

Man and Nature in the Nilgiris in South India

Summary

History

The Nilgiris is one of India's districts in the Southern State of Tamilnadu and also refers to the hill range that covers most of the district. "Nilgiri" means "Blue Hill", and could be called this because the hill slopes appear blue when the *Kurunji* flower blooms. Some also think the name could have come from the blue hazy mist that is always present around the hills. The mountain town Ooty, or Udagamandalam, is now one of the best known holiday destinations in South India. The district had a very special significance in British India, since the British enjoyed the cool hill climate which was very different from the hot plains of India. The first outsiders came to the hills around 1800. Over the years, vast areas of forests from these hills have been cut down and replaced with tea, coffee, pepper and also monoculture timber plantations of teak and eucalyptus. Most of India's tea is now grown in these hills. Tea cultivation has been the main economy of the Nilgiri area till today.

Geography and wildlife

To protect the remaining forests and wildlife of the Nilgiris and surrounding regions the "Nilgiri Biosphere Reserve" was declared by UNESCO in 1986. It is a more or less continuous forest which covers a total area of 5520 km². The wide range of altitude from 250 m to 2650 m as well as the wide range of rainfall between 4600 mm in the western ranges and as little as 800 mm in the eastern parts have resulted in its diverse and rich vegetation. The tropical evergreen forest stuck at high altitudes is found only in Southern India and is filled with endemic species. The "Nilgiri Biosphere Reserve" covers only 0.15 % of India's land area but contains 20 % of all flowering plants, 15 % of all butterflies and 23 % of all vertebrates found in India. The continuous forested area also supports the largest single population of elephants (about 5200) and tigers (about 535) in India. It is filled with other large mammals like leopards, gaur (the largest wild cattle species in the world) and sambar deer.

Original inhabitants

"Adivasis" are the indigeneous people of India. These original inhabitants of the Nilgiris have a close link to the forest in their living, religion and identity. Today about 22,000 adivasis live in the Nilgiris. They are few in number, but with lots of cultural and ethnic diversity. Traditionally they were hunter gatherers and semi-nomadic people.

collected forest produce like bamboo, firewood, timber, herbs, fruits and honey. With the extension of monoculture plantations and migrants encroaching the land of adivasis in search of agricultural land lives of adivasis have changed. The adivasis today mainly work as agricultural labourers or occasionally as wage labourers for plantations or constructions. Some have cultivated tea, coffee or fruit trees. However, due to the poor maintenance of their land from lack of finance, the return from these lands is meagre. The general economic condition of the adivasis in the Nilgiris is poor. Only recently after a long campaign of human rights organisations a new law legally allows the adivasis to collect firewood, fruits or honey in the forests. The Kattunayakans are the most forest dependent of all these tribes. Their villages lie within the forests and they depend a lot on minor forest produce and honey collection. A few of the Kattunayakans have also worked for the Forest Department. The Bettakurumbas are also employed as mahouts, guards and watchers by the Forest Department and as guides for researchers and tourists entering wildlife areas.

Challenges faced in the region

Besides tea cultivation tourism has become an important economy in the Nilgiris. There are now a total of forty four resorts in the Masinagudi area and there are more coming up everyday. Though this development is seen as a positive phenomena by some people, it is now having a negative effect on the wild animal populations in the area. The factors that directly affect the forest and wildlife are the traffic with its noise levels and pollution, but also increased incidence of road kills. Most resorts have put up electric fences, blocking the passage of large animals, and often killing smaller animals. The tourists are very often loud and littering the area with bottles and food wrappers. Few come for purposes of experiencing nature. More and more people from neighbouring states buy land in the Nilgiris. Big animals like elephants, tigers, leopards, gaur and deer now find it difficult to move from one forest patch to another. The concentration of tourist activity in the region leads to a concentration of wealth that is unequally distributed, further expanding the gap between the rich and the poor.

photos: Adivasi Munnetra Sangam (left) & Adivasi-Tee-Projekt



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**Man and
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in the Nilgiris
in South India**

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Text 1: History

The Nilgiris is one of India's districts in the Southern State of Tamilnadu, and also refers to the hill range that covers most of the District. "Nilgiri" means "Blue Hill", and could be called this because the hill slopes appear blue when the *Kurunji* flower blooms. Some also think the name could have come from the blue hazy mist that is always present around the hills. The mountain town Ooty, or Udagamandalam, is now one of the best known holiday destinations in South India.

The district had a very special significance in British India, since the British enjoyed the cool hill climate which was very different from the hot plains of India. The first outsiders came to the hills around 1800, but John Sullivan, the British Collector from the neighbouring city of Coimbatore is said to be one of the key people responsible for establishing Ooty as a hill station.

Over the years, vast areas of forests from these hills have been cut down and replaced with tea, coffee, pepper and also monoculture timber plantations of teak and eucalyptus. Most of India's tea is now grown in these hills. Tea cultivation has been the main economy of the Nilgiris till today.

Text 2: Geography and wildlife

Geographically the Nilgiri district is often thought of as a part of the larger "Nilgiri Biosphere Reserve" (NBR), which was declared by UNSECO in 1986.

The Nilgiri Biosphere Reserve surrounds the Nilgiri district, including parts of the neighbouring South Indian states of Karnataka and Kerala. It covers a total area 5520 km². There are six protected areas (PAs) within the reserve: The Wyanad Wildlife Sanctuary, Nagarhole Tiger Reserve, Bandipur Tiger Reserve, Mudumalai Tiger Reserve and the Mukurthi and Silent Valley National Parks. Large tracts of reserve forests connect these different National Parks and Sanctuaries and form a more or less continuous forest. Altitude varies from 250 m to 2650 m, and at least four of the major rivers of South India originate in this region: the Bhavani, Moyar, Kabini and Chaliyar. The rainfall also varies greatly in this region with the western ranges getting up to 4600 mm while the eastern parts in the rain shadow area get as little as 800 mm rainfall annually.

This range of topography and climate has resulted in sharp gradients of vegetation composition, ranging from thorny scrub forest dominating the north eastern region and inter grading westwards into dry and moist deciduous forests and wet evergreen forests towards the Wyanad region. Most of the major vegetation types of peninsular India occur in the Nilgiri Biosphere Reserve. Of particular interest are the Shola forests (montane evergreen forest) which are a mix of grasslands and patches of trees in the valleys. This tropical evergreen forest stuck at high altitudes is found only in Southern India, and behaves like a „sky island“ filled with endemic species.

The Nilgiri Biosphere Reserve covers only 0.15% of India's land area but contains 20% of all flowering plants, 15% of all butterflies and 23% of all vertebrates found in India. The contiguous forested area also supports the largest single population of elephants (about 5200) and tigers (about 535) in India. It is filled with other large mammals like leopards, sambar deer, chital deer and gaur, the largest wild cattle species in the world. Many species have „Nilgiri“ as a part of their name – the Nilgiri Marten, Nilgiri Laughing Thrush, Nilgiri Wood Pigeon, Nilgiri Tahr, Nilgiri Pipet etc.

The Nilgiri Biosphere Reserve is part of the larger Western Ghats, which is the eighth largest biodiversity hotspot in the world and also now a world heritage site.

Man and Nature in the Nilgiris in South India

Text 3: Original inhabitants

The original inhabitants of the Nilgiris are adivasis, the indigeneous people of India. The term adivasi literally means „original inhabitant“. They are few in number, but with lots of cultural and ethnic diversity. The main adivasi communities in the Nilgiris are Todas, Kota, Kurumbas, Irulas, Mullukurumbas, Paniyas, Bettakurumbas and Kattunayakans. Today about 22,000 adivasis live in the Nilgiris.

The adivasi communities of the Nilgiris have a close link to the forest in their living, religion and identity. They were traditional hunter gatherers and semi-nomadic people. They collect forest produce like bamboo, firewood, timber, herbs, fruits and honey. The Kattunayakans are the most forest dependent of all these tribes. Their villages lie within the forests and they depend a lot on minor forest produce and honey collection.

For centuries people from outside the Nilgiri hills have been migrating into the Nilgiris. The Chettys gradually emigrated from surrounding areas throughout preceding centuries and encroached on land in the Nilgiri-Wynaad region. Though they have lived in close proximity with the forests, they do not have a history of forest dependence. The majority of them were traditionally engaged in paddy cultivation in low lying areas. The Badagas are believed to have migrated to the area from Mysore about 300 years ago. Their main activity is agriculture. With further education and exposure many of the younger generation are choosing to move away from agriculture. The Chettans are among the more recent arrivals into the Nilgiri area. They came primarily in search of agricultural land. Much of the land they encroached upon was in the hand of adivasis. As adivasis had little or no concept of land ownership the Chettans were able to seize the land with ease. Culturally they have no traditions defining their relationship with forests. The local forest department hold this community responsible for much of the poaching in the area.

With the establishing of monoculture plantations and migrants encroaching the land of adivasis in search of agricultural land lives of adivasis have changed. The adivasis today mainly work as agricultural labourers or occasionally as wage labourers for plantations or constructions. Some have cultivated tea, coffee or fruit trees. However, due to the poor maintenance of their land from lack of finance, the return from these lands is meagre. A few of the Kattunayakans have also worked for the Forest Department. The Bettakurumbas are also employed as mahouts, guards and watchers by the Forest Department and as guides for researchers and tourists entering wildlife areas. But the general economic condition of the adivasis in the Nilgiris is poor. They lack access to the forests to create a living on forest produce. And they lack land ownership and education for a living on wages. Only recently after a long campaign of human rights organisations a new law legally allows the adivasis to collect firewood, fruits or honey in the forests.

Man and Nature in the Nilgiris in South India

Text 4: Indigenous communities and tolerance

Indigenous communities have lived in close proximity to the forests and wildlife for centuries and have little or no conflict with animals. With the growing influx of non-indigenous people in the area, the incidence of conflict has risen sharply. Anthropologists have noted that indigenous people, in particular hunter gatherer communities, have a world view and relationship with the natural world around them that is distinctly different from other more modern communities.

A small story might help to illustrate this:

Ramesh is an adivasi from the Bettakurumba tribe. The tribe has had a long history of interaction with the outside world, which interestingly revolves around elephants. But despite this long history, Ramesh is not a traditional forest dwelling adivasi by any stretch of imagination. His mother is a health worker, and works in an NGO run hospital. He grew up in Gudalur town, likes to wear jeans and play cricket, and has posters of famous cricketers pasted on the walls of his house. He's been to school all his life, and is just about to start college. He works part time with a conservation NGO, and is involved in the GPS mapping of the tribal villages and sends text message updates every now and then on how the work is progressing.

Despite all the modern trappings, it appears that his world view and relationship with elephants has not completely changed.

He lives with his mother, sisters and grandmother in the nurses' quarters near the Gudalur Adivasi Hospital where his mother works. There is a patch of forest behind it, and then a large tea estate. Soon after the hospital opened, a tusker decided to visit.

It came up to the hospital entrance, and sniffed around the ambulance creating panic and confusion. Being a part of Gudalur town, no one expected an elephant to stray so far away from the Mudumalai forest. There were lots of children living at the quarters, used to play outside till late evening. Nurses had to report for night duty. Emergency patients were admitted in the middle of the night. All outdoor movements had to cease with the elephant around.

On the third consecutive day, Ramesh told me he had cut all his sugarcane from the family patch behind their house and left it in the forest patch for the elephant to eat. I thought he was joking, but he had actually done it. The sugarcane would have paid all their fees for a month, or given all the kids at the quarters many days of happy munching.

On enquiring as to why he did that, his answer was simple. 'Better I take it and let it eat there in the forest, otherwise it will come here. Anyway poor thing will also be hungry. It has been there three days, and does not have much to eat in that small forest. If it goes into the estate they will all shout and make lots of noise – burst crackers and beat drums – and it will get scared and angry. It also needs to eat. It came here by mistake I think, and now it is stuck. It can't go back into the estate and back to the forest and can't even come this side towards town.'

This was more or less the attitude of all the 'educated' and 'modern' adivasis living in and around the hospital; the elephant should not be there, but now that it was it had some rights – to behave as elephants do. It had to eat, and so it was quite acceptable if the banana plants and other ideal elephant fodder around the houses were eaten. There was no talk of 'crop damage'. Kids were not allowed to be out after 6, and were told not to make any loud noises after dark. The nurses changed the timings of the night shift from 8.00 pm to 6.00 pm so they could get inside before dark. Patients were all cautioned about going out in the night, and word was spread around to be careful if you had to come anywhere near the hospital at night as an elephant was around.

After a few days the elephant followed the sugarcane path led by Ramesh and went back to the nearby forest.

Man and Nature in the Nilgiris in South India

Text 5: Challenges faced in the region

Invasive Species

The increased number of species which are not native to the Nilgiri hills and their density is posing some severe threats to the local ecosystems. Two of the most difficult species are Lantana and Eucalyptus.

Eucalyptus trees prevent other plants from growing and don't provide nourishment for the local fauna. Lantana Camara is a weed that spreads like wildfire and prevents other plants from growing. While normally forest fires move fast to affect the larger trees this weed carries the flames to the treetops thereby worsening the aftereffects of forest fires. In some places, large wild animals such as tigers or elephants can hardly cross the Lantana bush.

Lantana itself grows twice as fast if burnt. Much has been done by the Forest Department to manage this plant, but there is a long way to go.

Tourism

Besides tea cultivation tourism has become an important economy in the Nilgiris. The last few years have seen an exponential rise in the number of tourists coming through the Mudumalai Tiger Reserve. There seem to be several reasons for this, a few being the growing affluence of nearby cities, the growth of infrastructure within the Nilgiri area such as a hydro-electric power plant, and a lack of proper regulations or even the implementation of existing regulations by the authorities concerned. There are now a total of forty four resorts in the Masinagudi area and there are more coming up everyday.

Though this development is seen as a positive phenomena by some people, it is now having a negative effect on the wild animal populations in the area. The factors that directly affect the forest and wildlife are the traffic with its noise levels and pollution, but also increased incidence of road kills. Most resorts have put up electric fences, blocking the passage of large animals, and often killing smaller animals. The tourists are very often loud, partying through the night and littering the area with bottles and food wrappers. Few come for the purpose of experiencing nature.

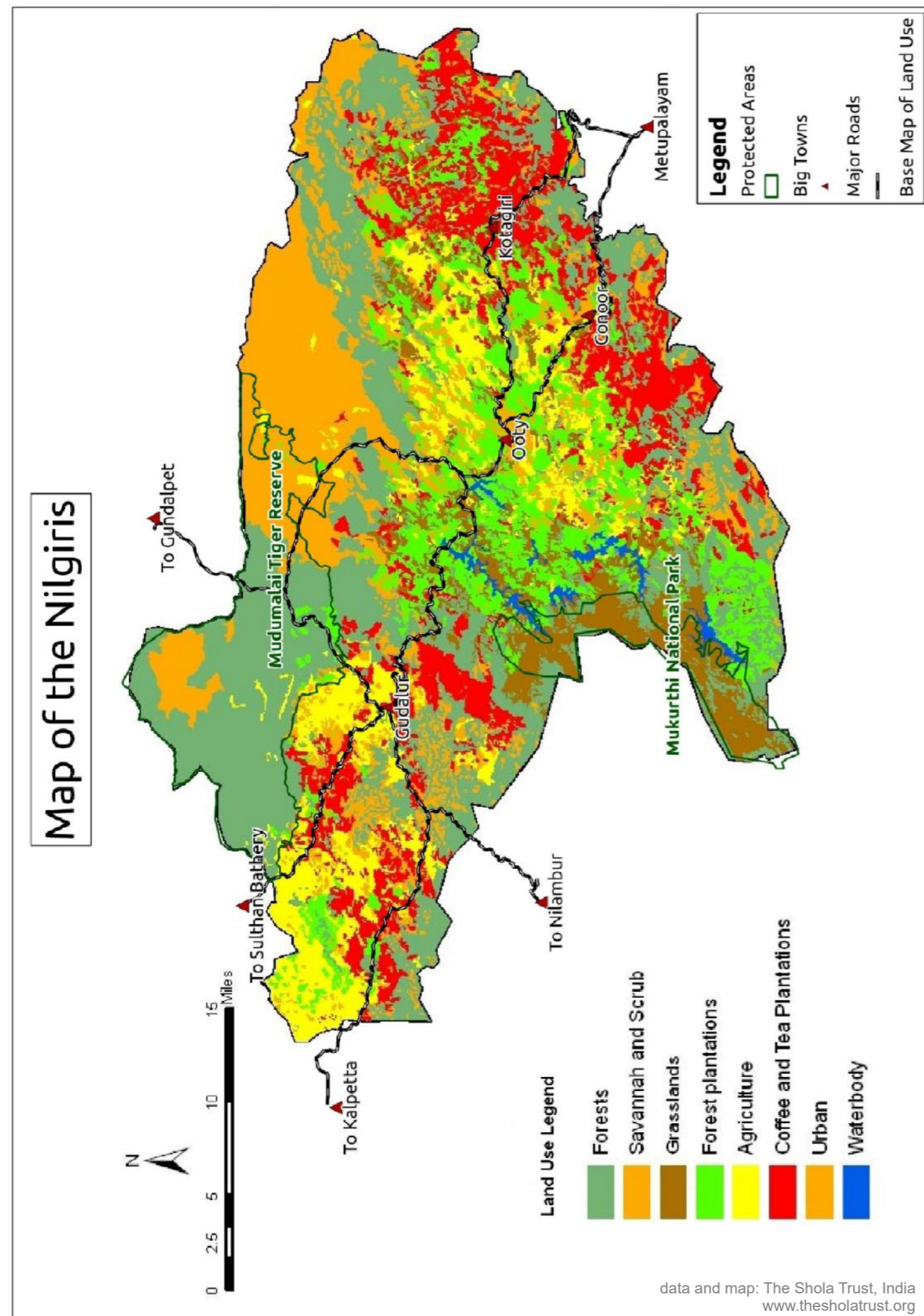
This concentration of tourist activity in the region leads to a concentration of wealth that is unequally distributed, further expanding the gap between the rich and the poor.

Fragmentation of Land

There are two main protected areas in the Nilgiri district – the Mudumalai Tiger Reserve and the Mukurthi National Park. But the animals live both inside and outside of the protected areas. Some even live on tea and coffee estates. Elephants for instance need large home ranges of about 1000 km² and cannot stay in confined reserves like the Mudumalai Tiger Reserve which covers about 320 km². Elephants need to be able to move between the protected areas and forest patches.

Now with agriculture and other land use being intensified and with the increase in purchase of land by people from neighboring states the areas outside of protected areas are getting highly fragmented. Elephants like other animals now find it difficult to move from one forest patch to another, as all their corridors are being cut off. Elephants cause significant damage as they move through the area. When they smell food grains or salt stored in houses for example, often even kill people in accidents.

There has been considerable cultural tolerance to elephants in the past. The indigenous communities in the Nilgiris have lived alongside the elephants and have evolved ways of coping and have much less trouble with the wildlife than others. But with modern lifestyles the cultural tolerance is breaking down with both local communities and elephants paying a huge price for this conflict.



Man and Nature in the Nilgiris in South India

Text 6: The Shola Trust

In Gudalur, at the edge of the Mudumalai Tiger Reserve, a small committed group of volunteers work to protect India's *shola* forests – a mosaic of montane evergreen forests and grasslands found only at high altitude (more than 1,500 metres above mean sea level) regions within the tropics.

In India, shola forests are limited to the southern Western Ghats and are under increasing anthropogenic pressure. These undulating grassland patches interspersed with thickets of stunted evergreen tree species are home to a host of endemic and endangered flora and fauna but have received little protection as they have no timber value. The key goal of the Shola Trust, as the name suggests, is to ensure that these vital wildernesses survive the onslaught of monocultures and expanding cities.

One of the ways the Trust achieves this is by buying patches of privately owned patches of *shola* forests, particularly those that fall in the corridor and buffer zones of larger reserves to prevent them from being 'developed'. These protected spots become living nurseries where *shola* species are regenerated and people educated about their importance. This endeavour, which is being implemented in tandem with the Tzedakah Trust, has resulted in the protection of large areas of *shola* forests and consequently aided the conservation of countless species that rely on this habitat. Understanding that awareness is key to conservation, the Shola Trust works closely with children to ensure that they recognise the importance of wildlife and forests. Its youth group, CAN (Children Act for Nature) Clubs, organises nature trails, movie screenings and a wide range of activities for kids.

The Shola Trust's biochar and Lantana projects are other excellent examples of community conservation that could easily be replicated around the country. Terra Preta, the most fertile soil in the world found in the Amazon basin, was created by indigenous people about 5,000 years ago by burning biomass in low oxygen conditions, mixing the resulting matter with organic waste to make biochar which was then buried in the soil to increase fertility. The Shola Trust has been working hard to promote the use of biochar in the region and has divided its efforts into two parts.

First, it works at a household level to encourage biochar stoves which produce less smoke than traditional stoves and also leave a charcoal by product which can be used as manure once mixed with compost.

Secondly, the Trust works at a regional level, tackling the problem of Lantana – an invasive weed that is choking many of India's forests – by using the weed as raw material for biochar.

To further promote the use of Lantana, the Trust, in association with ATREE, the Tamil Nadu Forest Department and the Adivasi Munnetra Sangam has been helping adivasi communities make Lantana furniture. This serves the dual purpose of giving them an alternative source of livelihood and weaning them of forest dependency and the waste matter from the furniture making is used in the biochar initiative. The model also ensures that the furniture is sold directly in the market, removing middlemen and allowing all the proceeds to reach the communities.

Human tolerance for animals is steadily dwindling and snakes are a common victim of this insensitivity. The Shola Trust has opened an animal rescue centre in Gudalur to help treat injured snakes and other wildlife found in human habitation. Once recovered, they are released back into the wild. The centre also doubles as an education hub and classroom sessions on conservation and other programmes are held at the facility. Research is an important part of the organisation's work and it supports scientific studies and projects in the region as well as acts as the secretariat for the Nilgiri Biosphere Reserve (NBR) Alliance. The NBR Alliance is an effective pressure group for sustainable development and conservation, coming together when 'development' projects threaten this fragile landscape.

The Shola Trust is currently working on a new initiative to promote ecotourism. Its pilot project is being set up in the Madhuvana estate which is owned by the Adivasi Munnetra Sangam and lies on the border of Tamil Nadu and Kerala, next to Devala. The 175 acre farm comprises a tea, coffee and cardamom plantation and also a private forest from where traditional medicinal plants are harvested. The goal is to develop it as an education centre, completely powered by renewable energy where nature trails, programmes on medicinal plants and other activities can be held.

By adopting a holistic approach to conservation and ensuring that its imagination is not limited, the Shola Trust is working to combat threats to the environment as they emerge. It has been able to revolutionise conservation in Gudalur and its work is a stellar example of how a small organisation comprising locals can come up with innovative and sustainable solutions to aid ecosystem protection and win the support of surrounding communities.

www.thesholatrust.org