



Community based Protection Oriented Eco-Tourism: A Tool for Conservation of Tigers in Periyar Tiger Reserve, Kerala, India

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Abstract

Ecotourism is referred to travels in exotic natural environment which is intended to support the local communities and conservation efforts. So community based ecotourism rests on the basic tenets of being ecologically sustainable, economically viable, socially acceptable, within the frame work of the prevailing rules and laws. Periyar Tiger Reserve (PTR) is unique with its diverse flora, fauna, endemism and landscapes which make it a Hot Spot for tourism. Therefore, an attempt has been made to develop the community based protection oriented ecotourism (CBPOET) for the conservation of Tigers in PTR. In PTR, each CBPOET has evolved out of necessity to address to certain conservation or livelihood issues. Thus, it is a tool to turn “threats” into “opportunity”. It was observed that the CBPOET resulted in enhanced protection of the study area, helped local communities to earn subsistence and supplementary livelihood, enhanced visitors satisfaction and disseminated conservation values, thus raising voices for conservation. The present study highlights the importance of community based protection oriented ecotourism in the conservation of tiger as well as livelihood of local communities.

Keywords: Ecotourism, Periyar Tiger reserve, Conservation, Livelihood, Protection, Communities.

Introduction

Ecotourism means different things to different people. For us it serves three prime objectives- wild life conservation, community empowerment and social change. The process is dynamic and must be refined to suit the changing needs and changing times. Ecotourism is the fastest growing sector of one of the world's largest industries-tourism¹. Compared with mass or “old” tourism, ecotourism is touted as providing better sectoral linkages, reducing leakage of benefits out of the country, creating local employment, and fostering sustainable development². Thus, it has been popularly promoted as a means of reconciling wildlife conservation with economic development, particularly in developing countries³ like India. Researchers, NGOs and sociologists have questioned whether local communities receive maximum benefits from the ecotourism industry⁴.

It is a common arguments that that ecotourism ventures should only be considered “successful” if local communities have some measure of control and share equitably in the benefits. There are vast scopes of ecotourism in India, which is rich in wild life and tribal cultures. In India, usually the poorest communities reside in and around the protected areas with high dependence on forest. To wean them away from these negative dependency an alternative livelihood option needs to be provided to them. Among the protected areas of India, Periyar Tiger Reserve (PTR), is one of the important tourist destinations and is known for its large tract of continuous forest and a

breeding population of Tigers. Keeping this in view, an attempt has been made to develop and study community based protection oriented ecotourism (CBPOET) in PTR (Figure-1). It is situated in the Cardamom Hills (Figure-1) of the southern Western Ghats of peninsular India. The major portion of the Reserve forms the catchment of the river Periyar and the rest that of river Pamba. PTR is the 10th Tiger Reserve of the country. It lies between 9^o17'-9^o 37'N and 76^o56'-77^o 25'E. It covers 925 Km² having 881 Km² of core, 44 Km² of buffer. The Periyar Lake, which was formed as a result of the construction of the Mullaperiyar Dam, has a total area of 26 km² and a maximum depth of 46m at the highest water level. Along with River Periyar, the River Pamba and its main tributary, Azhutha also drain into the Reserve. PTR enjoys the Precambrian crystalline rocks which belong to the Charnockite-Khondalite-Migmatite complex. The beauty of PTR is reflected in its undulating terrain between 750 MSL to 1500 MSL along with numerous natural mountain streams. The area enjoys the clayed mixed vstic haplohumults and fine loamy mixed oxic Humitropets occupying major parts. The annual precipitation from 1400 mm to 4500 mm. The temperature varies from 11^oC to 27^oC. The unique landscapes of PTR provide a untamed diversity of flora and fauna. It gives four types of vegetations; Tropical Evergreen Forest, Semi-Evergreen Forest, Moist deciduous Forest and Evergreen Forest. It also enjoys the Savana and Grasslands (Table-1).

Twenty two plant species were found to the Western Ghats of which six are found in Periyar only. The fauna of the Reserve is

represented by 66 species of mammals, 323 species of birds including 21 species of raptors, 48 species of reptiles, 29 species of amphibians, 45 species of fishes and 180 species of butterflies⁵. The landscapes, flora, fauna, endemism, unique diversity and the beauty of the study area make it one of the most visited parks of the world. In the past, there was only boating provided by the government authorities. This could satisfy only a small percentage of the large visitors (Figure-2).

Table-1
Vegetation covers of PTR

Vegetation Type(s)	Core Area (Km ²)	Buffer Area (Km ²)
Evergreen	339.70	2.42
Semi-Evergreen	223.20	0.00
Moist deciduous	14.7	23.78
Dry deciduous	41.00	0.00
Grasslands	197.40	1.80

Source: Reports, CESM, Economic valuation of Tiger Reserves in India, 2015

Also the government was finding it difficult to manage the wages of protection watchers working in the study area. There were places where protection of bio-wealth in the tourism zone of the study area was a problem. To counter all the above problems, CBPOET made its inception in the study areas.

Therefore, keeping this in view, a number of ecotourism programmes were designed to cater to protection as well as livelihood issues for sustainable management of the study area involving local communities.

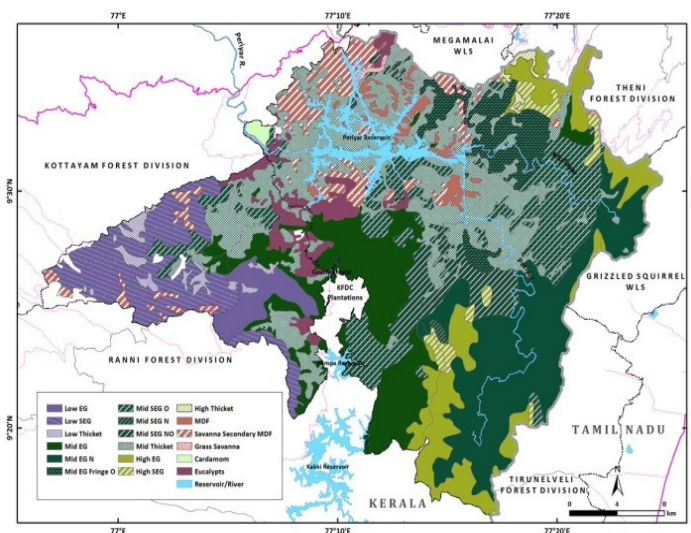
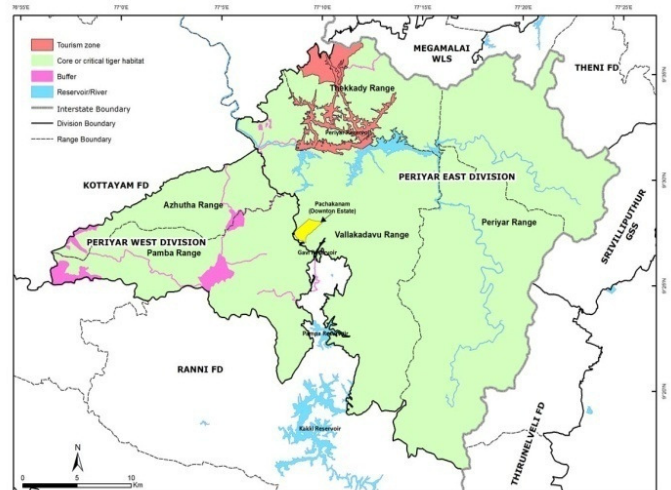


Figure-1
Geographical location of study area (Vegetation)



Source: www.periyartigerreserve.org/home.php

Figure-2
Zone of Community Based Protection Oriented Ecotourism in study area (Tourism)

Ecotourism Programmes Implemented in Study Area

Thirteen ecotourism programmes were designed in study area over a period of 15 years (Figure-2). These programmes have provided a platform which has resulted in strengthening protection, increasing man power for protection, reducing crime, improved detection of illegal activities, improved livelihood benefits to local communities, reduced pressure on forest, improved conservation awareness among the visitors, helped in research and documentation by improved frequency of wild life sighting and cleanliness of the study area. These programmes also have boosted the local economy by benefiting the other stake holders of tourism. These are programmes are⁵⁻⁷.

Jungle Patrol / Jungle Scout: This is one of the most preferred programs under the CBPOET of the study area. This is a three-hour night trekking programme for tourists who can go with regular forest patrolling team that covers the wildlife rich tropical forests in the study area. The patrolling team includes PETS (Periyar Tiger Sanmrakshyana) EDC (Eco Development Committee) members and armed Forest department personnel. This programme operates through the areas having a predominance of sandal wood and has the following objectives: i. To ensure the protection of sandal trees during night. ii. Augmentation of livelihood support of protection watchers. iii. To provide the visitors, a feeling of night life in the jungle. iv. Involving stake holders to participate in conservation activities.

Bamboo Rafting: This is a dawn to dusk range hiking and rafting programme in the study area. The members of the Ex-vayana bark collectors EDC and PETS-EDC operate this programme. This Ex-vayana bark collectors EDC is one of the professional group ecodevelopment committees set up under the

India Ecodevelopment Project and launched in 1998. It was conceived with the view to wean away people who were engaged in the illegal collection of Vayana (*Cinnamomum sp.*) bark and to utilize their knowledge of forests and wildlife in checking forest related offences. Their acumen and skills were put to good use in an ecotourism package that was to simultaneously take care of the sustenance of the participating members through the ecodevelopment committee on one hand and filling up the lacuna of responsible, sustainable tourism in the state on the other. The programme envisages an opportunity to trek and raft through excellent biodiversity rich forests and panoramic natural areas. It is being operated with the following objectives. i. To ensure regular monitoring of vulnerable areas to pre-empt possible forest intrusions. ii. To ensure a steady supply of tourists to augment the income of the Ex-vayana EDC / PETS-EDC. iii. To divert pressure from conventional tourism facilities like boating and guided trekking. iv. To curb illegal fishing in the fishing zone of the study area.

Jungle Inn: Forests often appear to come alive during dusk hours and many animals suddenly become active as night creeps in. Against the calm ambience of the *Terminalia* dominated forest scape, sighting animals in their silhouettes and listening to the punctuated serenade of owlets and nightjars will provide a different wilderness experience to the discerning traveler. The forest cottage at Kokkara, about a km walk from the check post is ideal locality to experience jungle at night. The prime objectives of this programme are: i. The strategic location of this camp shed enables to keep a vigil on the surrounding area at night. ii. The high point of this programme is walking through different forest types at prime time when animals tend to be more active.

Bamboo Grove: A miniature habitat has been recreated for man and nature to co-exist in the already available milieu of grassy downs, sedges and bamboos and stream fringed with screw pine. Fifteen tidy dwelling units made of natural materials like bamboo and grass are slotted in available spaces together with board room designed with indigenous skill of the local tribes which provide eco-friendly ambience, constructed for the purpose of conducting classes and discussions. It also houses a traditional kitchen (Ottupura) (Figure-4.1). The significance of this programme is: i. Visitors staying in the bamboo grove get a serene ambience; local cuisine, traditional dance and music get sensitized to the needs of conservation through various workshops, classes and the nearby interpretation centre at Vanashree. ii. The money paid for this programme directly benefits the EDCs who protect the study area. iii. The bamboo grove is also known as a centre for experiential learning where seminars, symposiums, and nature camp are held on regular basis.

Tribal Heritage: Mannans are among the oldest indigenous group of people to inhabit this part of the world. Till as late as in the 1940's they used to live in remote hamlets within the study area eking out a simple livelihood, fishing in the lake and

cultivating a few crops. With the advent of civilization and making of legislations, these people were moved out to the periphery of the protected area and have ever since lived there. After more than half a century of living with the mainstream society they have lost much of their old customs and traditions. Therefore, an attempt was made to recreate a Mannan household with its old time ambience for the enhancing the knowledge of the younger generations as well as for the visitors keen on the study of indigenous cultures. The guided museum visit is constructed and run by 20 tribal youths of the tribal heritage EDC belonging to Mannans tribe. This gives an opportunity to see their ancient agricultural practices, eating habits, indigenous medicine, dress code, fishing gear and weaponry, art and artifacts, rituals and traditions, marriage and death. The principal aims of this programme are: i. To document the vanishing tradition of the Mannan tribes. ii. To provide alternative livelihood opportunity to the younger generation of this tribe and groom them as naturalist.

Nature Walk: The programme is conducted by the TT EDC (Tribal Trackers EDC) who are the youths of Mannakkudy and Paliakkudy tribal EDCs. This is the one of the oldest and most popular among the visitors in study area. This is a three hour trekking program in the buffer zone of the study area where the tourists get an opportunity to watch birds, ground orchids and butterflies, learn about the vegetation and also might encounter elephants, sambhars and other wild animals. The objectives of formulation of the "Nature Walk" programme was to utilize the traditional knowledge of the tribal youth in imparting awareness to the visitors and to find out an alternative income generation mechanism for the tribal youths so that negative impact on the forests through their traditional dependency is reduced as well as improve their socio-economic status by providing regular income. By providing employment opportunities to the tribal youths, it was also aimed to strengthen relation between EDC and KFD (Kerala Forest Department) and enlisting their support in management of resources. Protection of the sandal wood areas in the trekking routes was also another major objective while selecting the trekking routes.

Periyar Tiger Trail: This is an interesting and intensive CBPOET programme. It involves night camping inside the buffer zone of the study area along with the Ex-Vayana Bark Collector's EDC and forest staffs. The Ex-Vayana Bark Collector's EDC is a professional group EDC constituted in PTR which consisted of a group of 23 individuals who were previously indulged in illegal smuggling of Vayana bark (Bark of Cinnamon tree, *Cinnamomum zeylanicum*) from the forests of the study area. They were habitual offenders and were socially detested of their activity and were leading a miserable life. At the same time they are highly skilled in moving to the deep forests, they have a thorough knowledge of the terrain and were aware of the strategic points were poachers used to camp inside the forests. These skills were borrowed by the management. As a measure of building up of confidence, the cases against them were dropped and they were supplemented with strong

training inputs to work as ecotourism guides. This paved way to the initiation of this ecotourism programme in study area namely, the Periyar Tiger Trail. This was the first CBPOET of the study area initiated in the year 1998. The main aim behind the birth of this CBPOET was the following: i. Rehabilitating the Vayana Bark Collector's into the mainstream societies. ii. To strengthen protection in the study area and develop a strong intelligence network using the local knowledge of the Vayana Bark Collector's.

Border Hiking: The Border Hiking programme (Figure-4.2) in the study area is envisaged to control the illegal activities in the border area. The programme is integrated into the microplan of EDCs. The programme provides livelihood support to the watchers for their service for the protection of the study area. The prime objectives are: i. To conduct day patrolling with the visitors in the border area to prevent the illegal collection of NTFP (Non Timber Forest Products), illegal entry and poaching. ii. Regular trekking helps upkeep of track paths in good condition. iii. It helps to satisfy the visitors and educate them on forests and its wealth.

Bullock Cart Discoveries and Coracle Ride: These two CBPOET programmes are very interesting and conducted by the Vidiyal EDC who were earlier involved in smuggling and illegal activities across the borders of the study area. These CBPOET programmes carry guests from Thekkady in Kerala to the farmlands in Tamil Nadu. This programme is meant for providing an opportunity for the tourists to experience the thrill of coracle ride and to enjoy the beauty of nature while moving in the waters of Periyar River flowing through the plains of Gudalur (Figure-3). It was started in the year 2005-06 which was country's first Trans boundary initiative. The main objectives are: i. To support Kerala and Tamil Nadu Forest Departments in controlling forest destruction activities in the border. ii. To plan and implement appropriate eco-tourism initiatives, to reduce the negative dependence on forest. iii. To bring about the social changes and transformation in the life of the members of Vidiyal EDC and restrain them from going back to their illegal activities. iv. To establish and maintain good relationship with the officers and staff of Periyar Tiger Reserve and TN Forest Department and attempt the formation of a social fence through the activities of the group.

Jungle Camp: Jungle camp is an assemblage of alpine tents pitched on raised platforms (Figure-4.4) built along the banks of Periyar River at Vallakadavu nestled in the shadows of steep grassy hills and lush stretches of evergreen riverine forests. It can cater groups of up to 30 persons at a time. The tents are located overlooking a Golghar (gazebo) constructed exclusively with the locally available materials as per the designs of the traditional architecture by the tribal youth residing along the fringes of Periyar Tiger Reserve. The Golghar is effectively used for sensitization programmes, seminars and workshops in a totally different ambience. The location is ideal for visitors for the initiation into the enchanting world of birds and butterflies.

The programme is planned to provide any nature enthusiast a lifetime experience of the jungle. The food court serves the visitor delicious traditional dishes prepared by the members of the local community living around the area. The interpretation centre in Vallakadavu provides the correct ambience for conservation awareness to the visitors of Jungle camp.

Green Walk: With the view of involving local community in conservation activities and with the objective of using the local talent of the study area in tourism, a scheme called Green Walk was envisaged. Before the implementation, the EDC members were involved in collections of minor forest produce and fishing. The collection of firewood was a major threat to the ecosystem in the area. The trekking routes are the vulnerable points in the protection. The area is rich in sandalwood and illicit felling of sandal was quite common until recently. A total of 21 young men were selected from Mannakkudy tribal settlement and they were trained by the Forest Department. These youths were engaged to operate the Green Walk programme.

The trekking operates from the Check post at Thekkady. While trekking, the visitors are exposed various types of forests, wild animals, birds, etc. The main objectives are: i. To develop second line of naturists from the tribal youth of study area. ii. To utilize more vulnerable tracks routes in the buffer zone of study area around the Periyar lake which ensures additional patrolling in these areas.

Cloud Walk: Kurisumala (mountain of cross) at an elevation of 1188 m. above MSL located along the fringes of the study area and is enveloped by stretches of grasslands and patches of forests. These are of prime importance for the sustenance of life in the surrounding region as a vital source of drinking water. The 'Clouds Walk' has been crafted as a programme to minimize the negative dependencies and to mitigate the menaces such as random outbreaks of fire during summer and proliferation of alien invasive weeds, keep the perennial springs alive and free from pollutants. The programme also envisages supplementing income to the local communities by ensuring their active participation in the conservation of water sources and thereby increasing their awareness of it.

The programme is a long guided trek for approximately 3-4 hours passing through Teak plantations, small farms of spices such as Cardamom, Pepper and Coffee and various other annual crops grown along the different gradients of slopes and almost touching the clouds at the vantage point in Kurisumala. This is the first CBPOET of the study area where women EDC members were encouraged and trained to participate as trekking guides. The main objectives of this programme are: i. To prevent illegal entry of tourist in the forest areas. ii. To prevent dumping plastic waste by the resorts being operated along the periphery of Kurisumala hillock. iii. To encourage the protection of the grasslands in the vicinity of the human habitation (e.g., fire and grazing by cattle). iv. To increase the

awareness among the community on the necessity of protecting the watershed and grasslands for the sustainable management of water sources. v. To supplement the income to the local

communities. vi. To develop confidence and capacity of women EDC members to work as professional trekkers and develop as naturalists.



Figure-3

Bullock cart discoveries and Coracle ride- Ecotourism programmes: 1) Bullock cart discoveries by Vidiyal EDC members with guests, 2) Bullock cart, 3) Inauguration of Coracle ride, 4) Coracle ride



Figure-4

Common Ecotourism programmes, 1) The Bamboo Grove, 2) Border Hiking, 3) Green Mansion, 4) Jungle Camp

Conclusion

CBPOET in the study area plays a key role in the development of the local communities and has acted as medium of social change and transformation. It has helped in creating a second line of protection around the study area. Intelligence gathering, generation of additional patrolling hours and revenue which goes directly to the local communities has helped in the protection of the study area immensely. The EDCs participating in the CBPOET programmes have evolved as naturalists and have also got many awards at the national level for the conservation of Tigers and other endemics species including RET of the study area. Their living standard has improved immensely and there is a phenomenal change in their perception of the world through their interaction with national and international tourists- thus linking local economy with the global tourism industry. Such programmes create awareness for the Wild Life among the visitors and also provide an opportunity to feel the wilderness in its true sense and get an insight into the culture and tradition of the local communities. The other CBPOETs like Green Mansion (Figure-4.3), Tribal Art Performance (dance and music) and Range Scan etc also helps in supporting the local communities in various ways. In the study area, the zone of ecotourism around the Periyar Lake coincides with the zone of maximum activity of Tigers. Thus, the CBPOETs in this area greatly support in the protection of Tigers. The aim of the present study is to bring out the fact that such programmes can be replicated world over to act as a tool for the protection of wild life, livelihood of local communities, and to propagate conservation values.

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