0	0	0	0	0	0	0	0
Eravallan	0.35	0	0	0	0	0	0	0	0	0	0	0	0	0
Hill Pulaya	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0
Irula	7.71	0	0	1	3	0	0	0	0	0	0	0	0	4
Kadar	0.58	0	0	4	7	0	0	0	0	0	0	0	0	11
Kammara	0.17	0	0	0	0	0	0	0	0	0	0	0	0	0
Kanikkaran	6.17	0	0	2	3	0	0	1	4	0	0	2	3	15
Kattu Naika	2.89	0	0	0	0	0	0	0	0	0	0	0	0	0
Kochuvelan	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0
Kondakapus	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0
Konda Reddis	0.09	0	0	0	0	0	0	0	0	0	0	0	0	0
Koraga	0.38	0	0	0	0	0	0	0	0	0	0	0	0	0
Kota	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0
Kudiya	0.23	0	0	0	0	0	0	0	0	0	0	0	0	0
Kurichya	8.15	0	0	0	0	0	0	0	8	0	0	0	0	8
Kuruman	7.85	0	0	3	1	0	0	0	0	0	0	0	0	4
Kurumba	0.68	0	0	0	0	0	0	0	0	0	0	0	0	0
Mahamalsar	0.36	0	0	0	0	0	0	0	0	0	0	0	0	0
Malayaraya	4.35	0	1	5	2	0	0	1	2	0	0	0	0	11
Mala Pandaram	0.76	0	0	2	0	0	0	0	0	0	0	0	1	3
Malavedan	0.65	0	0	0	0	0	0	0	0	0	0	0	0	0
Malakuravan	0.07	0	0	0	0	0	0	0	0	0	0	0	0	0
Malassar	0.16	0	0	1	11	0	0	0	0	0	0	0	0	12
Malayan	1.88	0	0	1	0	0	0	0	0	0	0	0	0	1
Mannan	2.19	0	0	0	0	0	0	0	0	0	0	0	0	0
Marati	9.11	0	0	1	0	0	0	0	0	0	0	0	0	1
Muthuvan	4.14	0	0	1	0	0	0	0	0	0	0	0	0	1
Palleyan	0.46	0	0	0	0	0	0	0	0	0	0	0	0	0
Palliyan	0.02	0	0	0	0	0	0	0	0	0	0	0	0	0
Palliyar	0.13	0	0	0	0	0	0	0	0	0	0	0	0	0
Paniyan	23.65	0	0	2	24	0	0	1	2	0	0	0	0	29
Ulladan	5.57	0	0	0	0	0	0	0	1	0	0	0	0	1
Urali	2.32	0	0	1	0	0	0	0	1	0	0	0	0	2
Total		0	1	24	51	0	0	3	19	0	0	2	4	104

Source: Table IV "Department Wise Representation of Each Caste/Tribe" Babu Vijayanath Commission Report (1981), Page numbers 19-51

To make the aggregate representation difference measure more meaningful we calculate the representation difference for individual tribal communities for each level of employment and then aggregate it. The representation difference for individual tribal community is calculated using the earlier measure proposed. $\text{Di} = \frac{1}{\text{n}}. \sum_{j=1}^{n} \text{Abs (dij)}$.

The aggregate measure for the community can give a value of 0 indicating no representation difference only if it has exact representation according to its population proportion in each level of employment. The calculated values are given in table 5.10

Table 5.10 Measure of Representation Difference for Individual Communities

Tribal Community	Forest Department	Museums and Zoos	Tribal Welfare
Adiyan	5.8721E-05	5.87209E-05	0.00513148
Arandan	0.00662292	8E-07	8E-07
Eravallan	5.6E-06	5.60001E-06	5.6E-06
Hill Pulaya	9.6E-06	9.60002E-06	9.6E-06
Irula	0.00045186	0.000123364	0.00012336
Kadar	0.01701325	9.28002E-06	9.28E-06
Kammara	2.72E-06	2.72E-06	2.72E-06
Kanikkaran	0.00740303	9.87224E-05	0.02350472
KattuNaika	4.6241E-05	4.62405E-05	4.6241E-05
Kochuvelan	1.6E-07	1.6E-07	1.6E-07
Kondakapus	1.6E-07	1.6E-07	1.6E-07
Kondareddis	1.44E-06	1.44E-06	1.44E-06
Koraga	6.08E-06	6.08001E-06	6.08E-06
Kota	1.6E-07	1.6E-07	1.6E-07
Kudiya	3.68E-06	3.68E-06	3.68E-06
Kurichya	0.0001304	0.000130404	0.04088286
Kuruman	0.00337811	0.000125604	0.0001256
Kurumba	1.088E-05	1.088E-05	1.088E-05
Mahamalsar	5.76E-06	5.76001E-06	5.76E-06
Malayaraya	0.05299864	0.254259743	0.01330029
Malapandaram	0.00078642	1.216E-05	1.216E-05
Malavedan	1.04E-05	0.018523767	1.04E-05
Malakuravan	1.12E-06	1.12E-06	1.12E-06
Malassar	0.02467274	2.56E-06	2.56E-06
Malayan	0.00040521	0.166278567	3.008E-05
Mannan	3.504E-05	3.50403E-05	3.504E-05
Marati	0.00046306	0.000145765	0.00014577
Muthuvan	0.00042329	6.62411E-05	6.6241E-05
Palleyan	7.36E-06	7.36001E-06	7.36E-06
Palliyan	3.2E-07	3.2E-07	3.2E-07
Palliyar	2.08E-06	2.08E-06	2.08E-06
Paniyan	0.05376555	0.000378436	0.01330132
Ulladan	8.9122E-05	8.9122E-05	0.00514672
Urali	0.00040873	3.71203E-05	0.00512065

Source: Authors calculation Based on:

1) Annexure Table on Percentage of Each Caste /Tribe in Government Departments and Public Sector Undertakings, Babu Vijayanath Commission Report (1981)
2) Table II(a) Department wise Representation of Scheduled Castes and Scheduled Tribes as on -1-1-1981, Vijyanath Commission Report
3) Table IV "Department Wise Representation of Each Caste/Tribe" Babu Vijayanath Commission Report (1981), Page numbers 19-51

The values for D_i indicate that none of the communities qualify to be called as having made proper aggregate representation in any of the three departments. Some of the useful features of D_i are readily observable. The D_i is a decomposable measure which is a useful property. Also the D_i gives due weightage to the population proportion of the respective tribe. This means that for the same absolute measure of deviation from the expected level of representation for two tribes with different population proportions, the D_i value for the tribe with the larger population proportion will be higher. For example if Paniya community which constitutes 23 percent of the tribal population is away from its rightful share in Government jobs by 10 percent and Malayaraya community that constitutes about 4.5 percent of the tribal population is also away from its rightful share by 10 percent, the proposed measure D_i will attach higher weightage to the discrepancy caused by Paniya community. This is a desirable property as the measure recognizes the need to attach more importance to the discrepancy in representation caused by tribal communities that have more members.

Chapter VI

Concluding Observations

6.1 Income, Livelihood and General Standard of Living

The observations from the study elicit many important aspects about the quality of tribal housing. Government machinery has been very effective in reaching the needy backward tribes by providing a dwelling place. Majority of the tribal community has received some form of Government assistance in building houses. However the quality of housing in terms of the area of the house is poor among tribal community in general and leaves out substantial scope for improvement among the backward communities where the vast majority are living in very congested houses (less than 100 sqft).The materials used for house construction are of moderate quality across tribal communities. The use of low quality materials in house construction increases the frequency of maintenance which puts significant financial burden on the tribal households in absolute and relative terms.

Analysing the income and livelihood options of the tribal households throws light into certain pertinent facts. There exist noticeable differences between the forward and backward communities in their livelihood options. Even though majority of the tribal communities depend on primary sector for their livelihood, the spread in the main source of employment is more among the forward tribes. The backward tribes like Irula, KattuNaika, Paniya, Urali and Adiya depend almost entirely on agriculture, agricultural labour and non agricultural labour. It is interesting to note that close to 15 percent of the tribals have reported NREGS to be their main source of employment. This suggests that a scheme that was operationalised in 2006 has gained much popularity in becoming a major source employment among the tribal communities. The fact that almost one person out of every nine tribals have indicated NREGS as the main source of employment raises concern about the sustainability of the traditional livelihood options of tribals. Among all the tribals who have reported NREGS as a main source of employment, the three forward tribes account for close to 60 percent. This is indicative of the fact that income and employment generation schemes introduced by the Government are more popular and effective

mainly among the forward tribes. A reason for less popularity of NREGS among backward tribes could be the 'duration mismatch' between the payment of remuneration under NREGS (which is quite often paid fortnightly or monthly) and the payment for their requirements (which are quite often daily). Primary data reveals that in the Government sector jobs in which the tribal community has a reservation of 2 percentage in the state level and 7.5 percent in the national level close to 50 percent of the positions are occupied by Malayaran community. The representation of backward communities in Government sector is very low.

Estimating the income and tracing the expenditure pattern among tribal households is challenging in more ways than one. The challenges presented are manifold as they work mostly in the unorganized sector, have very poor recall period and practically keep no accounts of household income and expenditure. The primary data reveals minimal variability in income between forward and backward tribes, which given the experience from the field suggests the possibility of underreporting of income by forward communities. The nature and levels of indebtedness in the tribal community presents a complex picture. Contrary to expectation, only 38 percent of the tribal households reported any form of debt incurred. However the purpose of indebtedness among forward and backward communities varies significantly. The backward communities incur debt almost entirely for non productive purposes in which the most frequent purpose is to meet day to day expenditures. The forward communities have incurred debt mainly for agricultural purposes and the level of indebtedness is more for forward communities than for backward communities. Among backward communities the people who have active bank accounts are very low. The low indebtedness among backward communities may be indicative of their low creditworthiness and the divorced nature of financial transactions of backward tribal communities from the formal financial sector.

Land alienation is a major issue among tribal communities. As noted in several studies, the tribals have lost the land they once occupied either to settlers or to encroachers. The excessive dependence of tribal communities on land for their income and employment makes land alienation and landlessness a major livelihood concern for tribals. In the tribal community, there is considerable difference in the size of landholding. The average size of land holding among traditionally landowning communities like Kurichya, Kuruma and Malayarayan as well as

communities like Muthuvan are much above the other communities. Higher landholding size is seen to be associated with better levels of development among tribal communities in Kerala.

6.2 Education

Against the backdrop of exceptional achievements the state has with regard to literacy and education, the tribal scenario presents an exception. They still remain outliers in both, with visible gender differences. While the females lag behind their male counterparts in literacy, males lag in education. There are numerous factors hindering the literacy of tribal communities. The major factors include inaccessibility, language barrier, cultural barrier, lack of tribal sensitive functionaries, lack of vayanasalas (libraries)/reading materials, lack of continuing efforts, Alcoholism, etc.

With regard to enrolment at primary school level it is encouraging that the proportion of ST students in total student enrollment is slightly higher than their share in Kerala's population. However the trend tapers off quickly when we examine the enrollment to high school and higher secondary school levels indicating that that there is systematic dropout happening at higher levels. In the case of SSLC, it is interesting that the number of students appearing the examination for the last few years shows a decreasing trend. Against this trend, the number of successful candidates shows an increasing trend. Girls outnumber boys in success at all levels of education. In higher education also the decreasing trend of performance of tribal students is visible, with girls excelling boys. The dropout of ST students at schools is four times that of the SC and even more compared to the general category.Among the tribal districts, Idukki has the least number of dropouts. While dropout at High school level was the lowest in both Idukki and Wayanad, it is the highest in Palakkad. There is much thrust given to education of tribes in the state; for example out of the 61 new schools started by the DPEP, 56 are in the four most tribal populated districts led by Wayanad, Idukki and Palakkad. DPEP, MRSs, MGLCs etc have given thrust to tribal education in different ways. Besides, auxiliary educational efforts like Girivikas and Gurukulam have also made some headway toward this goal. There are also some unique efforts like Kanavu in Wayanad. However the effects of these efforts do not seem to have fully reached the tribal community.

Wayanad and Palakkad, the most tribal populated districts, do not have schools in proportion to their population at school going age, showing that the tribal communities do not have enough educational facility. The essential education infrastructure requirements like Pucca buildings, urinal/latrine and drinking water in the tribal districts are almost on par with other districts, showing that factors other than physical infrastructure are responsible for the educational backwardness of tribes in the state. Distance to educational institutions shows that accessibility is still a serious hurdle in tribal education and this is especially true for higher education.

Though not the only factor, the higher opportunity costs[22] of education at high school/higher secondary school going age among tribal community plays an important role in the increased drop out at that age group. Since education is free for the tribal children, the mid day meal schemes in the schools and stipend offered to students are probably acting as incentives for ensuring higher enrollment rates at the primary school level. The students remain in schools till an age when they cannot support the family by taking up productive employment, because of which the opportunity cost of education in this age period is low. However, as the children grow old they can obtain work elsewhere and support their families which raise the opportunity costs associated with education and force them to drop out. The limited geographical spread in the workplace of tribal communities and the excessive dependence of the communities on employment avenues that do not specify educational attainment as a qualification also contributes to increased dropout at higher levels of education. The situation forces them to choose between "education or immediate income" and deprives them of the option "education for better income".

There is suspicion of considerable underreporting of student dropout from among the tribal communities. The discussion with some stakeholders in the education sector revealed that there are numerous cases where the teachers/school management maintains the names of the students in the school rolls even after they drop out, to provide financial assistance from the Government to the tribal families. There is a vicious circle of 'poverty- low education' at work impeding the educational development of tribal communities. Besides the lack of tutorial facility, insensitive functionaries like teachers and support staff, language barrier, lack of motivation from parents, withdrawing nature, problems in tribal hostels and problems in the family also accentuate the

[22] Opportunity cost of any option/action is the benefit of the next best option/action sacrificed for choosing/pursuing the current option/action.

problems of lower educational attainment in tribal communities. It is the culture created and sustained by poverty, rather than poverty as such that is responsible for educational backwardness of the tribal students. Therefore effective interventions are required to make corrective movement in this regard.

6.3 Representation Difference in Government Jobs

Reservation in Government jobs, offered to ensure representation of the backward communities in Government jobs through positive discrimination seems to be working well only for certain tribal communities. Based on the data collected by Vijayanath Commision in 1981 it is found that majority of the tribal communities are underrepresented or not represented in Government jobs. According to the report only 9 Government departments out of 71 have managed to fill the vacancies as per the reservation criteria for scheduled tribes.

While the data based on which the study has made observations about the inter tribe variation in representation of scheduled tribes is very old (the Vijayanath commission report gives data of employees as on 1981) the general inferences made are valid even today; and this is validated to some extent by the primary survey. The issue of disproportionate representation of certain tribal communities in Government jobs is indicative of a weak system that favors the strong. The tribes who have managed to benefit from reservation in Government jobs have been able to outperform their not so fortunate counterparts and the process is set to perpetuate unless checked. While the Darwin followers may not find anything unusually wrong with such a set up, it must be noted that objective of reservation is to benefit all the communities in the scheduled tribe list and not just a selected few. To some extent this can be achieved by brining in a rotation policy with in scheduled tribes for reservation in Government jobs. Nevertheless such a suggestion is also not without problems as the vacancy will remain unfilled till such time a candidate eligible to be appointed from the community expresses his/her willingness to work in the department. While this will ensure that all tribal communities will have a population proportionate chance of getting employed it will also perish the possibility of a deserving and qualified candidate from another tribal community getting employed.

As noted by the report and also the present study the scheduled tribes are completely absent from class I employment and most of the employees are clustered in class IV category. While some communities dominate the rest of the communities in their absolute and comparative

representation in Government jobs upon closer examination it can be found that none of 34 communities in the scheduled tribe list have managed to achieve perfect representation equality. This is particularly because the upper class, class I and II vacancies have remained unfilled. The high paying jobs have remained conspicuously elusive to scheduled tribes as a whole. It is only in the case of class I and II employment that tribal communities are similar to each other, alas a similarity caused by non representation of all tribal communities.

The issue of under representation of certain ST communities in the Government jobs seems to put the Government in a Catch 22 situation. If the decision is to leave the present system unchanged, which will ensure that at least some members from tribal communities as a whole will get employed in Government jobs, then issue of inter tribe disparity cannot be addressed. On the other hand if the decision is to change the system in a manner to ensure that distribution of reservation benefits are not skewed, it poses the risk of many eligible candidates from ST communities being denied of appointment to government jobs and that there could be more unfilled vacancies not just the higher class of employment but at all levels of employment.

The study have raised to us more questions than we have managed to answer Some of the interesting questions, of which we would like to explore further are

i) How did some communities manage to outperform others?

ii) To what extent can the historical factors (like whether the communities were traditionally slaves or land lords) explain the observed differences in standard of living?

iii) Are the mainstream development ideas applicable and appropriate in a subaltern setting?

Answering such questions call for detailed case studies on individual communities. Such an exercise could enrich academic discussions and help policy makers. The need for such efforts is aptly and emphatically put across in the following quote.

"Civil paths to peace also demand the removal of gross economic inequalities, social humiliations and political disenfranchisement, which can contribute to generating confrontation and hostility. Purely economic measures of inequality do not bring out the social dimension of the inequality involved. For example, when the people in the bottom groups in terms of income have different non-economic characteristics, in terms of race (such as being black rather than white), or immigration status (such as being recent arrivals rather than older residents), then the significance of the economic inequality is substantially magnified by its "coupling" with other divisions, linked with non-economic identity groups."

Amaryta Sen, The Guardian, Friday November 9th 2007

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