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Socio-economic status and role of Kadar tribes in conservation, in Anamalais

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Abstract

Anamalai tiger reserve known as an Anthropological Reserve inhabited by six indigenous communities viz., Kadar, Muduvar, Malasar, Malai malasar, Eravalur and Pulayar. These communities aid in conservation of genetic resources in tiger reserve directly and indirectly. Generally the Kadar community called as king of Anamalai hills. Due to the presence of new forest act and policies it led to decrease from indigenous knowledge and population. Hence, the current study aims at assessing the socio-economic status among people of Kadar community and their role in conservation. The result found that the socio-economic status of the Kadar tribe people is lower. Kadar plays a significant role in conservation.

Keywords: Socio-economic status, Kadar tribes, Conservation, Anamalais

1. Introduction

The Western Ghats is globally recognized for their biological diversity and it comprises of impressive cultural diversity including a number of tribal communities as the tribal areas of Southern Tribal Pockets (Magimairaj & Balamurugan, 2017) [7]. Anamalai hills are the part of Western Ghats, recognised as one among 25 global biological hotspots.

The Anamalai hills ranges consist of undulating and rugged terrain spread across the states of Kerala and Tamil Nadu. 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. The region is drained by perennial rivers such as the Konalar, Varagaliar, Karuneerar, Chinnar and Amaravathi and numerous freshwater streams which are the primary water source for the tribals in sanctuary throughout the year. A number of reservoirs (Aliyar, Upper Aliyar, Kadamparai, Sholayar, Upper and Lower Nirar, Thirumurthy and Parambikulam) are part of the Indira Gandhi Wildlife Sanctuary. Anamalais, with its diverse habitats, faunal and floral associations and the matrix of people provides ample research opportunities in the field of biology, ecology and anthropology. It also provides an ideal ecotourism experience and an ideal place for environmental education.

There are a diverse number of indigenous communities living in the Anamalais. Anamalais is worth to be designated as elephant reserve, water reserve, floral reserve and anthropological reserve as it inhabited by six indigenous people viz. Kadar, Muduvar, Malasar, Malai malasar, Eravalur and Pulayar which had home to more than 5200 persons living in 36 settlements of different ethnic origin indigenous communities (Ramachandran, 2007) [10]. This is very unique in the entire Tamil Nadu and probably the only Protected Area (PA) with diverse groups of indigenous people. Kadar, Muduvar, Malasar and Malai Malasars tribal communities live in the vicinity of the Anamalai hills, chiefly the Pulaiyars and Eravalur along the lower elevations.

In Malayalam and Tamil the word Kadan means who dwell in a forest. The tribe obviously got the name because of their exclusively forest habitat. The Kadar has been considered as a human strain of considerable antiquity. Kadar may be considered as the integrated food-gatherer. Both men and women have dark wavy hair, some exhibiting curly hair. Their arms are proportionately long; they have a deep chest (which adapts them to mountaineering) and they have great powers of endurance and can carry heavy loads on their back. These indigenous people form an integral part of the reserve and their population also has fluctuated over a period of time due to the various forestry operations. The forest plays a significant role in the life and economy of the tribals. Tribals depend mostly upon the forest's flora and fauna and agriculture for their livelihood (Bachan *et al.*, 2011; Mohapatra & Sahu, 2012) [1, 8].

They are nomadic and seminomadic in nature and depend on non-timber forest produce. They cultivate some food crops, their methods of cultivation is primitive and limited (Bachan *et al.*, 2011) ^[1]. Kadars are presently distributed over the upper plateau of the Anamalais in six different settlements in Ulandy, Valparai and Manamboly ranges. They are Erumaiparai, Ethakuzhi, Kavarkal, Nendukundru, Kallarkudi and Udumanparai (Chandi, 2008) ^[2].

Kadar land lies at the tri-junction or the Coimbatore district of Tamil Nadu and the Palghat and Thrissur districts of Kerala. The Kadars are distributed in Parambikulam, Thekkady, Nelliampathy, Sholayar in Kerala and Anamalais in Tamil Nadu. Thurston and Rangachari (1909) ^[13] described their settlements as consisting of neatly constructed huts, made of bamboo deftly split with a bill-hook and divided off into varandah and compartments by means of bamboo partitions. They used Kora (grass) mat which they use to sleep on, using a special type of needle for this purpose.

Recent systematic studies are very limited in this particular community. So there is need to study the socio-economic status of tribal community, their livelihood changes or change in lifestyle, their inter-community and intra-community interaction and various Indigenous Traditional Knowledge of tribal.

2. Materials and Methodology

2.1 Description of the study area

Anamalai Tiger Reserve, earlier known as Indira Gandhi Wildlife Sanctuary and National Park (IGWLS&NP) is located (10° 12' N to 10° 35' N and 76° 49' E to 77° 24' E) in the Valparai plateau fringed largely by tea estates with an area of 958.59 square km. The altitude within the sanctuary ranges from 220 MSL in the foothills along the northern fringes to 2,513 MSL 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 ranges to more than 4000 mm in the western ranges mostly during the southwest monsoon. The climate is moderately warm almost throughout the year and fairly cold during the winter months

of November and December. The temperature ranging from 0°C in the winter season to 35°C or more at the peak of summer months.

2.2 Selection of respondent

Based on secondary data the respondents were selected from Kadar community out of six settlements of tribal group by proportionate random sampling method (Mohapatra & Sahu, 2012) ^[8].

2.3 Data collection and analysis

For the data collection a total of 50 respondents were randomly selected in six settlements. The variables were measured by giving various score. The information collected by face to face interview by used of questionnaire. Questionnaire was prepared on the basis of preliminary survey or pilot study. The current investigation had been carried out from June 2018 to March 2019. Frequency, percentage and correlation were calculated for analysis in excel.

3. Results and Discussions

The social organisation and economic activities of tribal people not only reflect the varying grades of cultural contact to which they have been exposed, but in a large measure, are an imprint of such unique features of their geographic environment as their isolation, difficult climatic conditions, economic backwardness, strategic location and the various constrains in the use of the natural resources (Shah & Joshi, 2018) ^[11].

Scheduled tribes constitute the poorest section of population (Mohapatra & Sahu, 2012) ^[8]. Kadars belonged to the minor community which are socially, economically and literally the least advanced but they harbour a lot of knowledge about forest. Thurston and Rangachari (1909) ^[13] described them as the 'Kings' of Anamalais. The vanishing forest had a cascading effect on the tribal population that dwindles rapidly and along with this the knowledge they hold also vanishes (Udayan *et al.*, 2005) ^[14].

Table 1: Socio-economic characteristics of the respondents

| Sl. No. | Characteristics | Level | Respondents | Percentage (%) |
|---------|-----------------------|-----------------------------|-------------|----------------|
| 1 | Age groups (in years) | < 35 | 4 | 8 |
| | | 35 - 45 | 16 | 32 |
| | | > 45 | 30 | 60 |
| | | N | 50 | 100 |
| 2 | Gender | Male | 28 | 56 |
| | | Female | 22 | 44 |
| | | N | 50 | 100 |
| 3 | Education | Illiterate | 19 | 38 |
| | | Primary education | 5 | 10 |
| | | Middle school | 23 | 46 |
| | | High school | 3 | 6 |
| | | Higher secondary school | 0 | 0 |
| | | Collegiate | 0 | 0 |
| 4 | Primary occupation | N | 50 | 100 |
| | | Agriculture labour | 27 | 54 |
| | | Cultivator | 32 | 64 |
| | | Labour in general | 15 | 30 |
| | | Labour in forest department | 5 | 10 |
| | | Business | 0 | 0 |
| | | Service | 1 | 2 |
| | | Transporting | 0 | 0 |
| | | Tribal craft | 10 | 20 |
| | | Unemployed | 8 | 16 |

| | | | | |
|----|---|---|-----|-----|
| 5 | Annual family income | < 50000 | 14 | 28 |
| | | 50001 - 100000 | 21 | 21 |
| | | 100001 - 150000 | 9 | 18 |
| | | 150001 - 200000 | 5 | 10 |
| | | > 200001 | 1 | 2 |
| | N | 50 | 100 | |
| 6 | Type of dwelling | Thatched | 2 | 4 |
| | | Hut made with mud and Bamboo with thagar sheet roof | 4 | 8 |
| | | Green sheet house | 0 | 0 |
| | | Katchcha | 14 | 28 |
| | | Pucca | 29 | 58 |
| | | Cemented | 1 | 2 |
| | N | 50 | 100 | |
| 7 | Collection of food source from forest | Yes | 32 | 64 |
| | | No | 18 | 36 |
| | | N | 50 | 100 |
| 8 | Agricultural land holding | No land | 18 | 36 |
| | | < 1 acre | 7 | 14 |
| | | 1 – 5 acre | 23 | 46 |
| | | 5 – 10 acre | 2 | 4 |
| | | > 10 acre | 0 | 0 |
| | | N | 50 | 100 |
| 9 | Social participation | None | 39 | 78 |
| | | Member of one organization | 11 | 22 |
| | | Member of more than one organization | 0 | 0 |
| | | N | 50 | 100 |
| 10 | Extension contact | NGO worker | 0 | 0 |
| | | DFO, RFO, Forest guard | 31 | 62 |
| | | Tahsildar | 8 | 16 |
| | | University scientist | 0 | 0 |
| | | Extension worker | 0 | 0 |
| | | None | 19 | 38 |
| | N | 50 | 100 | |
| 11 | Response about to what the culture is related | Environment | 0 | 0 |
| | | Society | 8 | 16 |
| | | Forest | 42 | 84 |
| | | N | 50 | 100 |
| 12 | Response about extent of relation of their life strategy with environment | High | 20 | 40 |
| | | Medium | 30 | 20 |
| | | Low | 0 | 0 |
| | | N | 50 | 100 |

*N= Total number of respondents

Age wise distribution of the respondent was studied and the respondents were classified into three age groups. The data given in Table 1 revealed that majority of the respondents viz. 60 percent belonged to old age group of age more than 45 years, 32 percent of them belonged to middle age group of 35-45 years age and whereas 8 percent of them belonged to young age group less than 35 years age. Mohapatra and Sahu (2012) [8] also reported that majority of respondents belonged to middle age group; following young age group and old age group.

The gender wise distribution is found to be 56 percent in males and remaining 44 percent of respondent are females. Dar and Saravanan (2016) [3] also observed in their study that 57.7 percent of the respondents were male and 42.3 percent were female.

Education is the most important input for the growth and development of the people (Haseena & Meera Bai, 2006) [4]. Majority of the respondents (46%) studied up to middle school and 38 percent were illiterate. The main reason for low level of education and lack of education is the particular nature of their habitat. Only 6 percent of respondents have high school education. Lack of interest and engaging in house work are the main reasons for the discontinuation of schooling. No respondent entered to HSC and collegiate level

of education. Shah and Joshi (2018) [11] showed that there is a disparity of literacy between tribal and non-tribal on the one hand and within the tribal communities on the other, including gender-wise variation.

Occupation determines the income, consumption, expenditure and wealth of the family. The majority of the respondents were cultivators (64%), followed by agriculture labour (54%), general labour (30%), tribal craft (20%) and forest labour (10%) as Anti-Poaching Watcher (APW) in Aanamalai Tiger Reserve (ATR) or Parambikulam Tiger Reserve (PTR). Only 2 percent did service in food cooking in primary school. About 16 percent of respondents belonged to unemployment category due to the old age, being widow, poor health condition, nature of habitat and no land for agriculture. Cultivation is primary occupation of tribals but due to the mountain terrain they have to move to another kind of occupation simultaneously to earn income for their family. Ramachandran (2007) [10] showed that the tribals in the Anamalais work as coolies in the nearby agricultural farms as well as they engaged in forestry operations as and when required by the Tamil Nadu forest department. Mohapatra and Sahu (2012) [8] highlighted that the highlands are less fertile which are generally not suitable for farming of any crop and they moved to entrepreneurship. Shah and Joshi (2018) [11]

reported that the majority of the tribals were cultivators, following agriculture labourers, category household industry and remaining as other works.

The study on annual household income of the family showed 28 percent respondents belonged to less than Rs. 50000 income category, 42 percent of respondents were between Rs.50001-100000. Only 2 percent of respondents belonged to the higher level of income category which is more than Rs.200001. Highest annual income of family is about Rs. 204800.

Status of dwelling is one of the major economic indicators of development. But housing is a major problem faced by the tribals from time immemorial ((Haseena & Meera Bai, 2006)^[4]. Type of dwelling indicated that about 58 percent of respondents residing in pucca type of house, followed by katchcha type of house (28%), hut made with mud and bamboo (8%), thatched type of house (4%) and cemented type of house (2%). Thurston and Rangachari (1909)^[13] observed that Kadar's huts erected on four posts on the corners of mud platform thatched over with the leaves of reeds or teak, and with walls of plaited bamboo splits.

Regarding collections of food source from forest, 64 percent of respondents gave positive response and 36 respondents gave negative response to collection of food from forest. Due to the presence of new forest act and policies, it affected on the collection of food from forest by tribals. Ramachandran (2007)^[10] stated that about 74 plant species including leafy vegetables, fruit yielding and fruit or seed yielding varieties had been identified in the Anamalai hills. The local tribal communities for their dietary requirements since a long time have utilized these forest produce. The edible bamboo shoot is collected mainly from the forest areas by poor, tribal people of the villages situated in the vicinity of the bamboo forests (Nirala *et al.* (2017)^[9].

Based on the study on land availability for agriculture, 46 percent of respondents have 1-5 acres, 14 percent have less than 1 acre and only 4 percent have 5-10 acres. Of the respondents 36 percent constitute to land less category.

It is observed that the majority of respondents (78%) did not show any social participation. Only 22 percent respondents actively participated in one organization. Lack of education and awareness make them to be inactive in social participation. Similar study, showed that highest proportion of 85 percent of respondents found to be low in social participation by (Shakrawar and Naberia (2018)^[12].

Majority of the respondents (62%) have contact with the

forest department personnel viz., DFO, RFO, Forest guard, APW etc. Following that 16 percent of respondents have contact with the Tahsildar and 38 percent of respondents have no extension contact.

It is found that 84 percent of respondents construe culture is related to the forest and 16 percent of respondents see culture is related to the society. The main reason for their culture is related to the forest viz. the tribal living habitat. They are fully depending on forest for their livelihood and culture.

Regarding the response about extent of relation of their life strategy with environment, 40 percent have high relation with environment and 20 percent of respondents have medium relation with environment.

Table 2: Response about tribal role in conservation

| Role in conservation | Yes | No |
|---------------------------------------|----------|----------|
| Conservation of natural forest | 49 (98%) | 1 (2%) |
| Conservation of wildlife | 37 (74%) | 13 (26%) |
| Conservation of forest plantation | 40 (80%) | 10 (20%) |
| Conservation of natural resources | 41 (82%) | 9 (18%) |
| Conservation of traditional knowledge | 45 (90%) | 5 (10%) |
| Conservation of cultural practices | 49 (98%) | 1 (2%) |
| Weighted score | 261 | 39 |

With respect to tribal role in conservation, the study revealed that the tribals play a major role in conservation of natural forest and cultural practices (98%), traditional knowledge (90%), natural resources (82%), forest plantation (80%) and wildlife (74%) as in Table 2. Bachan *et al.* (2011)^[11] indicated that the after the implementation of the conservation programme with the six Kadar tribal VSS threat factors reduced markedly in forest. With the participatory conservation and monitoring increase in the nest encounter, nesting success, reestablishment of abandoned nest of Great hornbill and Malabar pied hornbill. Among the six threat factors, hunting became non-existent and forest fire 85 percent to 5 percent and human disturbance 24 percent to 5 percent reduced. Also degradation of forest greatly reduced. Jain (1988)^[5] observed that the tradition of clans of indigenous people plays an important role by social set up of community to conserve plants and wildlife. Jalilova and Vacik (2012)^[6] showed that the local people's understanding of forest biodiversity and their knowledge of the wildlife conservation affect on the concept of forest biodiversity and their conservation and people had clear and positive intentions for conservation.

Table 3: Correlation between socio-economic characters and role in conservation of the tribals

| Socio-economic characters | Role in conservation |
|--|----------------------|
| Age | 0.237 |
| Gender | -0.375 |
| Education | 0.063 |
| Primary occupation | -0.095 |
| Family income | 0.110 |
| Type of dwelling | -0.191 |
| Collection of food source from forest | 0.335 |
| Agriculture land holding | 0.042 |
| Social participation | -0.046 |
| Extension contact | 0.286 |
| Culture relation | -0.229 |
| Relation of life strategy with environment | 0.154 |

Correlation of socio-economic characters and role of tribals in conservation of natural forest, wildlife, forest plantation, natural resources, traditional knowledge and cultural practices

is depicted in Table 3. The characters like age, education, annual family income, collection of food source from forest, agriculture land holding, extension contact and relation of life

strategy with environment showed positive correlation with the role of tribals in conservation. While other characters like gender, primary occupation, type of dwelling, social participation and tribals culture relation with environment, showed negative correlation.

4. Conclusion

Majority of the respondents belong to the old age group of more than age of 45 years and primarily males who represent their families. Lower education level and poor literacy are found in Kadar tribe. Having no interest in education and indulging in domestic work are the major reason for their poor literacy. Tribals in community engaged in different kinds of occupation for their income. Tribals having agriculture land constitute to 64 percent. Cultivation is primary occupation of tribals. But mountain terrain and poor production are the reasons for more than one type of occupation in tribals. They have to move to other kind of occupation simultaneously. Their livelihood depends on various types of occupation like cultivator, general labour, forest labour and tribal craft. Majority of tribals belong to Rs. 50001-100000 annual family income category. Very few tribals belong to the more than Rs.200001 type of annual family income category. Housing is a major problem faced by the tribals in community. Majority of the tribals depend on forest for food. But due to the adherence of new forest act and policies it led to decrease. Social participation and extension contact helped tribals to be aware and reach the developmental schemes and various livelihood activities. The culture and life strategy of Kadar tribe depend on forest and environment highly. Kadar plays a significant role in conservation of natural forest, wildlife, forest plantation, natural resources, traditional knowledge and cultural practices on the whole.

The socio-economic status of the Kadar tribe people is substantially lower than the non-tribal people. The study concluded that the main reason of their backwardness are their inaccessible habitation, scattered settlement pattern, transportation and communication gap, low level of literacy, poor productive land, lack of basic facilities and widespread poverty. Majority of the tribals are living below poverty line, and exclusively depend on wage employment linked to forest produce and agriculture.

There is urgent need to work with them and facilitate for basic necessities like public housing assistance, transportation, link roads, nutrition, primary education, sanitation facilities, electricity etc.

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