

# COMMUNITY INVOLVEMENT IN CONSERVATION: A CASE STUDY OF MANAGEMENT OF NILGIRI TAHR (*Nilgiritragus hylocrius*) FROM ERAVIKULAM NATIONAL PARK, KERALA, INDIA

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## ABSTRACT

Nilgiri tahr (*Nilgiritragus hylocrius*) is a mountain ungulate listed as endangered by IUCN. Nilgiri tahr occurs on a mere 5% area of Western Ghats, a biodiversity hotspot in India. The total population is around 2,000. Eravikulam National Park (ENP) in Kerala, in the southern Western Ghats, harbour 760 tahr and its immediate surrounding around 150. This gives ENP a special place in Nilgiri tahr conservation. Kerala is a thickly populated state where human welfare often gets overriding preference over that of wildlife. This makes managing the ENP a difficult task. Involving local people in conservation becomes an imperative. The authorities of ENP have left no stone unturned in their effort to involve local people in conservation. Eco-tourism was used as an effective driver in the efforts. This paper highlights the denouement of community participation in the conservation of Nilgiri tahr in ENP.

Key words: Nilgiri tahr, endangered, Eravikulam National Park, Western Ghats, community involvement.

## RESUMEN

*Participación de la comunidad local en la conservación: estudio de un caso de gestión del thar de Nilgiri (Nilgiritragus hylocrius) en el Parque Nacional de Eravikulam, Kerala, India*

El thar de Nilgiri (*Nilgiritragus hylocrius*) es un ungulado de montaña que está en la Lista Roja de la UICN de especies amenazadas. El thar de Nilgiri ocupa sólo un 5% del área de los Ghats Occidentales de la India, un hotspot de biodiversidad en la India. La población total es de aproximadamente 2000 ejemplares. El Parque Nacional de Eravikulam (PNE) en Kerala, al sur de los Gaths occidentales alberga unos 750 ejemplares, contabilizándose otros 150 en sus alrededores inmediatos, por lo que el PNE es de especial interés para la conservación del thar. Kerala es un estado muy poblado donde los intereses humanos con frecuencia priman sobre los de la vida silvestre y consiguientemente, la gestión del Parque Nacional es una tarea muy difícil. Las autoridades del Parque Nacional de Eravikulam no han escatimado esfuerzos para intentar involucrar a la población local en la conservación. El ecoturismo fue uno de los motores

principales utilizados con este fin. Este trabajo destaca los resultados de la participación de la comunidad local en la conservación del thar de Nilgiri en el PNE.

Palabras claves: amenazada, Gaths occidentales, Parque Nacional de Eravikulam, participación de la comunidad local, Thar de Nilgiri.

## INTRODUCTION

Nilgiri tahr (*Nilgiritragus hylocrius* Ogilby, 1838) is an endangered mountain ungulate which once ranged through most of the Western Ghats, a range of hills running parallel to and close to the western coast of India from 8° N to 21° N latitudes and 73° E to 77° E longitudes (Davidar 1978). It is the only species of Caprinae that is found south of the Himalayas in India (Daniels 2006). Nilgiri tahr is red-listed by IUCN and is listed in Schedule 1 of the Indian Wildlife Protection Act 1972. An estimated 2,000 animals of the species exist in the wild. Estimates made at various times during the past 30 years placed the population size of the Nilgiri tahr between 2,000 and 2500 over its entire range. A conservative estimate would place the numbers between 1,800 and 2,000 (Daniels *et al.* 2006). Uncontrolled hunting and conversion of Nilgiri tahr habitat to plantations and other anthropogenic pressures resulted in the decline of the population (Schaller 1970, 1977, Davidar 1978). Its habitat has been reduced to less than one tenth of the total range of the species (Schaller 1977).

Nilgiri tahr is found only in the southern Western Ghats. The reason for the rather local distribution of the tahr is its preference for a habitat that is predominantly of grasslands with easy access to steep rocky cliffs; a unique habitat type that has rightly given the species the local name Varai Aadu (= Cliff Goat).

Current populations of Nilgiri tahr are distributed between the Nilgiri Hills in the north and Mahendragiri Hills in the south (Daniels *et al.* 2006). Eravikulam National Park (ENP) in Kerala, India has the largest population of this flagship species of the Western Ghats mountain ecosystem. Estimates put the figure around 800+ in and around ENP (Abraham *et al.* 2006).

Factors affecting the viability of Nilgiri tahr are anthropogenic disturbances and the small size of the existing populations. (Alembath 2002). Consequently, any reduction in habitat quality or extent will have a very serious impact on

the viability of the species. Increased human activity can play havoc with tahr behaviour. Such disturbances place energetic demands, which may depress population even in the absence of illegal hunting and outright habitat destruction (Mac Arthur *et al.* 1979). The recent suggestions that the species is not only endemic but monotypic add to its conservation value (Daniels 2006).

### **ERAVIKULAM NATIONAL PARK**

This park is the single most important amongst the conservation areas for Nilgiri tahr today (Rice 1984). The Park is 97 km<sup>2</sup> in extent and has the largest surviving population of the species. It is situated along the crest of the Western Ghats in the High Ranges of Idukki district of Kerala between 10° 05' - 10° 20' N Latitude and 77° 0' - 77° 10' E Longitude. The park consists mostly of high altitude grasslands interspersed with Southern tropical montane evergreen forests known as Shola forests. The terrain is undulating and the highest peak south of the Himalayas, Anamudi (2,690 m), is inside the Park. The National Park plays a very important role in the water regime of the landscape and serves as a catchment area for both east (tributaries of River Kaveri) and west (tributaries of Rivers Periyar and Chalakkudy) flowing rivers. Apart from the flagship species which is the Nilgiri tahr, the park also harbors a good population of Wild dog (*Cuon alpinus*), Leopard (*Panthera pardus*), Tiger (*Panthera tigris*), Sambar (*Cervus unicolor*), Gaur (*Bos gaurus*), Barking deer (*Muntiacus muntjak*), Nilgiri Marten (*Martes gwatkinsi*), Small clawed otter (*Amblonyx cinereus*), Ruddy mongoose (*Herpestes smithii*), Dusky striped squirrel (*Funambulus sublineatus*), Black and Orange Flycatcher (*Ficedula nigrorufa*), Nilgiri pipit (*Anthus nilghiriensis*), Nilgiri wood pigeon (*Columba elphinstonii*), White bellied shortwing (*Brachypteryx major albiventris*), Nilgiri Verdite flycatcher (*Eumyias thalassina*), Kerala laughing thrush (*Strophocincla fairbanki*). The butterflies listed inside the park include endemics like the Red disk bushbrown and Palni fourwing (Zacharias 2001). The Park with a base elevation of 2,000 MSL is contiguous with the Grass Hills of Tamil Nadu, (Easa 1995). The ENP along with the neighbouring Protected Areas (Chinnar wildlife sanctuary and Indira Gandhi National Park) and neighbouring natural

forests, form one of the largest conservation landscapes in the Western Ghats (Zacharias 2001).

Eravikulam used to be the hunting and fishing preserve of the British planters of the erstwhile Kanan Devan Hills Produce Company. The hunting and fishing were strictly regulated by HRWEPA (High Range Wildlife and Environment Preservation Association), an association of executives of the tea company. HRWEPA had its genesis in 1928 and was involved in the management of Eravikulam during the British rule. The tea planters employed the local indigenous community, the Muthuvans, for protecting the park. The uncanny knowledge of Muthuvans about the landscape and its wildlife led to a lasting bond between the planters and the Muthuvans. The area was taken over by the Kerala Government under the Kannan Devan Hill Produce (Resumption of lands) Act 1971 as a part of acquiring excess lands.

The taking over of ENP by the Government was not without problems. The Government wanted to convert the area into a cattle farm. A perturbed Chairman of the HRWEPA, Mr J. C. Gouldsbury rushed to the state capital and pleaded with the Government to declare the area as a sanctuary. The company also pleaded with the central Government. Gouldsbury had been made a member of the Indian Board for Wildlife and through his ceaseless efforts the Wildlife Board also came up with a recommendation to declare the area as a sanctuary. The area was declared a sanctuary in 1975. Two officers played key roles in the whole process, Mr. K. K. Nair, the then Chief conservator of Kerala and Dr. M. K. Ranjitsinh who was then Deputy Secretary to Government of India and a Member Secretary of the Indian Board for Wildlife. It was a team work unparalleled in the conservation history of Kerala. The sanctuary was upgraded to the status of a national park in 1978, considering its unique ecological features.

## THE MUTHUVANS

The Muthuvans, the indigenous community originally belonged to Madurai, Tamil Nadu, and migrated to the High Ranges in the 14<sup>th</sup> century. Their hamlets are called Kudis. The hamlet Lakkomkudi on the periphery of ENP supports 156

families with a population of about 557 individuals. Muthuvans usually carry their children and belongings on their back in a cloth band called Muthuku. The name Muthuvan originated from this practice of people carrying things in a muthuku (Baig, 1978). Even today, they carry their children and belongings on their back.

The Muthuvans practised slash and burn agriculture and cultivated rice, ragi (*Eluesine coracona*), chamai (*Panicum milliare*) and many varieties of vegetables including yams, roots and tubers. But now, under the influence of market economy, traditional farming practices have changed (Zacharias 2001). Slash and burn agriculture is not practiced now. Currently, commercial crops like lemon grass (*Cymbopogon citratus*) and cardamom (*Eletaria cardamomum*) are favoured items for cultivation. The Muduvans also depend on forests for honey, cane, thatching grass and firewood. A few men were employed by the High Range Wildlife and Environment Preservation Association as game watchers. When the area was taken over by the Government and notified as a National Park, the practice continued. Eight Muthuvans are employed as permanent protection watchers. Every year during the fire season, 20 to 30 Muduvans are hired as fire watchers for a short period. The Muthuvans are experts in fire management. Their knowledge of the terrain and wind pattern is excellent.

### **KERALA - THE CONSERVATION DILEMMA**

Kerala is a thickly populated state with the highest human density in India. The total area is 38,854 km<sup>2</sup>. Kerala accounts for only one per cent of the total area of India but holds about three per cent of the country's population. The population density is 819/ km<sup>2</sup>. Unemployment also runs very high. In a scenario like this, the needs of the people often get overriding interest over that of wildlife. Politicians invariably give a back seat to conservation in their pursuit of votes. Conservationists are often confronted with this dilemma. The indigenous Muthuvans near Eravikulam, who had a direct stake in the park since the British days, are not in the best of times. Some of them are employed as watchers by the department, but most of them are living a hand to mouth existence. As the population of Muthuvans went up their lifestyle also

changed. The younger generation is losing the interest and attachment which the Muthuvans traditionally had for Eravikulam. The feeling of empathy, the feeling of referring to Eravikulam as our park is gradually diminishing. Chinks had started appearing in the protection armour of the Park. Signs of troubles unheard of in the annals of Eravikulam were appearing on the horizon. The department officials were quick to pick up the danger signals. The officials were very sure that unless they improved the economic profile of the people, the indigenous Muthuvans were unlikely to contribute to the conservation work of the park in any serious manner. At stake was the future of the highly endangered Nilgiri tahr.

### **RESOLVING THE DILEMMA**

The way to get the local people interested in conservation, where livelihood concern overshadows conservation interests, is to address the problems the local communities face upfront, and take the people along. Rigid enforcement of conservation rules will not bring in anticipated results. It will only alienate the people further. The authorities in Eravikulam National Park had grasped the full implications of the changing scenario. The dedicated officers were determined to bring in changes that will ensure equitable justice to wildlife and local stakeholders. On top of their agenda was this animal that is highly endangered and demanding rigid protection. The officials were very sure that tourism which had started burgeoning in Eravikulam can be made in to an effective source for the welfare of the community. The think-tanks decided to hand over tourism to the local community in 2003, as a means to take care of their livelihood concerns. The National Wildlife Action Plan (2002-2016) has identified the Nilgiri tahr as one of the key attractions and an icon for promoting ecotourism in the southern Western Ghats (MoEF 2002).

The first priority was to organize and empower the community. The process was initiated in 2003 itself and seven eco-development committees (EDC) were formed by the Department. There were regular interactions with the community. Services of Social Scientists were also utilized to empower the community. The eco-development programme in Eravikulam was targeted to

benefit 156 indigenous families with 385 EDC members. About 600 people stood to benefit directly.

After many deliberations and with finance from the State Bank of Travancore, a nationalized bank with a big presence in Kerala, six mini-buses were purchased by the local community. The Forest Department stood guarantee for the bank loan and trained the indigenous community to successfully run the whole operation. The initiative taken by the Department endeared them to local community. The vehicles are used to ferry tourists charging 20 INR per visitor. Initial problems were ironed out easily with dialogue. Within three years, the entire loan for the vehicles was paid off. The community decides the wages to be paid to their members who work in the Park. The rest goes in to the bank account for the common welfare of the community. The tribal people also run an eco-shop, where they sell nature conservation oriented products and products made by the community. A cafeteria is a part of the establishment. On an average one million INR is set aside every year for the development of tribal hamlets. The indigenous peoples have mastered the art of managing their affairs and today they are truly the managers of their destiny. The Forest Department acts as facilitator of the whole process. Last year, the community catered to the needs of 400,000 tourists visiting Eravikulam. The income generated for the year 2008-2009 was 14 million INR. With an asset base of over 30 million INR, the community today is truly in the driver's seat. The primary axiom of eco-tourism mentioned in India's National Wildlife Action Plan (2002-2016) that «Eco-tourism must primarily involve and benefit local communities» finds a true resonance in ENP (MoEF, 2002). This is in sharp contrast to practices in some places where the word ecotourism is used by tourism professionals only as a ploy for getting access to wilderness areas.

An invigorated indigenous community has also started chipping in with help for the conservation efforts of the park. The tribal youths who are beneficiaries of the new system regularly patrol the Park on a rotational basis. Their local wisdom and thorough knowledge of terrain is proving to be a great boon in the conservation efforts of the park authorities.

## TACKLING THE ENVIRONS

Taking care of the indigenous community was not the panacea for all the ills of the Park. ENP is surrounded by tea gardens and thousands of tea workers reside on the fringes of the Park. The tea gardens were previously owned by Tata Tea. The Tatas are one of India's premier business houses with a strong social commitment. As the Tatas exited from plantation industry they helped the workers to form a cooperative to run the plantations and the name was changed to KDHP Tea Company (Kannan Devan Tea Company). Every worker has shares in the company.

The workers of the tea company used to be a threat as they take firewood from the nearby Shola forests. This was solved with help from Tata Tea before they exited. The workers are given subsidized firewood from the fuel-wood plantations owned by the company. HRWEPA chipped in with support for the new initiatives of the Forest Department. The Association is intimately involved in the management of the Park. There are clear cut directions in the management plan of the Park about the role of the Association in managing it. It is the first time in the annals of the conservation history of the Forest Department of Kerala that a corporate entity is working hand in hand with Department for conservation.

The Department had to find new avenues to generate interest and involve tea workers in the conservation works. The need to protect the Nilgiri tahr and the grassland-shola ecosystem had to be emphasized in language the workers understood. The theme water conservation was very effectively used to drive home the point and convince the workers the need to conserve grassland-shola ecosystem which plays a very important role in the water regime of Munnar. The workers depend entirely on the streams emanating from the Park for all their water needs. They were shown videos of areas that were experiencing scarcity of water where grasslands and shola forests had been destroyed. The workers became convinced in a short time. The ultimate beneficiary of all these efforts was of course the Nilgiri tahr.

Another avenue effectively used by the Park managers was the nature education classes run by the Department. It was very useful to spread the

message of conservation. The local community and those visiting Munnar derived immense benefits from these classes. The community takes an active interest in these classes and is involved in taking the participants on hikes as a part of their education. It has been conclusively proved by recent researches that youngsters who take up hiking and camping early in life tend to become good conservationists later on in life (Zaradic *et al.* 2009).

The strategy adopted by the Forest Department was multi-pronged with the accent on the assertion of rights of the locals over the available resources.

## **CONCLUSIONS**

The Eravikulam experiment is an example where the community benefits from the natural capital of a National Park and the community in turn helps the authorities in protecting the park. This is truly a wonderful example of a mutually beneficial arrangement in nature conservation. The natural capital is being utilized to build up the social capital of the community without harming the environment and the capital itself. Value of natural capital is usually assessed only when it is hacked down or mined or utilized in consumptive usage. Till then the value is assumed to be nil. The Eravikulam experiment refutes this assumption and is an excellent example of the value of a natural capital left undisturbed and utilized judiciously. The indigenous community has been empowered to be the masters of their own destiny in the process. With active participation of the local community and the corporate entity of the area in the conservation efforts, the future of Nilgiri tahr in Eravikulam National Park looks very bright indeed.

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