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Tribes of the Anamalais

Livelihood and resource-use patterns of communities in the rainforests of the Indira Gandhi Wildlife Sanctuary and Valparai plateau

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LIVELIHOOD AND RESOURCE-USE PATTERNS OF COMMUNITIES IN THE RAINFORESTS OF THE INDIRA GANDHI WILDLIFE SANCTUARY AND VALPARAI PLATEAU

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Cover photographs
(Photos by the author)

Front cover: View of Kallarkudi, a Kadar settlement in the Indira Gandhi Wildlife Sanctuary, as seen from Udumanparai.

Back cover: Thangaraj and his family processing coffee berries at Nedungkundru, a Kadar settlement (left) and Srinivasan from Koomati, a Malai Malasar settlement, demonstrating climbing a tree pegged earlier for honey collection (right).

CONTENTS

ACKNOWLEDGEMENTS

I had just returned from the Andaman Islands when during the course of a conversation over lunch Janaki asked if I knew anybody who would be interested in profiling indigenous communities in the Anamalais. I had only fleetingly heard of this region though I was keen to know more. Divya Mudappa and Shankar Raman (Sridhar) subsequently invited me, and I hope this report will be of use in their efforts to conserve the landscape that they and the rest of the team at NCF Rainforest Restoration and Research Station at Valparai (and NCF at Mysore) so keenly strive toward. The families I came to know at Valparai, Divya and Sridhar and Vidya and Anand dished out some fantastic meals between fieldwork and made me feel at home with drives, movies and music. Anand, provided many enjoyable moments, with his company, questions and loads of encouragement. I wont forget those days we partied too! Thanks also to Nandini and Robin for much help and great company. Dinesh diligently showed me around all the settlements, provided his home, time and contacts without which, much of this work would not have taken place. His friendship, insight and camaraderie made me feel instantly comfortable within houses he took me to and among his friends and relatives in virtually every settlement.

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SUMMARY

The Western Ghats hill range of India, recognised as a global biodiversity hotspot, also contains impressive cultural diversity including a number of tribal communities. This study uses past records and primary field research to describe aspects of ethnic identity, social change, demography, livelihoods, and resource use among three tribal communities in the Anamalai hills along the Western Ghats mountains of southern India. Kadar, Muthuvar, and Malai Malasar communities across 190 households in 8 settlements located adjacent to rainforests in the Indira Gandhi Wildlife Sanctuary were studied to examine current modes of existence vis-à-vis their past and the use of rainforest patches they live within. The tribal communities surveyed are sedentary compared to their past livelihood as nomadic hunter-gatherers and shifting cultivators in the region. They are distinguished by dialects and customs despite considerable change and acculturation. Demographic changes include a 180% increase in population over three decades and increasing literacy and access to higher education with a current literacy rate of 52% (females: 42%, males: 63%). Livelihood activities range from natural resource gathering for income generation, cultivation of subsistence and cash crops and limited employment with the Forest department and at private plantations. Though natural resource gathering has been in vogue from early records, economic transformation toward other employment opportunities is evolving given restrictions in collecting forest produce. Some settlements have diversified through cash crop cultivation, especially cardamom (producing over 2,700 kg in 2006), although benefits are marginal, given available space, cultivation practices, and fluctuating prices. Despite changes in housing and water supply infrastructure, the required repair and improvements in settlements, offer opportunities to develop relationships between managers and local tribes people. There is considerable ground to cover in developing sustainable sources of income and livelihood given these developments. The possible implications of these strategies on rainforest conservation and experiential changes in their cultural sphere are also briefly deliberated on advocating possible beginnings toward co-management. It is essential that inherent skills, though scarce, are used to derive alternative employment and manage income sources, given the twin needs of a growing population and conservation of the biologically diverse rainforest ecosystems they live amidst.

1. BACKGROUND

The Western Ghats are globally recognised for their biological diversity and extend along the west coast of India from the River Tapti in the north almost to the southern tip of the peninsula. Toward its southern ranges lie the Anamalai hills ('elephant hills' in Tamil), an important conservation area in the southern Western Ghats. The ranges occur just south of the Palghat gap and are linked with the Nelliampathy hills towards the west, the Palni hills toward the southeast, and the Eravikulam, High Wavy and other ranges towards the south. A number of protected areas are included in this region, including the Indira Gandhi Wildlife Sanctuary (958 km^2), Eravikulam Wildlife Sanctuary (97 km^2), Chinnar Wildlife Sanctuary (90 km^2), Parambikulam Wildlife Sanctuary (274 km^2). This region is also contiguous with reserved forests and protected areas further to the west and east. The Anamalai hill ranges consist of undulating and rugged terrain spread across the states of Kerala and Tamil Nadu. The highest peak in south India, Anaimudi 2,695 m (in Kerala) is also a part of the range. A large area of this range that remains forested has been set aside as protected and reserved forests due to its biological diversity and also as the watershed of many major rivers and streams originating from these hills. These hill ranges are the southern extremities of the Western Ghats of southern India, recognised globally as a hotspot for biologically diverse species of fauna and flora.

The Indira Gandhi Wildlife Sanctuary (earlier known as the Anamalai Wildlife Sanctuary, 987 km^2, 10° 12' N to 10° 35' N and 76° 49' E to 77° 24' E) is located in the Valparai plateau fringed largely by tea estates. The altitude within the sanctuary ranges from 220 m in the foothills along the northern fringes to 2,513 m in the Grass Hills at the southern portion of the reserve. Different parts of the region experience widely varying rainfall ranging from 700 mm in the eastern reaches to more than 4000 mm in the western ranges mostly during the southwest monsoon. The region is drained by perennial rivers such as the Konalar, Varagaliar, Karuneerar, Chinnar and Amaravathi and numerous freshwater streams. A number of reservoirs (Aliyar, Upper Aliyar, Kadamparai, Sholayar, Upper and Lower Nirar, Thirumurthy and Parambikulam), are at least partly within the Indira Gandhi Wildlife Sanctuary.

These hill ranges have been home to indigenous communities of different ethnic origin such as the Kadar, Muthuvar and Malai Malasars. Other tribal communities also live in the vicinity of the Anamalai hills, chiefly the Pulaiyars, Malasars, and Eravalars along the lower elevations. Though most of these communities were hunter-gatherers

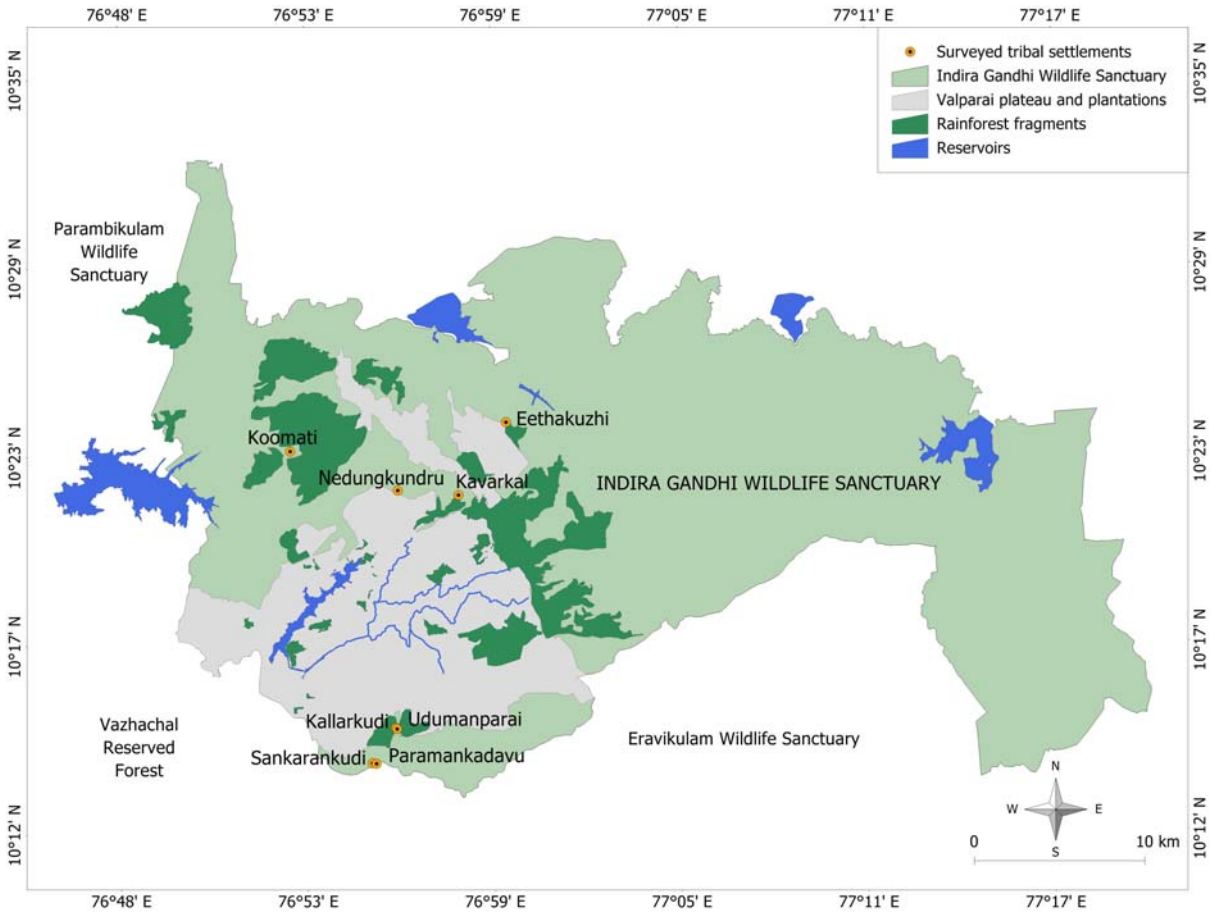
in the past they now live in sedentary units within the sanctuary largely along its fringes.

In recent decades with the need to conserve forested landscapes across the subcontinent, studies on species, habitats, and ecological dynamics of different forest ecosystems have been carried out in various regions, including the Anamalai hills. Of the different forest ecosystems, rainforests are under increasing threat given many years of forestry, human use, and developments surrounding the few regions that support rainforests. Proactive protection to forested environments with minimal or no human use is one of the strategies advocated in some regions whereas community based forest conservation is at the other end of the spectrum of efforts to conserve forests[1]. Different approaches (and combinations) have been used to understand the requirements and needs of forest conservation and the impacts that human communities have on their surroundings. This report constructs socio-ecological processes that three communities have dealt with in the past, and further describes basic livelihood necessities and developments that shape their society. Understanding livelihood choices and strategies entails understanding the means to livelihood and reasons for their practices. The need for this work was to understand impacts that the human communities have on their surrounding forests. I have tried to portray this through activities that people from the settlements are engaged in as well as those articles accessed from the forests around their settlements which also include rainforests. For proactive conservation of the forests around the settlements a combination of comprehending the communities who use them as well as an understanding of ecosystem processes is required. This report deals with the former advocating constructive engagement rather than alienation by exclusion.

RESEARCH DESIGN AND METHODS

As this study proposed to understand livelihoods of those communities within or adjacent to rainforest fragments five settlements of the higher ranges were selected of the 36 tribal settlements in the Indira Gandhi wildlife Sanctuary and National Park. They are Nedungkundru, Kavarkal, Udumanparai, Sankarankudi and Koomati. These settlements were composed of three tribal communities. The study was conducted over the period of one year through frequent visits developing a process of commentary and enquiry. Published literature pertaining to the communities and region provided a backdrop, though most literature was sourced during the study period. It was only after a few months that my purpose of visits and enquiries were clearer to the informants I maintained contact with. Ethnographic fieldwork concentrated on three domains, basic socio-economic information of each settlement, oral narratives and informal interviews on aspects of their economy and livelihood; commentaries on processes of change and on material culture were elucidated and validated using information from past accounts and while generating socio-economic information. Key informants identified during the

[1] For recent deliberations on these and other conservation strategies see *Conservation and Society,* Vol. 2, No: 2, and Vol. 4. No: 3.



Map of Indira Gandhi Wildlife Sanctuary in the Anamalai hills, showing locations of surveyed settlements in relation to plantations, rainforest fragments, and surrounding protected areas.

course of visits gave me leads to sources of information and they were engaged to provide commentaries. Commentaries were also elucidated using folklore and significant events that respondents recognised over their lifetime. Festivals celebrated and village activities at the settlements also provided opportunities during which practices and commentaries on change were elucidated. Photography and observation were used to document practices, activities and material culture and to elucidate commentaries. When needed, I stayed at settlements for a few days.

An interview framework (Annexure 1) was developed to collect primary data, provisioning for additional information to broaden the scope of understanding. No formal questionnaires were used, but the interview schedule was based on a framework of information on the settlement, origin and livelihood choices of the households and respondents met. All households were not interviewed, though data was generated from settlement lists developed at all the settlements. Soon after the first month of visits, three other settlements—Paramankadavu, Kallarkudi and Eethakuzhi—were included, as they were associated with and of informative value to the study area and purpose. During field visits interviews were initially open ended to glean information on the representative settlements beyond which semi structured interviews on resource requirements and utilisation were conducted to gather information from residents using

a livelihood 'diversity' matrix (Annexure 2, Table 15), with which information was generated. All settlements were visited each month during the study period beginning mid July 2006 to June 2007. Visits were mostly during the day, while on occasions I stayed over at settlements for a few days more. The only settlement where I didn't stay over at was Eethakuzhi.

Data was collected and arranged at settlement and household levels. Information on employment opportunities and patterns were collected during visits to settlements through the year and eventually from sources that maintained a record and were willing to share such information. In this process settlement lists were created recording inhabitants of each settlement, the households they belonged to, age, and educational status. This list was further augmented to include information at the settlement level of cultivation practices if any and origin of the populace by recording the place of birth and migration to or from if any, to particular settlements at the household level.

Using participatory processes of learning and validation, cultural attributes and questions on social identity were discussed among largely male respondents across settlements, though it was easier to interact with women in Kadar settlements. Ethnographic information from literature was crosschecked with residents on their currency. Samples of genealogy and kinship patterns were also documented to understand social and familial linkages. Information was categorised into basic socio-economic information, cultural attributes and livelihood practices, and anecdotal information.

Visits to some resource gleaning sites were made when possible, though a quantification of resources extracted from the many sites was not undertaken as standardisation of data simultaneously from different settlements was not forthcoming given apprehensions of the people and the random nature of collection in the eight settlements.

Limitations

Within a few weeks of getting introduced to the field area for this study, it was clear that in management of the Sanctuary, rules and regulations governing the region do not permit natural resource extraction except in select ranges. Information eventually collected is only descriptive of current practices and are not quantitative measures. People were not willing to reveal sufficient information due to apprehensions on how the information would be used. Apart from the extraction of honey, collection of other products was dependent on demand and varied considerably across settlements during discussions on and around this subject. Given the little information in numbers that I was able to gather, during discussions I attempted to arrive at consensus on their practices and dependencies. With regard to information from the past on these aspects of their economy and livelihood, data is not available though general notes provide a comparison from early accounts such as in Congreve's 'The Anamalais' (1942), and other information on general economy from ethnographic accounts and notes. Despite

the existence of a tribal society in the past, few records are available on transactions related to collection and sale of forest produce. These would assist in an understanding of trends related to the activity and changes experienced by the tribes. A report by KEYSTONE details some records of these transactions that were available during and before their work in the region. In this light it may be pertinent to add that reliable information on the communities, their employment status with government departments and updated demography was not easily available or well documented for management purposes; this has relevance in that, such information if maintained and made accessible to the communities, the Forest Department and Collectors office will provide a means toward effective engagement with changes and requirements in managing the natural heritage of the Sanctuary.

THE LAND

The Anamalai hills are today known as one of the biodiversity hotspots of the world especially as it falls along the southern Western Ghats that are rich in endemic flora and fauna in forests ranging from dry scrub jungle along the eastern foot hills to the thick wet evergreen rainforests of the upper reaches including the Valparai plateau. Some of the hill tops are covered in grassy meadows and forested valleys that are unique ecosystems found only along the higher elevations of hill tops. The region is composed of a series of hill ranges running in the north-south direction and valleys with drainage pouring from streams into rivers that eventually reach the Arabian Sea on the west coast. Large stone dolmens[i] found in various locations in the lower and higher ranges near hilltops are evidence of early human occupation in the region[2]. Depictions of various rituals and pictographs of prehistoric human activities are found in some overhangs as rock paintings within the Indira Gandhi Wildlife Sanctuary (Subramanian 2007). This forest habitat especially of the western ranges (formerly known as the Cochin State Forests) was initially viewed as a source of timber as early as 1820, during the Trigonometric survey (Sekar and Ganesan 2003). They were subsequently worked by exploiting the forest wealth from 1847-1880 beginning from the western ranges and reaching the Anamalais eventually. The Anamalais were opened for plantation in 1864 from the eastern ranges after the first expedition in 1858 to source lands for the cultivation of tea (Congreve 1942). The Foresters of the colonial government identified the Anamalai hill ranges of the Coimbatore and Idukki districts as one of the most important areas of abundant forest resources in South India. The felling of trees was

A dolmen near Ayankulam in the Indira Gandhi Wildlife Sanctuary.

[2] The terms of reference to dolmens by Kadars, Muthuvars and Malai Malasars are as follows: *'Patarr kal', 'Paer kal'* and '*Soniyar kal'*. Also see Endnote (a).

A brief history of the Anamalais

- The first expedition into the forests was in 1858 after which forests were cleared for the establishment of plantations in the plateau
- The first application for land was made in 1864 at Rs. 5/acre, opening and granting land for the cultivation of coffee and tea
- Provisions were made to accommodate livelihood practices of the Kadars and for the protection of elephants
- Forests along the western face of the Anamalais, the 'Cochin State Forests' were exploited for timber resources such as teak and rosewood.
- In 1882, the Madras Forest Act took shape under Dr. Brandis (Inspector General of Forests). Subsequent working plans were modified and revised
- In 1901, work on the Cochin Forest Tramway was begun and finished by 1906 after which timber was transported from the western base of the Anamalais in Parambikulam to Chalakudy and Cochin in Kerala
- The forest Tramway cut through forests of the Kadar and some Muthuvar villages of those days, fragmenting and changing the composition of the natural habitat due to forestry operations
- At the beginning of the 20th century, two separate ethnographic accounts of castes and tribes of South India, written by Edgar Thurston and Ananthakrishna Iyer were published as a series of volumes
- The Anamalai road from Chalakudy in Kerala to Valparai in Tamil Nadu was constructed for the transportation of timber by 1940, substituting the Cochin Forest Tramway that was defunct by 1926
- Between 1946-1947, Omar Ehrenfels conducted the first ethnographic work exclusively on the Kadar. He made subsequent visits in the next few decades
- In 1954-1958 the Amaravathy irrigation project began with construction and linking of reservoirs (later called the Parambikulam-Aliyar project, - 10 dams and weirs)
- Forestry operations continued with new working plans for the region
- Portions of the Ulandy range were declared a Sanctuary in 1973
- The Indira Gandhi National Park declared in 1989

largely to supply timber for railway and ship building purposes carried out by the Foresters in this region, besides helping European planters develop tea, coffee and spice plantations.

These forests were opened up with applications made for land by various individuals for conversion into plantations. Along the western side developments in forestry and engineering were used to systematically exploit the forests through working plans with the construction of the Cochin Tramway and establishment of forest ranges. This tramway construction began in 1901 from Chalakudy in Kerala and was made operational by 1906 (Varma et al 2005) reaching the forests adjoining the Anamalais in Parambikulam. Subsequently the landscape in the Anamalais due to forestry and plantations was transformed from the dark evergreen rainforests to plantations of tea, coffee and spices (Sekar and Ganesan 2003, Raman and Mudappa 2003; Mudappa and Raman 2007). Later, the construction of the Anamalai road from Chalakudy in Kerala into the Anamalais in Tamil Nadu further complimented the incursions into the rainforests of the Vazhachal/Charpa regions and the Anamalais

bringing more changes to the forests and indigenous tribes of the region, chiefly the Kadars and the Malai Malasars. From 1954 onward with the construction of the Amaravathy irrigation project the creation of a network of reservoirs further fragmented the forests and displaced indigenous people from their homes and transformed their foraging regions.

Along with the extraction of timber, silvicultural practices were in operation, wherein composition of the forest species was changed for the purpose of timber plantations; these were chiefly of teak and other hardwoods for the development of railways and other timber needs. In all these developments the tribal communities, especially the Kadars, Malasars, and Malai Malasars were often engaged in the transformation of the region and their sources of livelihood.

Endnotes

i The Kadars and Muthuvars of the region do not consider dolmens to be man made, but believe that mythological deities or pre-humans of considerable strength are responsible on account of the large slabs of rock used in construction. The Malai Malasars on the other hand believe that dolmens were houses of those who lived much before their time and who survived on the raw flesh of animals. The present day Muthuvars and Kadars are uncertain of this version but believe that the five Pandava's of Hindu mythology, in their forest sojourn were responsible for the dolmens. They refer to people who consumed raw flesh as 'Vaeddars'—a name ascribed to forest dwellers in antiquity. A tribe indigenous to Sri Lanka is also known by this term – 'Vedda'.

2. IDENTITY AND CHANGE

Literature reviewed for this study[3] is partly ethnographic in content, though most except one[4] are not informative on socio-economic details. Most ethnography accessed on the tribes in the Anamalais has been conducted during the early half of the previous century, excepting a few academic studies including genetics and the shifting cultivation system of the region conducted later. From the sources reviewed it is clear that the communities have been studied mostly during the first half of the 20th century, though in later years attempts have been brief and inconclusive to change and transformations in livelihood ecology. This has resulted in a widening gap in ethnographic and sociological information after the 1970's on these communities both from an academic and administrative perspective.

In this context, it is pertinent to mention that of the few latter-day accounts on the people of the Anamalais, some authors find it convenient to describe the tribes such as the Kadar or Malai Malasars as hunter-gatherers,[5] simplistically dismissing economic realities and changes that have taken place over a century of acculturation. Contrary to what is seemingly meant in referring to them as hunter-gatherers with notions of primitiveness and complete dependence on natural resources, or poverty, closer inspection reveals these notions not wholly descriptive of these communities. With changed worldviews and living amidst new realities, their progress, stasis and development are not adequately represented. Beyond these notions, their aspirations toward betterment for their future in landscapes they live amidst and the issues they have to confront are not adequately represented. This report too has its failings in attempting to generalize three ethnic identities and their livelihood from a perspective of understanding their current modes of existence *vis-a-vis* their past. In conserving natural heritage where people exist alongside fragile ecosystems, it is of paramount importance to comprehend and negotiate the needs of healthy natural habitats as well as rationale and choices of human livelihood given the many changes that have occurred in their systems of livelihood, the realities of the present and needs for the future.

[3] Secondary information available was accessed from relevant government offices and published literature. Literature on these communities was accessed from sources ranging from libraries at the Rainforest Restoration and Research Station of the Nature Conservation Foundation at Valparai, the Kerala Forest Research Institute at Peechi, the Department of Anthropology at the University of Madras, from searches on the Internet, and documents received from other researchers.

[4] Satyanarayanan 1998.

[5] For example see Ramji & Chandra 1996, Mahendrakumar 2005.

ENGAGING WITH THE TRIBES

Within the Indira Gandhi Wildlife Sanctuary, Kadar, Muthuvar and Malai Malasar tribal settlements exist but with varying means of livelihood. Other tribal communities exist across the immediate vicinity of the Anamalai hills, chiefly composed of the three tribes mentioned previously, the Pulaiyars Malasars and Eravalars along the lower elevations; further south and north many other tribes exist along the range of the Western Ghats.

In the latter half of the 19th century, during the exploration and colonisation of the surrounding region and Valparai plateau, accounts on the people of the hills were limited to brief notes gathered during travels and from descriptions given to those travellers and pioneers *(not seen in original)*. Most of these descriptions are of 'primitive' or 'savage' tribes, "nasty and ill fed" in occupation of the hills (Buchanan 1807, Conner 1833, Nicholson 1887 & Rees 1898 in Thurston 1909, Martin 1860). Towards the beginning of the last century with the growth of anthropology as a subject concerned with differentiation of human populations into races and human types, descriptions of different tribal groups of the south was undertaken by Edgar Thurston resulting in his work 'The castes and tribes of South India', published as several volumes in 1909. At nearly the same period an Indian anthropologist L.K. Anantha Krishna Iyer compiled his work resulting in a series on the tribes and castes of Cochin and Travancore which included information on the tribes of the Anamalais (Iyer 1906, 1909). These two are descriptive works in the anthropology of the region. In the late 1940's Omar Ehrenfels conducted the first ethnographic fieldwork on the Kadar resulting in the first monograph on the tribe 'The Kadar of Cochin' (Ehrenfels 1952)[6].

Reflecting another aspect of anthropology in race and physical types, studies on physical anthropology of the Kadar were conducted in 1960 (Sarkar) and in later decade's biological studies on genetic inheritance (Saha et al 1974, Gadgil et al 1997, Edwin et al 2002). Some of these works suggest tribes such as the Kadar among few others in the subcontinent are believed to possess genetic affinities with the earliest groups of people to have migrated and settled in the Indian subcontinent. With the passage of time the genetic heritage of the Kadar has been subjected to elaboration with cross-cultural marriages ever since their relative isolation changed with the opening of the forests, leading to cultural erosion.

In the Anamalais, explorations by pioneer explorers and planters who the Kadar brought into the hills in 1858 saw the region being opened for plantations of tea, coffee and cardamom in 1864 (Congreve 1942). The Kadars worked as guides and offered little labour as coolies and in clearing the forest for which plains people were employed. A recent chronicle of the ecological history of the region regarding the conversion of virgin forests to plantations, logging for timber and the construction of a series of dams is described in Sekar and Ganesan (2003) and Mudappa and Raman (2007). Congreve in his account of the growth of the plantations also chronicled the relationship they had with the Kadar and other tribes of that time (1858-1940) in the plateau. It was through the development of an economy around the plantations and the attempt by the then

[6] He later went on to head the Department of Anthropology at the University of Madras.

government (pre-independence) to safeguard the economic interests of the Kadar of the region that an apparent transformation from foraging and hunting, toward a sedentary economy emerged. The Kadar system of barter with the plains people was their method of acculturation and adaptations in a life largely determined by natural events and resources of the forest. An interesting paper by Hornell in 1924 on south Indian crossbows, boomerangs and blow guns describes those articles in great detail in an effort to document material culture rapidly falling into disuse by that time. At the same time adoption of practices in the social hierarchy and of materialism of the plains also crept into the life of foraging forest dwellers such as the Kadar. Thurston in 1909, Hermanns in 1955 and Ehrenfels in 1950 give some insight into these changes that have occurred largely with the Kadar in spheres such as religious beliefs and transformation of traditions. Some of these events are woven into stories and narratives that are known, albeit in changed circumstances of comprehension even today. This spread in many directions including a most influencing facet, that of language. Writing on the influence of dominant languages and cultivated languages, Thundiyil (1975) offers empirical evidence to show that minority tribal groups may be forced to change by the surrounding dominant majority with a cultivated literary language. He reported that the Kadars as a whole were slowly becoming "Tamilized or Malayalamized" due to the spread of literacy and education.

Along with adoption of practices from outside of the Anamalais, cross cultural exchanges amongst the tribes has also taken place. Though social institutions and ceremonies associated with death, marriage, menstruation and maturation of youngsters differ among the three tribes, some aspects of material culture and livelihood practices have been incorporated. To illustrate this, a comb crafted of bamboo is in use amongst the three tribes. The origin of the crafted bamboo comb is unknown amongst the three tribes. The comb is known differently by the three tribes; the terms are *'seguru'* by the Kadar, *'malgodi'* by the Malai Malasars, and *'pugari'* by the Muthuvars. These ceremonial combs are crafted from a variety of bamboo by potential and successful grooms and husbands to signify a marriage alliance. Though the process's by which the alliance is sealed differ between the tribes, the comb that signifies this event remains the same. The use of the comb was first reported among the Kadar of the Anamalais by Thurston in 1909, though the Kadar of the present day attribute elaborate dealings associated with marriage and the comb to the Muthuvar who live in the same region unlike their own simpler rituals, having adopted practices from the plains over succeeding generations. Even though the origin of the comb is not clear[7], what is clear is that acculturation and exchanges between the tribes and later with plains people and people of the plantations has brought about some assimilation with markets, cultures and their immediate society.

Literature on the management of the forests through a working plan and for conservation make mention of the tribes from sources such as Thurston, and poignantly

[7] Thurston goes on to state a similarity of custom in the use of this type of comb amongst the Dayaks of the Malay Peninsula and further east.

the earlier notion of tribal people being 'lazy by habit' (Wilson 1973) changes toward identifying measures to ameliorate the constrained conditions of livelihood in the era of conservation (Krishnakumar 1997). Even so in the commentary on these groups there is ambiguity in engaging with their means of livelihood. The working plan details the various ways in which the forests were exploited in a series of felling plans for different ranges including measures at reclaiming harvested lands through agricultural interventions of the *'kumri'* [ii] cultivation using ragi (a millet) cotton and tapioca. Further, plantations of timber largely of teak were raised before conservation of the landscape took priority and felling was done away with (Wilson 1973). In all of these measures, from felling trees to creating boundaries and fire lines, tracking game and identifying patrol paths, inherent skills of the tribes were used also as a means of acculturation and tribal welfare.

Most of the records pertaining to the tribes of the region largely deal with the Kadar, leaving gaps in information on the Muthuvars and more so the Malai Malasars. More recently changes in cultivation practices by the Muthuvar were studied for a doctoral thesis (Satyanrayanan 1998). This is the only account exclusively on the Muthuvar community amalgamating past records and even providing a comprehensive list of Muthuvar settlements in Tamil Nadu and Kerala. Along with this, other publications on their dormitory system (Satyanarayanan 2003, Kumar 2005) and the early records of Thurston and Iyer describe the Muthuvar as a close knit community of clans with socially inclusive traditions. Though some of the early literature was not seen in original, from excerpts in other accounts it is known that they were later entrants' into the tribal fraternity of the Anamalai hills having traversed the country from Madurai to enter the hills of the Western Ghats at Bodinayakanur (Thurston 1909) from where they spread to the Cardamom hills and to the northern extremity in the Anamalais. They are highest in the social hierarchy of tribes on the Anamalai hills, being of the 'Vellala' or agricultural lineage with an origin from the plains some centuries ago. Narratives of the Kadar such as *'Thozhil Vaypan payama'* recount the distinctions between the two tribes and of how they learnt some skills of sedentary living from the Muthuvars.

The Malai Malasars have received scant attention as far as records on their past existence, excepting Thurston and Iyer who have given some descriptions of the tribe of that time. Thurston, quoting from the 1901 Madras Census writes of them to be 'a forest tribe living by hill cultivation and day labour; further he mentions their exchange of forest produce for the (ayurvedic) drug with traders of the plains for rice and salt. They were noted to be extant along the hill slopes and in lower elevations where they worked for landlords of the plains and also cultivated crops of rice, and millets; it is not clear when they reached the interior forests, though some of those present at Koomati, (the Malai Malasar settlement in this study) recall having been in the region for over three generations describing their existence in various overhangs, caves and regions overlapping those of the Kadars. The Malai Malasars are regarded the lowest in social hierarchy among the tribes of the hills (Thurston 1909, and this study). They are not

encouraged in Muthuvar settlements, as they are thought to consume flesh of animals that the Muthuvar consider to be 'polluting'. The Moopan of Sankarankudi, a Muthuvar settlement, described his opinion on the Malai Malasars to me as follows (transliterated) "…they are a race with the meanest type of life. They used to live in caves and move around with the scantiest clothing wearing an unkempt look. They eat things such as snakes and other animals we don't even think of eating, but their primary source of food are wild tubers. They would disappear into the forest before you could search for them by hiding behind leaves of trees and plants. Even though they have been settled in settlements and some of them also work as Forest Watchers now, we do not allow them into our settlement[8]."

The older folk describe small shifting cultivation periods when seeds were available and bartering with plains people of Anamalai and Kottur villages for rations in exchange for forest produce and labour. Most of their time was spent foraging for tubers, seeds and scavenging off kills of large carnivores. Malai Malasar settlements extend from the eastern base of the Anamalais into Kerala in the Parambikulam Sanctuary. Congreve (p. 53) records the arrival of 'Mulcers' brought in as forestry labour by the 'village chetty's' from the plains in their efforts to clear the forests. This was in spite of the other forest dwellers living at close quarters (chiefly Kadars) 'not inclined to hard labour' that didn't suit their needs. More recently a batch (1997) of students from the department of Anthropology, University of Madras conducted short ethnographic studies in a Malai Malasar settlement, Chinnarpathy at the base of the hills. Amongst the three tribal communities in this review, the Malai Malasars are least represented in literature of the indigenous people of the Anamalais.

Attempts at comprehending the indigenous human communities of the Park in the context of livelihood, and effecting conservation of biological diversity are present in a study toward an 'eco-development plan' (KEYSTONE 2003), and a Management Plan for the Indira Gandhi Wildlife Sanctuary (Krishnakumar 1997). Stating the need toward conservation of natural resources, both these accounts identify the need to integrate conservation goals with livelihood of the indigenous communities in the Sanctuary. The accounts are sparing on livelihood means and social composition.

PEOPLE OF THE SETTLEMENTS

This study of eight settlements is not wholly representative of the culture or nature of existence of the tribes under study, but is representative of the chosen tribal settlements. Of these, five are Kadar settlements, two Muthuvar settlements, and a single Malai Malasar settlement. The location and surroundings of settlements largely determined their selection for this study on their mode of existence and dependencies;

[8] One village in the Valparai plateau, Palaginar, is composed of Muthuvars and Malai Malasars, who were settled by the Forest Department unaware of the social hierarchy amongst the tribes. The Muthuvar community at Palaginar is composed of few families, and though they are used to the Malai Malasars and converse with them, they grudgingly allow them space close by, maintaining a distance with the Malai Malasars. Food, if served is at the *'ćavati',* a resting house and boys dormitory meant for outsiders to rest on arrival at the Muthuvar villages (also see Satyanarayanan 2003 and Kumar 2005 on the *'ćavati'.)*

moreover given the past century of accelerated acculturation and modernity, cultural plurality and variation differ among settlements. Early descriptions of the people toward the first half of the 20th century are but in memory of the older generation and records of past practices.

Kadars

Madiyappan of Eethakuzhi settlement is the oldest Kadar among the surveyed settlements.

The Kadars are the most well known tribal community of the Anamalai hills and occupy both its eastern and western regions covered by forested hills, valleys, riverside regions, and lower slopes of hills, which are now divided into Kerala and Tamil Nadu. Being distributed over a vast area they identify themselves as a community divided into groups by geographical affinity. These are not clans, but identities members assume due to location. Patrilocal residence determines their origin in most cases with changes in translocation occurring largely due to matrimony. Though some matrimonial and religious practices have been adopted from the plains, remnants of an egalitarian "multilateral system with equal emphasis on maternal and paternal lines, some bilateral cross cousin marriage, occasional polygyny but predominant monogamy with easy divorce" (Ehrenfels 1952) continue to remain. The groups identified during the course of fieldwork and their regional affliation are:

1. *Kohtr aal (Parambikulam)*
2. *Padinnyaari aal (Vachimaram, Vazhachal)*
3. *Thalli aal (Valparai, Udumalpet, Thalli)*
4. *Kollengode aal (Anamalai)*
5. *Kudakallai aal (Kuriarkutty)*
6. *Kallisaadi aal (Aanapandam)*

Of these groups, the majority in this study are from the 'Thalli aal and Kollengode aal' groups with others present in the settlement due to marriage. Traditional Kadar economy consisted largely of subsistence on honey roots and tubers, supplemented through scavenging off large carnivore kills and trapping small game and fish (Ehrenfels 1952, Gough 1955). Habitations of the past or *'Chery's'* consisted of bamboo thatch huts for residence and hearth. Temporary camps were set up with wind breaks/lean-to's or in caves and overhangs on rock faces that were used during wanderings to forage. The first Kadars to be brought in touch with the larger community of the plains were those of the lower elevation of the western hills in Kerala during the logging and extraction of timber, chiefly teak *Tectona grandis,* from regions then known

as the Cochin State forests during the first two decades of the 19th century[9]. About half a century later the Kadars in the region of the Anamalais were in contact with the planters; they also had a history of trade and barter with the plains people for articles such as honey, beeswax, wild cardamoms, roots and tubers that fed the ayurvedic trade and industry.

Roads built into the Anamalais from both west and east; the Anamalai road from Chalakudy in Kerala and the Valparai road from the eastern plains in Pollachi/Coimbatore brought in a population of labourers and settlers who expanded with the development of the plantations. Before the creation of the Sanctuary the Kadars of the Coimbatore District led a nomadic lifestyle along the eastern slopes and in the plateau practicing shifting cultivation growing hill rice, millets such as Tenay (*Panicum italicum*), Ragi (*Cynosurus corocanus*), and maize *(Sorghum vulgare)*. This practice has been recorded largely in the Tamil Nadu side of the Anamalais (Congreve 1942). Foraging for food and barter was another component of their economy through exchanges with people of the plains that had been established.

About half a century ago they were recorded to be an egalitarian society (Ehrenfels 1952, Hermanns 1955), though today this is largely confined to areas of education and opportunities at work. Today women and men seek work outside their homes in the estates largely in work such as weeding, pruning, earthwork, and in collecting coffee berries and peppers. Minor forest produce is collected for consumption and sale, largely during the latter half of the dry season. Cultivation of agricultural crops is restricted to Kallarkudi settlement amongst the Kadar settlements in Tamil Nadu and Kerala, whereas earlier shifting cultivation was practiced by the 'Coimbatore Kadars' (Hermanns 1955) or Kadar settlements in Tamil Nadu. Cash crops such as wild cardamom were collected from the forest during the pioneering days of the plantation economy in the Valparai plateau, though hybrid varieties are now cultivated in Kallarkudi, Udumanparai, and Kavarkal. The produce for sale is usually sold by individuals or in collectives, though in the case of larger outputs in produce such as lemon grass and cardamoms, the office of the headman is employed. Each settlement is headed by a *Moopan*, appointed as an arbitrator and spokesperson of the settlement and to the government. A Moopan is chosen by collective choice and in some instances by vote. The position is retained as long as his influence over the community remains. Two government departments that influence and are in communication with all the tribal communities are the Forest department and the District Collector's office through the Panchayat at the tahsil level.

In recent memory of the Kadars a few Moopans are remembered for their influence and contributions to the pioneer planters and the opening up of the estates and plantation economy. Sataari Moopan, of the Kadamparai/Poonachi area was the most influential chieftain in recent memory. His descendants now live in the small

[9] "The world of the Kadar was opened with the construction of the Cochin tramway from the Cochin plains (Chalakudy) into the Anamalais (Kadar country), partly absorbing them in the cash economy along with the State Forest Department". (Review of Ehrenfels 1952, by Gough 1955)

settlement of Eethakuzhi. Congreve, in his account of the Anamalais makes mention of Sataari Moopan[10] as one of the "great characters…. and in the case of dispute, his word was law …… with a remarkable knowledge of folklore". During the course of fieldwork in the settlements I was told of other famous leaders who took the pioneers around the forests showing them the Kadar country. According to Krishnamaal, an elderly resident of Kallarkudi, Thudiya Moopan was the one who led the way to Adimallai, Kannivaaya Moopan (of Nedungkundru) led the way to Nadumallai and the Karihkundru elder *(Karihkundru Paeran)* from Karihkundru (Kavarkal) showed them Thalamalai. Sayakaran Moopan from Kavarkal (then Karihkundru) accompanied Sataari Moopan in leading the European explorers to Paralai and beyond. The settlement of Kadamparai (formerly Kadanparai), which today is occupied by tribes other than the Kadar, was once a camping ground of the Kadar where some elderly residents of Nedungkundru Eethakuzhi, and Kavarkal originate; they moved on with their families (in the early 1930-40's) to settlements close to the plantations such as Kavarkal and Nedungkundru. Kavarkal was an important valley of habitation and foraging for the Kadar, but known by the name 'Karihkundru', which was later changed to Kavarkal, the settlement's name.

Many elderly Kadar narrate the arrival and subsequent occupation of the land by 'dorais' (British planters) as follows. A transaction between the Kadars and the 'dorais' occurred with a sale[11] of land in exchange for wealth. This wealth was given to a leader amongst the Kadar. Due to his inability to safe guard the wealth it was given to a *'paalayakaran'* (an outsider from the plains) who was a panchayat leader at Thalli village in the foothills. The articles of value were a *'Velli vadi, Veera sangha,* and a *Nediya koda'* [Silver staff, silver conch and a ceremonial umbrella][12]. This, they say was the beginning of colonization and of change in control of the region they lived in. Some other Kadar narratives also relate notions of their traditional means to livelihood and how changes took place when 'land and forest' wealth were sold to outsiders for material wealth, which they never got back when they were capable of understanding its use. This is a common train of thought in all the Kadar settlements on issues of their recent history.

Of the five Kadar settlements in this study, Nedungkundru, Kavarkal and Kallarkudi have been inhabited for as long as people remember though they were transitory habitations in their wanderings to cultivate and forage in the forest; only Eethakuzhi and Udumanparai are recent. Cultivating short duration crops and foraging the forest for tubers was their main occupation apart from occasional employment in estates. They moved from place to place living in caves or crevices or thatched huts of bamboo when residence was longer than at the main settlement. The pith of mature (recognised after their fruiting phase) fishtail palms *Caryota urens* or *'koondhapanae'*

[10] He is the only tribesman to be mentioned by name in the entire account: Congreve, 1942 Page 67.

[11] Of the narratives in this regard, it is said that the 'dorais' asked the Kadars for land the size of a goatskin. The Kadars laughed it off as a meagre demand and acceded. When they were asked to choose their portion, the pioneers used a measuring tape made of goatskin to amass land for 56 estates in the plateau; this was the first stone to be cast in changes that were to come (pers comm. Saamakkal, of Udumanparai).

[12] On exploring this event further, key informants were not aware of the fate of the articles in Thalli village, as it occurred much before their time.

was harvested and stored when available. The pith was beaten using hard wood or digging sticks alongside a stream to be processed by washing in water. The resulting paste was dried in the sun on rocks to make edible flour that could be eaten or stored. This palm could feed 20-30 families for one or two weeks; or the flour was stored for lean periods. Flour from millets such as ragi *(Kora),* and tenay were also stored for lean periods to be eaten with honey *(Thelli)*, tubers and yams *(thaetam)*, and jackfruit *(chakkapayam)*. Honey and other minor forest produce including wild cardamoms *(kaatu yaelam)* were collected from the forest for sale to traders from the plains whom they bartered articles with. In 1900, the planters considered cultivating cardamom as it commanded a good price, but the then Forest Department pointed out that granting this proposal could adversely affect the economy of the Kadar as they were given the prerogative of collecting minor forest produce from the forests for their needs and economy they established before the arrival of the planters [13]. Later on an inspection was conducted by the Forest Department in 1900, following which the Government allowed the planters to cultivate cardamoms.

These were initially wild cardamoms the Kadars used to collect, dug out from the forest; later on the planters used seed imported chiefly from Sri Lanka and also bought the harvest of the Kadar. Articles such as rice were also sourced from the estates exchanging forest products for such rations as were available. Some people also recall stealing rice from sacks being transported along the ropeway or by bullock cart by sneaking behind the cargo and collecting fallen grain once the sacks were pierced. Similarly tea[14] was first used after watching the process at the plantations; later, leaves were collected at night, dried and crushed by hand to make the decoction. Today they purchase tea and drink it with sugar or jaggery.

The origin of the settlements

NEDUNGKUNDRU AND KAVARKAL (KARIHKUNDRU)[15] (notes from conversations with Ganesan, P & V Thangaraj, Mani, Kuppusamy, Kannaiyan, Devaraj, Velchamy, Elsie Ammal, Nagaraj, & Dharmaraj)

Nedungkundru is located close to Velonie estate while Kavarkal is located adjacent to the Iyerpadi estates. Nedungkundru is the largest settlement among the Kadar settlements in Tamil Nadu with a population of 160 people of 46 families, while Kavarkal has a population of 51 people of 17 families. Kavarkal, formerly known as Karihkundru[16] is a valley with a long history of being occupied. The settlements are close to each other with residents of similar origin in the present settlements. The old sites of habitation in the forests beyond these settlements are as follows: Muringiyali

[13] Cardamom was initially cultivated in 1900 at Paralai and later in the reserve forests of the Mudis in 1926-29 (Congreve 1942. pp. 66, 70, 80, and 119). *Also see Endnote* (h).

[14] A decoction made from the bark of the *Kadambu'* tree was used earlier.

[15] Kundru' is one of the ways of referring to the peak of a hill largely composed of rock.

[16] Congreve refers to this region as 'Karakundra'. *Karihkundru paeran* the elder, used to live near Velonie Top. Kadars respect and recall him as one of their greatest ancestors. In times of trouble such as heavy rain or tough journeys, his name is taken up in prayer to the gods to grant mercy, reminding them that they are descendants of the great man and not of any other.

kundru, Kathi veendu aar, Ayankulam (both sides of the river), Cheepaparai, Anali (two sites), Nalamadi aar (two sites), Eetti para kaadu, Thavalai parai, Nedungkundru (two sites). These were all cultivation regions of millets and rice until they eventually settled at Nedungkundru twice, in 1948 and later in 1952. In 1952 a philanthropist from Valparai, Gopalsamy Mudaliar built concrete houses at Nedungkundru and induced them to move in. These were the first houses to have been built without the effort of the residents themselves. Previously Nedungkundru settlement was beyond a hill along the Anali estate fringe. Malai Malasars who today are at Koomati were also resident in this settlement during the days when a settled lifestyle began to set in due to deaths in their new settlement at Manamboly.

The valley of Kavarkal was occupied at different places along hill slopes, near rocky faces and in crevices and overhangs of the valley. These settlements were inhabited erratically in the past during the shifting cultivation cycles though eventually with changes and developments in the plateau people from different sites inside the forest came to the edge of the estates at Nedungkundru and Kavarkal. Businessmen from the plains (Chettiars), used to frequent their settlements to purchase forest produce that was collected and exchanged for rice and other articles of use. The Poonachi Range Hill Tribes Cooperative Marketing Society established by the Government after 1970[17], bought minor forest produce from the hill tribes and bartered rations in exchange. In 1968 there was a shortage of food availability, rice was not easily available and they moved in between foraging in the forest, cultivating rice, millets, and maize along with purchased food from the society. In 1970 the Forest department felled trees around their settlement for timber and coupes were created from Nedungkundru to Kavarkal along hillsides. Work at the felling coupes was easily available and most people were employed in this work during the dry season till 1975. Livelihood shifted between work at the coupes in the dry season and household work during the monsoon. Between 1970 and 1974 eucalyptus plantations were created at these coupes around Nedungkundru, and later during 1975-76 in coupes at Kavarkal, near Thaenmalai kurke. A viscose company used to purchase some timber and plant tapioca as shade for the tree saplings. People were employed as labourers in raising tapioca and eucalyptus in areas for timber regeneration, while the Forest department felled timber (the *kumri* cultivation). The timber operations and subsequent silviculture practices along with denudation of the existing tree cover has made the region around Nedungkundru deficient in tree cover and is also know to be a cause for water shortages in summer. Labour at the estates was rare except for some people who found employment in estates at Thalanar and Shakti estates on daily wage, as watchmen and even as a supervisor (P.Thangaraj). Most others continued using forest resources such as tubers and honey, purchasing rations and also by practicing shifting cultivation. Landlords (Gounders[18] and Chettiars) of the plains began cultivating lemon grass along hill slopes in the lower elevation by 1970; these were extended to the higher ranges in time, and tribal people

[17] The Society's registration number was '1574'. (pers comm - P.Thangaraj).
[18] Gounders are a dominant 'Vellala', or agricultural community who are also landlords in the plains.

were employed in its cultivation and distillation on daily wages. This continued even when the Indira Gandhi Wildlife Sanctuary was established along with collection of minor forest produce. During 1989-90, the Valparai Panchayat built 30 houses at this settlement, whereas the rest built of mud, rocks and poles with a tin roof are those constructed by the Kadars being given the tin and a few poles by the Forest Department.

After 1990 the Kadars of Nedungkundru and Kavarkal began expanding the region under lemon grass to distil and extract oil and as an economic venture. In 2002, orders were passed for this activity and with a scheme of the Eco-Development Committee a distillation unit (sans a motor and pipe!), was supplied and installed at Nedungkundru. In an attempt to further their gains from this venture, in connivance with some lower level staff of the Forest Department, regions of the Reserved Forest were encroached upon. On hearing of the activity due to the disagreements on the shares, the venture was disrupted at higher levels and the cultivation of lemon grass in the higher ranges came to a halt in 2003. In the same period beginning from 1994, irregular work at the estates to pluck coffee beans or carry out daily wage labour began with some earnest. Today 51 (46 from Nedungkundru, two from Kavarkal three from Udumanparai) people are on the muster roles as temporary workers when work is availed at Velonie[iii] estate.

EETHAKUZHI (notes from conversations with Madiyappan, Jeyamani, Raiyappan)
This settlement is the smallest among the settlements under review with a population of 27 in seven families located at the far end of Waterfall estate (west). The families are related to each other as cross cousins (the elders are descendants of two men, Sataari Moopan and Alagan). The first settlement was at Nagamalla, which was later taken over by other communities. The regions of Kavarkal and Kadamparai (Kadanparai) were frequented to cultivate millets and hill rice and in collecting wild cardamoms for sale. Madiyappan[19] recalls that his community were called *'sengal cooly'* by the *dorai's* because of their involvement in building concrete bungalows for them. There was a trader, Karpan Chettiar who used to frequent the Kadars of this locality to purchase their forest products; he also supplied them with rations in a barter system between the Kadars and the *dorai's*. According to Madiyappan, the Kadars had accomplished many feats for the dorais, including the ropeway and the road to Valparai, helping in making the paths and applying their technology[20] to the needs of the planters.

Another site of residence in recent history was Poonachi where they also found employment with a Chettiar who ran an estate in that region. Many years later they were asked to leave Poonachi by Kondaiappanpillai, a Working Plan Ranger as their habitation was to be converted into teak plantations. They were employed at work in this coupe for the Forest Department. On settling above, close to the present settlement of Eethakuzhi, a *dorai* came and marked their land by putting up stone columns to mark

[19] From Eethakuzhi, the oldest Kadar in Tamil Nadu and a direct descendent of Sataari Moopan.
[20] He mentioned a system of transporting and re-directing water with split bamboo and a water wheel they constructed of their own design. Other designs were in using bamboo and cane in bridging minor crevasses in the absence of bridges to transport material and men.

their territory and even gave them a land deed. On hearing of this the title was apparently later taken away by Virudachalam Ranger in later years. Lands below their settlements along the Kadamparai and Poonachi slopes were used to cultivate crops, using seeds often sourced from Mala Pulayar friends of Madiyappan, Suppavu and Pomanan at Pannikuzhi settlement near Kadamparai. It has been many years since crops have been cultivated as they have been disallowed to practice shifting cultivation and are dependent on the purchase of rations from nearby shops. Incomes are earned by finding employment at Waterfall estate besides the sale of kitchen garden products of banana and forest products such as honey and those articles in demand. Only a few vegetables, bananas, and a small patch of cardamom exist supplementing their purchases from the shops and foraging.

The settlement is divided in two parts, the second being occupied by the nephew's and a niece of Madiyappan. This settlement specialises in growing varieties of bananas, supplementing their income with employment at Waterfall estate. One resident is employed by the Forest Department at the Valparai Range office.

KALLARKUDI (EDAMALLACHERY) AND UDUMANPARAI (notes from conversations with Seeni, Sundari, Samiappan, Samidass, Shantammal, Saamakkal, Janaki, Karupusamy, Rajendran, Alimuthu, Gnanamuthu, Kalimuthu, Chinnamuthu, Kanakaraj, Veerappan, Sekar, Murrugappan, Kokila, Jaya, and Krishnamaal)

Kallarkudi is located in Edamallai valley, below Udumanparai and is closest to Thaimudi estate, whereas Udumanparai settlement is located adjacent to Anaimudi estate. The settlement of Kallarkudi is also called Edamallachery[21] after the river close by. This settlement borders Kerala and Thaimudi estate in Valparai. Kallarkudi is the only major crop-producing settlement of the Kadar community, also one of the older settlements located on the fringe of the Valparai plateau in a valley bordering Kerala state. The first Moopan of Kallarkudi, Maekhilan[22] lived with his family and other Kadars at Muringiyali near Manamboly. Due to a fight within the small community, Maekhilan moved out with a small band to search and settle in a new region far from the conflict. While he led his small group, he came atop the cliff face on the hills overlooking the valley of the 'Edamallai aar'.

They found the region conducive to settle and pursue their subsistence agriculture and thus cleared the land and created the settlement. As agricultural practice meant shifting to new localities over time, they used various areas along the valley. They had also used the land that is today called Paramankadavu (this locality is marked as a Kadar locale by the 1961 Census[23]). Maekhilan also invited the Muthuvans who also came to cultivate their crops on the other side of the river. When the Muthuvans began

[21] 'Edamallaiaar' is the name of the river, and 'chery' is the Kadar word for village.

[22] His grandson Sundaram, s/o Kannapan was the first Moopan of Udumanparai on its creation in 1976.

[23] This village originally was a Kadar Village and shifting cultivation region; it now is a Muthuvar village next to the river with agricultural ground further north along the hill. The Kadars who were reported from this region during the 1961 census could in all probability have been from Kallarkudi, located further along the valley. The Muthuvan village of Paramankadavu did exist in 1961 under the leadership of Muthusamy, father of Sankaran who later formed Sankarankudi.

cultivating along the Paramankadavu side, the Kadars shifted to Kallar. Over time more Muthuvans arrived and settled on the Kerala side of the river occupying many sites along slopes cultivating hill paddy. In the initial days after this the Kadars and Muthuvans used to conduct a pooja together ('nellekothi pooja') at a rock called 'Kumampara'. Over time and with ethnic differences this stopped and now only some Muthuvans from Milagutharai conduct the pooja on their own terms.

Earlier, residents of Kallar used to move house and hearth to places of cultivation along hill slopes of the valley. Today due to their houses being semi permanent and due to the restrictions on shifting cultivation after the creation of the Sanctuary they stay at one place but cultivate along slopes close by. They have never faced a serious crop depredation problem, except for rats and birds that feed on the grain (Veerapan pers comm.). They have grown at least six varieties of rice and ragi (seeds were sourced from other kin or Muthuvars when in need), maize and tenay. Today they only grow a single crop of each, the maximum area being sown under rice and ragi. Other crops such as banana, papaya, jackfruit, mango, tapioca, other tubers and pulses have been grown as kitchen gardens for a long time; recently pepper, betel nut have been introduced but are not in commerce as yet. No resident from this settlement is employed at the tea estates due to distance and are occupied in agriculture and foraging. A cardamom plantation exists along the slope of a forest west of the settlement above which a dolmen atop the slope marks the end of their territory. Further along the forest to the south, the region was logged as coupes in the past abutting the cinchona plantation. In 1976 when the Spices Board[24] introduced hybrid cardamom as a cash crop, some residents of Kallarkudi created a cardamom plantation along the forest of Udumanparai they used to traverse to go to Valparai.

The region was a campsite earlier and is connected to Kallarkudi by a thin path and ladders down the cliff. As Udumanparai has flat land, the canopy of evergreen forest and is close to the market, it was chosen as a site to grow cardamom and to create a new settlement. A group led by Sikaeyan and Sundaram began occupying the land by building huts and planting cardamom.

Twenty people occupied the land and built huts (including Sikaeyan, Sundaram, Rajagopal, Seeni and Thangaraj all from Kallarkudi); they were arrested by the Forest Department and a case was registered on encroachment. Amongst the arrested were the Moopans of Kallar- Chinnathambi and of Udumanparai-Sundaram. Sikaeyan informed an Iyer who worked in the Mudi's of the events that had taken place. The Iyer subsequently helped arbiter an agreement with the Forest Department on the occupation of land and economic venture of the Kadars. Following this, Nallamuthu and V.Thangaraj from Nedungkundru helped bail them out. For a while it was also called Sundaramkudi, after the Moopan, though it was called Udumanparai even from 1898 on (Congreve 1942. pg 60). Soon after this the Muthuvars at Paramankadavu came up with

[24] The crop was 'introduced' in the sense of being ushered in through a semi-formal process by cultivation, in comparison to its collection from the wild in the past. Also see Endnote (a) on documentation of the practice as far back as 1807.

their Moopan, Sankaran to create Sankarankudi, where their cardamom patch exists. The Muthuvars also began another settlement at Cinchonakudi when people from Nooradi kudi, Shembakulamkudi and Milaguthurai arrived together on being displaced and in search of new lands.

Cardamom production from Kallarkudi has averaged at around 20-40 kg per household, only reaching about 50 kg during a good year. The crop was sold to men who used to come from Kerala along the forest streams to purchase cardamom when the prices were high; nowadays due to the low price it is not as profitable to them and the crop is sold in and around Valparai. Cardamom forms an important source of income apart from minor forest produce such as honey, dammar, soap nut, thippili, and aromatic turmeric (*Kasthuri manjal,* -this is also grown in some kitchen gardens).

Malai Malasars

The Malai Malasars were originally a foraging community scattered in the forest and are among the aboriginal tribes of the Anamalai hills. From the few previous accounts that mention their existence, differences between Malasars and Malai Malasars apart from the name of the tribes is not very clear. Amongst themselves they are differentiated as Malasars of the plains and those who reside in the hills or slopes, the Malai Malasars. Though the suffix of their tribal identity is similar, they differ in language and geographical location historically (pers.comm Selvaraj, and Natrajan). The etymology of this name is the term 'Malai Arasar', in all probability a name given to the community by plains people to mean 'the king of the hills'.

The Malai Malasar population at Koomati has a large proportion of children, like Chinnakumar here.

Some of the earliest mentions of the Malai Malasars/ or rather Malasars (Mulcers) are by early British visitors, Buchanan (1807) and Martin (1860); some roads near the foot hills were avoided except in small bands due to fear of thieving 'Mulcers' in the exploratory years. Thurston in 1909 quotes Buchanan on the Malasars and their affiliation to landlords of the plains to whom they were servile and considered as property. Even in later years to the present there have been Malai Malasars who are employed by the Gounders to look after plantations and property. Another aspect of their economy was and is barter of forest produce with the plains people for articles such as salt, oil, matches (when flint was given up), and some pulses. Seeds to be cultivated were sourced by bartering with the men in the plains (pers. comm. Chinnakandan of Koomati).

Thurston quotes from the 1901 Madras Census Report referring to them as "a forest tribe living by hill cultivation and day labour". Lands for cultivation were given by the landlord in areas around the plains, whereas the tribesmen of the interior eked their living by cultivating small plots of land with hill rice, millets and foraging for tubers and

other vegetative food sources, apart from scavenging carrion or trapping prey. Over the last century many former residents were employed in the timber felling operation of the Forest Department and in the *kumri* cultivation along with labour force brought in by contractors.

The origin of the settlement

KOOMATI (notes from conversations with Selvaraj, Mani, Velmurugan, Chinnakandan, Chellamma, Ramesh, Sedukan and Lakshmiamma)

Koomati settlement, the only settlement of Malai Malasars in this study is located approximately eight kilometres from the Manamboly check post beyond the Savamalai estates at Manamboly. It is the only Malai Malasar settlement in the higher ranges, with all other settlements along the lower hill slopes, while two others are in the Parambikulam Sanctuary in Kerala. Wilson (1973) records the only settlement of Malai Malasars of that time to be at Varagaliar close to the Forest Department camp. The western most extremity of their range in Kerala is within the Parambikulam Sanctuary at Thekkady and Parambikulam Earth Dam colony whereas the eastern hamlets are located along the north eastern slopes of the Valparai plateau at Navarudh and Sarkarapathy. In the Anamalais, their settlements are at Koomati, Palaganar, Navarudh, Sarkarapathy, and Chinnarpathy/Aliyar. Koomati was earlier known as Kolathi Parai (a rocky region along the boundary of the present settlement which was a camp site), though eventually the name 'Koomati[iv]' was given to the settlement from a stream close by of the same name that has mythological significance. Some of the residents recall their residence in caves/caverns and overhangs *'kal alai'* close by on hill ranges and beyond Koomati. They were scattered in different caves (identified by names of areas, and features) and rocky outcrops shifting from place to place to forage. The tenements constructed were often made of *'kal vazhai'* leaves (a variety of wild banana) as thatch on a lean-to until they began using bamboo for thatch and for walls. This community were sparsely distributed in the past as 2-5 family groups living in caverns largely in evergreen forest patches. The caverns and overhangs were inhabited using bamboo platforms *'parang kattil'* under the shaded region accommodating up to twenty families juxtaposed with each other along the walls of the overhang. Their main sources of food were honey, tubers and seeds, and scavenging off kills/carrion of large carnivores or by trapping and chasing down prey. The names of some overhangs and caves are Maavalai, Nadukettu alai, Perinkundru alai, Seyalaar alai, Suriya parai alai, Maanalai, Mukham alai, Anali alai, Thalanar alai, Kumkha alai, Thelli alai, Kamadakara alai (pers comm. Mani, Velmurugan & Chinnathambi of Koomati).

I was told that until twenty to thirty years ago they lived in overhangs and caves shifting from time to time depending on need and if agricultural activity was being carried out. Rock faces and outcrops were also used to build huts out of *'kal vazhai'*. Later on huts made of bamboo thatch were used as they began shifting cultivation in some patches of forest. All such temporary camps were located close to water sources and regions where honey and the tubers of the season are to be found. These two

articles- honey and tubers formed the principle parts of their diet. Forest products such as honey, roots and herbs for the ayurvedic industry, and tree resin were primary sources of income, the latter being available throughout the year, whereas honey is seasonally collected. Other products were sourced if they were in demand and exchanged with landlords or traders for meagre amounts of rice and other food articles that were sufficient for only small periods of time. Fire was always a precious resource and matches were only introduced and freely available a few decades ago (pers comm. Velmurugan and Mani of Koomati). Until then embers were always kindled and transferred from cave to cave and at times carried long distances when it was doused or uncared for at another campsite. Cropping patterns followed the shifting cultivation system, but in far smaller areas as they would only resort to agriculture when seeds were available and situations were conducive. They collected forest produce and transported them to other Malai Malasar settlements in the foothills or of other communities where sale or barter would fetch food and commodities. Products like dammer were available through the year, whereas others were seasonal and dependent on demand from traders. Honey is the other most sought after produce that they are expert at collecting[25] on a yearly basis. Bartering these products brought them food in the absence of cultivation and they were happier staying away from the outsiders, only mingling with them for trade (pers comm. Chinnakandan). In the early 1970's there was a time when a 'dorai' (a European planter) of the Manamboly region took two families of Malai Malasars with him to Hyderabad in Andhra Pradesh. The men were used in the farmhouse and to track animals and help in hunts with the use of dogs, whereas women were given small jobs and used to look after the garden for the dorai. They were well looked after but soon left and returned to the Anamalais to be with their own people. This is the farthest any one amongst them has travelled outside of the Anamalais so far (pers comm. Selvaraj).

Kalluparai was the first settlement that present residents of Koomati recall. They lived with the Kadars of Nedungkundru during 1945-1960 intermittently after Gopalsamy Mudaliar built the first cement houses at Nedungkundru in 1952. They shifted back to the forest very often and finally shifted out of Nedungkundru. They then shifted to Surya Malai (Chooli Malai) for two years, and then to Olavarai. They recall when the first survey of the road between Manamboly to Top Slip was in progress, their women fled when a European and other labourers came over to their habitations to interact with them. In later years a few youngsters, Gopal, Aiyappan, Vaavu, Kangiyan, Selvam and Rasaman were sent to school at the Varagaliar camp. On establishing contact with the Forest Department, one Duraisamy Forester, along with Forest watchers Duraiyan and Thangavelu asked them to shift their residence closer to the road so that they could meet with them easily when needed as the previous locale at Olavarai was tough to access. They came to Kolathi Parai (next to Koomati) and created rudimentary

[25] A Kadar tale on the grant of talents by God speaks of a feast during which people were given talents. When it was the Malai Malasar's turn, they were asked by God to close their eyes with their hands to be taken to drink an elixir-honey. They cunningly peeped at the way God sourced it through slits between their fingers and learnt of honey and the art of sourcing various types.

huts on the forest floor, but were forced to change. As a large male elephant with long tusks frequented this region they constructed their houses on trees, creating platforms with a bamboo framework and thatch, high up from the ground. These are called *'Maada'* and were reached with ladders and rope. There were eighteen trees for eighteen families[26] in the locality, the rest were cleared for their settlement (the trees were three *Alamarams (ficus sp),* three *Pulumaradu,* six *Poovathi maram* and six other trees- pers comm. Selvaraj). In all of this time they largely subsisted on tubers and wild greens and also by pilferage of kills made by large carnivores. There were occasions when they brought seeds and cultivated crops of millets such as ragi, rice maize and tenay for their own use.

In an effort to bring them closer to civilization from Varagaliar and the precincts of Koomati they were offered land near the Manamboly estate to re-settle in 1968 by the Forest Department. They lived below the coffee estate along with a few Kadar families for some years collecting forest produce as well as finding employment with the Forest Department and at the Manamboly Power House. While living close to Manamboly, the headman of the community was a Kadar, P.Thangaraj. In that period twelve people died of unknown reasons, but were surmised by the residents to be due to poisoning from the water sources (streams and wells) they used. The estates located above them used a lot of fertilizer and pesticides for their plantations, and this is thought to be the cause (pers comm. Selvaraj, Sedukan). Eight others also died at Palaginar, another Malai Malasar settlement during this time. Ever since the community have moved back and relocated at Koomati. [Another explanation for this event is the outbreak of a cholera epidemic in the region[v]]. After this incident they collected themselves and went to live alongside the Kadars at Nedunkundru, but returned to their sites close to Koomati in 1972.

Today there are 122 residents at Koomati in 30 families. Some families migrate between other Malai Malasar settlements at Navarudh, Sarkarapathy, and Chinnarpathy for short periods. Their economy revolves around employment with the Forest Department of the Ulandi Range for work ranging from creating fire lines, road repairs, patrolling and guiding anti-poaching teams. Employment is availed throughout the dry season and sparingly during the monsoons principally with the Forest Department of that range. At the Manamboly powerhouse five men are employed either as anti-poaching watchers or as firewatchers by the Forest Department; two others are employed as firewatchers at Top Slip. Most men avail of the muster requirements for temporary jobs with the Forest Department, while women stay back looking after children and the house, occasionally foraging for tubers for the pot. Though it has been many decades since they cultivated hill rice or millets, small kitchen gardens of some residents contain tapioca, jackfruit, mango, chillies, and pulses. All families use a ration card and frequent Top Slip and Valparai town for purchases.

[26] The community consisted of eighteen families who had previously lived at Olavarai and earlier at Nadukettu alai overhangs.

Muthuvars

Ealachen, an elderly Muthuvar, from Sankarankudi settlement.

Muthuvar or Muthuvan[27] settlements (or 'kudi's') are spread throughout the hill ranges from Kerala and into Tamil Nadu. Legend has it that they entered the hills from the city of Madurai, fleeing persecution and following 'Kannagi'[28], their patron. They brought with them agriculture and religious customs of the Hindu pantheon into the hills. Miller (1991, 2006) while researching 'Kannagi', a woman of chastity wrote of a narration he was given by Sankaran, the former Kaanikaran (village headman) and founder of Sankarankudi. The Muthuvars consider Kannagi to be their patron and founder of their society[vi]. Miller writes of his visit along with Satyanarayanan...

> "Halfway down the mountainside we came to a settlement. We stayed there for two nights; we also visited a settlement further down the mountainside, by the river. The headman of the settlement on the mountainside, a thin elderly man[29], agreed to narrate to me the story of Kannagi and his people. (The Muthuvans and their claimed relationship with Kannagi are not mentioned in Prince Ilango Adigal's text.) The crux of the headman's narration follows:
>
> After Kannagi brought fire down on Madurai, and Madurai was burning, Kannagi started to wander away. Some of Madurai's good citizens saw Kannagi and followed her. They took with them the royal musical instruments--drums and flutes--as well as the dead king's sword, ear studs, and bracelet. They played the instruments as they walked away toward the west. Soon the distraught Kannagi became tired, so these people carried Kannagi on their backs--thus earning their name, Muthuvans, which means, 'those who carry'
>
> The Muthuvans and Kannagi entered the Western Ghats. Deep in the forest Kannagi instructed them to stop. There she founded their society. She said to them, "Live in the jungle with unity. Treat each other as brothers and sisters. Together, use the resources of jungle to live." She instructed them as to how to organize their first settlement and how to build their first building. How to weave leaves to make roofs. She showed

[27] The terms Muthuvan and Muthuvar are used to identify this tribe, though in Kerala they are more often referred to as Muthuvan. Other forms of nomenclature are Muduvar, Muduvan, and Muthuvars. Another tribe called the Mudugar inhabits the Attapady hills in Palakkad district. They are often mistakenly referred to as the Muthuvars in both origin and also in Census counts (also see Satyanarayan 2003). The two tribes are distinct.

[28] The goddess 'Meenakshi' is mentioned by some authors as the deity they brought to the hills, though the Muthuvars I talked to confirmed Millers research.

[29] This was (late) Sankaran, the Kaanikaran/Moopan of Sankarankudi, the son of (late) Muthusamy, the Mel Vakken of Paramankadavu. -My emphasis.

> the women how to tie their saris in such a way as to carry their young just as they had carried her. Then Kannagi went inside the first structure and disappeared.
>
> Every morning since then, when Muthuvans wake in the morning, they can hear the music, -the flutes and drums that were played as they left the burning city of Madurai. (The actual instruments, and the king's sword, ear stud, and bracelet, had been lost some time back, the head man informed us.)"

The origin of the settlements

SANKARANKUDI AND PARAMANKADAVU (notes from conversations with Chelliah, Suriyan, Ealachen, Arriyapan, Veerapan, Thuppakaiyan, Velakaiyan, Silamban, Veeranji, Alagamal, Ravi, Varuduraj, Minnigan, Arjunan, Manjanan, and Dr. Satyanarayanan)

In the course of their distribution across the high ranges the Muthuvar moved to places in Idukki district such as Maraiyur, and close to the Cardamom hills in the south and west toward Thodupuzha (Kothamangalm and Variam) in Kerala. The two settlements under review, Sankarankudi and Paramankadavu along with other settlements such as Vellimudi, Karumutti and Kadamparai in Tamil Nadu are their eastern most settlements with settlements such as Kochikudi in Parambikulam of Palakkad[30] district in Kerala being the northern settlement. On their habitat and social organisation, Satyanarayanan (1998) writes, "A number of Muduvan settlements are situated alongside the Edamalaiaar and its tributaries, such as, Italliyar, Kallar and Torakadavu aar. The Muduvans distributed in the two States consider themselves a single, homogeneous and socially well-knit community, inhabiting a particular zone. Between their settlements located at different points, there is interaction in day-to-day life. It is common to notice the migration of individual families from one settlement to another frequently, regardless of the State boundaries. The political and administrative boundaries which cut across their habitat hardly have any role in their social life, except for access to ration-cards and some developmental schemes extended by the respective State governments"… and further…. "In areas where the resources are insufficient to meet the needs of all the families, some of them shift to an another settlement where patches are available for cultivation or split into smaller groups and establish new *kudi's* within the forest habitat... a family is accommodated in another settlement, when it seeks shelter there. Usually an individual family shifts to a settlement where it has some close consanguineal or affinal kin so that necessary support could be obtained from these close kin while constructing the hut, clearing the patches for cultivation or for borrowing grains or seeds for cultivation… Amongst the Muthuvar settlements, their location according to geography is referred to as *Thalamalnadu* for the eastern regions

[30] Over the last century the Muthuvars gradually colonized the northern bank (in Kerala) of the Edamallaiaar River by occupying lands for shifting cultivation. Initially a group of about 40 people used the region (pers comm. Minnigan and Suriyan); today their population is spread over 38 villages in Kerala. In Valparai Taluk of Tamil Nadu, 10 Muthuvan villages are recorded; In the Devikulam and Maraiyur Taluks of Kerala there are 28 and 10 villages respectively (Satyanarayanan 1998).

Table 1. The clans and lineages among the Muthuvars in the Anamalai hills

Clan /Kootam	Lineage/Kilaivazhi	Clan /Kootam	Lineage/Kilaivazhi
Elli Kootam	1. Ethiyaran	Kanniyati Kootam	1. Naatuseri
	2. Ethuseri		2. Nedunkadan
	3. Ilaya Venadu		3. Pandavam
	4. Moothatha		4. Perumpuli
	5. Venduthan		5. Poramalai
	6. Palayakaran		6. Thala Kondan
	7. Pali Moothaka	Soosana Kootam/ Thusani Kootam	1. Ilaya Nedumpira
	8. Vala Thravakka		2. Ilaya Thoikkira
	9. Vanduthan		3. Kurunari
	10. Vendikeera		4. Nedumpira
Kana Kootam	1. Ilaya Muduvan	Mela Kootam	1. Melakka
	2. Kol Munthiyan		2. Moothakka
	3. Thandu Nadu		3. Sennapara
	4. Thekkada Veliya Muthuvan	Poothani Kootam	1. Kunjianiseri
			2. Velianaseri

Source: Satyanarayanan (1998)

and *Yedamalnadu* for the western regions named according to the locations from which the sun rises and sets- the head 'thala' and foot 'yeda'."

Agriculture has been their primary occupation, cultivating hill rice, millets and maize alongside a few vegetable crops; modernity and the ever increasing need for resources and incomes have diversified their penchant for agriculture by the introduction of crops such as rubber, cardamom, and spices such as pepper, cloves and betel nut. These changes have largely taken place in Kerala whereas in Tamil Nadu lemon grass and cardamom are the chief cash crops under cultivation. Such changes and developments around and amidst them has been cause for erosion of practices that are in conflict with customary law. For example strong traditions of marriage exist wherein patrilateral *(kuttallu)* and matrilateral *(maman magalu)* cross-cousin marriages to specified clans *(kootams)* are the rule of thumb. It has been reported by Satyanarayan (1998) that increasing instances of patrilateral marriage were evident during his field work as consciousness of securing property to ones son in the modern world was a way of ensuring the inheritance of property within the family. The Muthuvar system of clans (Table 1) and customs of matrimony amongst clans has been deliberated in detail by Satyanarayanan (1998). It is a complex but specific system of hierarchy and lineage that determines marriage.

Within the area for this study, the two Muthuvar settlements I visited didn't report inter tribe/caste marriages though they were aware of some instances from other regions especially in Kerala where missionary activities had disrupted their age old social norms. None of the other tribal communities of the region has such strong traditions in social composition, and I was told of its special significance in their life. They told me that there were some things that they could explain, while many others could not be revealed to people outside their society, even if accepted into their system of clans. Community coherence is a very strong attribute of Muthuvar society, along with

maintenance of harmony within their settlements. I was told by many men and two women I was able to interact with of differences they observed in human interaction among other communities, and of why the Muthuvar are Muthuvar. A few of these differences were in codes of conduct and distance between young people of the opposite sex, the system of the ćavati or dormitory for boys, codes of dress and ornamentation, and dependence on agriculture and attempts at self sufficiency rather than lost pride in wage labour. Despite the seeming difficulty in following some of these especially by youngsters exposed to a fast changing world, they talked of community coherence and the sense of belonging to be as important as eating good clean food (pres comm. Ravi of Paramankadavu.).

Marriages between lovers also occur as long as they are compatible with customary law and the consent of the girl is obtained; instances contrary to customary law are exceptional. Few marriages outside of the community have occurred[31] in Tamil Nadu as such alliances result in the couple being ostracized and never allowed into any Muthuvar settlement. On the other hand in Kerala, I was told of increasing instances of intercultural marriages in Idukki district and also of the incursions made by missionaries that have changed such customary law contributing to breakdown of community coherence. Similarly tradition maintained that men were to grow their hair long *(koondhal)* but tied in a knot *(kudumi)* with a turban *(Urumala)* and ear studs *(Kaadukkara)*. These practices have been given up by many youngsters purportedly due to being recognised in public places by such distinctive appearance as tribal people – going by the notion of tribal people of the forest being inferior to 'civilised' town people. Only those traditions remain that are not in conflict with the needs of modernity. Ensconced within their settlements by tradition, women are limited by taboos and customary law. Household chores and parental care of the young are their primary occupations, though they accompany their men folk to cultivate crops in their fields. Their interaction with men apart from their spouses is limited, and with outsiders they are extremely cautious. Earlier on, on seeing stranger's approaching, women would gather their children, especially male children, and run into the forest to hide (pers comm. Suriyan). That has changed today, with infrequent to frequent visits into Valparai town. Women are subordinate and demure in Muthuvar society, though cared for and guarded zealously by their husband and kinsmen. The family is the basic unit of economic activity, with cooperation and interdependence at the community level being the root of social coherence. Residence is neolocal with occasional cases of patrilocal residence; building one's own house is one of the qualities that determine eligibility for marriage.

Traditional roles of leadership are institutionalised amongst the Muthuvar with a community chieftain *Pattakaran* or *Vakka* of the *Melvakka* lineage providing leadership at the larger community level. The role of village headman or *Kaanikaran* (also Moopan / *Thalaivar*) is inherited like the *Pattakaran* by matrilineal descent (Satyanarayanan 1998). These roles have been adapted to the administrative needs of

[31] During the course of fieldwork I was aware of only two.

government though the influence of the *Pattakaran* is now greatly diminished. Rules of inheritance have been modified to accommodate for individualism and entrepreneurship, the word of elders, the *Pattakaran* and the Moopan or *Kaanikaran* hold sway among the Muthuvar unlike many instances to the contrary in settlements of other tribes. Though by occupation most people remain within the precincts of the settlements indulging in agricultural pursuits and collecting minor forest products for sale, some youngsters have taken up jobs in nearby towns intermittently.

Of the Muthuvar settlements under review Sankarankudi and Paramankadavu are located off the Nallamudi estates along the border with Kerala. Paramankadavu was the original settlement from where people shifted to Sankarankudi after the introduction of cardamom as a cash crop. Prior to this, small communities of Muthuvars moved from place to place in the hills cultivating hill paddy, millets and few vegetables. There were favoured places in a very wide area from the ranges of hills close to Munnar to places further north near Kothamangalam, Pettimudi,Variam and Adimali in Kerala. The construction of the Edamalaiaar dam in Kerala displaced Muthuvars of those regions who moved into places such as Adichalthotti (Pathadi pallam), Olakayen kudi, Mimmanalkudi, Milaguthurai (settlements in Kerala) and Paramankadavu (*Paramankadavu was the parent settlement in this phase of colonisation of formerly forested regions*).

Paramankadavu[vii] is also referred to as Aanakasam by some of the older residents though the actual spot (Aanakasam[32]) is where the Edamalaiaar River is crossed. Though there aren't any early records for the region it was occupied initially by the Kadar, who have names for the region they used to roam. Two rain fed streams that end in waterfalls over the cliff on the Kerala side are known by the names '*Pindiyan'* and '*Ellikiriyan'* by the Kadars. They claim only a few Muthuvar families lived in the vicinity shifting from hillside to hillside pursuing shifting cultivation before they were joined by larger families who together formed settlements. Apart from Paramankadavu that was eventually occupied by the Muthuvar, the Kadar also occupied a region named Seenikundru[33] close by and eventually settled in Kallarkudi after efforts to stop the practice of shifting cultivation by the Forest Department gained momentum.

The region around Paramankadavu also has a few dolmens, some, which were destroyed for use in the construction of concrete houses in the implementation of the housing scheme under the aegis of the Management plan of the Indira Gandhi Wildlife Sanctuary; some other dolmens have filled up with earth after recent human activity especially cultivation and are barely distinguishable. The pursuance of shifting cultivation has been viewed with disdain by Forest managers resulting in attempts to stamp out the practice or relocate the tribal settlements.

[32] Aanakasam, literally means place of elephants; the spot was apparently frequented by elephants during the dry season arriving to forage on the patches of *Ochlandra* bamboo that sprouted after every phase of shifting cultivation on the hill sides. No major incident of human animal conflict has been reported except for occasional encounters with lone gaur bulls.

[33] Seenikundru was a Kadar campsite occupied during a past shifting cultivation phase.

Cardamom as a cash crop was introduced by the Spices board and by local philanthropists[34], attempting to increase the area under this cash crop as an alternative to the shifting cultivation land use patterns and to provision the inflow of money in the absence of sustenance through agriculture. It has also been reported by Satyanarayanan (1998)[viii] … "they also gathered support from the Parliamentary Committee which visited tribal areas at that time, for their continued living in the forest-habitat and also to pursue cash-crop (cardamom) cultivation." Evergreen forest at a terraced region along the hill slope was chosen to cultivate shade-loving cardamom by the Muthuvars of Paramankadavu under the leadership of Sankaran their village headman, by establishing a settlement to reside in and take care of the crop. The Forest Department reportedly informally granted 120 acres of land for the cultivation of this crop. This settlement was called Sankarankudi. This was at the same time (~ 1976) that Kadar residents of Kallarkudi moved up to Udumanparai to set up their cardamom plantations. Satyanarayanan reports that of approximately twenty families at Paramankadavu ten families moved up to the terrace to establish and look after the crop. Each family (from Paramakadavu and Sankarankudi) was given between 5-8 acres of land to be converted into cardamom. With an increase in population the acreage under cardamom has risen along with other crops including pepper, banana, and coffee.

Electricity was brought to Paramankadavu in 1971, though after being damaged in due course, it wasn't repaired until solar panels were installed in 2003 at tribal settlements under a tribal development scheme of the Wildlife Sanctuary. About two generations ago wildlife such as tigers, gaur and elephants were seen in the valley, though there weren't major instances of conflict. In the early half of the previous century 'dorai's' from nearby estates would come into the valley to hunt game including tigers. An elderly resident, Veerapan, recalled these incidents when he and people of his age such as Sankaran had accompanied the 'dorais' as guides. Large fish from the Edamalaiaar were also given to the 'dorai's' as gifts in exchange for their kindness. Hunting of small game for food was conducted using snares and arrows, though during the plantation period, guns had made their way. Very few armaments are in possession by a few influential tribesmen as relicts of their association with the pioneer planters; I was told of the proud possession of vintage flintlocks by one senior Muthuvan in Kerala.

Agriculture has been and is their mainstay to produce food. Seeds of their crops were always stored carefully or borrowed from kin for year round cultivation of separate cultivars of rice, millets a maize. Harvested grain were protected from elephants, birds, and rats using large bamboo baskets on watch towers *(Piri maadam)* and with devices such as pellet bows, halved poles and bamboos that emit a loud clap on being pulled to chase animals and also with fire, and drums. Today with the decrease in the elephant population and rare visitation in the region, grain is stored in small huts in the field until they are transported back to their homes for storage in alcoves or lofts.

[34] Mention was made of a lady, Mrs Vani Venkatraman, the wife of the then (1980's) Director of UPASI who is remembered for re-introducing cardamom as a cash crop along with the Spices Board in 1976. *Also see endnote 'h'.*

The forest below the cliff near Paramankadavu is believed to posses 'shakti' (divine power) because of which animals and humans are not in conflict; an overhang said to exist at its base was frequented by a tiger that guarded the place belonging to 'Badra Kali' (a form of the goddess Kali) the resident deity. This region is not to be visited by people and is left untouched above the secondary growth of *Ochlandra* and fallow.

Crops cultivated included eight varieties of rice, eight varieties of ragi, four varieties of tenay (both are varieties of millets[35]), two varieties of maize, and four varieties of domesticated tubers (Satynarayanan 1998) whereas nowadays only a single crop of rice, and ragi or tenay is grown. After the practice of shifting agriculture was given up due to the management needs of the Sanctuary their residence and nature of cultivation became sedentary resulting in increased pest attacks. Pesticides were introduced into the otherwise organic practice with an increasing demand for subsistence that was dependent on cultivation. Moreover with the use of pesticides only a single crop is cultivated as the chemicals are washed off by the rain making its use expensive for the indigenous seed varieties for short-term crops of 2-4 months (including rice, and millet varieties) that were normally cultivated during the rains. Cultivating cardamom has been remunerative and as in Udumanparai and Kallar, it is a major source of income. During the cropping season this year I observed intercropping of pepper, spinach, millets and rice within their cultivation lands. The failing crop of rice and ragi is bringing a paradigm shift in increasing acreage under cash crops such as pepper and cardamom as alternatives. On the opposite bank in Kerala, the people at the Muthuvar settlement of Milaguthurai were preparing ground for the cultivation of rubber, as cardamom had failed and their ragi and rice cultivation was insufficient to feed their growing families. Food supplies are increasingly bought from close by markets in the absence of self-sustaining agriculture.

These two Muthuvar communities and those across the border in Kerala use Valparai town and ration shops at Nallamudi that are closer, to source basic goods despite being entitled to fair price shops much further in Kerala of Devikulam taluk. On the other hand centers of trade along the hill ranges in Kerala such as Adimali, Anakulam, Variyam, Kothamangalam and Munnar are used to sell minor forest produce, though produce such as bananas, jackfruit, tapioca, cardamom, pepper, and turmeric are sold in the Valparai plateau.

Endnotes

ii 'Kumri' cultivation as per the Working Plan for the Coimbatore division (Wilson 1973) refers to the regeneration of commercially important trees as plantations by clear felling the native forest for timber and initially regenerating the forest by using a crop such as tapioca, or millets for a year by a right to 'kumri', which is sold by auction. The land is grown with the cash / agricultural crop along with silvicultural species such as teak or

[35] Millets such as ragi and tenay are usually processed into a gruel /paste or powdered to make flour that is stored for lean periods.

eucalyptus or other trees (depending on the working circle). The soil is repeatedly worked through weeding, thinning and irrigation to benefit the silvicultural crop as well. This process can continue over several years by tending the silvicultural crop through thinning, exploitation of the agricultural crop, amongst several other subsidiary silvicultural operations. The labour for such work to be carried out was usually imported; on occasion adjacent tribal communities were also engaged.

iii Vellonie is the modified version of the name 'Villondri'- the Kadar name for a spot where an arrow fired from the bow of Lakshmanan (of the Mahabarata epic) was said to have struck ground. Wilson, (1973) refers to the region as 'Villoni'. Congreve (1942) mentions that the region was first called Karakundra (known as Karihkundru to the Kadars) and later changed to Velonie (pg 108).

iv On the etymology of Koomati: Seven mythical maidens of the forest who bathed in the waters of a stream were taken by surprise by some Kadars who came across them while foraging in the forest. The men got scared and ran away on seeing the naked maidens who were unlike humans. When they returned a little later, the maidens had disappeared and all that remained at their bathing place were mounds of rock shaped like their breasts (Koomal-mound/breast). The place along the stream is thought to be their home and was called Koomati. (pers comm. Chellamma of Koomati and also V.Thangaraj of Nedungkundru). Offerings and rituals are conducted at this site and also at other river systems such as the Panathiaar from time to time. As the present village of Malai Malasars is located close by, it has taken the name of the stream which is of ritual significance to them.

v Congreve mentions incidences of small pox infections in the early 1900's that wiped out at times whole groups of Kadars who lived at Poonachi and at Paralai rocks. Cholera was also rampant as well as malaria that afflicted the labour force of plainsmen. He also takes account of a Kadar who on returning from the plains carried small pox with him, infecting a lot of his tribesmen subsequently. (Pages 67, 99, 101). Some Kadars also believe that with the introduction of an exotic tree species 'Thanikai maram' (Spathodea campanulata), such new diseases emerged (Ratnasamy pers comm). Wilson (1973) writes of incidences of small pox epidemics afflicting the Pulayar tribe regularly (pg 70).

vi Deity's worshipped by the Muthuvars include Murugan, Madurai Meenakshi, Aiyyapan, Vinayagar, BadraKali and a host of forest gods or 'Vanatheivangal' for different peaks (mudi's) and forest patches. These include Vanadeivangal of the Yedamalnadu (western) region such as BadraKali, Ponganathey gopathy, Edakaatu gopathy, Sandhyata gopathy, Khumbaneelam muniswar, Kolapathy muniswar and so on for various regions with resident deities. The Muthuvars and Kadars venerate their ancestors and pray to them frequently for succour even during rituals meant for gods. The Kadars have adopted and worship various deities such as Madurai Veeran, Mariamman, Palani malai Murugan, Malaiala Bhagawati, Maala Kanikal, Karupusamy, Aiyappan samy, Anakulam Bhagawati, Adhiran Maari, Sivasiamman, Udhara Karpanan. Like the Muthuvars and Malai Malasars various peaks and forest patches are home to many forest deities or 'Vanatheivangal'. The Malai Malasars traditionally venerate a host of forest gods 'Vanatheivangal' though nowadays with the activities of missionaries some deities of the Hindu pantheon as well as Jesus Christ have been adopted.

vii The word Kadavu is a suffix used to denote a point to cross a water body or also as a berthing place. Though this village is next to the Edamallaiaar River, there is no history of boats; rather it would have been a place for people to cross over. In the 1961 census Paramankadavu is listed as a Kadar village. On cross checking between the communities it was learnt that the region was originally used by both communities, but the Kadar claim it was one of the regions they gave up and moved to better ground at Kallarkudi once the Muthuvan population rose and took over suitable agricultural land for shifting cultivation. The Muthuvan village at Paramankadavu did exist in 1961.

viii On Cardamom cultivation and sale:

(from Satynarayanan 1998. Pp-173-174). "In 1868, the government determined that shifting cultivation needed to be restricted so that more land would be available for coffee cultivation. Land being used for shifting cultivation was often sold to planters, without the cultivators being informed beforehand about the sale. Often, the illiterate tribes were not in a position to defend their interests against those of the planters and the government. …… Under the circumstances mentioned above, some among the Muduvan and other tribes living close to plantation centres like Munnar, Devicolam and Pirmed in the Idukki district of Kerala, were therefore gradually taken to wage-labour in tea and cardamom plantations besides their involvement in shifting cultivation. ……. It was also reported in these accounts (Iyer 1936, 1939, 1941, and Thurston 1909) that cardamom was one of the minor forest produce that the Muduvan collected to sell to the traders, who seldom visited their villages. Therefore, it appears that the Muduvan took to cultivation of cardamom only after the 1940s. As the elder members of the Muduvan community living in the three study villages also say, the process of cardamom cultivation seem to have begun a little early among those living close to Devicolam or Munnar. In the case of the villages situated close to Valparai, including Sankarankudi, Paramankadavu and Milagutharai, cardamom cultivation was taken up a little later, but immediately after the pressure from Forest department became severe i.e. around 1960s."

He further quotes from Buchanan (1807:336) "In his exploratory account on the life-styles of people, prevailing flora and fauna of the Mysore, Canara and Malabar regions, Buchanan made a mention on the subsistence pattern of Muduvan and others living on the Anamalai hills. He wrote, "They use the cotu-cadu cultivation... and have besides cardamoms, which is the only thing that they sell to the renter who lives at Ani-Malaya. In January, they are brought to him fit for the market, and he knows nothing of the manner in which they are prepared, only that they grow on the hills without cultivation."

3. LIVELIHOODS AND RESOURCE USE

Living in close proximity to forests as well as well-connected commercial plantations, the tribal communities in the Anamalais have diverse approaches to utilisation of land for agriculture, use of natural resources including forest produce, and sources of employment. This chapter explores aspects of tribal livelihood and resource use in this region and concludes with a description of their economy and nature of dependence on natural resources.

Land utilisation

Subsistence cultivation

Agriculture was practiced by all settlements in this study (Table 2). Two regions occupied by two settlements in this study practice cultivation of hill rice and millets whereas all the others have not cultivated these crops for more than two decades. Given recorded history it can be surmised that agriculture was brought into the hills by the Muthuvars, who as agriculturists made the surrounding hills their home. Shifting cultivation is the technique by which cultivation was practiced; many regions in the mountainous landscape have been used historically until restrictions on the practice were instituted by the Forest Department. The practice was not confined to the tribes of the region but was also used by the Forest Department. A modified system called '*Kumri*[36]' wherein virgin forest was clear felled to raise plantation of teak or other timber species along with agricultural crops such as millets, tapioca and maize as shade crops for the initial years. This was carried out by the Forest Department in efforts toward "minimizing regeneration costs as also to gradually wean the hill tribes from the evil habit of shifting cultivation" (Wilson 1973, pg. 29). The practice was given up by the Forest Department in the 1940's due to the

Marudappan and his children preparing the field for cultivation in Paramankadavu.

[36] See Endnote (b)

Table 2. Number of cultivators of different crops in the focal villages.

Villages (No. of households)	Rice/Millets	Cardamom	Pepper	Coffee
Eethakuzhi (7)	-	3	-	-
Kallarkudi (24)	24	24	15	-
Kavarkal (17)	-	17	1	-
Koomati (30)	-	-	5	-
Nedungkundru (46)	-	-	-	4
Paramakadavu (14)	14	14	14	-
Sankarankudi (19)	8 in 2006 & 2 in 2007	19	19	16
Udumanparai (33)	1	22	5	-
Total cultivators	47	99	59	20

difficulty faced in protecting the crop[37] from the depredations of wild elephants. Human habitations that were subject to these trials were the Ulandy Range alongside the Malai Malasar home range, in Nedungkundru and in Kavarkal, and also at Mount Stuart and Lower Poonachi divisions of the Valparai Range.

Today the settlements of Kallarkudi and Paramankadavu/Sankarankudi cultivate subsistence crops of hill rice, millets such as Tenay (*Panicum italicum*), Ragi (*Cynosurus corocanus* = *Eleusine coracana*), and maize *(Sorghum vulgare).* Other crops that have been cultivated for subsistence include Samai (*Panicum miliare*) and Cambu (*Pennisetum typhoides*). At Paramankadavu, with the low productivity of subsistence crops due to the short fallow period[38], land is slowly being converted to cash crops such as pepper intercropped with banana. This year amidst crops of hill rice and ragi, stakes of *Erythrina sp.* were planted to support new pepper vines at Paramankadavu.

The transformation from subsistence to a cash economy has been in progress for some decades (also see Satyanarayanan 1998), and is plainly visible now with just a few from Sankarankudi cultivating subsistence crops in their fields, the major portion under subsistence cultivation is taken up by their kin at Paramankadavu. The agricultural fields at Paramankadavu comprise approximately 50 acres while at Kallarkudi approximately 100 acres (Anonymous 2003) are used in the modified shifting cultivation format. The modified shifting cultivation process[39] begins with the end of a harvest, with the next site (usually and adjacent plot) being marked and the bamboo growth is cleared over the month of March. The ensuing biomass is then burnt after a month towards the end of April and the beginning of May when the rains are anticipated. The land is then prepared by clearing the surface of the bamboo stems and any new growth with a machete and hoe. With the first rains the seed is sown on the ground with minimum disturbance to the surface. Crops of millets, spinach, maize, and hill rice are intercropped for a continued and diverse harvest. The harvest begins after

[37] These attempts failed as unlike tribal cultivation systems, multiple crops were attempted in lands easily accessed and used by elephants as part of their home range-pers comm. V. Thangaraj (Nedungkundru), Chellama (Koomati), & Natrajan (Varagaliar).

[38] The land is fallow for two to three years, unlike a normal shifting cultivation cycle of five to eight years.

[39] See Satyanarayanan 1998, for detailed notes on the practice.

the month of August and continues till the hill rice is the last crop harvested in November and December. Today as the practice of cultivation is reduced and dependent only on the monsoon, many short duration crop varieties and strains have been discontinued with shifts in cultivation practices (also see Anonymous 2002).

Some respondents from the Muthuvar settlements hope to cultivate rubber in the future, following the practice amongst their kin in Kerala. During the course of my visits the closest settlement of Milaguthurai just across the Edamalaiaar, was in the process of transplanting rubber tree saplings (*Hevea brasilensis*). Crops cultivated in kitchen gardens are largely pulses and beans such as towarai, and avarai, vegetables and gourds such as tomatoes, pumpkins, vellarikai (snake gourd), and varieties of spinach, chillies, and tapioca. Jackfruit, banana, and mango are the common fruit trees in all settlements. As part of the Eco-development schemes in an effort to curb crop depredation trenches to restrict the entry of large herbivores such as elephants, gaur and wild boar into settlement precincts were planned. Kallarkudi and Paramankadavu, the two cultivating regions do not have a serious crop depredation problem and are not trenched; the other settlements (except Eethakuzhi and Udumanparai) where they have attempted cultivating vegetables and pulses for sustenance have incomplete trenches or those where earth has caved in allowing the entry of wildlife and preventing their ability to cultivate. The desire to cultivate their vegetables was expressed as a move toward food security during lean periods. Amongst the Kadar especially, many a tale and narratives (Chandi, forthcoming) on species of wildlife are used as reminders of their past when they used to live in the forest with animals and the plantations didn't exist. They are used to the presence of wild animals and drive animals away with noise, a chase and pellet bows if they are troubled. Even so this is not expressed as antagonism toward wildlife but rather the lack of a trench to protect crops for subsistence. The issue is summarised in Table 3. The tribal people of the settlements visited, differentiate their tolerance to wildlife and their measures to chase wildlife within their settlements as benign in comparison to residents at the labour lines and colonies of estate workers, where they claim hostile and violent measures are employed.

In the past, cattle were supplied to some residents of the tribal settlements as part of Government schemes to augment rural resources; this occurred despite the scheme being inappropriate in a forested area with possibilities of predation by large wild carnivores. I was told of the difficulty with which a cow was brought down the valley into Kallarkudi and of the subsequent sale of the animal, as it wasn't in their purview to tend to the animal. Only one site Nedungkundru, has livestock (seven cows belonging to two families). Other settlements in the lower elevations of the Indira Gandhi Wildlife Sanctuary that have not been studied are known to possess much larger heads of livestock. These cattle invariably are owned by landlords and farmers of the plains and given to the tribal people living within the Sanctuary to tend and feed their cattle on fodder available in the wildlife Sanctuary.

Table 3. Crop depredation and need for trenches around villages.

Village	Rice/ Millets	Kitchen garden	Cash crop	Wildlife	Trench	Need for trench
Eethakuzhi	-	Y	Y	No major instances	No	No
Kallarkudi	Y	Y	-	Rats, wild boar, bonnet macaques	No	No
Kavarkal	-	Y	Y	Elephants, gaur, wild boar	Damaged	Yes
Koomati	-	Y	Y	Regular visits by wild boar, gaur bulls; occasional elephants & bonnet macaques	Damaged	Yes
Nedungkundru	-	Y	-	Elephants, wild boar	Incomplete	Yes
Paramankadavu	Y	Y	Y	Rarely gaur and wild boar	No	No
Sankarankudi	-	Y	Y	Bonnet macaques, occasionally elephants	Incomplete	Yes
Udumanparai	-	Y	Y	Bonnet macaques	No	No

Cash crops

The earliest record of trade in cardamom from the region dates back to 1807 (see endnote 'a'). The tribes evolved a barter system and also collected wild cardamoms for sale to traders in the plains of Kerala and Tamil Nadu by the time European planters arrived in the Anamalais (Buchanan 1807, Thurston 1909, Iyer 1909, & Congreve 1942). Even though small patches were cultivated close to settlements, the majority of the crop was collected from the wild. In 1976, the Spices Board introduced cardamom as a cash crop for cultivation in the light of the need for a cash economy in the absence of their subsistence economy of shifting cultivation and foraging. The crop was introduced in the higher elevations though the crop died out at Nedungkundru settlement soon after due to the lack of sufficient canopy and poor management. Cash crops of cardamoms and pepper are grown in the evergreen forests of Sankarankudi, Paramankadavu, Kallarkudi, and Udumanparai, and in smaller quantities at Kavarkal, and Eethakuzhi settlements. A rocky mound close to Koomati settlement is called '*Yellakaiparai*' or cardamom rock, which is a place where wild cardamoms were dried when they and Kadars of Nedungkundru used to collect them for sale. Pepper cultivation is slowly gaining ground in Koomati, Udumanparai, and Kavarkal, though they haven't reached maturity and the market as yet. Cash crops of cardamom involve weeding and maintenance work undertaken during the wet months of June to August when growth of fresh saplings and undergrowth flourish in the rain. The cardamom crop is harvested in three cycles usually between August and December and dried in mud sheds using heat from a fire lit in one corner that passes through a tin chamber in the hut.

Pepper is collected during its fruiting cycles and dried in the summer sun. The purchase price of cardamom varies between rupees 120-600 per kilogram[40] and that of pepper varies between rupees 80-120 per kilogram. The collected produce is sold to middlemen and transported by head load labourers (coolies) at approximate rates of Rs. 8/kg of pepper, and Rs. 15/kg for cardamom. Though earnings vary from approximately three thousand rupees to thirty five thousand per household, depending on the rate of cardamom, many are still in debt and the habit of savings is poor. At Udumanparai, pepper is not grown extensively and only a few households have begun growing the crop. Wild pepper was collected before cultivation of the domestic variety began though it doesn't fetch the same price as the domesticated variety.

The produce is sent for sale to auction centers at Bodinayakanur & Usilampatti in Tamil Nadu, and Adimalli & Anakulam in Kerala by traders from Valparai. In past year's, agents in Kerala sent men on foot along the Edamalaiaar River to the settlements of Sankarankudi, Kallarkudi, and Udumanparai to purchase the cardamom crop for use in making essence. Today labourers from Valparai and traders buy their produce for sale in both States (Table 4). These traders have established business ties with these cash crop cultivators wherein they loan money, food rations, and material goods in exchange for the final crop. In a year of poor output, the debt continues to rise and is compounded by interest by those traders who collect interest on their loans[41]. Despite occasional high prices in some years (resulting in higher earnings), some of the residents in the settlements are indebted to traders they have borrowed from. In Sankarankudi, the average possession of land under cardamom per household is 4 acres, and in Paramankadavu it is 3.08 acres (Satyanarayanan 1998). In Udumanparai and Kallarkudi the estimated possession of land per household under cardamom is between 4-10 acres. The total land available under these crops are: Sankarankudi 185 acres,

Table 4. Quantity of spices purchased from the region, in kilograms, by one main trader in the Valparai plateau.

Year	Cash crop	Sankarankudi & Paramankadavu	Udumanparai & Kallarkudi
2003	Cardamom	2117.5	2642.5
	Pepper	1724	-
2004	Cardamom	n.a	n.a
	Pepper	n.a	-
2005	Cardamom	n.a	1628.87
	Pepper	n.a	-
2006	Cardamom	1487.65	1279.9
	Pepper	197.25	-

n.a.—implies information is not available as produce was sold to other traders.

[40] In one year the price of cardamom had reached an all time high of rupees 900/- for a kilogram. That year a number of people from the villages worked and shared the benefits of their crop, and at the same time others also made large borrowings that have not been repaid.

[41] Only one trader with a shop and minor visiting traders are those who do not collect such interest and are revered by most members of the villages I visited. They have been known to supply basic goods to the residents despite growing debts and provision residents during heavy rains and hard times.

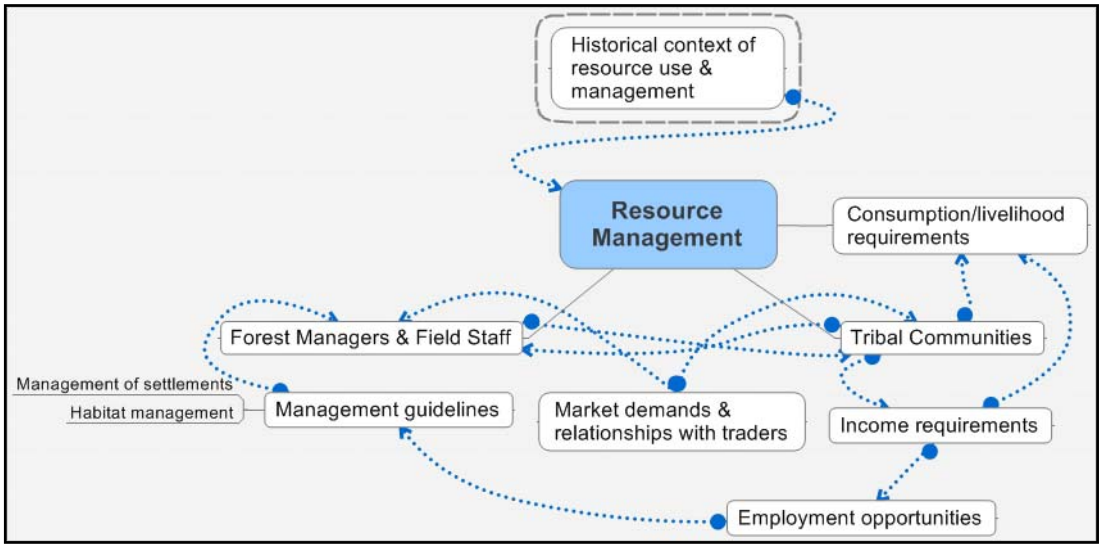
Udumanparai 182 acres (Anonymous 2003) and at Kallarkudi the land under this crop has not been measured.

Falling productivity of cardamom plantations is usually followed by re-seeding and raising new stock. At the same time the shade loving plant is usually deprived of its shade with the increasing gaps in the canopy with tree fall. Fresh growth of native trees is spurned during the weeding process, along with decreasing humus generated by reduced leaf litter transforming the once productive region to an unproductive one. Damage by bonnet macaques and some wild herbivores is also cited as a reason for reduced productivity, though this is occasional and is not a major cause for concern.

Forest produce

Forest produce collection and sale has been the earliest means of income generation. Whereas food collection and cultivation provided most articles for consumption, income from forest produce was used to source material goods such as clothing and household utensils and articles to prepare food. Before the 1970's, a Chettiar (Karpan Chettiar from Angalakurichi) used to purchase contracts to buy and sell forest produce collected by tribal people. Earlier on, Karpan Chettiar used to sell articles to the European planters and to others in the plains. Before regulations on the use and sale of minor forest produce came into effect, different varieties of seeds, roots, tubers, vines, dried flowers and fruits, tree resin, beeswax and honey, bamboo and cane, wild cardamoms and pepper were collected based on demands from traders largely for the ayurvedic drug industry. When the Forest Department made attempts to regulate the trade 18 types of minor forest produce were allowed for collection, which was formalised eventually in 1970 through the formation of the 'Malaivan Makkal' Poonachi Range hill tribes Cooperative Marketing Society. This society functioned for a short period of 2- 5 years after which it disintegrated. Much later on in the last decade (1990) an attempt to revive this society was attempted by Thirumurthy Tahsildar of the Valparai Panchayat, which also did not succeed. Later, a former Wildlife Warden Mr. Ganesan, also attempted to revive the society in 2003, but the society didn't function as desired, mismanagement being the bane of its survival.

More recently with the desire to generate income through collection of minor forest produce petitions to this effect have been made based on the economy of the past and that prevalent across the border in Kerala where tribal welfare societies function based largely on minor forest produce collection. Despite the regulations, minor forest produce is collected based on the demands of traders for the markets outside of Valparai. This is conducted largely during the dry season between late February to June when many of the articles are available, and it is easier to access the inner reaches of the forests. These products were allowed for sale in the past on the issuance of a permit by the Forest Department for collection and sale to middlemen who transport the goods to the plains for sale having obtained the requisite permits. The middlemen who sourced the products from the settlements invariably dictate prices for these products depending on the total costs of transporting the goods past the many beneficiaries along



A flowchart describing linkages involved in resource management

the route. Similar experiences are echoed in the neighbouring state of Kerala where tribes engaged in the collection and sale of minor forest produce are often cheated by traders and middle men in the absence of facilitative and controlling authority (Zacharias 2003).

Understanding the relevance to natural resource management of the collection and sale of forest produce requires an understanding of the various linkages between the various stakeholders in various aspects of resource use (see illustrative flowchart below).

The profits accrued from sale of these products are at times not remunerative due to low purchase prices offered. This has changed the manner of collection and reduced the number and quantity of articles extracted. Those articles extracted, continue based on market demands for sale or to hoard in anticipation of a good price in the near future. The extracted quantities vary by settlement and over time (Table 5).

Non-timber forest products consumed can be categorised as those for food and material needs of livelihood, and those used to generate income for livelihood. Products

Table 5. Minor forest produce collection ranking by Trader 1

Produce	Value (Rs/kg)	Quantity/ year	Availability	Rank by village
Cardamom	120-600	NA	Seasonal	SKD/UDP/KVKL
Nutmeg mace	150-200	1 ton	Seasonal	KMT/NK/SKD
Paepudalai- a creeper	150	1 ton	All year	KVKL/NK
Pepper	80-120	NA	Seasonal	SKD, recently KMT
Dammar/resin	70-90	4 tonnes	All year	SKD/KMT/UDP
Cinnamon	300	1 ton	All year	SKD
Soap nut	20-40	5 tonnes	Seasonal	NK/KVKL/UDP/SKD
Honey	80-120	2-3 tonnes	Seasonal	KMT/SKD/UDP/NK

Village codes: KMT-Koomati, SKD- Sankarankudi/Paramankadavu, UDP-Udumanparai & Kallarkudi, NK- Nedungkundru, KVKL- Kavarkal

consumed as food are largely vegetable products collected from the precincts of the settlements in places known to harbour edible species. These are largely greens *(generically called keerai's)*, seeds and fruits. Honey, and in some cases wild ginger and turmeric, are the only products consumed and stored for use as well as sold for income. Wild turmeric and wild ginger are grown in small quantities in some settlements for personal use. Table 6 is descriptive of attributes to minor forest products collected and available in the vicinity of the settlements under review.

During the extraction of such and other articles such as varieties of seeds, roots, bark, and parts of lianas/creepers, specific regions are visited in the season of abundance or maturation. Those with the knowledge of the species, frequent those

Table 6. Some minor forest produce sourced as food (vernacular names).

Malai Malasar		**Kadar**		**Muthuvar**
Seeds	Tubers	Seeds, plant parts & fruits	Tubers	Tubers
Eeachankai- cycas seeds	*Aiinaa kizhangu*	*Charal pazham*	*Ayanam thetam*	*Thetta kaynga*
Kaatu manga	*Era kizhangu*	*Eenjā chedi* – used to make brooms	*Ira thettam*	*Nooran kaynga*
Nagarai kai	*Kaanal kizhangu*	*Eenthakai – Cycas sp.*	*Kaanĵal thettam*	*Vaali kaynga*
Paali kai	*Kana pulae kizhangu*	*Kaarampoo- Collenia sp*	*Kariki modaka thettam*	*Aratthi kaynga or Arutthi kaynga*
Thellikai	*Kongan kizhangu*	*Kaatu manga*	*Kizhangu thettam*	*Saalai kaynga*
Moongil arisi	*Kurugangu kizhangu*	*Koonthàpanai – Caryota urens*	*Narkk ellai thettam*	*Padhayam kaynga*
Chakka pazham & seeds – Artocarpus sp.		*Noolangkai- Artocarpus sp.*		
Greens- similarly used by the other tribes	*Naari kizhangu*	*Kuntri vithe* (medicine)	*Puliyaeran thettam*	*Chini kaynga* (cultivated)
Enthamaram keerai	*Nooran kizhangu*	*Môre kurunjipazham*	*Sale thettam*	*Kasturi Manjal*
Shemban keerai	*Paedan kizhangu*	*Naghara – Seratacea sp.*	*Sorriyan thettam*	*Kaatu Inji*
Sukotu keerai	*Plal kizhangu*		*Thaali thettam*	
Ungatan kodi	*Pulan kizhangu*	*Vadam - Kasthuri manjal*	*Theivan thettam*	
	Puliyaeran kizhangu	*Moongil arisi-Katta*	*Venni thettam*	
Kasturi Manjal	*Shengan/Vetla kodi kizhangu*	*Kasturi Manjal*		
Kaatu Inji	*Thaali kizhangu*	*Kaatu Inji*		

areas on a yearly basis, making their return to collect the species for sale profitable. These regions are invariably those, not been subjected to forestry operations of the past, and in which plantations for a timber crop have not been raised. Only few products such as honey and varieties of bamboo are found in such regions, with occasional sparse distribution of other natural forest products. Some products extracted such as dammar or tree resin are dependent on the availability of trees not subjected to over extraction in the non-forestry areas.

Other forest products regularly collected for consumption are firewood and construction material. Firewood is collected at least twice a week in all settlements whereas construction material such as bamboo, wooden poles and mud/rocks are collected as and when required to repair existing houses or build extensions. Of all forest products, bamboo (including its leaves), largely *Ochlandra sp & Dendrocalamus sp* are used with regularity in a variety of construction and household needs from fencing small kitchen gardens, to making traditional huts (walls, posts & thatch), extensions to existing cement houses, baskets, mats, walking sticks, rafts, strips of bamboo to tie frame works of roofs and fences, and also to make tea in the absence of a vessel while in the forest (Table 7). It is the most versatile and easily available forest produce in almost all settlements, except at Nedungkundru and Kavarkal that have a history of logging for extraction of timber.

Table 7. Bamboo terminology among the Kadar.

Kadar term	Description
Mulla	Bamboo with thorns, *Bambusa sp*, used for rafts
Kaa moda/Kaamam	Large bamboo without thorns, *Dendrocalamus sp*
Paer eeta	*Ochlandra sp*., big leaves for thatch, stalk for house construction
Kaar eeta	*Ochlandra sp.*, smaller than '*Paer eeta*'
Noonjooru eeta	Thin-walled bamboo used for mats, baskets and sieves
Chalanji eeta	Thick-walled, strong bamboo used to punt rafts, baskets

Firewood

Forest produce used most regularly is firewood. (Table 8) Apart from cooking two meals a day interspersed with tea consumed at intervals through the day, it is used to heat cardamom drying sheds, dormitories, and homes and bathing water during the cold months of the monsoon and winter. Both women and men collect firewood from the precincts of the settlements from dead and fallen trees; branches are also lopped on occasion. Estate workers, who live in colonies close by, use the regions along the forested approach to the settlements of Kavarkal, Nedungkundru, Sankarankudi and Udumanparai to source firewood with regular frequency, often from the same sources that people from the settlement use. With higher populations in the colonies, demand for firewood is greater than in the tribal settlements.

Of all the settlements, the Muthuvar have a custom with regard to the collection and use of firewood (Satyanarayanan 1998). Firewood *'thandal'* is sourced during the

Table 8. Firewood usage in the village (households).

Village	Cardamom drying sheds (store)	Dormitories/ Ćavatis	Kitchens/ Bathing rooms
Eethakuzhi	-	-	7
Kallarkudi	1	-	24
Kavarkal	1	-	17
Koomati	-	-	30
Nedungkundru	Formerly used; also used formerly at a lemon grass distillation unit	-	46
Paramakadavu	-	1	14
Sankarankudi	3	1	19
Udumanparai	3	-	33

process of clearing vegetation for cultivation. It is customary and a privilege for members of the boys' dormitory/ *'Ćavati'* to collect a fixed amount of firewood from a family on the first day of activity toward clearing for cultivation. The firewood collected is used in the boys *'Ćavati'* for the night. On other days, the junior members of the *Ćavati* collect small amounts of firewood from each household in the settlement just before sunset. The younger members of the *Ćavati* are expected to light the fire before sunset and keep a jar of water for them to drink from. It is common for women who proceed to bathe in nearby streams at midday to bring back firewood from fallen trees that are split to stock firewood for their homes and the *Ćavati*.

Honey

Honey is the other most commonly sourced minor forest produce (Table 9). In nearly all forested regions of this region honeybees are known to build hives to bring up their young brood. Swarms of bees ('*Mala thaen'*) are seen during early summer travelling to and fro and finally settling on high branches of trees or along cliff faces[42]. Hives close to the settlement belong to and are marked by those who would eventually collect its honey. With the onset of the monsoon in the middle of May, the first downpours are awaited after which honey collection begins in earnest. Some people do collect honey before this but many amongst the Kadar believe that maximum returns are available from beehives after the first large showers that last for three days to a week.

The reasoning behind this is as follows. Bees produce honey, using nectar of many flowering trees in summer. In the process of moving from flower to flower, pollen is also brought back not just by accident but also as a produce they store in the hive. When the first large downpours occur, bees do not stir off their hives in the cold rain but cling onto the hive and consume pollen that is mixed with the honey in its store or

[42] Bees seen travelling in the forest, which have not settled and built a hive to bring up a new brood, are called '*Kudumbe thaen'*- or bees in the family way! They are seen resting on branches during this phase and travelling searching for an appropriate location where they will settle to build a hive and rear their brood.

Table 9. Honey and bee products collected by tribal people.

Tamil	Malai Malasar	Kadar	Description
Mala thaen	*Thaen*	*Thaen thelli*	Large bees of cliffs and trees
Ponthu thaen	*Thoduthi*	*Kurunthaen thelli*	Smaller bees with hives in tree holes
Eethaen/ Kosuthaen	*Karunthaen*	*Karinthaen thelli*	Very tiny bees with hive in holes in rocks and trees holes near the base
Kombu thaen	*Kollan thaen*	*Kohtāān*	Tiny bees with hive in holes in rocks and trees holes near the base
	Poonji vekkiradu		Paste of bee larvae
	Karun thalai		Fried bee larvae

'poduvu'. On consuming pollen the bees produce cleaner and more honey that is then ready for collection. Honey from hives of the '*Ponthu thaen and Kohtan'* are collected usually in the morning hours as by afternoon some bees can become irritable and sting badly. Honey is not collected from '*mala thaen*' hives during the flowering of the white 'kunkilium' tree/ *'Painee maram' (Canarium sp),* as the Kadar and Malai Malasars believe the bees love the nectar of this flower and guard it zealously and are on their guard against theft during this period. In the forest honey is collected in tins and brought back to the settlement where they are transferred to jerry cans or bottles and sold in bulk to traders in Valparai or to the tribal welfare society in the lower elevations. I was told that honey collection as an art has diminished among the tribes people in comparison to the past where most men were adept at the intricacies of climbing a tree or climbing down a cliff on dark nights (V. Thangaraj of Nedungkundru and Suriyan of Sankarankudi, personal communication). This is not the case today with some people pursuing other means of income generation depending on those skilled in the community to bring back honey for sale and consumption. This is true of Kadar and Muthuvar settlements whereas most men in the Malai Malasar settlement are adept at this skill.

In collecting honey from tall trees, bamboo pegs are carved to peg and climb the tree to the nearest branch with the hive. From here the branch is walked on all fours and the portion with honey is carved out after the bees are chased from the hive by fire and smoke. The honey collector doesn't lower the honey down to his mates but is expected to bring it down himself. On cliffs, strips of cane and bamboo are woven into a trellis of rope and ladder with which honey collectors descend the cliff at night to bring back honey in a basket. To ensure the collectors (the one who descends) safety in the event of differences of opinion within the community/family, rules governing the composition of the honey collection group, were practiced (see Thurston 1909). Though the Kadar also collected honey from cliffs in the past, it is mainly the Muthuvars who collect honey from cliffs today. The Malai Malasars are acknowledged to be expert honey collectors and employ similar techniques in collecting honey which they not only sell but store for their own consumption from time to time as a traditional food of vitality. The other products of the hive, beeswax, and royal jelly are also collected for use/consumption and sale.

The nature of dependence on natural resources

With many generations of humans living within forests, natural processes have been manipulated for livelihood in habitats also used by wildlife. The use of species of animals and plants has not been adequately recorded over all these years though many narratives using observations and beliefs were built into folklore especially amongst the Kadar. In documenting knowledge gained and put to use by a folk/tribal community we tend to focus on observing and documenting actual processes of production and performance (Miller 2003), often ignoring the dynamic nature of dependencies and use of resources through changes that occur in livelihood. Though most accounts on the tribes including this report, fail to provide much insight to the ethnoecology (see Hames 2007) and natural history of the tribes, some narratives have been documented during this work largely from the Kadars who narrate folklore on many subjects of their lives and history. These are illustrative of the observed, experienced, and fictitious, woven into stories that serve both as learning for children to comprehend myriad themes and characters around them, as well as narratives of past events; a standard mode of coming to grips with observed behaviour and experienced events (Narasimhan 2005). These also are recognised as past events and that which is not replicable given the changes to livelihood and the myriad sources of influence and need that have to be dealt with to ensure their present and future existence.

In the Anamalais, use of natural habitat by humans was restricted to indigenous forest dwelling communities until the forests were opened for forestry and plantations. It is acknowledged that increased forestry and plantation activities changed many square kilometres of forests in their composition and distribution of species. Some respondents of the Malai Malasar settlement recall that with the construction of the Parambikulam dam wildlife were easily sighted as they migrated from the submerged regions to new regions including areas of human habitation. Narratives talk of the now submerged place to be possessed with 'shakti[43]' that was benevolent to animals and that humans rarely entered this space (pers comm. Vel Murugan). Similarly the Kadars believe the same to be the case of the region around the summit of the Karimalai Gopuram[44], a high peak surrounded by wet evergreen rainforest (Hermanns 1955). The Orukomban Range and the forests therein in Kerala, the forest of Ayangkulam[ix] in Tamil Nadu with an open patch and water hole with natural salt licks are believed to posses 'shakti' for animals. The Muthuvars have names for resident spirits and deities on most forested peaks and regions in their vicinity and those their ancestors lived amidst. The Kadars and Malai Malasars believe that in the days of their ancestors many centuries ago, there weren't many animals. Their ancestors were believed to have gone to a place –Pothemadai and Anakulam and brought back stones to Ayangkulam; some of these stones were turned into gaur and others into elephants and the smaller stones to other animals. These regions are contiguous with the Ulandy range in Tamil Nadu where

[43] Power- invariably inexplicable but divine power respected and feared.

[44] The summit has a flat rock with another protruding from it believed to be the seat of 'Aiyappan'- a deity venerated by the Kadars (Hermanns 1955).

wildlife was found in abundance after the construction of dams. The kills of large carnivores were scavenged frequently, though over the rest of the period after forestry practices along with growing human population and the plantations, wildlife has diminished, and so also was the opportunity to scavenge off kills around the settlements. Thurston (1909), Ehrenfels (1950), Hermanns (1955), and Hornell (1924) have mentioned the strategy of the Anamalai tribes in scavenging off kills rather than hunting them down; moreover all the tribes traditionally did not consume large herbivores such as the gaur [x] and other animals considered taboo. More than a hundred years ago, blow guns with bamboo splint darts, the pellet bow were used to hunt small game such as birds and modified blow guns with a retrieving hook and harpoon to hunt fish (Hornell 1924); these implements were given up almost immediately with the creation of the plantations. In the 'Shikars[45]' of the European planters Kadars, 'Mulcers' and Muthuvars were used as trackers with guns replacing their former instruments (Congreve 1942, Hornell 1924) and engaged in hunts of species they traditionally did not use (Veerapan, pers comm). Animals hunted as such for food were largely species of deer, small carnivores such as civets, Nilgiri langur's; whereas the use of guns were the privilege of the few who owned them, the rest were dependent on snares or noose traps for mouse deer, barking deer, and jungle fowl, scavenging off kills, and finding slow moving species such as pangolins, cane turtle/travancore tortoise during forays into specific habitat. Wildlife was plentiful over many years until the shift to forestry operations occurred along with an increase in the number of hunters from the plains. Meat was not a staple or commonly sourced food source as cultural taboos and restrictions that came into place with protection afforded through the Wildlife Protection Act[46] in protecting wildlife of the Anamalai Sanctuary, that later became the Indira Gandhi wildlife Sanctuary and National park.

In the course of fieldwork a few interviews that yielded some information on this aspect, I learnt that scavenging off carnivore kills is still their primary means of accessing protein, though occasional trapping of small animals that prey on their crops also exist. With their proximity to wildlife they are often blamed as a cause for reducing all kinds and species of wildlife without recognizing the fact that many events in history where the habitat of wildlife and the tribes was used and consequent changes has equally contributed to this state of affairs along with poachers from within Valparai, from the plains, and from Kerala. Given this perception on tribal people and threats to wildlife, I was not able to glean much more information apart from the narratives of the Kadar on some wild species and their relations with them as in folklore. It thus wasn't surprising that in a year of fieldwork I never came across the use of wild meat, though I did occasionally hear of past and recent instances when preferred species of wildlife were found and consumed. Amongst the three tribes, the kind of protein consumed depends on availability and also on the tribe, their customary taboos and modern mores.

[45] Hunting expeditions of the British Raj.

[46] None of the people were aware of this or other 'Acts' geared toward conservation. They are aware of law being in the control of the Forest Department.

The range of sources for protein and calories according to most of my informants is extensive; but given availability of rice and preoccupations of income generation and access to amenities being crucial to survival in the larger world, the emphasis on sourcing a livelihood exclusively from natural resources has decreased considerably. Wildlife and many other natural resources are in their world view resources that have traditionally belonged to them. The change in access to natural resources and livelihood space is understood as exclusion from those resources they owned and had control over but is now the prerogative of the Government. Rather than being perceived as law breakers a refrain toward future coexistence was to work together in managing their resources. At the same time, they are well aware of private property and ownership, the need for land security, clean surroundings and sustenance; these are recognised as qualities they benefit from being the people they are with their ability to live where they do, unlike the rest of society around them in colonies of the plantation companies. During many open ended interviews and interactions with members of different settlements it was clear that needs for basic necessities such as employment, education, ownership of land and access to natural resources that they have been utilizing were priorities. At the same time they also recognized that minor forest produce in commerce is not allowed due to conservation ideals. Given the lack of opportunities in sourcing income other than working in an estate, collecting minor forest produce is the only skilled source of employment known to some. A well managed tribal cooperative is envisaged by many as what could ensure that minor forest products are not over harvested. Moreover until sources of income and employment enable their ability to keep up with social needs, alternative means of income will be needed.

Working for wage labour in estates has never appealed to them[47], though residents largely from Nedungkundru and Eethkuzhi use this activity as a source of employment. Even so, they state that income earned for growing families and growing needs of the younger generation are not easily met, and thus do not have much recourse other than selling articles demanded by markets, and availing of job opportunities in estates or elsewhere in the plateau.

Wage labour

Though wage labour forms the most common method of earning income, benefit sharing also forms an important component of earning and collective living. Incomes earned from various jobs are often shared with kin in need, which is reciprocated in cash or kind at a subsequent occasion. Social welfare schemes for the disabled, subsistence funds for widows, and old age pensions are other sources of income for those in these categories. There are many such families who subsist on rations purchased with this

[47] They recognise that plucking tea leaves is a skilled job, but not worth the labour they were ready to put in. Digging plants or clearing weeds, roaming the forest on patrols, are jobs utilising their skills. I was told of occasions when they were offered houses and jobs in the Government run Cinchona Tea estates. They claim to have no desire to live that life, as they find themselves in a better position and society than tea estate labourers.

financial assistance of approximately Rs. 500/month[48]. Income from daily wage labour is Rs. 75/day.

Daily wage labour is usually available with the work of the Forest Department under management schemes for the Sanctuary and at coupes in estates[49], and other private work including rainforest restoration work. Working at estates for daily wages is a strategy used by the Kadars of Nedungkundru, Udumanparai, Eethakuzhi, and Kavarkal. Work is usually sourced in the estates at Varutuparai, Anali, Pudukaadu and Vellonie by residents of Nedungkundru and Kavarkal, and at Waterfall estates by those at Eethakuzhi. Wage labour at the estates is availed as a source of income by forty-five people from Nedungkundru settlement, 2 from Udumanparai and 3 from Kavarkal largely in weed clearance, plucking coffee beans, and in fencing and general maintenance work. A summary of the months when labour was availed and number of people is illustrated in Table 10. One lady from Udumanparai has earned income from employment at the Anaimudi estate for the past thirteen years after the death of her husband. She is joined on occasion by other women on an irregular basis from the settlement. Most men from Udumanparai seek employment for labour work other than tea plucking at the estates of Anaimudi, Korangumudi, and Cinchona plantations.

Table 10. Number of days at estate labour for Nedungkundru people.

Month	**2003**	**2004**	**2005**	**2006**	**2007**
January	0	20	0	20	22
February	0	8	0	0	19
March	0	0	0	13	0
April	0	0	0	0	0
May	0	0	0	14	0
June	0	0	0	17	0
July	0	0	0	18	-
August	0	0	0	19	-
September	0	0	19	20	-
October	0	0	25	22	-
November	22	0	24	5	-
December	22	0	21	0	-
Work days	**44/365**	**28/366**	**89/365**	**162/365**	**41/56**
Total number of people	**571**	**505**	**1821**	**1805**	**570**
Man-days	**25124**	**14140**	**162069**	**292410**	**23370**

[48] This amount is usually received once in three months after the money has arrived at the Forest Department.
[49] This year (2007) many fuel wood coupes were worked especially at the Government run Cinchona plantations where men from Kavarkal and Udumanparai found labour and income.

Raj and family from Koomati settlement on their way to work at Top Slip.

Wage labour at the estates has always been a partial source of income. Used only when most other means are not accessible or available. The common refrain on such work was that they were not keen on working at plucking tea as it was not a preferred means of employment; they prefer working using their skills in weeding, earth work, and regeneration of saplings for both the Forest Department and at restoration work of rainforest fragments conducted seasonally by the Nature Conservation Foundation[50]. Six people from Koomati settlement are employed as firewatchers and anti-poaching staff with the Forest Department at the Manamboly powerhouse and at Top Slip. All other workers from Koomati find daily wage employment with the Forest Department on a monthly basis for a variety of earth and regeneration work. It is only in the wetter months that work is not availed with as much frequency due to the difficult conditions. Men and women from Kavarkal and Udumanparai seek employment at estates for work other than plucking tea during the drier months. This work involves weed clearance, removal of fire wood from coupes and fencing. Three young men from Nedungkundru and one from Sankarankudi have been employed as field assistants for the past nine years with the Nature Conservation Foundation and also assist students on wildlife related research projects; three others from Nedungkundru are employed in the plains at Coimbatore and Pollachi. Of these one is with the Railway Mail Service and the other at the Forest Department check post at Walayar along the Tamil Nadu –Kerala border. There have been many other youngsters with technical/mechanical training who have sought and taken employment in the plains for short periods of time after which they return despite the ability to earn income, as they find their livelihood in their settlements better than that in the plains. From Sankarankudi and Paramankadavu, earning income through wage labour is confined to that with the Forest Department for regeneration of forest trees by planting saplings. They also on occasion cross over to the settlement of Milaguthurai a Muthuvar settlement very close by in Kerala, where wage labour is sometimes available for earthwork[51] or to help in cultivation or other work for higher wages than in Tamil Nadu. They claim to work in estates very rarely, their women only venturing out in the company of a few men of the settlement to earn income through this opportunity.

[50] People who avail of this work are largely from Kavarkal and Nedungkundru villages.
[51] Of late the cultivation of rubber is catching on in some of the tribal hamlets in Kerala; this has occurred with falling prices in cardamom and the legal trouble associated with growing cannabis.

Sources of income and employment

Of the tribal population in the eight settlements under review, all settlements except Koomati are within two kilometres from the nearest market or Estate colonies. Fair Price Shops in these regions are invariably the source of subsidized rations, though the weekly market in Valparai town is an occasion when other articles and material goods are purchased. Livelihood activities are centred in the precincts of the settlement in agricultural or cash crop management especially in the Muthuvar settlements, whereas wage labour during the months of November to February are sources of income for those who use the opportunities at the estates. The people from the settlement of Koomati source wage labour on a regular basis, except for a few weeks during the monsoons, in forest management requirements of the Forest Department from the Top Slip range.

Apart from earnings through wage labour, the collection and sale of minor forest produce forms an important source of cash for basic purchases at all settlements. Though given the restrictions this is not common as before and only articles that are in demand are collected during the periods of their availability. In this context, I was often told 'The difference between the two is in quick and large returns if one is lucky in collecting forest products that are in demand; whereas wage labour is tedious but a sure source of income if regularly available. A core difference in these two is that in the former the individual is the master and can chose how to work with time spent at home between working for unstable income; with wage labour the individual has to remain servile like fellow workers from the colonies and incomes are fixed'. Earnings from minor forest products and cash crops vary with the fluctuations in demand for products in the market; though cardamom is sold in the regulated market, pricing at the source of purchase from settlements by local traders is based on the sale price in the auction and collection centres that depreciates with additional costs of transport, wages and commissions. Moreover traders have established their domination and control with loans and food rations supplied to growers of cash crops in anticipation of the harvest and prices available every season. Earnings by growers of cardamom vary between Rs.3000/- to Rs.10,000/- per season depending on the purchase price. This income is sometimes received as cash, but also in kind. Apart from traders who purchase cash crops from the settlements, there are small traders who personally sell goods such as edible items, clothes and toys, and bring articles in demand at the settlements. These transactions are also conducted on trust with the promise of payment when cash is available; many residents view these individuals as those who have contributed to their growth and brought material goods within their reach over many years.

Eighty-one people, including 50 out of 54 elderly people, receive old age pensions and financial assistance from the government at Rs. 500/month, compounded for three months; other recipients include widows and the disabled. This amount of money is the minimum with which families with meagre earnings purchase food and other requirements at the settlements. The four remaining elderly members are yet to

Table 11. Summary of sources of income and food and number of people with jobs or welfare support.

Villages (Number of households)	Kitchen garden	Paddy and millets	Cash crops	Minor forest produce collection	Estate wage labour	Forest Dept. wage labour	*Pension #Widow fund $Job ^Welfare
Eethakuzhi (7)	Yes	No	Yes	Yes	Yes	Yes	3*, 2#
Kallarkudi (24)	Yes	Yes	Yes	Yes	No	Rarely	8*, 2#
Kavarkal (17)	Yes	No	Yes	Yes	Yes	Yes	3*, 7#
Koomati (30)	Yes	No	Yes	Yes	No	Yes	7*, 1#, 6$, 2^
Nedungkundru (46)	Yes	No	No	Yes	Yes	Yes	14*, 10#, 8$
Paramakadavu (14)	Yes	Yes	Yes	Yes	No	Rarely	1*, 1#
Sankarankudi (19)	Yes	Yes	Yes	Yes	No	Yes	5*, 1#, 3$
Udumanparai (33)	Yes	No	Yes	Yes	Yes	Yes	10*, 5#, 2$

be enrolled for this Governmental assistance. A summary of sources of income and food among the people of the settlements studied is provided in Table 11.

ECONOMY

A summary

The actual land areas occupied by each settlement are known by partial trenches dug around some settlements; acreage is not easily available, nor have available figures been validated accurately. The area within the settlement comprises residences with some space for kitchen garden cultivation. In most settlements kitchen gardens are close to the houses as wild herbivores enter the settlement to feed on the crop within the premises. In some settlements such as Sankarankudi, Paramankadavu, Udumanparai, cash crops are also grown within the precincts of the settlement. In some cases cash crop cultivation has occurred beyond the trenches. The process of trenching made residents aware of the limits of their settlement as arbitrarily demarcated by the Forest Department and by restricting the practice of shifting cultivation.

The Muthuvar settlements of Paramankadavu and Sankarankudi have been granted agricultural land to pursue their modified system of shifting cultivation within the limits of an arbitrary area granted to them by the Forest department. The agricultural land is shared by residents of both these Muthuvar settlements, though of late it is largely cultivated by the residents of Paramankadavu. This transition in cultivation methods and practices has occurred due to decreasing agricultural productivity, transforming the region into horticulture of pepper, jackfruit, banana and greens. The only other settlement which cultivates hill rice and millets is the Kadar settlement of Kallarkudi. All other Kadar settlements cultivated hill rice and crops in the past, though the practice was given up with restrictions on the practice of shifting

cultivation and regulations on occupying new lands with the establishment of the Sanctuary.

With high precipitation prevalent in the Anamalai hills, agriculture and kitchen gardens are irrigated by the rains and water from streams is not diverted for the purpose. Cash crops are not irrigated during the dry season, except in times of an extended dry summer season. Employment patterns vary largely between ethnic identities, though their location also determines the kind of employment they choose. Self employment has been the predominant form of employment comprising activities at the settlement and home, in responsibilities and commitments toward society and family. Self employment for income generation is predominantly through the collection and sale of minor forest produce, as has been documented from the time the forests on the Anamalai hills were opened up for plantations. With the decrease and erosion of knowledge over many years of changes, it is practiced largely as a group activity with a few knowledgeable persons leading the way with the help of others in the collection and processing forest products for sale by sharing profits.

Employment in tea and coffee plantations is limited to those settlements that are adjacent to estates and where the practice has gained ground with an increasing population and the need to source a steady income given the restrictions on collection of forest produce from the higher elevations. Working in the estates in a variety of labour oriented work from weeding, pruning, plucking coffee berries, clearing woodlots/coupes, creating fire lines and such brings in some income for those who avail of the opportunity. Employment in jobs with the Forest Department forms another important source of income. The entire settlement of Koomati is dependent on employment with the Forest Department at the Top Slip Range in the absence of other options apart from collecting minor forest produce in select periods during the dry season and beginning of the monsoon. Most other settlements avail of job opportunities with the Forest Department in activities such as creating and maintaining fire lines, regeneration of native saplings, and also sometimes in raids on illegal activities in the park. These are not regular jobs and are dependent on management requirements of the Sanctuary. Employment in areas other than governmental institutions is largely in private firms of the plains for a short period by a few people with eight people largely from the Kadar settlements employed in private jobs for long. The rainforest restoration work conducted by the Nature Conservation Foundation is a source of seasonal employment for between three to eleven people in jobs from weed clearance at the sites to work at the nursery round the year. On occasion larger numbers are employed when the need arises. Only one lady from Udumanparai has sourced employment in a tea estate on the death of her husband to raise and maintain her family for the past thirteen years. Amongst the Muthuvars, a majority are self employed with cultivation related work, maintaining cash crops and kitchen gardens taking precedence over jobs in estates; income generation is largely from sale of cash crops and some minor forest produce in Kerala and to traders in Valparai.

Income is spent on articles of household needs, for basic rations purchased on a weekly basis by most respondents, and on children's education and material needs. Apart from the Muthuvar community, savings amongst the other two are poor, with indebtedness and periodic extravagance eating into the family's income.

Endnotes

ix Some names of places woven in narratives recent and ancient, that have historic, and mythic significance to the Kadar (also see Endnote 'c & f') : Chinna aanai malai & Periya aanai malai (near Kadanparai), Ullakka malai (near Sarakarapthy), Akka malai, Thangachi malai, Adduppu kooti malai, (near Nedungkundru), Nayakan malai (near Nedungkundru), Thumbikundru malai, (near Nedungkundru), Koipullaali malai (near Nedungkundru), Palagan Peramalai (Palaginar) [also referred to by Congreve as Kalyaniepandal], Seenikundru malai (near Udumanparai), Chennaari pothi malai (at Kallarkudi), Puahkaattu malai (near Kallarkudi—two deities Aravalli and Suryavalli reside here), Karimala gopuram (Parambikulam in Kerala), Orukomban kutti (near Kuriarkutti in Kerala), Saami malai/Vella kooda malai (where Bathra kali /Paloor Bathra kali reside).

x During the course of fieldwork I learnt that some youngsters had given up this taboo as they adopted practices from people of the plains and plantations. I learnt of a group who consumed a gaur that died in a trench, and the consumption of a Travancore tortoise found during a foray to catch fish. Wild boars are regular nocturnal visitors to the Malai Malasar village at Koomati; consuming wild boar is considered taboo, (a recent construct) as they are also known to scavenge off human remains and are thus polluted. Pilferage from wildlife kills is not always successful unless a potential quarry /chase is followed or the location is close to the village. On some occasions, wild dog- 'dhole' chases close to the village invariably end with the chase being directed away from the village by the wild dogs or a lull in which the quarry and predators disappear before the arrival of people. I was witness to two such occasions. Today, sources of protein are largely from domestic fowl reared in the village or bought from markets for special occasions. Vegetable foods such as tubers, seeds and greens are collected when available and when time permits. When the occasion affords it, small game that are collected or trapped include mouse deer and smaller sources such as fish, crab, shrimp, frogs and some species of turtle. Most of the larger potential sources of protein are scavenged when available off hunts or kills made by wild dogs, leopards and tigers. This is dependent on its occurrence close to the village, customary diets and taboos particular to the tribe. For the Kadars and Malai Malasars, this form of subsistence is a practice from the past, as that which requires little effort coupled with the strategy being their prerogative. I was told of similar strategies in use among forest dwellers in other regions learnt during interactions at tribal meetings and cultural fairs organised by the Government (pers. comm. Chelliah of Sankarankudi).

4. INFRASTRUCTURE AND DEMOGRAPHY

Resource use patterns of communities need to be examined and understood in the context of their need for and current access to aspects such as health, water supply, and housing. In addition, to develop a prognosis of needs and livelihoods as well as assess of impacts on resource availability into the future it is necessary to examine demographic changes in population and literacy. This chapter presents an overview of infrastructure and demography among the selected communities in the Anamalai hills.

Health and sanitation

The closest Primary Health Clinic is at Valparai, though the Government hospital is preferred for treatment or adjacent estate hospitals are used in emergencies. Seasonal health clinics are conducted usually at the border of the estate by the PHC and not in the settlement necessitating the aged and very sick to be carried up the slopes on homemade stretchers to the estate border or roadside for examination. On occasions the ill do not receive attention due to clinics being held at a distance from their settlements. During a recent visit along with a doctor experienced with medical issues in other tribal settlements, malnutrition due to diet and vitamin deficiencies was frequently diagnosed. Amongst older people, increased blood pressure, poor diet and general ill health were some of the common complaints.

Latrines are not present in any settlement. Nearby forested regions are used for defecation. Without adequate water supply it is recognised that installation of latrines will not fulfil their purpose. During my visits and residence in the settlements I never came across a problem in this aspect of sanitation excepting during summer at Nedungkundru settlement. This was due to the shortage in water supply and failing water flow in the stream. Water from the stream is largely sent to the storage tank that was built with private funds. This settlement and Kavarkal despite being within the rainforest belts, experience such shortages due to denuded forest cover in the immediate watershed.

Water supply

Being located in an area of high rainfall along the higher ranges of the wet evergreen forest of the Western Ghats, flowing water is found in most forested habitats. Only in denuded regions such as Nedungkundru, does water flow in streams reduce toward peak summer. Water is sourced from nearby streams in all settlements though some have check dams built along the course to channel water to storage tanks. The tanks

built by the Government at Nedungkundru and Kavarkal are in need of repair due to poor construction and leakages. At Nedungkundru, a tank built with private funds serves the purpose as the Government built storage tank needs repair. At Udumanparai two cemented wells built by the Government are used by residents. Piped supply of water is restricted to modifications made by the residents using split bamboo and tubes supplied by the Spices Board to water their cardamom crop. In all settlements women collect water on a daily basis for the household; water collected is used largely for cooking as well for bathing especially in the monsoon and in cold months when bathing water is heated on wood fires. Table 12 below summarises the need and sources of water supply.

Table 12. Sources of water supply and needs in the villages.

Village	Wells	Tanks	Remarks on storage systems	Stream	Water scarcity in dry months
Eethakuzhi	0	1	Tank functional	Yes	No
Kallarkudi	1	0	Well partly functional; residents recommend a more reliable source close by that can be utilised effectively.	Yes	Yes
Kavarkal	0	2	Both tanks are in a state of repair; stream is used along with the water from one tank.	Yes	Yes
Koomati	0	0	No storage exists except for those in individual houses. Pipes installed are broken and replaced by bamboo. Needs upgrading.	Yes	Not very pronounced
Nedungkundru	0	1+1	One tank was built by the Govt. scheme- it leaks. The other was built privately. There is acute shortage in the dry months. Sanitation is also an aspect that needs to be addressed with the water scarcity in dry months.	Yes	Yes
Paramakadavu	0	1	The drinking water source is from a stream stanched and connected by a pipe. This village has copious water by virtue of being next to the Edamallaiaar. Women bring fresh water on a daily basis from the stream.	Yes	No
Sankarankudi	0	0	Women bring fresh water on a daily basis from the stream.	Yes	No
Udumanparai	2	0	Women bring fresh water on a daily basis from the wells.	Yes	No

Housing

A Kadar house at Kavarkal settlement in the Indira Gandhi Wildlife Sanctuary.

As mentioned previously, the community at Nedungkundru were the first to use concrete houses when a philanthropist, Gopalsamy Mudaliar constructed houses for them to live in. Later on the Valparai Panchayat constructed sixteen concrete houses at Nedungkundru. More recently with the formation of an Eco-Development Committee under the aegis of the Indira Gandhi Wildlife Sanctuary, a housing scheme was launched for the residents of tribal settlements between 2003 and 2005. The scheme did not cover all the settlements in an egalitarian manner, wherein four settlements received concrete rectangular rooms (93) for houses; at other settlements tin sheets and a few poles were supplied to the residents to build their own houses on a cement floor that was also to be constructed[52] in these settlements. The total number of households amongst the settlements under review is 191, of which six households from Nedungkundru do not live in the settlement though they originate and belong to the settlement. Previously all settlements had houses of traditional design made of bamboo (*Ochlandra sp.*) leaves and stems were used extensively in building the walls and roof. During the housing scheme, rock reinforced mud wall houses were built by those settlements or households where tin sheets and poles were given to build houses. Even so, most houses have extensions to their existing structures for household requirements such as a bathing area, or store for firewood or a veranda built of poles and bamboo thatch. The housing pattern in settlements is illustrated in Figure 1.

Electricity was first brought for streetlights in few[53] settlements by 1974, though faulty lines and the lack of maintenance led to their decay. Following this, many years later between 2003-2006 solar-powered streetlights lights were installed along with individual connections for houses. Those houses that were built after the Housing scheme and those such as the *Ćavatis* and primary school buildings do not have electricity.

Of all the settlements Nedungkundru has the highest population of 160 people in 47 households, of which six households reported from the settlement have moved out to Coimbatore, Urlikal, Walayar and Malakiparai on work or due to widowhood. Thirteen families in the settlement are without houses of their own and share space with other

[52] Inconsistencies exist in the cement floors constructed by the contractors as in some villages they do not exist; residents have made their own floors complaining of the ineffectiveness of the scheme in the absence of responsibility and accountability.

[53] Nedungkundru, Kavarkal, and Sankarankudi/Paramankadavu

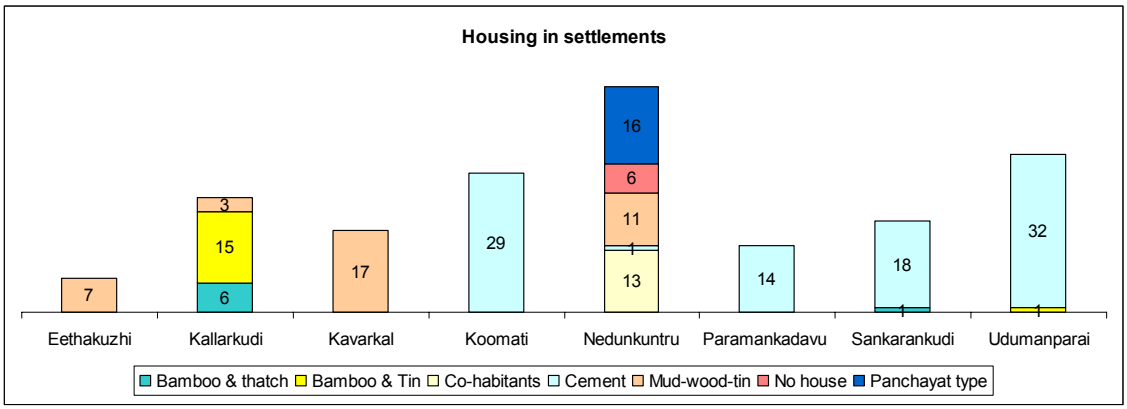


Figure 1. Housing pattern in the villages. Numbers indicate number of households.

families; the most extreme being that of households with members of three different families living together in the same space.

Education: Literacy rates

- Overall literacy: 52%, (Effective literate group[54]- 513, Total no: literate-268)
- Literacy among women: 42%, (Effective literate group- 255, Total no: literate-107)
- Literacy among men: 62.6%, (Effective literate group- 257, Total no: literate-161)
- The only settlement without any literate people is Eethakuzhi settlement.

Basic educational facilities have been available in the plateau from the times (~1970) of the elderly living in the tribal settlements, though out of 42 elderly people only eight have attended school[55]. The highest grade studied amongst these elderly folk is the

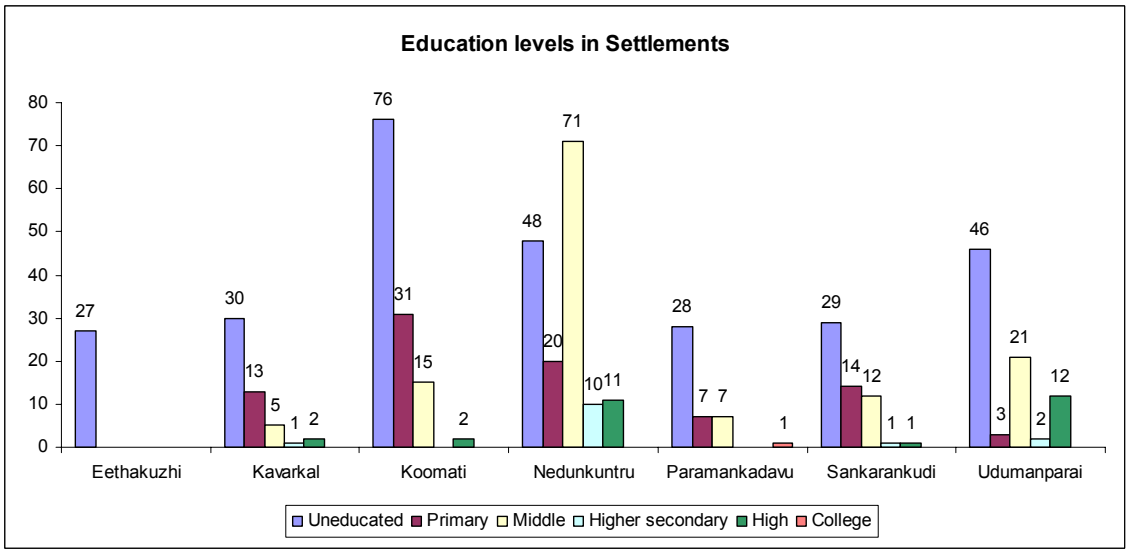


Figure 2. Number of people at various education levels in the villages: *Uneducated*, *Primary* (classes 1 to 4), *Middle* (classes 5 to 7), *High* (classes 8 to 10), *Higher secondary* (classes 11 and 12), *College*.

[54] The Effective literate group includes those who are not minors…i.e. those aged seven and above.
[55] Some students then, attended a school at Anaikatii, close to Coimbatore.

seventh grade, by three residents from Nedungkundru including one woman[56]. Eethakuzhi settlement is the only settlement without any person who can read or write (Figure 2). Despite Government incentives for education, the lack of money (apart from that available through the government scheme) to cater to the needs of sending a child to school was the reason cited for their illiteracy. Literacy amongst the tribal communities is on the increase with increased access to educational facilities. While nearly 80% of tribal people aged over 55 have never been to school, this situation has reversed with 80% of people aged between 6 and 20 years having school or college education (Figure 3).

Today five out of the eight settlements under review have a primary school building each. The school building at Koomati is not used as the children attend school at Top Slip and Manamboly. Attendance by teachers and students equally[57] in these settlement primary schools is highest in Nedungkundru followed by Kavarkal. A school building at Paramankadavu is also attended by students on occasion from this settlement and Sankarankudi. During this study the school teacher was appointed from the settlement, as the slope to access the school and settlement deterred many others. I was told that the teacher was due to avail a better job. One youngster from Paramankadavu has completed his school education and has joined a graduate course in commerce in the local college in Valparai. A school building in Kallarkudi is rarely operative, though a local resident has been appointed as a teacher due to the difficult access as in Paramankadavu.

A hostel for residence during education of tribal children has been available though very few of past and present students make use of the facility in Valparai. Many

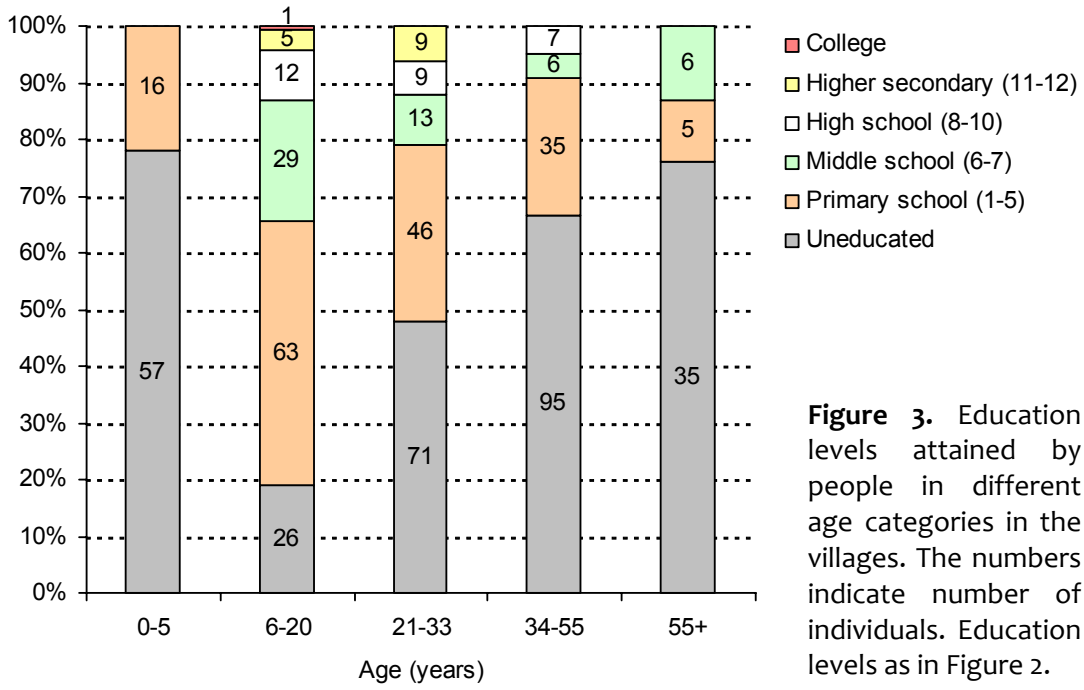


Figure 3. Education levels attained by people in different age categories in the villages. The numbers indicate number of individuals. Education levels as in Figure 2.

In the data collected she has been reported from Udumanparai, where she shifted after her marriage some decades ago.

[57] *Personal observation*

students then and now have left the hostel on being picked out by peers as being 'tribal'. This trend is reducing with modernization. Twelve people have completed studies up to the twelfth grade, while nine others have received industrial technical training.

Among genders, women and girls though lagging behind are nearly on par with their counterparts. What is not reflected is the settlement-wise distribution of education amongst males and females. In Kadar and Malai Malasar settlements' some women and girls have achieved similar levels of education as men and boys, whereas in the two Muthuvar settlements, only 2 girls have reached the 6th grade. (Figure 4a,b)

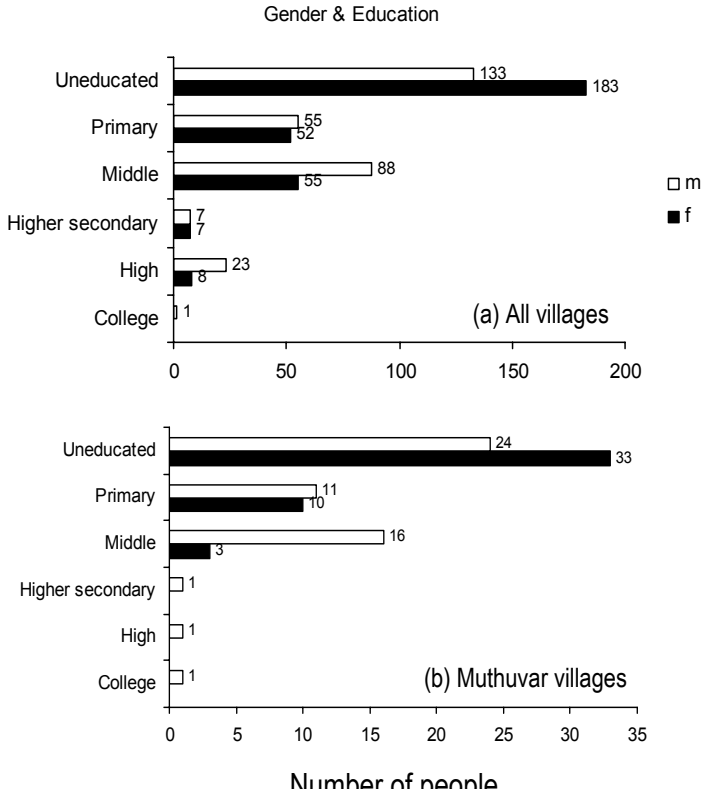


Figure 4. Education levels among males (open bars) and females (filled bars) in the villages. Data from Muthuvar villages is presented in the lower panel.

In Muthuvar settlements a cultural taboo on women venturing out of the settlement without their men folk was common in earlier times due to their closeted nature and fears and inhibitions; this is changing with attitudes brought in by access to markets and increasing needs of modernity.

Literacy in Muthuvar settlements

- Paramakadavu: Total population: 43, 19 females & 24 males
- Uneducated: 13 females & 15 males
- Sankarankudi: Total population: 57, 27 females & 30 males
- Uneducated: 20 females & 9 males

Developments in education

Some young adults have received their schooling in places outside of Valparai in the plains or in Kerala. This has increased over the years with six children studying at Udumalpet town (Private school), six in Kerala, three in Chennai (Private school), and eleven students in Anamalai town (Government school), making use of residential and better education facilities available outside the plateau. I did learn of more children being newly admitted in schools in the plains subsequent to the collection of data for this study. A majority of the students sent to study outside Valparai are from the Kadar settlements of Nedungkundru and Udumanparai. One student from Koomati is at the

Anamalai School along with other tribal children from the settlements under review and from the other twenty-eight tribal settlements in the Indira Gandhi Wildlife Sanctuary.

Demography and population structure

Population growth

Information on decadal demographic growth was not available except for two previous censuses specifically of the tribal hamlets. The data show a nearly 3-fold increase in the tribal population in Indira Gandhi Wildlife Sanctuary over a period of about four decades from 1,934 people to 5,388 people (Table 13).

Over the same period, the population in the focal settlements increased by 170%, with much of the change being in Koomati, Nedungundru, and Udumanparai. There has been little (~1%) overall increase in population over the last four years (2003 to 2007), with a notable 33% increase in Koomati and minor increases in Kallarkudi and Sankarankudi balanced by decline in numbers in other settlements (Table 13). Nearly 40% or more of the population comprises children in Koomati, Kallarkudi, and Paramankadavu.

Table 13. Census information on the tribal population relevant to this study[58].

Settlement (tribe)	**1964 census (Wilson 1973)**				**2003 census (Keystone 2003)**	**2007 census (NCF, this study)**			
	Men	Women	Children	**Total**	**Total**	Men	Women	Children	**Total**
Eethakuzhi (Kadar)					**29**	10	11	6	**27**
Kallarkudi (Kadar)	24	26	14	**64**	**65**	20	21	27	**68**
Kavarkal (Kadar)	31	24	21	**76**	**60**	16	19	16	**51**
Koomati (Malai Malasar)	12	11	10	**33**	**92**	27	30	65	**122**
Nedungkundru (Kadar)	48	39	32	**119**	**168**	48	52	60	**160**
Paramankadavu (Muthuvar)					**52**	13	11	19	**43**
Sankarankudi (Muthuvar)					**52**	20	18	19	**57**
Udumanparai[59] (Kadar)	21	17	20	**58**	**89**	30	29	26	**84**
Total				**350**	**607**				**612**
Total of all tribes***** in IGWS	600	560	774	**1934**	**5388**				**n. a.**

***** Includes Kadar, Malai Malasar, Malasar, Pulaiyar, Eravalar, Muthuvar.

[58] The census of all tribes in the wildlife sanctuary is given in Annexure 3 in this document.

[59] Udumanparai was never a Muthuvar village; the Muthuvar village in the region in 1964 (Wilson 1973) was Paramankadavu, which might have been referred to as Udumanparai. Paramankadavu was not listed in this census (Wilson 1973).

Sex ratio

The population structure from the data collected shows a well balanced composition with the sex ratio[60] for the entire population being 0.993. This is fairly consistent with each of the settlements, excepting the settlements of Nedungkundru, Koomati, and Eethakuzhi that have marginally more females than males (Figure 5).

Age and dependency

The population was divided into the following age categories: age 0 – 6 (Minor), age 7 – 20 (Youngster), age 21 – 33 (Young adult), age 34 – 59 (Middle aged), and age 60+ (Elderly). Table 14 shows the current age distribution within settlements. The ageing index defined as (P 60+/ P 0-14) x 100 is 21%, in the case of the eight settlements under review. From Tables 13 and 14, Koomati settlement shows a trend toward increasing population with youth (youngsters & young adults) and minors comprising nearly half the total population of the settlement. Similarly, the other settlements too are growing with youth and minors comprising the bulk of the population excepting the settlement of Eethakuzhi.

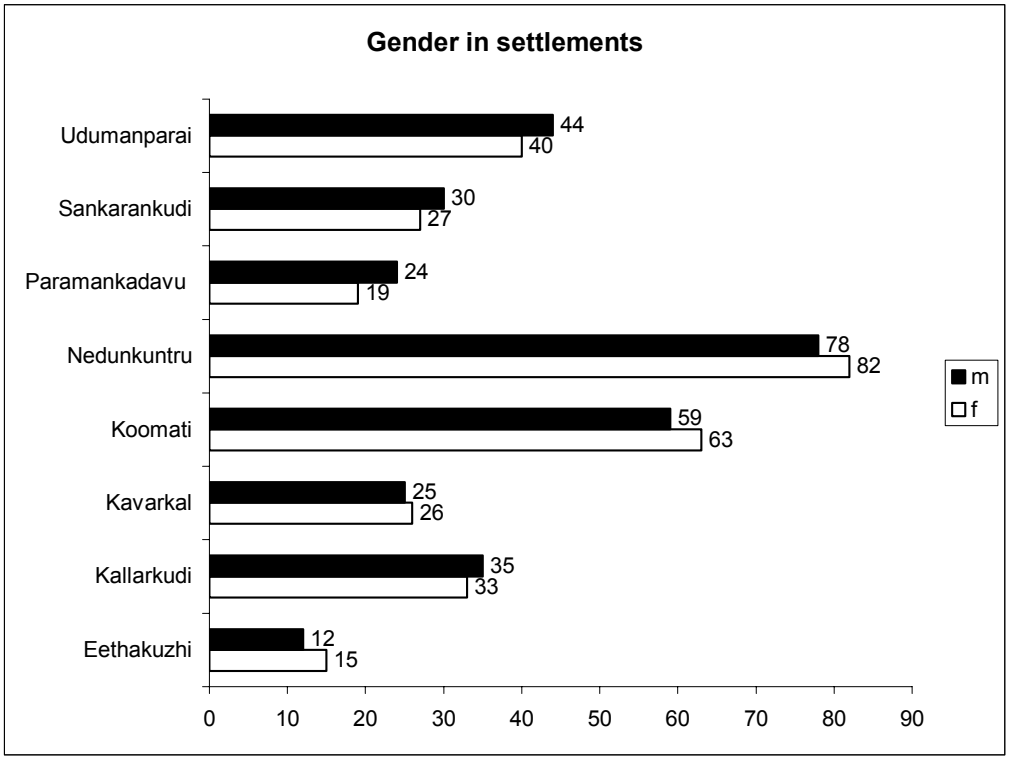


Figure 5. Sex ratio in the focal villages in the Indira Gandhi Wildlife Sanctuary.

[60] Sex ratio: Total females/Total males x 1000, 305 (f) / 307 (m) x 1000= 993 females for 1000 males

Table 14. Age-distribution of the tribal population in the study villages.

Village	Elderly	Middle aged	Young adult	Youngster	Minor	Total
Eethakuzhi	3	13	6		5	27
Kallarkudi	7	15	19	16	11	68
Kavarkal		20	15	7	9	51
Koomati	7	20	30	25	40	122
Nedunkuntru	10	46	44	41	19	160
Paramankadavu	1	13	10	16	3	43
Sankarankudi	5	12	21	15	4	57
Udamanparai	9	28	22	17	8	84
Total	**42**	**167**	**167**	**137**	**99**	**612**

Dependency ratio is the ratio of the population aged 14 years and below (P 0-14) and aged 60 and above (P 60+) to the population between ages 15-59 (P 15-59). Dependency ratio = [(P 0-14 + P 60+) / P 15-59] x 100. This ratio is used to indicate the percentage of people with potential to access income and livelihood resources for dependents in the population. In this study of settlements with a total population of 613 people, P 0-14 = 200, P 60+ = 42 & P 15-59 = 370, the dependency ratio is 65.4%. This dependency is reflected in the employment availed by youth and the middle aged who work for wage labour and other sources of income. Very few have secure employment, whereas seasonal work opportunities, agricultural returns, and sharing through community living, provide basic livelihood needs for a majority of the population.

5. CONCLUSIONS

Ethnographic insights

It may be argued that a brief characterization of these tribal cultures appears to be much too general to be useful; it might fit in well with the picture of indigenous and mainstream cultures anywhere in the world given the changes and adaptations they have incorporated. Ethnographic description in this context does not emanate from a perceived need to isolate or preserve what might be termed cultural attributes; rather, it seeks to present an understanding of why these social units distinguish themselves as tribes who belong to separate settlements and identities. Some insights from previous works and those I have gleaned have been used to portray these communities as distinct ethnic identities that serve to distinguish heterogeneity between the communities. I must also add that in doing so a tendency to overstate romantic realities and fictional elements of phenomenological processes in the construction of social characters does occur for both the reader and the ethnographer. This moves between what is observed and interpreted in the course of fieldwork largely based on data collected and narratives of facts and events spoken by those who experience those phenomena of livelihood on a daily basis.

In these experiential spheres, livelihoods revolve within worlds of the settlement, opportunities and markets at Valparai and in the plains; desires among some for education for their children and means to improved livelihood, and importantly, opportunities and sources of income. The settlements and their precincts form the geographical boundaries for the family, community, and tribe as spaces they call their own. Redefinitions on ownership and regulation in access to forest resources for commerce have brought about changes in earning incomes either by employment or in the sale of forest produce, albeit in new circumstances. What binds them together is the nature of their origin (familial and genealogical networks) and their choice of relative seclusion from the rest of society beyond their settlements. Having inhabited these regions over generations their sense of belonging emanates from membership within the tribe and their geographical locality and affinity[61]; at the same time interaction with larger society over generations has generated processes by which the transmission of tradition and cultural knowledge diminishes by imbibing modern lifestyles and

[61] I was very often told of questions asked on their origin and why they did not want to move to the town of Valparai or anywhere apart from their present locales. I was told of their standard retort; it being- 'just like you have your "oor" *(birth place/home town)*, we have ours right here'.

practices. These modern practices and lifestyles are chosen by succeeding generations to keep up with changing times. Recognising this facet and interpretations to this effect, it is easier to understand the needs of the communities to keep in constant touch with the outside world for means to livelihood resources, ranging from access to markets to relationships with government authorities and others of the estate colonies, to accessing information through channels of communication around them.

Over the past century these tribal communities have been in economic symbiosis with markets at Valparai and in the plains of Tamil Nadu and Kerala either directly or through their kin in other settlements close to centres of commerce. Interaction with other groups extends beyond economic symbiosis to spheres of cultural interaction and participation by which transformations within their communities bring them closer to mainstream cultures towards cooperation and co-existence. The peculiarities with which we distinguish each tribal culture serve to do just that; at the same time their participation in a wider network provides continuum and contiguity with their own changing needs and dependencies in optimising economic well being, through material and social aspirations. Miller (2003) sums this succinctly "It must be remembered that no matter how much tribal people may identify with their tribe and with the forest, they are not just parts of a community and of nature; they are also unique individual human beings, with emotional, intellectual, and spiritual exteriors and interiors, and with many of the same doubts and yearnings of other humans everywhere".

Resource use and requirements

All settlements consist of domesticated environments within and in the immediate vicinity of settlements and rainforests, within which the settlements are ensconced, often in close proximity to private estates. Natural resources commonly and frequently used are varieties of bamboo for construction and crafts, bamboo leaf thatch, firewood (household usage and in cardamom drying sheds during the season), poles and beams for repair of houses (if and when required and in the carving of large pestles, '*Ural'*[62] to thresh and polish rice), water from springs or perennial streams, a variety of seeds, leaves and herbs as supplements to daily food consumption (including produce from kitchen gardens and fields), and spaces for houses in the settlement.

Other natural resources used periodically are articles such as honey (and related products of the hive for consumption), edible herbs generally referred to as *'Keerai'* or greens*,* tubers for consumption-especially by the Malai Malasar and some Kadar families, wild ginger and turmeric in household cooking and for ailments. Nearly all other forest products collected are meant for sale with infrequent use of some in traditional medicine and healing or as sources of food. The exact end use of most forest products collected for commerce was unknown to most respondents, though they are known to be used for the 'ayurvedic' or traditional medicine industry. Excepting the majority of families in the Muthuvar settlements of Sankarankudi and Paramankadavu,

[62] The Ural is commonly found in Muthuvar and Kadar homes, especially where cultivation of hill rice occurs.

the Kadar settlement of Kallarkudi and a few families of Udumanparai, the other inhabitants are dependent on ration shops for the staple food of rice, pulses and condiments. The rice cultivated at the Muthuvar settlements and at Kallarkudi[63] is used for about four to five months in the year after which rice from ration shops is used to feed the family.

Essential services availed of from service providers are those of transportation, electricity, road access, ration cards at fair price shops, and access to better education[64]. These aspects of resources – functional, material and natural resources are domains that residents seek toward provisioning better livelihood. Apart from Government welfare and development programs, most functional and material resources are accessed through enterprise and skill in income generating activities. The benefits and comforts of basic natural resources of clean water, fertile soils, and livelihood spaces of their own are attributes and livelihood benefits they perceive they will not receive in or near plantation labour colonies or regions in a landscape apart from their own.

During the course of my visits and conversations with many residents, it was clear that dependency on government schemes and limitations by regulations (their implementation and non implementation of both developmental schemes and regulations) are means by which economic conditions were perceived and assessed by residents. Their own enterprise and labour is in general viewed as those that sustain the family through income to purchase food. This is in contrast to the former days of their ancestors 'Karnamaar'[65] who were solely responsible for their own livelihood and food security. To simplify and be impressionistic, their perceptions on issues of food security, employment, and land ownership are concerns determined by agencies other than by themselves, being in many ways subservient to a larger system of governance. Though the benefits of these measures are to be enjoyed by the recipients, they view subservience with resentment and as cause for their present condition and stasis. The basis of the traditional economy of shifting cultivation, foraging and trade in forest products is seen as a means toward self-sufficiency and income generation, with barter as an important element in trade, kinship and symbiotic relationships with other ethnic groups.

At present avenues to income generation is of paramount importance in the absence of assured food security. Across the nearby border in the state of Kerala, kinsmen of the tribes of the Anamalais continue to earn money through the collection and sale of forest produce, and some[66] have converted vast forested hill slopes into shifting cultivation regions and settlement sites. With legality of commerce in forest produce becoming dysfunctional in their means to livelihood, the communities have found little space to move ahead on their own without intervention and change. Many

[63] Rice cultivated at the Kadar settlemen of Kallarkudi is also shared with at Udumanparai.
[64] Over the past few years the few children sent to schools in the plains, aspiring better education has purportedly been achieved with help from the District Collectors office.
[65] A term for 'ancestors', used largely by the Muthuvars and Kadars during ritual and invocations to deities; some 'Karnamaars' are also elevated to similar positions.
[66] The Muthuvars/Muthuvan communities in Kerala.

who were interviewed on this facet of change spoke of a need for their involvement in the process of forest management and not just schemes of welfare which is the most common form of intervention. In this process, reflections on inherent strengths were largely recognized with knowledge of forest regions they roam and with resources they are able to use in associating with the forest. They view these strengths as useful in patrolling and in management of the park. With the Muthuvars, these were not their only articulations for the future; they are keen on ensuring food security in their changed circumstances of limited spaces available for cultivation, in self employment, preferring to benefit from price support schemes and cultivation strategies for cash crops, and for forest products some of them collect. The Kadars and Malai Malasars are similarly keen on ensuring successful cultivation of vegetables in the regions demarcated by trenches that are at present frequently visited by animals.

Economic means to widen the scope of livelihood improvement is thus partially constrained by ineffective participation in forest management and developmental schemes as these are both potential sources of employment as well as in improving relationships between staff of the park and local communities. A common refrain on people's aspirations was a desire to be part of a process wherein access to basic services and resources by sharing of benefits is made possible. The exchange of information (observations on local environmental conditions and in maintaining sites that have been planted by EDC schemes, NREGA[67]) and those with relevance to management of the park (population growth, education and employment) is a means to engage with the communities and with change toward effective negotiation, administration and managing the natural heritage of the Sanctuary, as well as livelihood choices of resident communities.

Engaging with the communities

With the declaration of the Anamalai wildlife Sanctuary to the Indira Gandhi National Park in 1989, the need to conserve unique ecosystems and biological diversity of the habitat has brought in new regulations on the use of and commerce in minor forest produce. The tribes of the higher, fragile rainforests were envisaged to be weaned off commerce in forest products (Krishnakumar 1998). At the same time managing indigenous human settlements inside the forests brought in management measures through which livelihood of the tribes came within the purview of 'Eco-Development' schemes. Attempts were made to understand and suggest ways of creating avenues of development such as the Management Plan of the Indira Gandhi National Park (Krishnakumar 1998) and later by a non governmental organisation, KEYSTONE (Anon 2003). Training in bee-keeping was one of the focal areas of training as a result of the study of 'eco-development' through this venture, though eventually on their return, the recipients of the training were not encouraged to pursue the vocation and thus returned to collecting honey from the wild (Ratnasamy pers comm).

[67] Eco-development Committee and National Rural Employment Guarantee Act

Across the border in Kerala, attempts to understand by regular census and appraisal of development (Kakkoth 2005), to engage with and bring the benefits of development to tribal communities are attempted by various government and non governmental organisations (Zacharias 2003, Mahendrakumar 2005, and Kumar 2005). At the same time it is pertinent to observe that despite huge expenditure incurred in tribal development, it still is enigmatic to find settlements mired in poverty, and without access to basic amenities and still dependent on Government led interventions and commerce in natural forest products. Despite these problems, levels of education, general awareness and dignity have increased and improved amongst the recipients contributing to their growth and development and also causing a shift from minor forest produce collection in some colonies toward employment and education for the younger generation (Amitabachan 2003, Zacharias 2003).

At the same time, it is pertinent to observe that not all schemes toward welfare have a positive impact or are thought out carefully keeping in mind the cultural diversity, perception and adaptations different human societies have toward daily livelihood activities. Illustrating this Zacharias mentions the failed attempts to teach the Kadars in Kerala agricultural pursuits, their disinterest in maintaining savings accounts in banks despite their awareness and education, the degeneration of houses built for some Kadars who were engaged in collection of forest produce for which extended absences, neglect, and a nomadic nature of residence were not taken into consideration; further, the conversion of latrines built by welfare programmes into store houses for firewood as the beneficiaries preferred cleaner spaces of the forest to defecate in the absence of running water in toilets built near their houses. Closer home, I was told of a welfare scheme of the past where milch cattle were provided to some of the settlements; these were kept for a while after which they were sold in the markets of Valparai[68] (pers. comm. Chinnamuthu of Kallarkudi). This brings to focus the need to recognise inherent strengths on which partnerships can be forged and the need to intelligibly comprehend why and how intervention needs to take place. With the tribes of the Anamalais these are few and far between; few have occurred, largely with researchers in the ecological sciences utilising the services of tribal people as field assistants (Vijaya 1989) and also attempts involving them in partnerships (Raman & Mudappa 2003).

Many such attempts have taken place elsewhere and some closer to the Anamalais. Even though these are not attempts at preserving tribal culture, by the nature of their work and orientation, involving these communities in what they identify with brings about a process of interaction and change from dependence to a working relationship. Work in the estates is resorted to by some people though it has never been appealing despite being the closest source of employment. Another source of employment is with the Forest Department in management related work of the Sanctuary. This too is seasonal except in the case of Koomati settlement, where for most

[68] In some of the tribal villages in the lower elevations, cattle belonging to landlords of the plains are kept at tribal villages to graze on the vegetation in the Sanctuary for monetary and material benefits. In the higher elevations, only in Nedungkundru are a few cattle kept as personal assets by two families.

of the year men and women are employed in some maintenance work or the other that generates income.

Self-employed women and men are involved with maintenance of homes, family and social requirements. Women also collect tubers and greens for consumption and men collect those for income generation such as minor forest produce. Given the few choices that tribal communities of the Anamalais have in sourcing income and employment, many interviewed on this topic felt that they were comfortable in associating with the forested landscape and its environs. At the same time being viewed as a 'tribal', has its own connotations and notions of difference, inferiority and mistrust by many in the small town of Valparai. It is unfortunate that these impressions exist as attributes specific to tribal people. Many respondents talked of their ancestors proudly and their communities being looked down upon and cheated by various people including government staff in the present day, and that they were not 'different' in the manner they were being made out to be. It is also important to ask the question 'is the conservation of tribal cultures possible? Why conserve tribal cultures? Do tribal people want to preserve their cultures? These are questions best answered by the people in question; their rationales, with learning and exchange between dominant societies and their own will help in manifesting their choices. Even though said seemingly simplistically, this is a long drawn, dynamic process that can both inhibit and influence change.

The Forest Department, the offices of the District Collector and Panchayat are three key Government offices available to the communities in the implementation of Government led development projects. Key areas of development that people envisioned were that of better education, access to employment using their own skills, involvement in development schemes such as housing, food security (kitchen gardens and trench maintenance), clean water supply, and a regulated market for select forest products. These aspirations are largely voiced by those settlements where experiences in these areas were not positive. A key element voiced was that of being disconnected with the planning process and lack of control and access as intended beneficiaries of Government developmental schemes. Though many are aware that their desire of involvement in a regulated market for forest products is limited and governed by regulations to manage the Sanctuary and National park, what can be translated is integrating responsibility and ownership in the maintenance and improvement of their settlements, its precincts and utilisation of inherent skills[xi] in protecting their forests and in restoring those denuded or modified regions considered their heritage.

Endnotes

xi Honey collection is seen as a skill that is diminishing amongst the residents. Even though some residents were exposed to training in bee keeping, equipment to carry out bee keeping has still not been provisioned. Honey collection and bee keeping are illustrative of two skills that are viewed as potential supplementary sources of

income; there are many other attributes of experience and folk knowledge of their surroundings that can be put to use. Similarly their involvement with the Forest Department's habitat improvement schemes work is minimal and affected due to extreme delays in receiving wages. Regions around Nedungkundru and Kavarkal villages are devoid of much tree cover; their full-fledged involvement in reforesting and managing these lands through employment is also seen as a possibility for income generation and habitat management. Similarly repairing trenches that have fallen in and realignment of those incomplete due to rocks in the path are confidence-building measures that can ensure some level of independence and food security in bringing about a working relationship along with the forest regulatory/management authority. The recurring idea of eviction from ancestral lands and relocation is not viewed favourably as livelihood with the means to an assured source of income is uncertain and not of their choice. Some residents have been offered residence and employment in plucking tea leaves from government and private estates; they told me of their lack of interest in plucking leaves off the bushes and of it being a skilled job they were not interested in. I was told of their desire to remain on existing lands using skills and familiarity of their regions in jobs with the Forest Department in managing the Sanctuary; it was possible for future generations with different skills and education to earn a living amongst the others of the plains. With such experiences and changes over the past, a stake is possible for dialogue and involvement in aiding the management of the Sanctuary and fragmented rainforest habitat.

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7. ANNEXURES

List of Annexures

Annexure 1. Socio-economic survey questionnaire for select settlements in Indira Gandhi Wildlife Sanctuary and Valparai plateau, Tamil Nadu. by household.

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Annexure 3. Earlier census information for the area (data from the present study in Table 13).

Annexure 4. Species of wildlife seen or signs of their presence detected on more than one occasion near settlements visited during this study.

Annexure 1

Socio-economic survey questionnaire for select settlements in Indira Gandhi Wildlife Sanctuary and Valparai plateau, Tamil Nadu. by household.

1. Name of household owner/head:

2. Total no. of family members:

HOUSEHOLD NUMBER AND EDUCATION LEVELS

Earning members

Male	Source of income	Female	Source of income

3. How many have a savings account?

4. Any loans from banks or money lenders- for what?

Sources of employment/cash income (*different sources of income for each household and approximate annual income from each*)

Expenditure and lifestyle maintenance ranking

Areas	High	Low
Food		
Clothes		
Education		
Electronic goods		
Intoxicants		
House repairs		
Fuel		
List any others below		

5. Material and consumer goods possessed: radio, TV, VCD player, music system, kerosene stove, pressure cooker, sewing machine, bicycle, motor vehicle and mobile phone?

6. Do you posses a ration card- what articles are sourced through this means?

7. Are any members of your family resident elsewhere due to their job etc?

8. How much land is available for agriculture (estimated area):

9. Main crops grown (name all): production (estimated amount produced): In 2003:
   In 2004: In 2005:

10. Are any of your agricultural products sold locally or in Valparai/market outside?

11. From where do you buy rice?
    a) PDS ration shops b) Local markets c) Other villagers

12. What articles are bought using the ration card, & how much?

13. How many meals are consumed/day- are there periods of scarcity?

14. What vegetable foods are sourced from the forest and who collect?

15. Which are the most preferred of such foods and which require the most labour?

16. Is there any crop damage by elephants/gaur/boar/macaques/ porcupines? Where- define.

17. What domestic animals do you rear- any for sale/consumption? - list (past/present).

18. Have any of your domestic animals been killed by tiger/leopard/or wild dog/mongoose/civet/L. cat? When, where?

19. Did you get compensation from the Forest department/local administration?

20. Where do you collect fuel wood from? How often do you go? Who goes to collect? How much is collected / day?

21. Do you collect MFP? What types? Who is it sold to and for what prices?

22. Was there any death in your family (age and sex) in the past 10 years? Cause of death:

23. Do you visit the hospital often- for what and which hospital?

Annexure 2

Livelihood diversity matrix.

LIVELIHOOD DIVERSITY AND OUTCOMES						
Household/Settlement	Livelihood Strategy (What do they do?)	What service providers / enablers do they use? - Consumer, administrative, facilitative, business etc.....	Relationships (What choice, participation, incentive & influence do they have with them?)	Livelihood outcomes (How do people perceive the outcomes of their efforts)	Strengths (What strengths can be drawn upon to improve livelihood– assets, support, relationships)	Household opportunities/ aspirations (What opportunities do the household see for the future? What aspirations do they have?)
CHANGES						
What changes have they experienced?		How have they responded to those changes?		What has helped or hindered them? Where did they get information?		Are there any measures that could ease this change? – If seen as a negative change
RESOURCES AND AMENITIES USED						
Natural resources of frequent or essential use		Services and facilities, consumer and administrative/		Settlement / Personal - resources / assets		
Natural resource use - Opportunities and Threats		Services and facilities, consumer and administrative - Opportunities and Threats		Settlement resources - Opportunities and Threats		

Annexure 3

Earlier census information for the area (data from the present study in Table 13).

1964 Census (Source: Wilson 1973)

Settlement	Tribe	Men	Women	Children	Total
Tunacadavu range (Ulandy Range)					
Erumaiparai	Kadar	10	8	17	35
Varagaliar *(Koomati)*	Malai Malasar	12	11	10	33
Varagaliar	Kadar	14	14	16	44
Poonachi Range (Valparai Range)					
Kadamparai	Muthuvars	14	15	26	55
Kallar	Kadar	24	26	14	64
Kavarkal	Kadar	31	24	21	76
Lower Poonachi	Malasars	25	22	27	74
Lower Poonachi	Pulayars	32	31	16	79
Nedungundru	Kadar	48	39	32	119
Pantrikuzhi	Kadar	4	4	2	10
Pantrikuzhi	Muthuvar	17	18	26	61
Udumanparai *(actually Paramankadavu)*	Muthuvar	21	17	20	58
Udumalpet Range					
Amaravathi nagar	Eravalars	15	16	12	43
Arugampatti	Pulayar	2	2	3	7
Balrimalai	Pulayar	53	47	79	179
Easalthittu	Pulayar	16	16	35	67
Elumayan koil	Pulayar	13	9	0	22
Erumaisolai/Thenangodu (extends into Poonachi range)	Muthuvars	12	12	31	55
Jallimuthanparai	Pulayar	22	19	25	66
Kanuvolpatti	Pulayar	34	40	37	111
Karumutti	Muthuvars	18	16	12	46
Kodanthur	Pulayar	23	21	39	83
Kurumalai	Pulayar	30	28	89	147
Melkurumalai	Muthuvars	13	12	29	54
Moongilpallam	Pulayar	3	3	6	12
Sarakampatty	Pulayar	5	4	10	19
Thallinji	Pulayar	46	47	86	179
Pollachi Range					
Sarakarapathy	Malasars	43	39	54	136
Total	**All listed**	**600**	**560**	**774**	**1934**

Annexure 3 (contd.)

2003 Census (Source: KEYSTONE 2003)

Settlement	Tribe	Population
Attumalai	Muthuvar	45
Chinnarpathy	Malai Malasar	85
Easalthitu	Pulaiyar	114
Erumaiparai	Kadar	86
Eethakuzhi	Kadar	29
Kadamparai	Pulaiyar	64
Kallarkudi	Kadar	65
Karumutti	Muthuvar	191
Karuttupthy	Eravalar, Malasar, Pulaiyar	140
Kavarkal	Kadar	60
Kodanthur	Pulaiyar	325
Koomatti	Malai Malasar	92
Kottaiyar	Muthuvar	38
Kozhikamuthi	Malasar	320
Kullipatti	Pulaiyar	322
Kurumalai	Pulaiyar	314
Lower Poonachi	Pulaiyar	119
Manjampatti	Muthuvar	82
Mavaddappu	Pulaiyar	460
Moongilpallam	Pulaiyar	87
Nagaruthu 1	Malai Malasar	87
Nagaruthu 2	Malai Malasar	63
Nedungkundru	Kadar	168
Palaginar	Muthuvar, Malai Malasar	62
Paramankadavu	Muthuvar	52
Poochakottamparai	Muthuvar	159
Puliampatti	Pulaiyar	51
Sankarankudi	Muthuvar	52
Sarkarapathy	Malasar	380
Selaiyuthu	Muthuvar	65
Tallinji	Pulaiyar, Malasar	330
Thammampathy	Malasar	325
Thirumoorthy malai	Pulaiyar	314
Udumanparai	Kadar	89
Varagaliar	Malasar, Pulaiyar	107
Vellimudi	Muthuvar	160
Total		**5388**

Annexure 4

Species of wildlife seen or signs of their presence detected on more than one occasion near settlements visited during this study.

Eethakuzhi	Nilgiri langur, lion-tailed macaque, Asian elephant, gaur, sambar, wild pig
Kallarkudi	Nilgiri langur, Asian elephant, gaur, sambar, leopard, sloth bear, wild pig, pangolin, mouse deer, barking deer, dhole, bonnet macaque, trinket snake, rat snake
Kavarkal	Asian elephant, gaur, sloth bear, Nilgiri langur, lion-tailed macaque, Indian giant squirrel, Great Hornbill, shieldtail snake, civet, wild pig
Koomati	Nilgiri langur, lion-tailed macaque, Asian elephant, gaur, sambar, leopard, sloth bear, wild pig, mouse deer, barking deer, dhole, pangolin, bonnet macaque, Great Hornbill
Nedungkundru	Asian elephant, gaur, sambar, dhole, bear, civet, wild pig
Paramakadavu	Asian elephant, gaur, leopard, rat snake, unidentified water snake, shieldtail, leopard
Sankarankudi	Nilgiri langur, bonnet macaque, leopard, dhole, Asian elephant, gaur, unidentified species of snakes (2), civet, Great Hornbill, Indian giant squirrel
Udumanparai	Nilgiri langur, lion-tailed macaque, bonnet macaque, leopard, Asian elephant, Indian giant squirrel, sloth bear