



## Ecological prudence: Life course reflection among forest dependent tribes in wayanad, Kerala

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### Abstract

Forest dependent tribal communities have an intimate attachment to the forest and its resources from the time immemorial. Kattunayakans, one of the particularly vulnerable tribal groups who inhabit in the South Indian states of Kerala, Tamil Nadu and Karnataka have subsistence from forest. In Kerala they are found in Wayanad, Malappuram and Kozhikkode districts and majority of them mainly live in Wayanad district. Association of Kattunayakans with nature is closely linked to biodiversity, ethnic culture and forest based economic activities. Religious practices strengthen the integrated relation of man-nature in association with conservation based subsistence pattern. Age old socio-ecological ethical conservation norms are prevalent among them in notion of conservation for the sustainable utilization of forest resources. Through this paper, the researcher tries to uncover how the conservation based prudent subsistence pattern influence each stage of life among Kattunayakan community in Wayanad through the lens of the life-course experience among their elderly. The study also throw light towards the link between culture and biodiversity in offering ecological prudence of tribes and analyse the participatory model conservation practices implemented in Kerala. Since the present study demand an in-depth analysis, qualitative research method is adopted. The ethnographic research tools are chosen for collecting the qualitative information because the views and experiences of people on traditional conservation practices are complex and variable. Grounded theory approach is adopted to interpret the interviews because of its appropriateness for cross-cultural work, where indigenous perspectives are rarely incorporated into existing literature. The study proposes a socio-ecological model for the sustainable conservation of forest and preservation of ethnic culture.

**Keywords:** ecological prudence, life course perspective, indigenous knowledge, forest conservation

### Introduction

Conservation based livelihood practices rooted from the human history itself. The base of such notion is the beliefs and practices which attached to the environment. In the case of tribal communities, their everyday life is closely connected to their environment and attached to rituals, rites and norms. Age old socio-ecological-ethical conservation norms restrict them from involving any kinds of environmental degradation activities because they believe that the need of conserving natural resources for their livelihood is most important since they gather such resources for their survival. In historical times, tribal communities, one of the traditional forest dependent groups were nomadic hunter gatherers, gradually they became shifting cultivators and finally they settled in a particular place and started settled cultivation. This is believed as the transitional livelihood path of tribal communities. This transition throws light on the complete dependency of environment and its resources for their survival. Changes in society and its structure have made certain changes in their subsistence pattern too. The paper tries to understand the transitional changes of traditional pattern of prudent culture from the life course perspective of elderly.

The importance of prudent use of forest resources is the essential intervention from the side of forest dependent communities. Tribal societies from the time immemorial itself developed a pragmatic and conserving approach towards their nature. Traditionally, they had the habit of collective sharing of resources. Food for existence was the primary aim of majority of tribal societies especially Kattunayakans. Since the population increases, they have

learnt that their surroundings become fragile and the livelihood pattern reshaped based on their requirements. Traditionally followed social and religious norms on prudent resource management restrict the older generation from excess consumption of forest resources. They believe that the ecosystem has an important spiritual significance to balance the resources to be available for all. Kattunayakan culture has an important feature of emotional bond between their kin as well as birds, animals and trees. This emotional bond emerged out of the belief that there exist a symbiotic relationship of mutual contract and dependence between the mankind and nature. The prudent behavior makes them believe that without conservation there won't be sufficient resources for the future generations. Hence the older generation depicts restraint minimal usage of resources even if they have plenty. Critical livelihood dependence on forest is quite evident from the commercialized consumption pattern of forest resources by the younger generation. Therefore, excessive forest dependency of huge population result forest degradation and imbalance of ecosystem services. Traditional knowledge transformation from generation to generation on conservation based consumption pattern has been altered and it is reshaped by the younger generation. Conservation based livelihood dependence turn to commercial based livelihood provision. In this context the present paper tries to find out the transitional variations of traditional conservation practices through the life course experience of elderly.

### Literature Review

People inside and around forest area depend forest and its

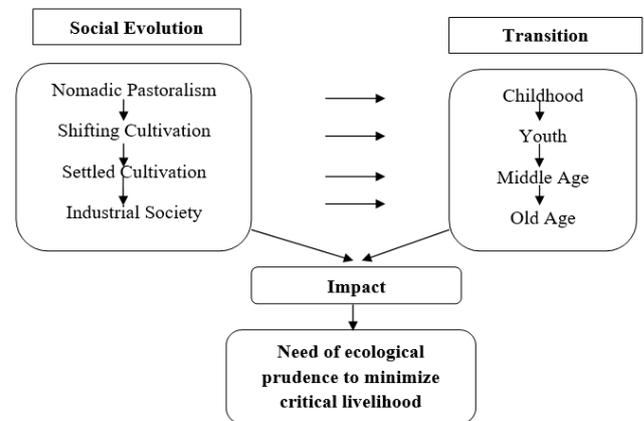
resources solely for their daily needs. Forest dependency for livelihood purpose has been showing an increasing trend now a day. While considering forest as well as agricultural landscapes, many households highly depend upon forest resources (Rhemtulla et.al, 2019). In the developing countries like India, forest resources continue in performing an essential role in rural livelihoods. Rural households generate income as well as meet their subsistence by utilizing the forest resources (Angelsen *et al.*, 2014 [2]; Mukul *et al.*, 2016) [10]. In India, a huge population living close to the forest and the livelihood of such population closely linked to the forest. World Bank study reported that nearly 275 million people in Indian rural areas depend on forests as part of their livelihood need (World Bank, 2005) [18]. The increasing number of population in and around the forest critically impacts the forest ecosystem also. According to various estimates, India characterized as a low forest cover-deforestation country that uncovered to a most noteworthy human induced deforestation or forest degradation that has been seen for the past few decades. (Ravindranath *et al* 2012 [14]. Sustainable harvesting practices based on the traditional knowledge on resource management of forest dependent communities, especially elderly can become important in this backdrop. Sustainable forest management can not only possible through adopting scientific knowledge or practices on resource management but more importantly through stepping back to the adoption of traditional conservation practices which was common, generations before (Ens *et al.*, 2015) [5]. Scientific knowledge and wisdom sometimes ignore the importance of social systems, culture and tradition in conserving the forest and its resources. The role of social systems have neglected by the scientific forest management activities (Pirta 2005 [12], Gadgil and Guha 2000) [6]. The role of traditional ecological knowledge, practices and systems in ensuring the sustainable utilisation and conservation of ecosystem services becomes most important at this time (Boafo *et al.*, 2016 [4]; Mavhura and Mushure, 2019) [8]. The traditional knowledge on forest conservation includes knowledge and beliefs on the sacred relation with mankind and nature that is attached to the ethnic culture which has been handed over from generation to generation. Many scholars have used various terms to address ecological prudence. Traditional knowledge, indigenous knowledge system, folk knowledge (Mavhura *et al.*, 2013 [9]; Tharakan, 2015 [17]; Boafo *et al.*, 2016) [4] are the other terms use to address the traditional ecological prudence. Ecological prudence among tribal communities is closely attached to their tradition and culture. Gadgil and Guha, 1992 [6] argue that the emergence of sacred institutions were intended more to boost social solidarity rather than promoting environmental consciousness. In contrary to supportive arguments of ecological prudence, traditional societies in the past have always operated from a resource-rich environment. The conservation values were fulfilled, even if the religious norms unambiguously promote social solidarity. Hence, it is argued that a traditional knowledge system is culturally embedded and contextually specific (Boafo *et al.*, 2016 [4]; Berkes *et al.*, 2017) [3]. Adom *et al.* (2016) [11] have noted, traditional knowledge is rooted in cultural practices like cosmological beliefs, totem, proverbs, taboos, folklore and myths. The social institutions linked to ecological resource management are often linked to religious myths and socio-

cultural belief system. Religious myths, rites and beliefs have prescriptions and prohibitions from exploiting the environment. Sacred entities such as sacred landscape, sacred species and sacred plants have greatest influence on conservation practices.

In the case of sacred groves, there exist restrictions on their usage by strong institutional and cultural norms (Sinha B., et. al. 2000 [15]; Ramakrishanan 1998). There are numerous studies on traditional forest conservation, ecological prudence and environmental bondage of mankind. Socio-environmental studies focused mainly on the conservation methods, challenges and possibilities. The transitional changes of ecological prudence through analyzing the experience of an aged person’s life course experience seem absent. In this context, through this paper, the researcher tries to portray the sociological understanding of transitional variations of ecological prudence through the life course perspective of Kattunayakan elderly, one of the particularly vulnerable tribal communities in South India.

**Theoretical Framework**

The modes of natural resource use such as prudent and profligate utilization and its effect has been introduced by Gadgil and Guha (1992) [6]. in their work ‘*This Fissured Land: The Ecological History of India*’. They analysed the four modes of resource use pattern in various historical social settings such as nomadic pastoralism, hunting-gathering, shifting cultivation, settled cultivation and industrial society. This paper tries to understand the transition of ecological prudence in tribal society through various historical structural changes from the life course experience of Kattunayakan elderly.



**Fig 1:** Theoretical Framework

**Aim of the Study**

The main objective of the study is to uncover how the conservation based prudent subsistence pattern influence each stage of life among Kattunayakan community in Wayanad through the lens of the life-course experience of their elderly.

**Specific Objectives**

1. To portray the ecological prudent activities prevalent among two cohorts among Kattunayakans
2. To examine the link between culture and biodiversity in offering ecological prudence of tribes
3. To analyse the participatory model conservation practices implemented in Kerala

## Methodology

A qualitative approach (Merriam and Associates, 2002) is chosen for the present study because researcher needed an inductive investigative strategy that allowed understanding how changing pattern of ecological prudence reshape the events in each stage of life of the respondents. The present qualitative research is an ethnographic case study as it looks at transition of ecological prudence as a socio-cultural and ecological process. This ethnographic case study approach enables in-depth insight within cases and theoretical generalization between selected cases. Life history interviews and unstructured interviews with respondent's family members are used as the tools for data collection in the present study. The selection of cases has been chosen purposively which aimed to investigate the importance of ecological prudence of traditional community in the present context of ecological degradation. The study locale is selected from the two Kattunayakan settlements of Wayanad Wildlife Sanctuary. Majority of the Kattunayakan population inhabit in Wayanad Wildlife Sanctuary are entirely depend upon forest and its resources for their survival. That's the criteria of locale selection. Four aged persons who belong to grandparents' cohort and great grandparents' cohort from different Kattunayakan settlements has been selected as cases based on their relative age. Chronological age is not significant among this particularly vulnerable tribal community. Study arguments emerged followed by the thematic data analysis of the qualitative data.

## Result and Discussion

### Kattunayakans in Wayanad Wildlife Sanctuary

Kattunayakans, as their name denote as the chief of forests. Kattunayakan are one of the 75 particularly vulnerable tribal groups in India and 5 in Kerala. They have two classifications exist among them in Wayanad Wildlife Sanctuary, ie; *Jenu kuruba* (those who subsist mainly on honey) and *Mutsa kuruba* (those who live in the habitat of Gray Langur). They had been exclusively depends upon forest and its resources for their livelihood. They were known as hunter-gatherers traditionally. Their traditional subsistence pattern was replaced to many other diversified subsistence activities. Their social structure was initially nomadic-hunter-gathering later it changed into shifting cultivation, settled cultivation and livelihood diversification. *"We had no specific place to live during my childhood days. Our parents and grandparents brought us some place to another. We stayed in small caves and made temporary shelter on tree top. Once we collect edible resources, we shifted to another place. We never collected all resources:"* said a grandmother. With the settlers' influx, they have been developing into an increasingly plural society. Traditional practices such as monogamy and endogamy were strictly practiced among them along with the hill based worship pattern. Ancestral worship and worshipping sacred entities such as species, landscape and groves was prevalent among them. Taboo existed with some plants and animals and it can be considered as a prudent behavior of Kattunayakan

community. *"We never hurt any animals. We used to have the meat of spotted deer, if we found it caught and left by carnivores. Our muthappan never forgive us if we kill any animals or plants unnecessarily:"* said, great grandfather. The harmonious association with nature was the novel factor that differentiates Kattunayakan from other tribes. There are significant changes took place in the socio-economic and cultural aspects of Kattunayakans. Indeed the changing trend can be seen from the non commercial forest resource utilization to commercialized forest resources. *"We had never sold the mother nature resources for money. But now our children need more money to meet their expenses. So they collect and sell the resources for money. They try to get more resource for more financial gain:"* said a great grandmother. Increasing number of population, consumerist culture and the lack of proper income are the reason for this changing trend of utilization pattern.

### Ecological Prudence of Two Age Cohorts

Kattunayakans used to collect non timber forest products such as fruits, tubers, medicinal plants and so on. They have strong belief in nature associated with their culture. Plants are conserved in the natural habitat by them and such place is known as *Daivathara*. *Daivathara* is the place where they worship their ancestors under the trees. Stones, trees and even some animals such as wild boar, bison, and vegetables like pumpkin have a deep rooted influence on them. Kattunayakans believe that their ancestors reside in sacred places and they would be punished if the people do any harmful act on their sacred objects, plants, animals or vegetables. *"We plant a pumpkin at first in our paddy field or cultivation place to please our ancestor. Then only the obstacles would leave away from our agricultural land";* said a grandfather. Customs and rituals of Kattunayakans have played an important role in conserving sacred forest and its living objects. Seeking permission from ancestors before collecting anything from forest was an important ritual among them. This ritual had been followed by elderly years before. In the case of youth, since the commercialization of forest resources get prioritized, the rituals and related customary practices are started to fall in extinction. Respondents of grandparents' cohort don't have strong belief in ecological prudence in forest resources but the great grandparents' cohort have belief and follow the rites, rituals, norms related to prudent behavior. *"How can we take all resources without leaving little bit for our future generation? If we do so, our fore fathers would definitely punish us and we may fall into critical health issues."* At the same time, grandparent said, *"We should collect all edibles, roots, tubers, or else, we cannot purchase our necessary items. To meet the need of the increasing number of our people, forest fails to fulfill our requirements. Pharmacies approached us and they are ready to pay for maximum medicinal resources that we collect from the forest. So we collect the maximum and left behind nothing"* Resource collection from forest is replaced from community based collection and sharing to individual based collection and marketing.

**Table 1:** Life Course Reflection of Best Practices

Life Course Reflection of Best Practices			
Cohort	Stages of Life	Social Structure	Transition path of Best Practice
Great Grandparents	Childhood	Nomadic hunter-gatherers	Community based resource collection, minimal utilization, never commercialize forest resources
	Youth	Shifting cultivation	
	Middle Age	Settled cultivation	
	Old Age	Commercialization/ Industrialization	
Grand Parents	Childhood	Shifting cultivation	Individual based resource collection, maximum utilization, commercialization of forest resources
	Youth	Settled cultivation	
	Middle Age	Commercialization/ Industrialization	
	Old Age		

The life course reflection of best practices depict the transition of best practices on ecological prudence exist among two generations wise, grand parents’ cohort and great grandparents’ cohort. Great grandparents’ cohort is evident of prudent behavior in terms of their resource utilization pattern but in the case of grandparents’ cohort, prudent behavior is altered based on the changing socio-economic structure. Respondents from grandparents said, *“While we were inside the forest, we didn’t have any financial expenses and when we are shifted into the fringe forest area, our daily needs increased and we started to collect forest resources as much as possible. We are started to get more money based on the quantity of resources we collect”*. The basic necessity of grandparents’ cohort became money to meet their daily needs. Great grandparents’ cohort meets their daily needs from the systematic utilization of forest resources. *“We have fruits, tubers for our hunger, collect fire wood for cooking food, and collect medicinal plants for our ailments only”*. This is how great grandparents preserve their forest resources. Need based consumption pattern adopted by the great grandparents’ cohort is the best example to be followed for the sustainable utilization pattern.

**Tribal Culture and Conservation Practices**

Kattunayakan culture consists of many myths, rituals, taboos and norms which have played a significant role in the forest conservation practices. Conservation practices of Kattunayakan connected to their religious faith. Sacred groves are the worship place where the *mudali* (community head) converse with their ancestors. Sacred groves are located in a small hill near to their settlements having stream and protected trees accompanying it. Departed souls are placed under each tree and offer worship to all trees. This sacred grove should be protected by the community, that’s the belief exist among them. One of the key informants said, *“Our forefathers live in the trees, so we protect them by giving offerings, once they pleased our wishes would come true.”* Besides this, many plants and animals are considered as sacred. The banyan tree and Golden shower tree have been traditionally revered and therefore sustained for many years. Great grandfather opined, *“I would fall into sick, if I don’t conserve these trees. That’s why our community pays utmost care in protecting forests and its resources”*. Such religious faith based traditional cultural attitudes, have made significant contribution in the protection of various species in India.

**Participatory Conservation Practices in Kerala**

Over the past two decades, forest management has been concentrated to forest resource conservation as well as ecological restoration activities. Joint Forest Management

(JFM) and Social Forestry are the important interventions evolved to meet the livelihood options of tribes and minimize the pressure on forests and its resources. Apart from this, various programs, policies and Acts have been introduced by the Government of India. (Sivaji, 2009) Forest provides variety of employment opportunities to the forest dependent communities in the form of direct and indirect employments. *“Forest department has been given us job for six months. In the rest of the month, we depend upon forest for collecting edible resources. Moreover Government give us food grains for survival. So we don’t want to collect the forest resources and sell it in the market”* said great grandmother. Participatory Forest Management is introduced as co-management initiative and give and take relationship between the two stakeholders such as village communities and the Department of Forests. In most cases, non-governmental organizations act as mediators. Though this PFM activities, several employment opportunities such as growth, development and maintenance of the forests, research and training, survey of forest resources, protection and conservation of forest resources, soil and water conservation, collection and processing of Non-Timber Forest Products (NTFPs), preparation of nurseries, fencing, planting, protection and management of plantation and other infrastructure development have been took place. Participatory Forest Management is an excellent intervention implemented by the Kerala State as a response to Joint Forest Management. Kattunayakan communities in Wayanad Wildlife Sanctuary avail more alternate job opportunities including artisan works and seasonal jobs such as anti-poaching, fire prevention and elephant scaring. People’s participation is most important in conserving the forest and its resources. Training programs for alternate income generation activities by providing financial assistance for its implementation like a preliminary investment which altogether would bring self sufficient group of people. Subsequently the dependency of forest and its resources may be reduced. The grandparent opined; *“We are getting 6 months seasonal job from the forest department and in the other 6 months we go for wage laborer practices in the nearby town and village. Since we are getting minimum wage from the department, nobody can exploit us by providing inadequate wage. Department made us aware about the minimum wage as well.”* The participatory forest management could bring many positive impacts such as financial empowerment, self reliant women laborers and minimal dependency of forests.

**Conclusion and Recommendation**

The life course analysis of prudence pattern of two cohorts shows a changing trend of prudence to profligacy amongst great grandparents’ cohort and grandparents’ cohort. The

influence of other socio-economic and cultural groups is an important factor for this changing trend. Resource utilization of grandparents' cohort have reshaped due to the changing social structure induced profligacy. However, great grandparents' cohort follows prudent resource utilization, even if changes take place in their social structure. Changing resource utilization pattern is a result of commoditized forest resources by the grandparents' cohort. The paper argues the prudence to profligacy resource utilization of grandparents' cohort is an impact of commercialized forest resources and increasing market competition created by the external industrialists. The existence of prudence resource pattern among great grandparents' cohort exist out of the concrete association of mankind and nature. Association of great grandparents' and dissociation of grandparents' cohorts with nature determine the prudence and profligacy.

The paper strongly recommend for the inclusion of participatory model resource management in the joint forest management system. It is also suggested to ensure the promotion of alternate income generation activities exclusively for forest dependent communities since the increasing trend of their population to minimize the forest resource utilization. Participatory forest management can be popularized in all states for implementing community based protection activities and introducing community based alternate vocational programs.

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