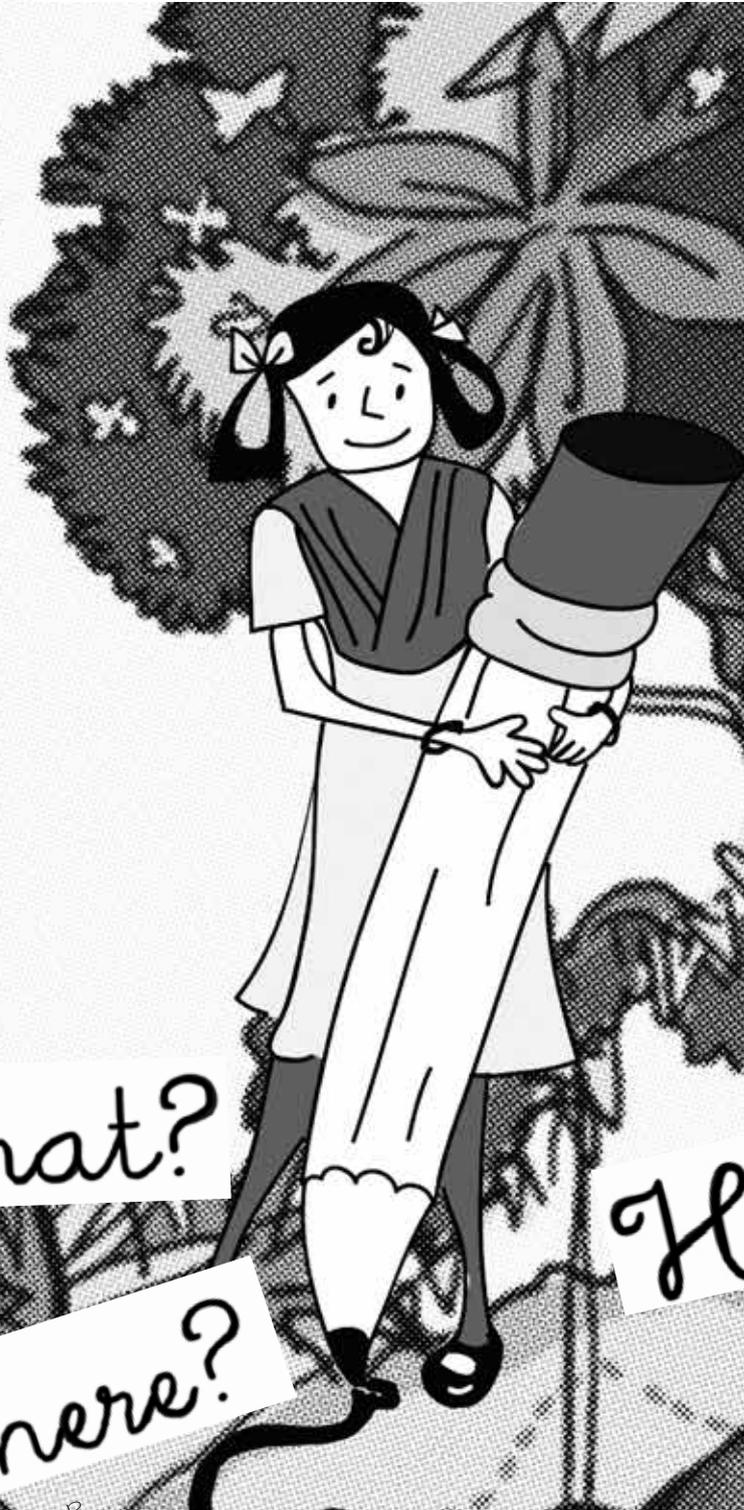


An introduction to the Periyar-Agasthyamalai  
Landscape of the Western Ghats

A booklet for schools in this landscape



What?

How?

Where?

Why?

Of the Periyar-Agasthyamalai  
Landscape



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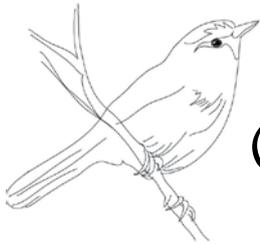
## How to use this book

This book is intended to help children, teachers and others to explore the wild, green and fascinating Periyar-Agasthyamalai Landscape of the Western Ghats. It is a mixture of information, fun and learning. The teacher/educator should only act as the facilitator, encouraging children to ask questions, much like our Kala here, and to help look for answers themselves, through observations and shared stories.

Encourage children to ask questions, narrate stories and help them uncover new worlds.

Happy discovering!





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This symbol indicates 'Activity'



## Kelvi Kala

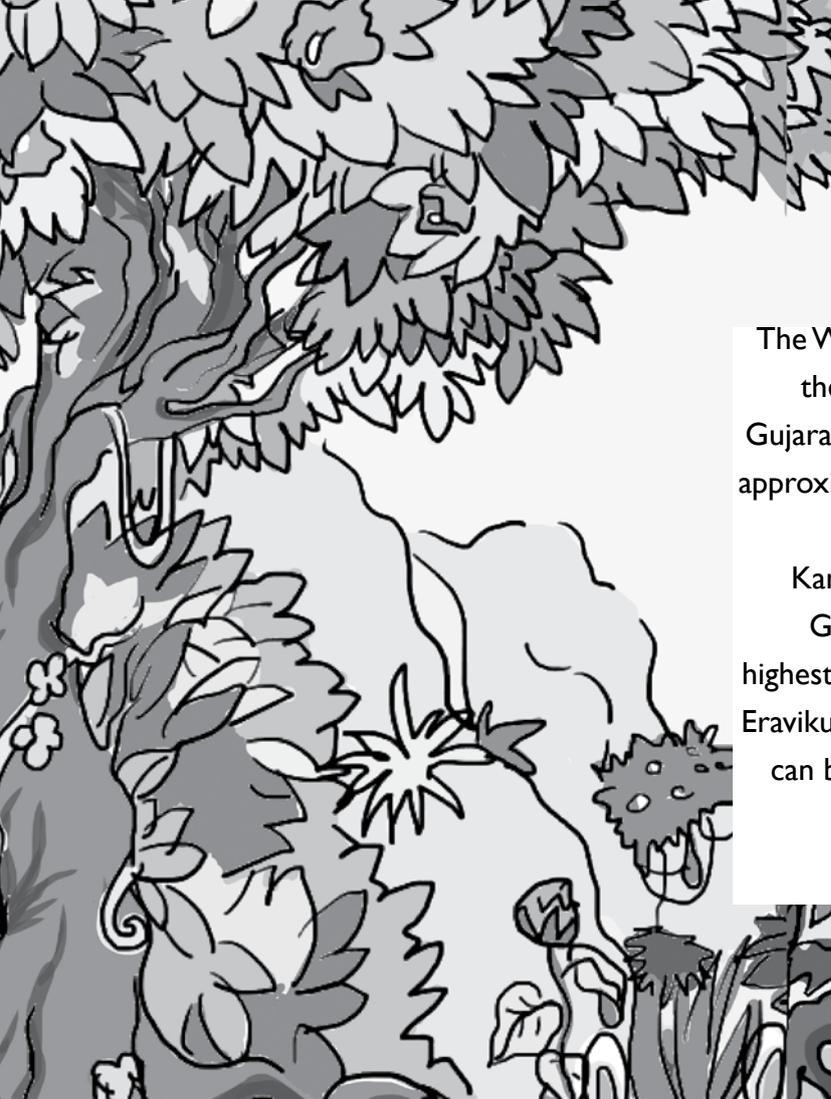
Kelvi Kala is a sincere school going girl who loves questions. Actually she is a very curious girl and wants to find out more, understand more and one way of doing so is to ask questions! But before she asks she listens very carefully, she thinks, tries to understand. This world is a fascinating place and Kelvi Kala has just discovered through a scientist uncle that she lives in a world famous place. A place of unique value and richness. Join her in this discovery.



## Scientist Uncle

Scientist uncle studies the wild and natural places of this world. He loves the Periyar-Agasthyamalai Landscape. He has spent half his life in the forest and the mountains taking notes, just like students do in their classrooms. This landscape is his classroom. He has travelled throughout this landscape and is happiest when sharing its wonderful wonders with children. He loves questions and is always ready to find simple answers.





## Where the story begins...

The Western Ghats are a mountain range that runs along the western edge of India, starting from the border of Gujarat and Maharashtra, south of the Tapti river, and runs approximately 1600 km through the states of Maharashtra, Goa, Karnataka, Tamil Nadu and Kerala ending at Kanyakumari, at the southern tip of India. The Western Ghats are not only long, they are pretty high too. The highest point at 2,695 m (8,842 ft) is "Anamudi" located in Eravikulam National Park, Idukki district, Kerala. The Ghats can be pretty low too!! The lowest point is the Palakkad Gap at an elevation of 300 m (984 ft), in Kerala.

**The difference between the highest peak and the lowest point of the Western Ghats is 2395 m! Wow!**

4

These mountains also cover a very large area!

**How much is that?**

180,000 square kilometres, larger than the total area of Tamil Nadu (130,058 square km) and Kerala (38,863 square km) put together!! They make up 6% of India's area!

**Wow**

And that is not all, the Western Ghats alone have more than 30 percent of all plant, fish, herpetofauna, bird, and mammal species found in India. The Western Ghats are actually actually very rich biologically and very important!!

**Now now! Wait, why is it called rich and VERY important?**





They are rich in wild relatives of everyday food and medicinal plants such as food grains (rice, barley), fruits like mango, Garcinia (monkey fruits – amsol, kokam, kodumpulli (Kerala), kodukkaippuli (Tamil)), banana, jackfruit, spices like black pepper, cinnamon, cardamom, and nutmeg. This makes the Western Ghats an important source of numerous medicinal plants and vital genetic resources!!

*Please tell me more*



The Western Ghats receive a wide range of rainfall annually, with 1000 mm in the rain-shadow eastern side and up to 9000 mm in some localised areas.  
\*Numerous rivers originate in the Ghats. Peninsular Indian states receive most of their water supply from the rivers originating in the Western Ghats, that sustain the lives of close to 300 million people.

*Just the other day on television I was hearing that India's total population is some 1.2 billion. This means that the Western Ghats provide water to close to 25% of our country's population*

\* See India River Basins Map on adjacent page.

## Biological Importance

The forests of the Western Ghats are some of the best representatives of non-equatorial tropical evergreen forests in the world.

“Tropical Evergreen Forests” consist almost entirely of trees that retain green leaves all year round, hence ‘evergreen’. They are mostly found near the equator in areas where the temperature is between 15 – 30 degree

Celsius and it rains a lot. However we also find evergreen forests in the Western Ghats, which are at some distance away from the equator.



*Wait Wait, I get it, that is why these are called ‘non’ ‘equatorial’ ‘tropical’ ‘evergreen’ forests. But how is this possible?*

You ask many questions! This is a good one though

Like I said earlier the Western Ghats receive a lot of rainfall. The height, the rainfall and a number of other factors result in ideal conditions for the growth of evergreen forests in certain parts of the Western Ghats. Also the hills of the Western Ghats are embedded in a landscape that has much





## I N D I A - R I V E R B A S I N S

Map not to scale

drier climatic conditions. Thus, the Western Ghats have evolved into one of the richest centers of endemism owing to their isolation from other moist areas.



*One more new word, “Endemism”!*

Oh I am sorry! “Endemism” or endemic means being unique to a defined geographic location. It also means that an endemic plant or animal cannot be found anywhere else. We will come back to this later in more detail.

# The Biodiversity treasure house

Biodiversity is a term used to describe the variety of life on Earth. The Western Ghats are a treasure house of diversity. They have 508 different types of birds, and 218 types of fish! In addition there are 157 types of reptiles and 137 types of mammals and as if this was not enough, there are 126 types of amphibians.



## Fishy business!

The Western Ghats are very rich in fish, 218 types of fish! Would you have ever imagined that?

**My God!! And I thought fish are mainly from the Sea.**



Of the total number of fish species, 116 (53 percent) are endemic to the region. The highest diversity of freshwater fishes is in the deep, slow-moving waters of the southern Western Ghats. The species composition has been modified by the introduction of alien fish species, many of which have now been naturalised. The construction of dams to create artificial lakes and reservoirs has also adversely affected the distribution and habitat of fish.



## Amphibians



All amphibians begin their life in water, as they grow, they develop lungs and legs for their life on land. Amphibians include frogs, toads, salamanders, newts, and caecilians or blindworms. Approximately 126 species of amphibians are known from the region, with new species being frequently added to the list. The Western Ghats has the highest levels of amphibian endemism in India!!

**Hmm, I am thinking .... These amazing mountains should rather be called the Endemic Ghats of India!!**

## Reptiles



Approximately 157 species of reptiles are reported from the Western Ghats, which includes turtles, tortoises, lizards and snakes. Of these, nearly 50 percent are endemic. Many of the rare and endemic reptiles are known only from single locality records. A major challenge to conservation efforts in this region is the lack of scientific knowledge about the distribution, habitats and the conservation status of the reptiles.

## Birds



As opposed to the reptiles the status and distribution of bird species in the Western Ghats are relatively well known. A total of 508 species have been recorded in the region, including 324

resident species (64 percent) and the rest that migrate seasonally. Sixteen species are endemic to the Western Ghats region, most of them occurring in the areas south of Goa.

## Insects

Much of the research on insects in the Western Ghats has focused on butterflies and ants. Very little is known about other groups of insects. Butterflies in the Western Ghats are of 330 species, of which 37 species are endemic. The southern Western Ghats extending from Agasthyamalai to the Palghat Gap holds the highest diversity of butterfly species with the most number of endemics. According to a study, there are at least 200 species of spiders in the Western Ghats.

## Mammals



Of the 137 species of mammals recorded in the Western Ghats, 14 are endemic. Three are listed as Critically Endangered. One of the Critically Endangered species, Wroughton's Free-tailed Bat is restricted to a single cave within the Western Ghats and has been recently discovered in Cambodia and Northeastern India. Little is known about the distribution and conservation status of the smaller mammals, particularly small carnivores and rodents.



A total of seven species of mammals are endemic to the southern Western Ghats and Sri Lanka considered together as one ecological unit:

The Mountain Shrew, Slender Loris, Striped-necked Mongoose, Sri Lankan Giant Squirrel or Grizzled Giant Squirrel, Layard's Striped Squirrel, Dusky Striped Squirrel, and the Travancore Flying Squirrel.



***One second, am I imagining things or did I hear you talk of Sri Lanka!!***



# The Sri Lanka connection!



Yes that's right, you are not imagining things. I did talk of Sri Lanka!

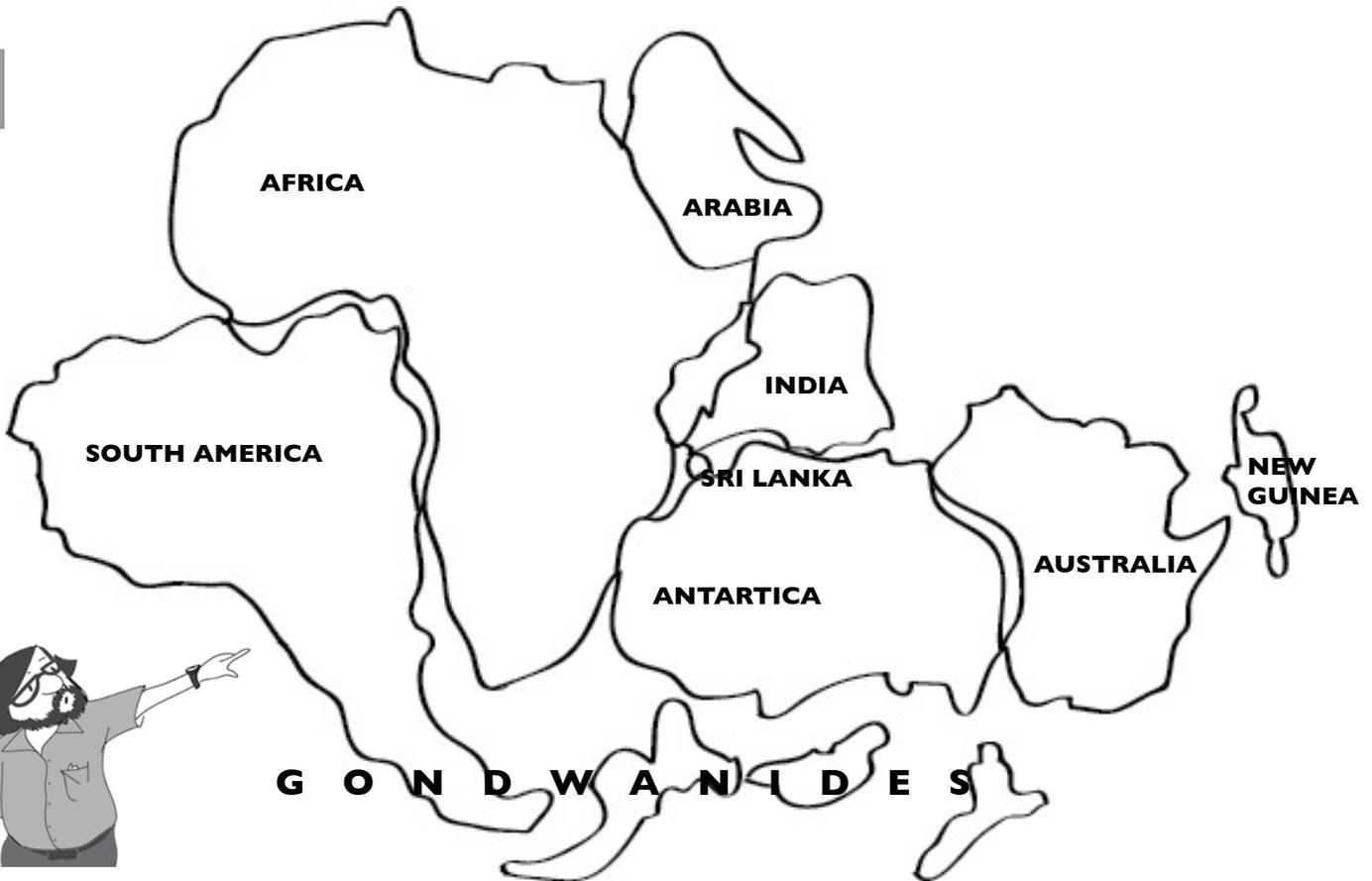
The southern Western Ghats of India and the central highlands of Sri Lanka are separated by 400 kilometers and the seas, but in fact, these mountains ranges were closely linked in the not-so distant geological past!

*Geological past!*  
*What is that?!*



In this case 'geological past' refers to the time when Sri Lanka and India were attached to Gondwanaland. The forests of these mountains are said to be ecological relics dating back to the time of Gondwanaland.

*These forests are that old!!*



Yes! It is difficult to believe, as today most of us are unaware of the links that connect the two mountain regions. The southern Western Ghats, including the Ashambu, Anamalai, Cardamom, Palni and Nilgiri Hills share the same ancient geological history as that of the Central Highlands of Sri Lanka. The flora of the Agastyamalai Hills bears a remarkable similarity to that of Sri Lanka's

southwestern wet zone, also with respect to the remarkably high incidence of highly localized endemics. And like I said earlier there are certain mammal species that are endemic to the southern Western Ghats and Sri Lanka as a unit.

*This must be something really unique in the world, isn't it?*

Yes you are right. The Western Ghats of India and the Central Highlands of Sri Lanka combined are one of the 34 biodiversity hotspots of the world!!

*Adada! I live in one of the 34 biodiversity hotspots of the world!! I should be famous. I now know what Biodiversity is, but what is a Biodiversity hotspot?*



A biodiversity hotspot is a biogeographic region that is rich in biodiversity but which is under threat from humans. Biogeography studies the past and present distribution of the world's many species. If you have access to the internet you could read more at "<http://www.biodiversityhotspots.org>"



A map showing the Western Ghats & Sri Lanka Hotspot

# Periyar-Agasthyamalai Landscape



And now let me talk to you about my favourite subject!  
The Periyar–Agasthyamalai Landscape

**Landscape!! What is a landscape?**



I knew you would ask. A landscape means a large area of distinct character with important ecological, biological values. Within the landscape there continues to be interaction; plants, animals, birds, fish, reptiles, amphibians move across the landscape. For example, elephants move across this landscape. Through the fruits of trees that elephants eat, the seeds of those trees move across the landscape when they get deposited as part of elephant dung in different places. There would be many examples of this kind. In a landscape, these interactions are vital. Do not worry we will come back to this with examples.

The Periyar-Agasthyamalai landscape is the southernmost, and one among five major landscapes of the Western Ghats, namely the Sahyadri –Konkan, Malnad-Kodagu, Mysore-Nilgiri and Anamalai. The landscape stretches over 7000 square kilometers and is presently managed under 17 different Forest Divisions.

**Forest Division!! But what is this “Division”?**  
**You were just describing a landscape. Is the landscape within a Division?**

Your name should be Miss Questions! Wait I’ll explain...  
A forest division is an administrative unit that was in use in British India, and continues to be used in India, Pakistan and Bangladesh. Normally a landscape is likely to be made up of more than one divisions.

In India, a forest circle is divided into forest divisions and a division is broken up into one or more forest ranges. This is just like districts are further divided into blocks or talukas for the purpose of administration. One division cannot span more than one state. It generally comprises one or more districts. Each division controls the protected areas and manages resources within it.



# Protected Areas

Protected Areas, as the name suggests, protect nature and wildlife in an area. Protected Areas are established by law.

Protected Areas are of different kinds.

- National Parks have the highest level of protection and are areas of national importance.
- Tiger Reserves are of significance for the conservation of the tiger.
- Wildlife sanctuaries also offer protection but of a level that is less than that for National Parks and Tiger Reserves. Some wildlife sanctuaries are specifically named Bird Sanctuaries.
- Reserved Forests are forested lands where tree cutting, grazing and other activities may be permitted by the forest department on a planned basis to members of certain communities. Reserved forests provide a lesser degree of protection than wildlife sanctuaries.
- There are some special categories of Protected Areas such as Elephant Reserves, Biological Parks, Conservation Reserves and Community Reserves.

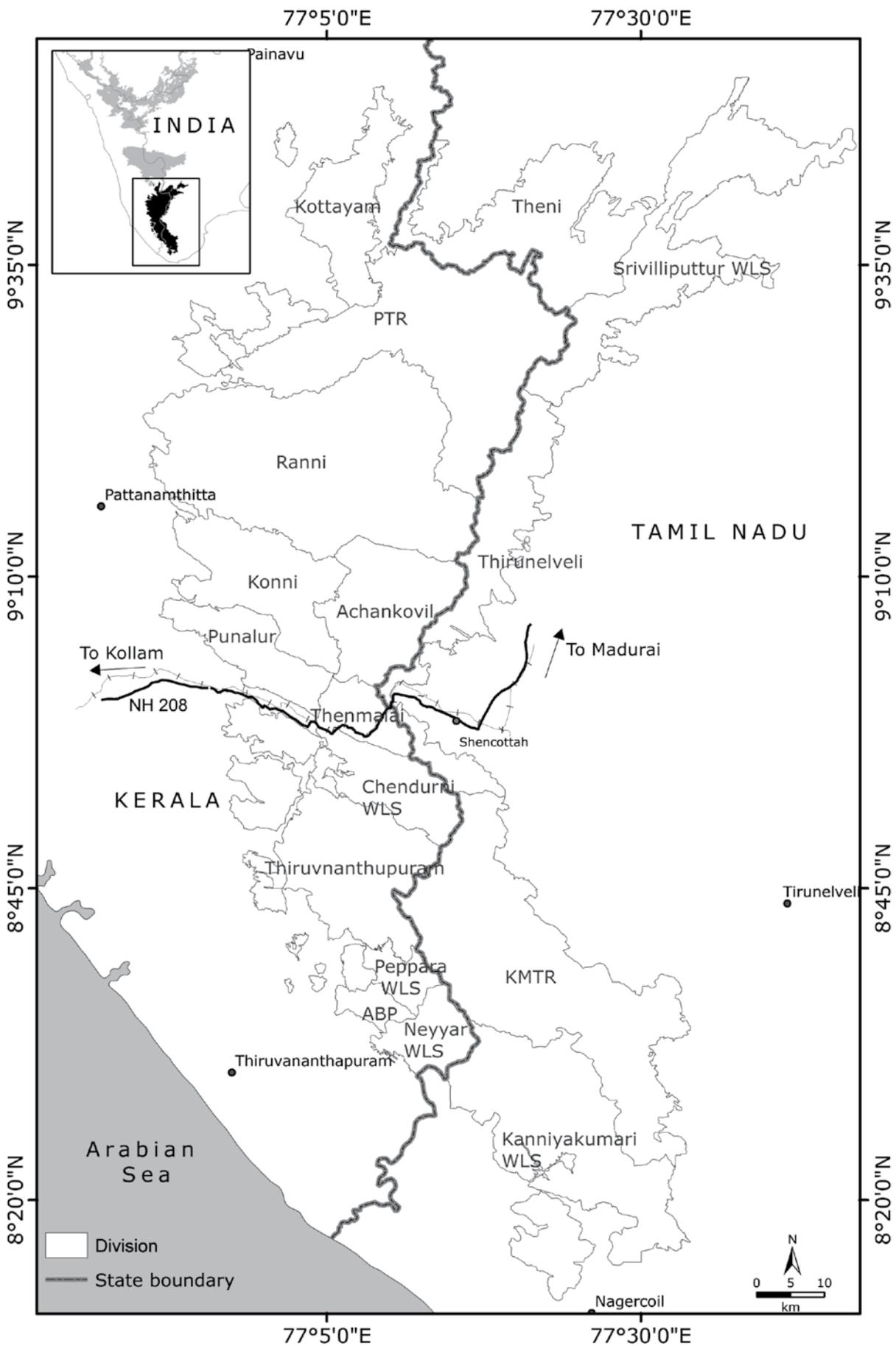


I have an exercise for you!



The list of the forest divisions and protected areas of the Periyar-Agasthyamalai Landscape is given below and there is the map. Try and identify the different Forest Divisions and different types of protected areas in the PA Landscape. Also identify which are the ones closest to you. Also, which are the ones in Kerala and which in Tamil Nadu?

Division Name	No. of corridors
Agasthyavanam Biological Park (Special Forest Division)	-
Achankovil Forest Division	-
Chendurni Wild Life Sanctuary	-
Kanniyakumari Wild Life Sanctuary	-
Kalakkad Mudunthurai Tiger Reserve	-
Konni Forest Division	-
Kottayam Forest Division	-
Neyyar Wild Life Sanctuary	-
Pepara Wild Life Sanctuary	-
Periyar Tiger Reserve	-
Punalur Forest Division	-
Ranni Forest Division	-
Srivilliputtur Wild Life Sanctuary	-
Theni Forest Division	-
Thenmalai Forest Division	Two
Tirunelveli Forest Division	One
Thiruvananthapuram Forest Division	-



**Forest divisions in the Periyar-Agasthyamalai Landscape**



The Periyar-Agasthyamalai landscape comprises the southern part of Periyar plateau, the Varushnad and Meghamalai Hill ranges, the Achankovil valley, Agasthyamalai and Mahendragiri hill ranges on the southern side. The landscape on the northern side is probably maintaining the most intact elephant range in southern India. However, human settlements, cultivation including commercial plantations, vehicular movements along the Madurai–Kollam National Highway 208 and the railway line running parallel to

the NH 208 have largely cutoff the habitat contiguity between the northern side of the landscape from the southern side. Therefore, larger mammals like the elephant, gaur, sambar deer ranging in the Agasthyamalai–Mahendragiri hill ranges are isolated from the larger population found on the northern side.



***So these plantations, human settlements, railway line and the roads divide this landscape?***

Yes as far as the wildlife is concerned it is these plantations, human settlements, railway line and the roads that really divide the landscape into two!

***So is the Landscape completely natural?***

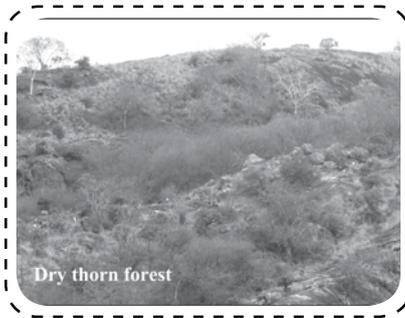


Good question!

Actually close to 80% of the area remains natural. The remaining roughly 20% area is under non forest elements like commercial plantations, settlements, cultivation, dams, roads and railways. These non forest elements unfortunately have fragmented these forests. Even then the landscape has a high richness of 421 tree species and diverse vegetation types. Tropical Dry Thorn Forests to Dry and Moist Deciduous Forests, Semi-evergreen and Evergreen Forests, and even Grasslands. This landscape also has swamps, Myristica Swamps!.

***Goodness, even forests are of so many types!! Tell me more...***





Dry thorn forest

Dry Thorn Forest



Dry Deciduous Forest

Dry Deciduous Forest



Moist deciduous forest

Moist Deciduous Forest



Semi-evergreen Forest

Semi-Evergreen Forest



Evergreen Forest

Evergreen Forest



Grassland

Grassland



Myristica Swamps

Myristica Swamps

*Dry Thorn Forests:* They comprise 5% of the landscape with the highest species richness of 252 species.

15

*I thought that since its dry and thorny there would be very little diversity. This should be called DDT - Dry Diverse Thorn Forest!*



*Dry Deciduous Forests:* They cover just 1% of the landscape and find themselves between the Dry Thorn Forest on the lower side and Moist Deciduous Forests on the upper side.

*Moist Deciduous Forests:* The Moist Deciduous type cover 20% of the landscape and have a total of 136 species.

*Semi-evergreen Forests:* They occupy over 30% of the landscape and have 225 different tree species.

*The trees start growing very tall!*



Now we come to the *Tropical Evergreen Forest* and the wet *Mountain Evergreen forests:* These forests have the second highest tree species richness, at 231 species.

*And now they get even taller.*

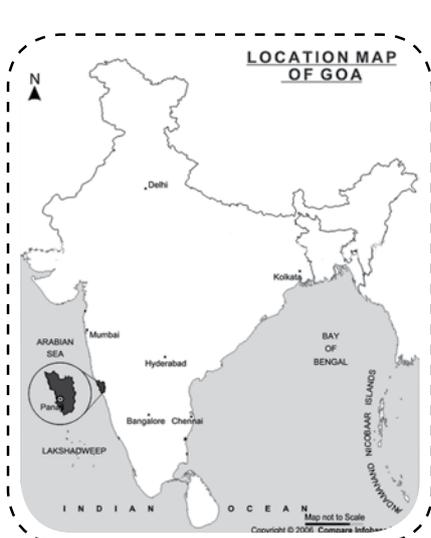
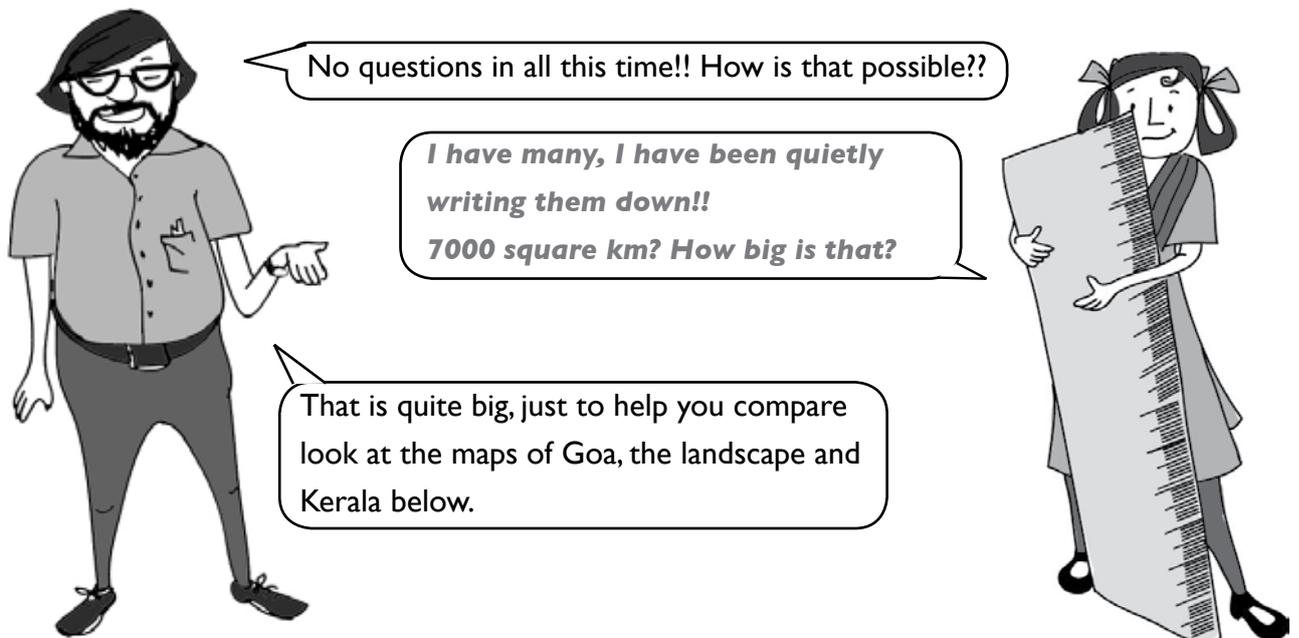


*Grasslands:* They occupy 14% of the landscape in the high rainfall area, made up of grasses, sedges and mosses and just three tree species.

***So special – first thorny trees, then trees, then tall trees, then even taller trees and then virtually no trees!***

*Myristica Swamps:* They are a unique fresh water ecosystem confined to low altitude, flat-bottomed valleys drained by sluggish streams of the Western Ghats river systems. Myristica swamps are known to exist in small patches over fifty locations on the Kerala side in Thiruvananthapuram, and Punalur Territorial Divisions and Chendurni WLS.

***Myristica swamps!! Can I call them ‘The Mysterious Swamps’ please!***



Goa = 3702 sq km



Periyar-Agasthyamalai Landscape = 7000 sq Km



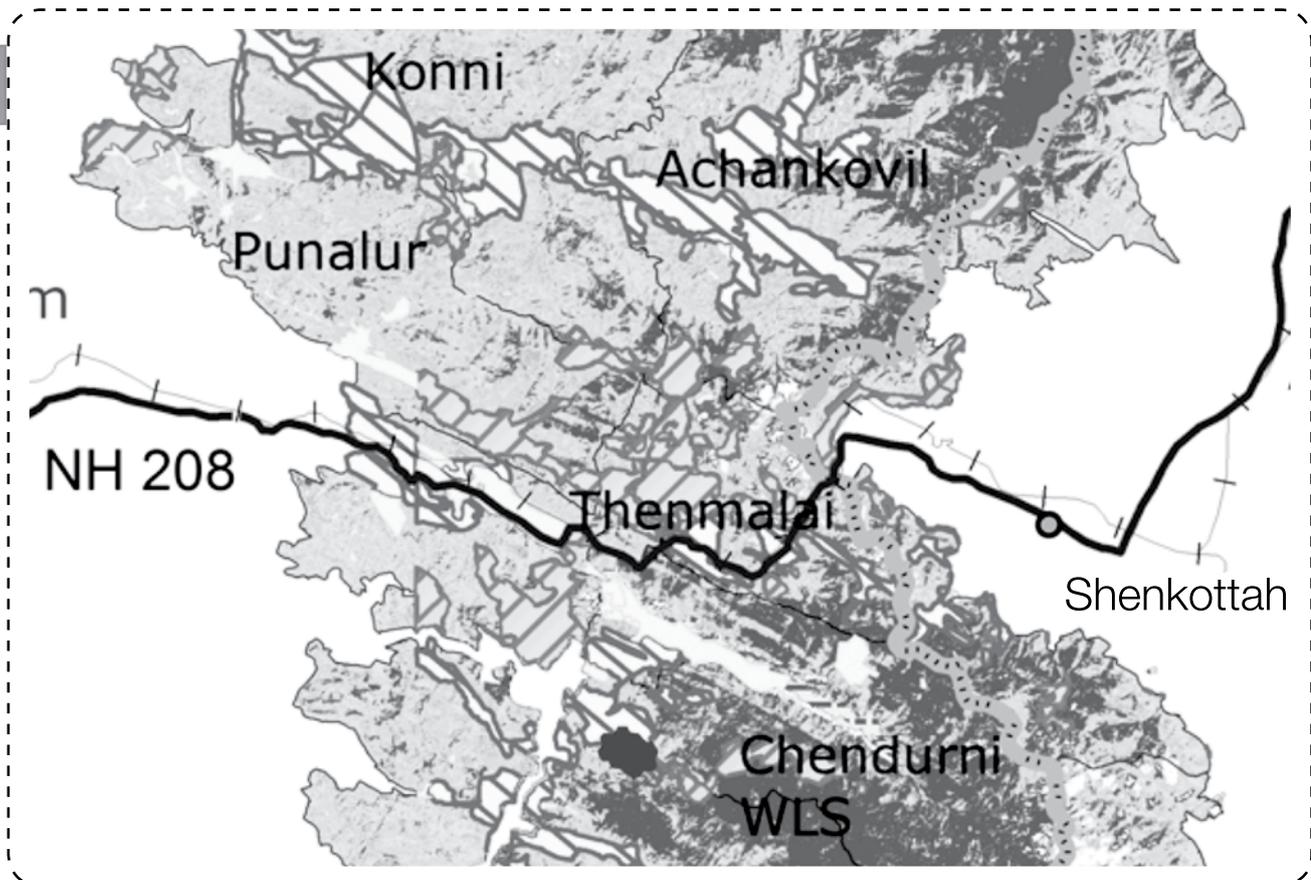
Kerala = 38,863 sq km

*You said that the Madurai–Kollam National Highway, the railway line, the plantations, human settlements have cut off the habitat contiguity. Can you please explain that?*

You have been paying a lot of attention, good! To understand this let me talk to you about Landscape fragmentation.

*Landscape fragmentation* means the emergence of discontinuities in the landscape. Fragmentation can be caused by geological processes. This happens mostly over a long period of time, like the separation of the Southern Western Ghats and the Central Highlands of Sri Lanka. Remember Gondwanaland? Or it can happen by human activity such as clearing natural forests to make way for plantations, roads, railways or by digging up the mountains for mining. Human activities can alter the environment much faster. In the case of the Periyar-Agasthyamalai landscape this fragmentation is mainly due to the Madurai–Kollam National Highway, the railway line, the plantations and human settlements that have cut off the 'corridors'. This also results in the fragmentation of wildlife populations. For example the elephant population to the north and those to the south of the Shenkottah gap have been separated and cannot mingle with each other.

17



**Shenkottah Gap**

# Corridors



*Corridor! What is that? The only one I know is where sometimes my teacher makes me stand when I get punished!!*

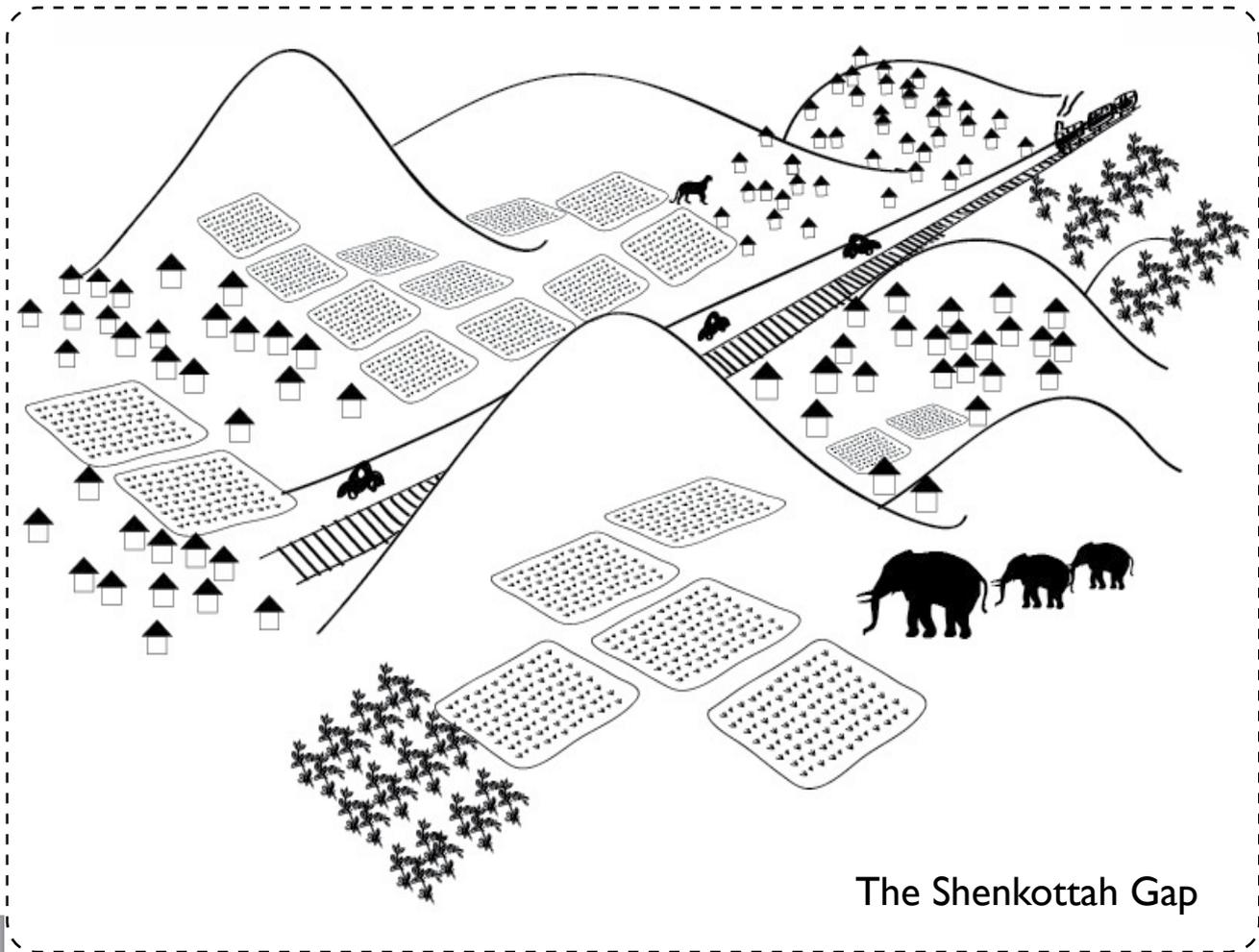
*Are there any corridors left in this landscape?*

Haha! This corridor is called a wildlife corridor. It is an area of habitat connecting wildlife populations separated by man made things such as roads, railway lines, plantations and so on. Or by human activities such as logging, agriculture and mining. Wildlife corridors enable an exchange of individuals between populations, avoiding isolation. Corridors may also help facilitate the re-establishment of populations that have been reduced or eliminated due to various reasons like disease or fire. Corridors potentially moderate some of the worst effects of habitat fragmentation!

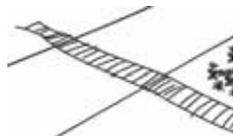
Studies have shown that there are three wildlife corridors, two in the Thenmalai territorial division and one in the Tirunelveli territorial division, though currently they are not really in use by wildlife.

The Periyar-Agasthyamalai Landscape is less fragmented than the other four landscapes of the Western Ghats. However animal movement has been literally cut off between the southern (Agasthyamalai-Mahendragiri hill ranges) and northern parts (Periyar plateau) of the landscape. Therefore a part of the population of the Asian Elephant of about 200-300 individuals is confined to the southern parts of the landscape. The same is the case for other mammals, some of whom need wide and large areas to survive. Studies also show that the two tiger reserves of this landscape; Periyar on the northern side and Kalakkad Mudunthurai on the southern side have the highest diversity of mammals. If habitat continuity can be re-established, it enhances the conservation of not only the large species but also a whole range of other wildlife.





Plantations



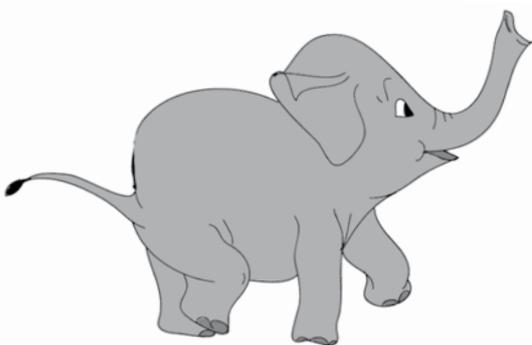
Railway Lines



Settlements - Villages

Currently, the national highway and the railway lines have cut off the corridors. One way to re-establish these corridors can be by establishing flyovers for vehicular traffic on the national highway in areas where wild animals crossed the NH in the recent past. There would be the need for a lot of other work on ground to be done, that take into account existing human settlements, agricultural land, plantations etc. Scientists and Planners have been working on on this approach. Although it is not easy, it is possible!

***Super! The next time the teacher punishes me and makes me stand in the school corridor I will think that I am an elephant that has finally got to use the corridor and move from the north to the south and the south to the north!***



# Animals of this Landscape



Now let us look at some of the species of this landscape. We have already discussed 'endemic' species. Let me introduce some terms, 'endangered', 'critically endangered', 'vulnerable' and 'threatened'.

*Can I try? Please*

Sure go ahead...



**Endangered is something 'In DANGER'**

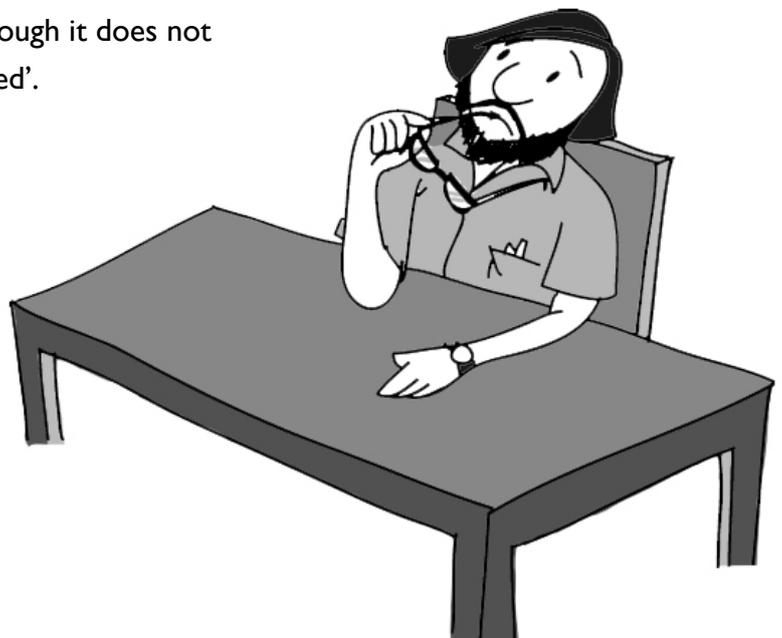
That's right, however let me explain. When we say that some species is *endangered* it means that it is found in such few numbers that it risks disappearing completely (which is called "going extinct").

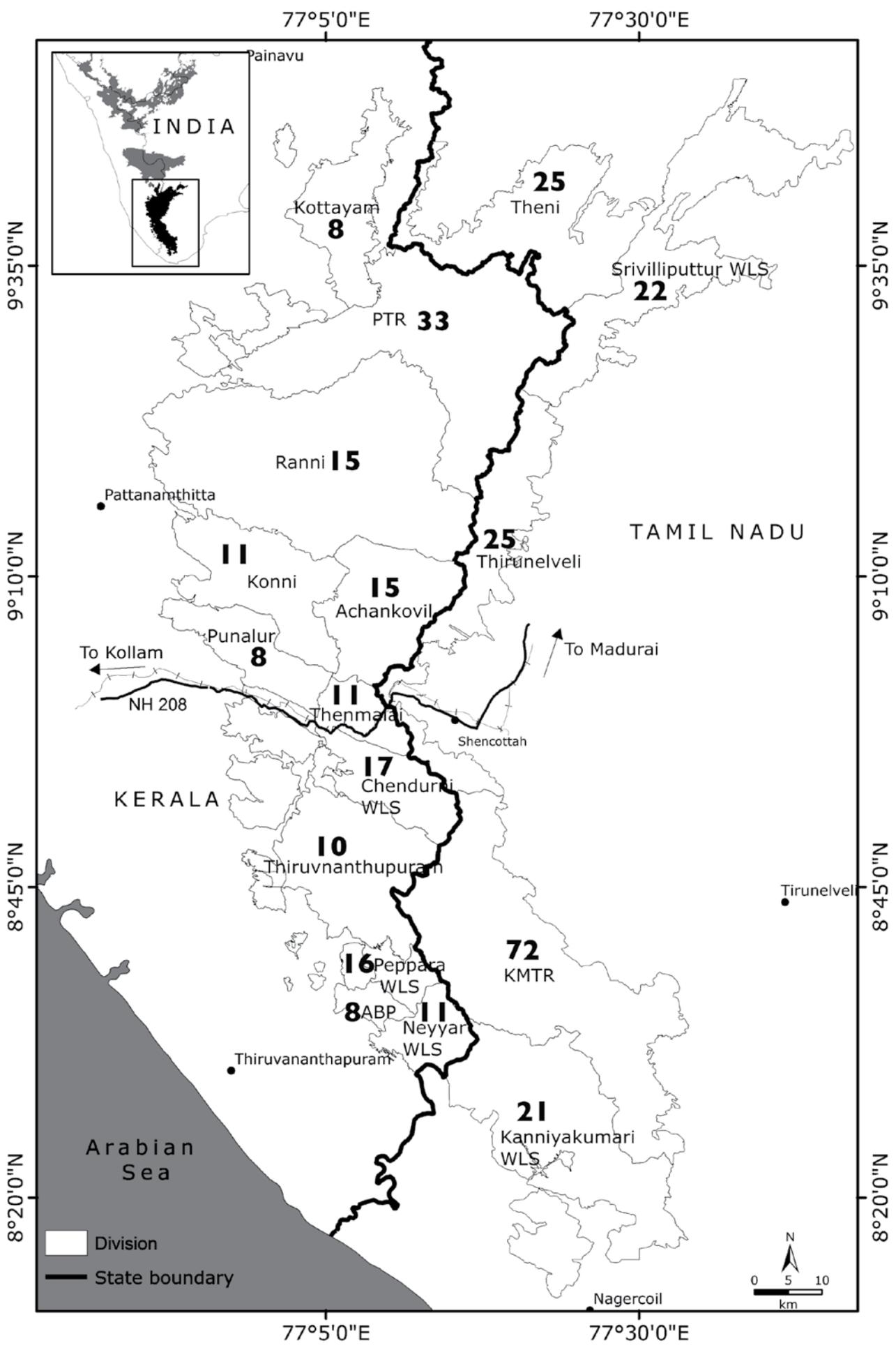
*Critically Endangered* is the highest risk category for wild species. Critically Endangered means that a species' numbers have decreased and is likely to go extinct in the near future.



A *Vulnerable* species is one which is likely to become endangered unless the circumstances threatening its survival and reproduction improve. Vulnerability is mainly caused by habitat loss or destruction.

*Near Threatened* that may be considered threatened with extinction in the near future, although it does not currently qualify to be called 'threatened'.





**Mammal species richness in the Periyar-Agasthyamalai Landscape**

# Animals of the Periyar-Agasthyamalai Landscape

The Western Ghats are home to 135 mammal species and the Periyar-Agasthyamalai Landscape alone is home to 83 out of these 135. Of the 83 species, 14 are endemic and 11 are globally endangered, including the critically endangered Malabar Civet. The Periyar-Agasthyamalai Landscape also supports 5 threatened and 13 vulnerable species.

## Grizzled Giant Squirrel

Photo: M.Saravanan

**Status: Least Threatened**

**Endemic to Southern India & Sri Lanka**

It lives in the trees and is active during the day

**Distribution:** Isolated populations mostly in the Western Ghats with significant population in the Periyar-Agasthyamalai Landscape.

**Threats:** Habitat loss and hunting

**Population:** Out of the total population of 750 – 800 squirrels, 717 are found in the Periyar-Agasthyamalai Landscape.



## Madras Hedgehog

Photo: Shankar

**Status: Least Concern**

**Endemic to Southern India**

This Hedgehog is active in the night

**Distribution:** Widely distributed, records from Andhra Pradesh, Tamil Nadu and Kerala.

**Threats:** Habitat loss due to collection of fuel wood, logging, agriculture and urbanization.

**Population:** Unknown



## Hill Shrew

Photo: Naseer

**Status: Vulnerable**

**Endemic to southern India and Central Sri Lanka.**

It is active in the day and is ground dwelling.

**Distribution:** Nilgiris, Palani Hills and KMTR in southern India.

**Threats:** Habitat loss due to expansion of agriculture, pesticide use and forest fires.

**Population:** Unknown



## Day's Shrew

Photo: Dopson

**Status: Endangered**

**Endemic to the Western Ghats**

It is active in the day and is ground dwelling.

**Distribution:** The species inhabits a small area and is known only from four localities in the southern Western Ghats.

**Threats:** Habitat conversion for plantations (tea, pine, eucalyptus, and wattle).

**Population:** Unknown



## Salim Ali's Fruit Bat

Photo: Dr. Agoramoorthy

**Status: Endangered**

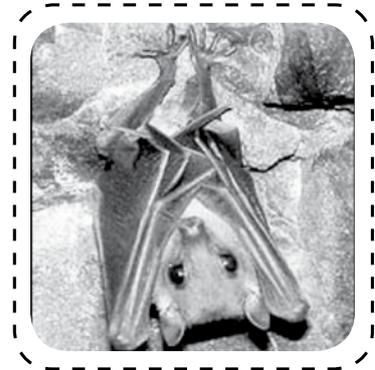
**Endemic to India**

Active in the night and lives in the trees.

**Distribution:** Localities in the Periyar Tiger Reserve in Kerala and in the Kalakkad-Mundunthurai Tiger Reserve, Kardana Coffee Estate, Meghamalai, High Wavy Mountains in Tamil Nadu.

**Threats:** Hunting for traditional cure to asthma causing disturbance to roosting sites. Tree cutting in coffee estates where permanent roosts exist

**Population:** Unknown



## Leafleted Leaf-nosed Bat

Photo: Husen

**Status: Endangered**

**Endemic to the Western Ghats**

**Distribution:** Presently known only in a few localities of Hanumanahalli and Theralli in Karnataka and Tirunelveli in Tamil Nadu

**Threats:** Mining activities and loss of foraging habitats

**Population:** Unknown



## Slender Loris

Photo: Sanjeev Kumar

**Status: Endangered**

**Distribution:** Only found in India and Sri Lanka. It has relatives on the island of Madagascar in the form of Lemurs indicating an old connection from the time of Gondwanaland.

**Threats:** Habitat loss, road kills, and hunting for the pet trade, traditional medicine.

**Population:** Total population in Western Ghats is 1500



## Nilgiri Langur

Photo: M. Sarvanan

**Status: Vulnerable**

**Endemic to Southern Western Ghats (Karnataka, Kerala, and Tamil Nadu).**

**Threats:** Hunted for its skin which is used for making drums, as well as for other parts of the body which are used for meat as well as in traditional medicine. It is vulnerable.

**Population:** Estimated between 5,000 to 15,000 in the Western Ghats with roughly 5600 – 9300 in the Periyar-Agasthyamalai Landscape.



## Lion Tailed Macaque

Photo: M. Sarvanan

**Status: Endangered**

**Endemic to the Southern Western Ghats, in the states of Karnataka, Kerala and Tamil Nadu.**

**Distribution:** Relatively wide range, though its area of occupancy is small

**Threats:** Habitat fragmentation. In the past, habitat loss was mainly due to timber harvesting and the creation of tea, eucalyptus and coffee plantations.

**Population:** About 3500 in the Western Ghats from which 741 to 900 are in the Periyar-Agasthyamalai Landscape



## Nilgiri Marten

Photo: Gita Arvind Mehra

**Status: Vulnerable**

**Endemic to the Western Ghats of India.**

**Distribution:** Habitat specific and localized within its distribution.

**Threats:** Habitat loss and fragmentation throughout its range. These threats, as well as hunting, are detrimental to this species, especially in the lower altitudes of its range

**Population:** In the Periyar-Agasthyamalai Landscape 9 numbers were reported in 2010



## Wild Dog

Photo: R. Sandeep

**Status: Endangered**

**Distribution:** Much of India, Central Indian Highlands, Western, and Eastern Ghats of the southern states. They are also found throughout north-east India, in the states of Arunachal Pradesh, Assam, Meghalaya, and West Bengal. In the Himalaya and north-western India, the dhole has a much more fragmented distribution. Dholes reportedly still occur in the Ladakh area of Kashmir, which is contiguous with the Tibetan highlands in China

**Threats:** Depletion of prey base, habitat loss and transformation, persecution and competition with other species.

**Population:** Unknown



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## Brown Palm Civet

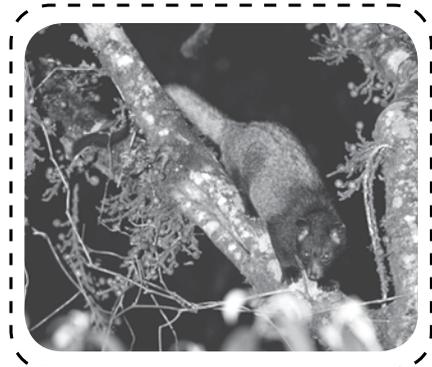
Photo: Kalyan Varma

**Status: Least Concern**

**Distribution:** In southern India, where it is found in the Western Ghats. The distribution of this species has been poorly documented due to its nocturnal and arboreal habits.

**Threats:** Illegal hunting is still common in privately owned cardamom, tea and coffee estates.

**Population:** Unknown for the Western Ghats



## Malabar Civet

Photo: Ashra

**Status: Critically endangered**

**Endemic to coastal districts of the Western Ghats in Southern India.**

**Distribution:** Coastal districts of the Western Ghats, in southern India from Kanyakumari in the extreme south to as far north as Wayanad, Coorg, and Honnavar in Karnataka.

**Threats:** Loss and degradation of forest habitat. Natural forests have completely disappeared in the entire stretch of the coastal Western Ghats

**Population:** Unknown



## Tiger

Photo: M. Sarvanan

**Status: Endangered**

**Distribution:** Across Asia, Over the past 100 years, tigers have disappeared from southwest and central Asia, from two Indonesian islands and from large areas of Southeast and Eastern Asia. Tigers have lost 93% of their historic range.

**Threats:** Habitat loss (leading to a significant decline in the tiger's range) and poaching for trade.

**Population:** 584 for the Western Ghats, out of which 58 are estimated for the Periyar-Agasthyamalai Landscape



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## Elephant

Photo: K Senthilkumar

**Status: Endangered**

**Distribution:** Formerly ranged from West Asia along the Iranian coast into the Indian subcontinent, eastwards into south-east Asia including Sumatra, Java, and Borneo, and into China at least as far as the Yangtze-Kiang.

**Threats:** Habitat loss, degradation, and fragmentation, which are driven by an expanding human population, and lead in turn to increasing conflicts. Hundreds of people and elephants are killed annually as a result of such conflicts

**Population:** In Periyar-Agasthyamalai Landscape 1738 numbers in 2005



## Nilgiri Tahr

Photo: M.Selvakumar

**Status: Endangered**

**Endemic to the Southern Western Ghats**

**Distribution:** Limited to approximately 5% of the Western Ghats in southern India, in Kerala and Tamil Nadu. The animals are more or less confined to altitudes of 1,200 to 2,600 meters.

**Threats:** Habitat loss (mainly from domestic livestock and spread of invasive plants) and poaching.

**Population:** Total for the Western Ghats is estimated between 2750 to 3000, out of which 800-1234 are found in the Periyar-Agasthyamalai Landscape



## Malabar Giant Squirrel

Photo: S Karthikeyan

**Status: Least Concern**

**Endemic to south-western, central and eastern peninsular India**

**Distribution:** The Western Ghats, Satpuras and the Eastern Ghats in Andhra Pradesh, Chhattisgarh, Gujarat, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra and Tamil Nadu.

**Threats:** Degradation due to expansion of agro-industry based large-scale and small-scale plantation, monoculture plantation, clear felling, selective logging, construction of dams, hunting for consumption.

**Population:** Unknown



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## Travancore Flying Squirrel

Photo: Thomas Vattakavan

**Status: Not Threatened**

**Endemic to Southern India and Sri Lanka**

**Distribution:** Wide distribution range in the two countries. In India, it is known from many fragmented locations in the states of Kerala and Tamil Nadu, from Brahmagiri Wildlife Sanctuary and Makutta in Coorg in Karnataka, while in Sri Lanka it has been recorded from many fragmented locations in Central, North Central, Sabaragamuwa, Southern and Uva provinces.

**Threats:** Habitat loss due to expansion of agriculture, small wood plantations, small-scale logging, infrastructure development and human settlements

**Population:** Unknown



## Servant Mouse

**Status:** Endangered

**Endemic to the Western Ghats of Kerala and Tamil Nadu**

**Distribution:** Restricted to four fragmented locations

**Threats:** Outside of protected areas the habitat quality is affected due to general human interference

**Population:** Unknown



*My God! We should do everything to save them. Some of their numbers are even less than the number of children in my school!*



# Conservation



This brings me to the important subject of “Conservation”. Conservation very simply put, is protection and management of nature. To protect the tiger or the elephant we need to protect and manage the forests and the landscape in which they live.

*I understand the importance of protecting these rare species now, but many of my friends do not! How can I explain this to them?*



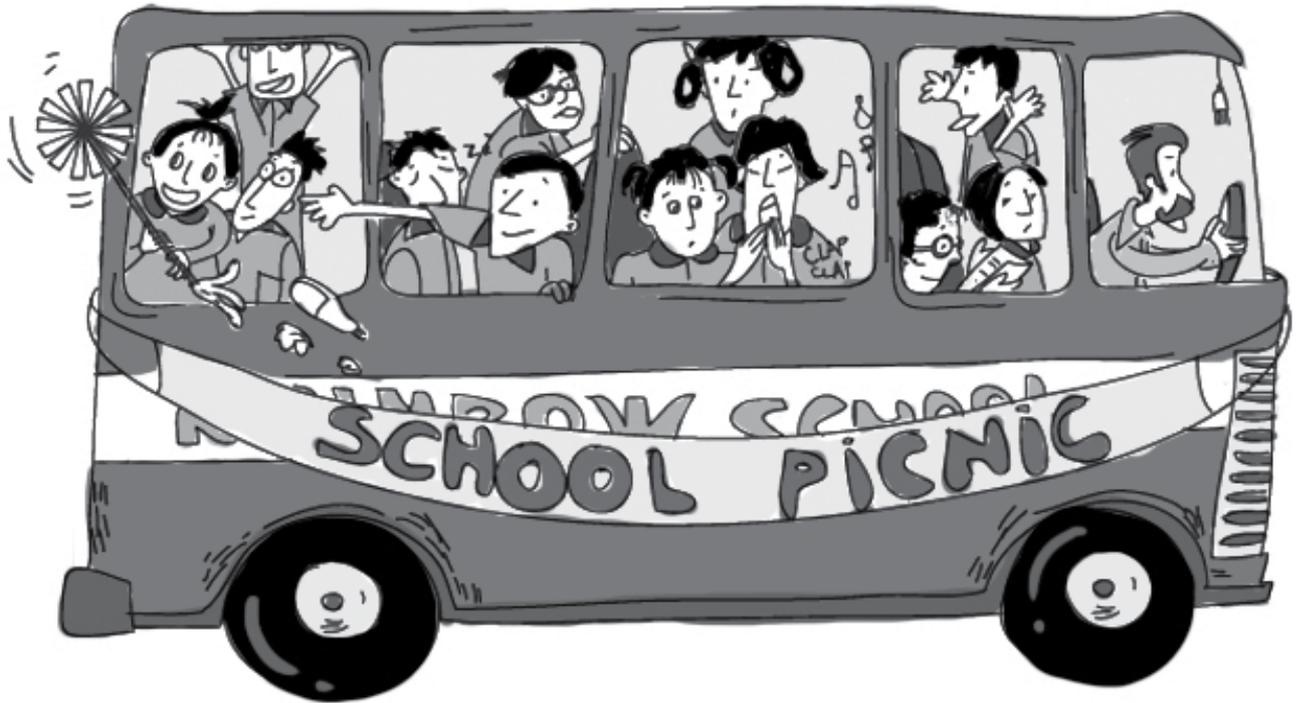
Very good question.

Conservation, protection and management does not only have benefits to the animals, plants, insects, reptiles but also very important for humans. Without these protected areas just think what would happen to our sources of life giving water. The Kalakkad Mudunthurai Tiger Reserve alone provides water to 14 rivers and streams that is the backbone of irrigation and drinking water for the people of Tirunelveli, Tuticorin and parts of Kanyakumari! The same holds true for other parts of the landscape.



The Periyar-Agasthyamalai landscape can be visualised as the OHT (over head water tank) of south and central Kerala and the southern rain shadow districts of Tamil Nadu. The water security this landscape provides is vital

## What can I do to help?



**Talk to your friends, teachers, family about this unique landscape. Explain that it is one of the 34 Bio-diversity hot spots of the world.**

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**Explain its importance as a vital source of water for the entire region**

**When travelling through the landscape drive slowly and keep a look out for animals, small and large that may be crossing the road**

**Do not throw bottles, plastic covers as they do not degrade and cause harm to wildlife.**

**Do not throw food waste or feed animals as some animals may get into the bad habit of relying on this food and it will have a negative effect on their behaviour and their health**

**Do not make noise, shout or sing loudly**



**Do not stop your vehicle and get down when you see some animals or for any other purpose while passing through the forest. These are wild animals and this can be dangerous**



## This book....

...has been prepared as part of the Critical Ecosystem Partnership Fund (CEPF) supported project, "Conservation of the Periyar-Agasthyamalai Landscape in the Southern Western Ghats: Knowledge Generation, Dissemination of Information and Capacity Building for Key Stakeholders" The project aims to take Asian Nature Conservation Foundation's (ANCF) GIS based conservation database for this landscape, update and strengthen its biodiversity data holdings and put out the consolidated database into the public domain. The biodiversity information from the database, with its scientific and management components, mainly focused on the elephant ranges of the landscape, will be used to develop resource material for structured programmes of capacity building for conservation stakeholders including natural resource managers within the Forest Department staff of Kerala and Tamil Nadu and community groups in and around the critical habitat areas and habitat links within the landscape.

### **Critical Ecosystem Partnership Fund (CEPF)**

[www.cepf.net](http://www.cepf.net)

Founded in 2000, the CEPF is a global leader in enabling civil society to participate in and benefit from conserving some of the world's most critical ecosystems. CEPF provides grants for nongovernmental and private sector organizations to help protect biodiversity hotspots, which are amongst the Earth's most biologically rich yet threatened areas.

### **Asian Nature Conservation Foundation (ANCF)**

[www.asiannature.org](http://www.asiannature.org)

ANCF, established in 1997 as a charitable trust is constituted as an independent group of conservation professionals. It works closely with Government agencies, sister research and education institutions, civil society groups and community organizations towards supporting the conservation of biological diversity in India.



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