

6.BIODIVERSITY AND ITS CONSERVATION



Fig-2 Great Indian Bustard



After attending the Nature Prayer (see backside cover page) that is conducted every Friday in their school, Rani and her friends went to have a look at the Bulletin Board. It had a Newspaper cutting published in connection with World Biodiversity Meet-2012 –Hyderabad. Let us read it.

Two AP species on world's 100 most threatened list

D.c correspondent

Hyderabad, SEPT - 11

Of the four species from India that featured in the list of the world's 100 most threatened species (released on Tuesday), two are from Andhra Pradesh. In the list released by International Union for Conservation of Nature and the Zoological Society of London, Gooty tarantula, a spider found in Nandyal and Giddalur areas of Kurnool and Prakasham and the Great Indian Bustard found in Rollapadu Bird Sanctuary in Kurnool are mentioned as the most threatened. Gooty tarantula, scientifically known as *Poecilotheria metallica*, is sold online in the US and Europe markets. Habitat loss, deforestation and firewood collection are said to be the reasons for the numbers of this spider to be dwindling. It was suggested that habitat protection, awareness at community levels, inclusion in the National Wildlife Protection Act and national and international trade legislation would help these species. The Great Indian Bustard, estimated now to be numbered anywhere between 50 to 249 in Rajasthan, Gujarat, Maharashtra, Andhra Pradesh, Karnataka and Madhya Pradesh, is threatened due to diversion of forest land to agriculture. ZSL and IUCN presented the Priceless or worthless? list at the IUCN World Conservation Congress recently held in Jeju, South Korea.



Fig-1 Gooty Tarantula spider



Fig. 2

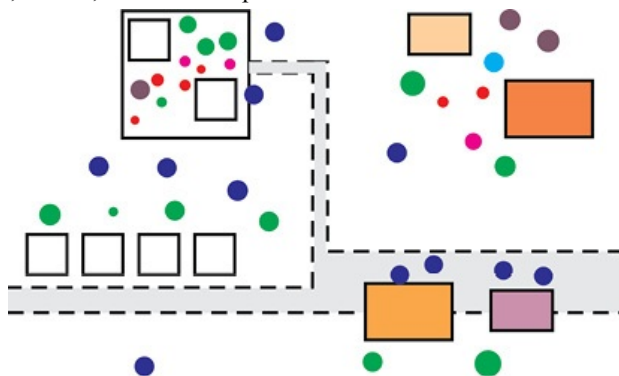
It was dinner time. All the family members sat together. Rani's grandfather asked her about the activities going on in the school. Rani told him about the International Biodiversity meet. She also told about the animal species of our state (The *Great Indian bustard* and the *Blue spider Gooty Tarantula*) that were on the endangered list! Her mother then pointed out about sparrows, which were commonly seen everywhere earlier but seemed to have disappeared now. Even the crow, myna and koel have become a rare sight. Her grandfather told them that, how the big banyan tree of their village, was a host to many birds, animals and insects earlier, was cut down, in spite of protests! Her father joined to tell about Tribals who visited the houses often in the locality selling honey earlier, occasionally do so now.

What is Biodiversity?

About 30-40 year ago variety of birds like crane, sparrow and parrot were also seen frequently. Now, only crows are found in our surrounding. How do you feel whenever you go to a garden? you expect to be delighted with beautiful flowers. If only red flowers are found there, how would you feel? Would you like such kind of environment?

Activity-1

Rani listed out the organisms in her surroundings in the following manner. First she drew a sketch of her house and its surroundings on a paper. She drew squares and circles numbering them serially 1 - 20. Now she marked plants, humans, animals, birds, insects, others with a particular colour code as shown in the figure below.



Colour code

| | |
|-------------|-----------------------------|
| Plants - | P - Dark green (Big Plants) |
| | Light green (Small Plants) |
| Animals - | A - Red |
| Humans -H - | Dark blue |
| Insects - | I - Brown |
| Birds - | B - Pink |
| Fish - | F - Blue |

Now conduct a survey ,as done by Rani, around your school or your house. Then make a block diagram of your observation. Display it in your classroom.



Think and discuss

- How many different colours could you mark on your sheet?
- What does the colours indicate?
- What does your total colour code count indicate?

Activity-2

Try to carry out the same survey (if possible) when you go for a trekking to a nearby forest, orchard or crop field. Take care not to miss anything like the bird's nests, cobwebs, worms, leaves, insects, mosses etc. At the same time please don't disturb any nest. Use above colour code for this activity also. Now you need some colours to prepare your block diagram. The wide variety of wild life will amaze you. Let us do the following...

- What are the things that attract you very much in the nature?
- While observing things lots of thoughts may come in your mind about nature.

Write your feelings without any hesitation.

- Compare both the block diagrams and write your findings.

Diverse world of life under a microscope

The whole world before you has wide variety of living organisms. Is invisible living world also the same? In the chapter The story of micro organisms you have learnt about different microorganisms like algae, fungi, bacteria, viruses etc, and also about the micro arthropods. Is the world of microbes diverse as well?

We can see that both the microbial world and the visible world around us are diverse. But have you ever wondered how they became so diverse?

Let us take some examples and see how an area becomes rich in diverse forms.

A variety of living organisms are present in an area and they vary in different aspects. Is it possible to find any variations even within the similar types of organisms?

Activity-3

Finding variations in plants and animals

Do the following activity in groups of 5 each. To do this, you need a tabular column. You have to prepare your own suitable tables for observations.

Part-I: Variations in plants:

Collect 2 similar grass plants (nearly of the same height) and observe them carefully.

Enlist at least 5 differences. (You can add more differences to your list)

Enlist at least 5 similarities. (You can add even more)

Part-II: Variations in animals.

Observe 2 animals of similar kind like hens, dogs, goats etc.,

Do you find any difference in the colour of fur, nails, claws / hoofs etc. If they are birds enlist at least 5 differences in their feathers, feet, crown, tail etc.

Part-III: Variation in human beings

- Observe two students of your class. Do they appear similar?
- Observe their hands, fingers, toes, nails and hair. Are they same in height and shape?
- How is the texture of the skin? Is it dry, oily, smooth or rough?
- Observe two of your classmates who are twins.
- Will they look same in structure and shape? Write your observations.

Activity-4

Collect and paste some pictures of your favourite cricket players belonging to countries like West Indies, Australia, India etc., in your note book.

Write the differences and similarities that you have noticed in them. What diversity you observed?

Display the findings of the above activities in the class and discuss the following questions.

- Are there any two organisms with 100% similarities between them?

- Why do they differ from each other?
- What will happen if all plants are creepers?
- Hen and goat both have legs. What diversity do you find between them?
- Are all the nests of birds similar why?

Do animals all around the world have similar organs and functions? What is the diversity behind them?



Fig. 3

Based on the surveys and above clipping we can summarise that many kinds of plants and animal varieties exist in this world. Though they look similar, upon careful observation we find differences or variations between them that leads to Biodiversity (Biological-diversity). Diversity is the nature's way. There is no mononamy or uniqueness in structure and functions of nature even at micro level also.

Biodiversity: a case study

To understand the concept of biodiversity we need to observe present scenario. For this here is a case study of Ramagundam forest of Karimnagar district.

Rampachodavaram :

East Godavari District, 60-70 years back Rampachodavaram had dense forest with a rich heritage of wild life. These forest extended to border areas of Aswaraopet of West Godavari district. It was an abode for wild animals like tigers, leopard, deers, hyenas (kondrigallu), foxes, wild boars (adavi pandhi), bears, pythons, cobras, porcupines (mulla pandhi), owls, hares, monitor lizard (udumu) scorpions, geremandals (like the desert spider) etc.

After the erection of mines (Colour soil) and other industries, human activities increased. Then many buildings, roads and stone quarries have come into existence. Forest area was cleared and so several organisms started disappearing.

Though an area near Maredumilly, Addateegala (very close to Eleswaram) was once known as Tiger valley, shows no signs of tigers now. Animals like, foxen, deers are also not seen these days.

Now there are several human settlements in the area. Some areas of less dense forests with animals like pythons, cobras, deers, scorpions etc are commonly seen. Bears are rarely found. Peacocks have been sighted recently.

The above case study explains you the need for conservation of biodiversity.

- What is the difference between the situation regarding types of animals present 70 years ago and now?
- What might have happened to tigers of Ramagundam?
- Do we find tigers anywhere else in our country?
- Peacocks love eating snakes. Can you guess why they dwell in this place?

Based on the case study we find that many animals that were found earlier are not found now.

For example the disappearance of tigers from that area (Ramagundam) means it is extinct for that particular area only. But, can be found in other parts of our country and the world as well.

When animals vanish forever from the earth it is said that the species has become Extinct.



Do You Know?

According to noted ecologist E.O. Wilson every year nearly 10,000 species or 27 species per day become extinct throughout the world. If this trend of extinction continues, the very existence of man will be affected.

There are several stories like the case study Ramagundam in every part of the world. Why this kind of situations takes place? Who is responsible for this?

- Is there any extinct species in your area? Name them and write a note on them.
- Give your reasons as for why the organisms become so extinct.
- How biodiversity is depleting in your area? How to improve it?

Endangered species

Observe a sign board displayed at a zoo. "Do you want to see the cruel creature which damage severely to the nature and its biodiversity. Please turn this sign board" (There is a mirror backside of the sign board). What does it say?

Vanishing means, it is a warning signal about the organisms whose number have declined rapidly and the species might be wiped off from the earth in near future. Such organisms are called as Endangered Species.

Keeping track of Endangered Species.W.W.F.(World Wildlife Federation) or the I.U.W.C (International Union for Wildlife Conservation) published a book containing the details of endangered and threatened species of Flora and Fauna called as **RED DATA BOOK or RED LIST BOOK**.

The Red data book symbolizes a warning signal for those species which are endangered and have to be protected. Otherwise they are likely to become extinct (disappear from earth for ever) in the near future.

The following figures show endangered species of plants and animals of India.



Lion



*Red fox
vulture*



Single horned rhino





Spotted chital deer

*Loris
Wild cat*

Black spider monkey



Cycas



*Rauvolfia serpentina
Sandle wood tree*



Nepethes



Let us observe the following table of different endangered species

| Flora and Fauna | Name of the species |
|-----------------|---|
| Plants (Flora) | Orchids species, sandalwood tree, cycas, medicinal plants, Rauvolfia serpentine etc. |
| Animals (Fauna) | Leopard, Indian Lion, Indian Wolf, Red Fox, Red Panda, Tiger, Wild Cat, Hyena. Gharial, Tortoise, python, Green sea turtle etc. Peacock, Great Indian bustard, Pelican, Great Indian horned bill etc. Golden monkey, Lion tailed macaque, Nilgiri Languor, Loris |

Endemic Species

Observe the pictures and identify the animals. Also try to find out where these can be found?

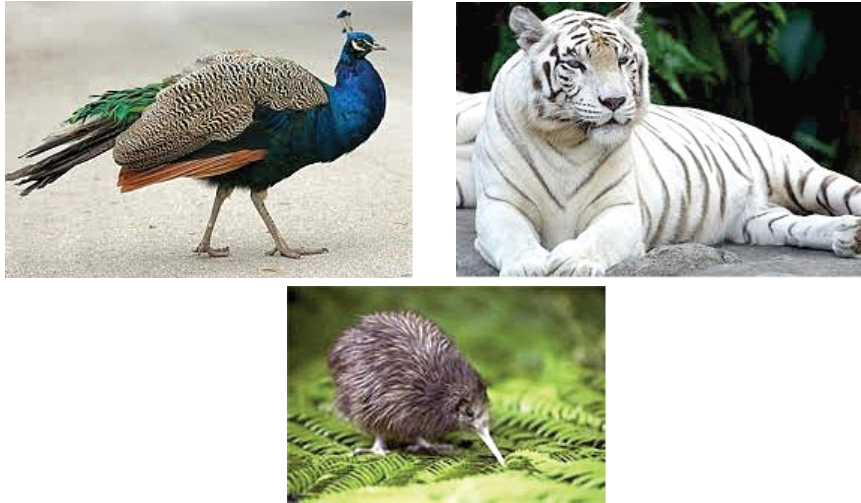


Fig. 4

You may find that these animals are specifically found in certain regions of the world.

You are also aware of the fact that many plants and animals are widely distributed throughout the world. But some species of plants and animals are found restricted to some areas only. Plants or animal species found restricted to a particular area of a country are called **Endemic Species**.

- Name an Endemic Species of our State?
 - You may notice that kangaroo is endemic to Australia and Kiwi to New Zealand. Can you tell which among the above pictures represent an endemic species of India?
- Name some other endemic species of India.

You can take help of books from your school library or internet.



Do you know?

India shows a good number of endemic species. About 62% of worlds' amphibians and 50% of lizards are endemic to Western Ghats of India.

So far we have been using the term species as endangered, extinct etc. but, 'The Species Concept' doesn't include all organisms. Species concept applies to majority of the organisms that interbreed among themselves or capable of sexual reproduction. Many animals, flowering plants and microorganisms reproduce sexually.

But, all the organisms do not reproduce sexually. There are several organisms that produce by asexual mode of reproduction. eg. bacteria, yeast cells, hydra etc. The species concept does not apply to all these.

Origin of biodiversity and balance in nature

We know that many habitats exist in nature which are quite different from each other. There are diverse forms in nature. There are different ways of nature that allow the diverse forms to take their places and roles in nature. Natural calamities like floods, earthquakes, forest fires or human intervention wipes out diverse forms in an area, yet after some time we find organisms growing in those areas.

The process often occurs as sudden invasion of organisms like plants, insects, microbes, humans etc. They interact with each other and form new habitats and increase in numbers till the habitat gets balanced in its own manner.



Do you know?

Invasive Alien Species (IAS)? When alien species (non native species) is introduced or invades, it spreads outside the natural habitats and threatens biodiversity. Even transport of few species to new environment becomes invasive. Their negative impacts on food, security, plant, animal and human health can be extensive and substantial. eg. The Spanish flag plant of the forests and the water hyacinth of lakes are most notorious for invasions. In cities like Hyderabad invasion of pigeons (a non native species) lead to decrease in crows. Now a days a city like Hyderabad lacks these natural scavengers.



Fig. 5(a)
Hyderabad pigeon



Fig. 5(b)
Water Hyacinth

Diversity is not only seen in wild plants and animals. There is also a great diversity in food crops. Do you know 50,000 varieties of rice plants were grown in India but now we use just about a dozen of them. Nearly five thousand plant species were used as staple food by humans, but now less than twenty species feeds the majority of the world's population.

Ask your parents about various names of paddy. You will learn more about variety of food crops in the chapter 'Production of food from plants methods of management'.

Value of biodiversity and its conservation

Why should we conserve a small insect like a bee or a butterfly?

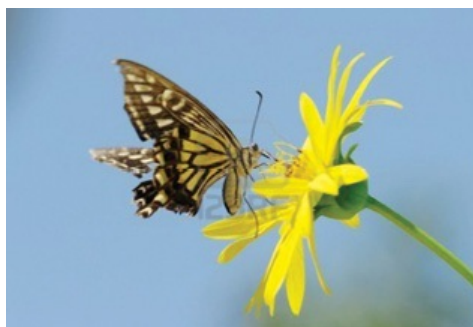


Fig. 6

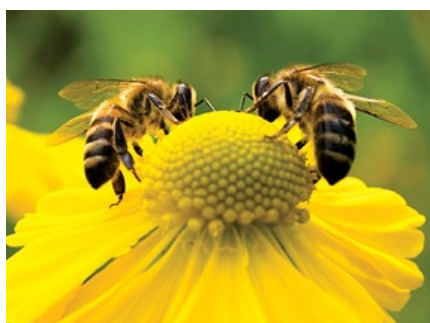


Fig. 7

Observe the above two insects. They are sucking nectar from the flowers. In what way do the flowers get benefit? Most of the flowers get pollinated through bees and butterflies. The number of these insects are decreasing due to spraying of pesticides and so on.

- What will happen if these insects become extinct?
- What can be done to save these insects?

Efforts towards conservation

Measures of saving flora and fauna so that they are not lost from the earth surface are carried out through conscious steps of conservation. In our country we have forest areas demarcated as national sanctuaries reserved forests and parks to conserve different types of flora and fauna.

Government of India has taken initiative to conserve wildlife by making National parks and Sanctuaries to conserve forest, flora and fauna from being destroyed.

Let us read a case study: Project Tiger

Tiger the largest member of the cat family is the most threatened of the world's carnivores. India has 60% of the world's tigers. For the past 5 years the tigers population decreased to an average of 35% due to poaching and other reasons. In 1972 Government of India launched this project to save the tiger from the brink of extinction. The health of the ecosystem depends upon the well being of tiger .At present there are 27 tiger reserves in our country covering an area of 35000 Sq km. This project helped in increasing the number of tigers from 2000 in 1973 to 3800 today. The success of the project was achieved by enforcement of strict anti poaching measures and scientific conservation practices.



Fig. 8



Think and discuss

- How can project tiger help to save wildlife?
- What will happen to deer population in a forest where tigers were present earlier?
- What will happen to the plants in such an area where tiger inhabit?
- Why protection of forest is a must?

The above case study of project tiger clearly shows that it's not just saving the tiger but conservation of the other flora and fauna related to the tiger is also very important. For example if a Tiger has to be saved, its Food Web should be protected. The tiger depends for food on the deer and many other herbivores. If the tiger disappears, the deer and other herbivore population will increase and that would affect the flora of the area. All organisms in nature influence each other in some way or the other so we need to protect all of them.

Hence, many areas of forests have been protected against human interference.

Activity-5

Let us recall 'Forest our life' that you studied in the previous class. Have a discussion about forest and forest people who help to conserve biodiversity in your class. Write a note on what you understood by human intervention and its impact?

But, are not humans a part of the nature as well? There are many people who are completely dependent on forests and live there. What will happen to them if they are removed and not allowed to live in the forest?

What is a national park and a sanctuary?

A national park is a large area hatched to conserve the wild life, particularly the wild animal species in their natural habitat. For example lions, tigers, rhinocerores etc. No human activity is allowed in any form. Even grazing of domestic animals is prohibited. eg. Jim Corbett National Park, Nainital district of Uttarakhand.

A sanctuary is a place where conservation of species takes place with an objective of allowing human activity in a limited way without effecting the habitat. Eg. Pakal Sanctuary Warangal.

- Collect information about various National Parks and Bird Sanctuaries in our country and show in India map.



Do you know?

Some endangered animals are brought from the wild area and raised in the zoo and released into the wild area again. Here some conservationists disguised as pandas feed the animal before leaving it into the wild. It gives a natural feeling of being fed by mother and living between the pandas. They can survive without human care.



You have studied in your earlier class about different ways in which forests are conserved. Write about some of them. Lakes and streams are drying up and plenty of organisms living there are being lost. Suggest some ways in which these areas could be conserved. You could refer to your class VII textbook for the same.

Importance of Biodiversity conservation

Conservation of biodiversity is an important issue to protect our nature for the future generations.

Following are the ways to conserve biodiversity. Try to enrich this list in your own way.

- Without biological diversity, we would perish.
- Food webs would be disrupted and organisms will become endangered and then extinct.
- Perhaps the most important value of biodiversity, particularly in a country like India, is that it meets the basic survival needs of a vast number of people.

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Project work:

Studying migration and its effect on biodiversity of an area

Look at the sky in the morning and evening.

Do you observe birds flying in groups

(if possible use a binocular for a better vision)

Note the types of birds observed everyday for atleast a period of 6 months.

Did you get the same number and types of birds every day?

Was there any sudden variation in a particular season?

Did you notice any new type of bird population in any season?

Discuss with your friends about the effect of the presence of such a population.

Why do these birds move from one place to another?

Sometimes at night we see birds flying in groups. Where do they fly? Think.



Fig. 9



Fig. 10

Sometimes some birds live in the same habitat throughout the year. Other birds which don't have permanent nestlings and join into small flocks and move from one region to the other for food and shelter (nesting habits) called as 'Migration' and such birds are called as 'migratory birds'.

During rainy season most of the birds from far away places migrate to Kolleru and Pulikot lakes of our State. They build their nests on the trees in the nearby villages also. In the olden days people believed that these migrated birds are divine ones. But now a days most of the trees are getting cut down. There is hardly any place for birds to build their nests.

Think and discuss in what ways human activities disturb biodiversity.



Activity-6

Do you know the Siberian cranes to escape the winter and food shortage migrate from Siberia (Russia) to India covering a long distance? Collect information about bird migration from your school library or internet and make a booklet on bird migration.

A small step towards saving forests-Recycling of paper:

A student of an Engineering college sent a message to his teacher on mobile 'Please stop examination – Save trees'.

Even though it is a funny comment it raises the need of thought towards reducing usage of paper and importance of recycling of paper.

Why should we recycle paper?

We write many things on paper. Often we waste more paper than we write. Incompletely written papers or scribbled

ones are usually wasted.

- Try to enlist where paper is generally mis used?

As papers are valuable products made from a green source, which is decreasing day by day we should use it thriftily.

To make a ton of paper 17 trees have to be cut down. Wasting paper or using more paper means felling more number of trees causing deforestation.

Using more paper involves using more chemicals that's harmful to us and nature too. Another interesting fact is that the paper can be reused by recycling it 5-7 times.

Project Work :

How to make recycled news paper from waste news papers?

Materials:

2 plastic tubs, wooden spoon, water, clean cotton cloth, old news papers, wire screen, measuring cup, plastic wrap, blender, heavy books / roller.

Procedure :

1. Cut the newspaper strips and soak in a tub with full of water for a day.
2. Put two cups of soaked paper and six cups of water in a blender. Blend till the mixture turns into a pulp (like runny oat meal). Pour it in a clean tub.
3. Fill the tub with one fourth of blended paper pulp.
4. Lay a cloth on a flat, waterproof surface. Slide the wire screen under the wet paper. Remove the screen gently. Press the news paper pulp to squeeze out any extra water.
5. Carefully flip the screen on to the cloth. Press it down firmly. Remove the screen.
6. Lay another cloth on top of the mixture. Cover the cloth with a plastic wrap and stack the books on the wrap.
7. After several hours remove the books on the cloth and let the paper dry.
8. You can even use a hair dryer to blow the paper dry.
9. By adding few drops of edible colours to the pulp you can make your paper colourful. Iron the new made paper with a iron box and cut it to your required size and shape.
10. Beautiful greeting cards, file covers, bags etc can be made using recycled paper.

Compressed Cardboard

How is it prepared? Is it sustainable? For our comfort and convenience we use wood for making doors, furnitures etc. Earlier furnitures were made using long wooden planks or blocks of wood.

This involves cutting many trees that leads to deforestation. But now a day's compressed cardboards are widely used. Lets know how it's made. It is made from the pulp using bits of wood, saw dust etc. Sulphate chemicals is added to the pulp to extract cellulose.

The pulp is spread evenly as layers and the saw dust sandwiched between the two layers. This is compressed and dried it becomes hard and strong as wooden board. For making compressed cardboards bits of wood and saw dust is required. Hence there is no need to cut down the whole tree. This helps in reducing deforestation.

The existence of biodiversity in nature teaches us that every plant and animal whether useful or not has right to exist on earth. Every organism is a part of our ecosystem. Loss of any organism endemic or otherwise effects the food chain and food web of that ecosystem, which has impact on the survival of other organisms. Hence if we want to protect the biodiversity on our planet first we must be a part of conservation and then make others aware of it. Otherwise today we see extinction of some species tomorrow it could be our species.

Conserving the biodiversity in a wider perspective is utilizing the forest resources judiciously without affecting the ecosystems so that we can have a sustainable development and the biodiversity can be conserved and life on earth survive forever.

Nature is for human's need, not for his greed. We usually think of how to utilize nature for our own benefits. We never think of what to do to conserve nature. Human being is only a part of the nature. He is not the whole. If we protect nature it protects us. This earth belongs to all animals and plants and every organism have equal right to live. Human beings must be sensitised in this aspect to protect biodiversity.



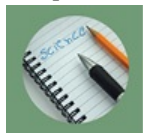
Key words

Biosphere reserve, Biodiversity, Endemic species, Flora and Fauna, Deforestation, Endangered species, Extinct species, Red Data Book, National Park, Sanctuary, Migration, invasive, alien species, Conservation.



What we have learnt

- Forests are Biosphere Reserves.
- The variety and variability seen in plants and animals is called Biodiversity.
- The plant or animal species of a particular area (zone), region or country is called Endemic Species.
- Species of plants and animals that have vanished from earth for ever or called Extinct.
- Plants and animal species that are on the verge of becoming extinct are called Endangered.
- The book published by IUWC that contains the details of Endangered and Extinct Species is called RED DATA BOOK.
- Conservation of wildlife along with environment is seen in National Parks.
- Conservation of wildlife, mostly birds is seen in Sanctuaries.
- Movement of birds for nestling from one region to another is called Migration.
- Paper should be used thriftily. Using more paper causes more deforestation.



Improve your learning

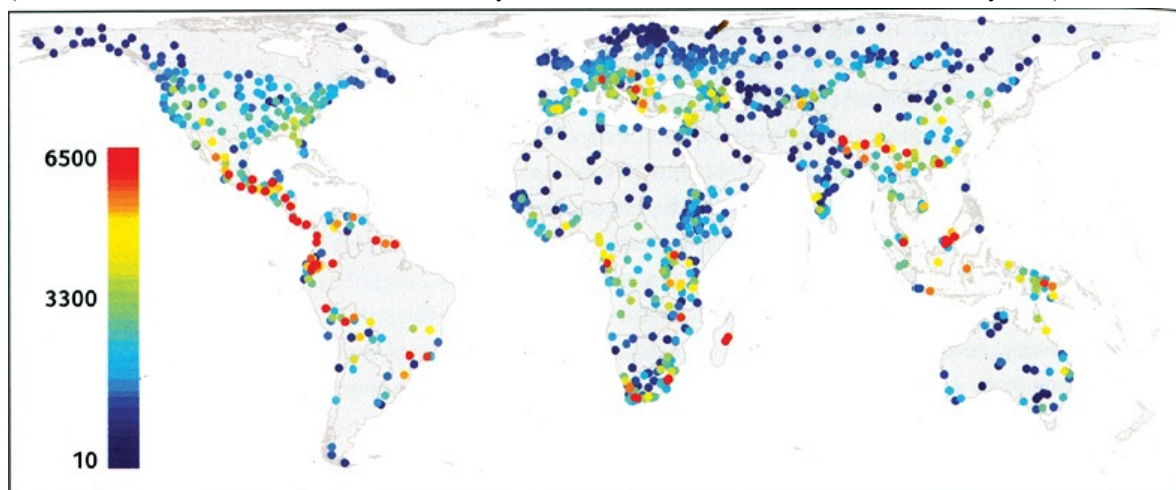
1. Read this and answer the following questions. (AS 1)

Biodiversity-2050.

A news item on Biodiversity discussed by Conference of parties (CoP) -2012-Hyd says in the next four decades the earth's natural resources will be limited to grass lands, mountains, ice and arid and semi arid plains.

By 2050 the loss of Biodiversity will lead to unprecedented. Climate change would be the key factor. Nearly 1.3 million natural ecosystems will be without any original species.

(The coloured areas are indicators of biodiversity loss. The red areas show maximum biodiversity loss.)



What does the areas with colour codes indicate?

Which areas show maximum biodiversity loss?

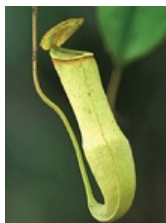
Which areas show minimum biodiversity loss?

From 2010-2050 what difference do you find in the state of biodiversity?

So what steps would you suggest to conserve our biodiversity?

(Courtesy CoP-2012 on biodiversity-Hyderabad)

2. How can you say that forests are biosphere reserves? Give reasons. (AS 1)
3. What do you understand about the terms (a) extinct (b) endangered (c) endemic. Give examples. (AS 1)
4. What is the scientific reason behind bird's migration? (AS 1)
5. Identify the endemic and endangered species and write them against the pictures.(AS 1)



6. What is the need of conducting biodiversity meet? Collect information about these meetings when and where it was conducted and its agenda also. (AS 1)
7. Now-a-days we find animals like leopards and bears intruding into our living places. What may be the reasons for this? (AS 2)
8. Make a list of animals /birds seen now and 30 years ago. Take the help of your elders. Write few reasons for their disappearance. (AS 4)
9. Select an area in your locality .Observe the animals (living and visiting) for a day. Prepare a list and plot a graph. (AS 4)
10. When tree is considered as an ecosystem, record the flora and fauna connected with it. (AS 4)
11. Browse through the internet or books on wild life and gather information on bird sanctuaries in India. Prepare a list of birds migrating to India. (AS 4)
12. Visit local forest office and collect the data of local flora and fauna. (AS 4)
13. Where do you find most of the biodiversity on the earth? Draw AP map showing maximum biodiversity areas. (AS 5)
14. What do you understand by biodiversity? How can you say variations are present in them? (AS 6)
15. Most of our biodiversity is being lost due to human activities. Suggest few ways to protect them. (AS 6)
16. When you see a park, sanctuary or a zoo with many kinds of plants and animals, how would you express your happiness? Write a few lines on them. (AS 6)
17. Prepare an essay to give a talk on biodiversity and conservation. (AS 6)
18. Rani said conservation of biodiversity starts from our home. Is she correct? How do you support her? What will be your action for this? (AS 6)
19. When we take steps towards conserving the tiger , what are the other things that have to be conserved? (AS 7)
20. Prepare some slogans or a pamphlet to make aware of people about conservation of biodiversity. (AS 7)

NATIONAL PARKS AND SANCTUARIES IN ANDHRA PRADESH AND TELANGANA

| S.No | National parks/ District Sanctuaries | Plants & Animals |
|------------------------|--------------------------------------|--|
| 1. Kawal sanctuary | Adilabad (T.S) | Cheetah, tiger, panther, barkingdeer,peacocks, |
| 2 Pranahitha sanctuary | Adilabad (T.S) | Tiger, panther, black buck, storks and herons |
| 3 Eturunagaram | Warangal (T.S) | Tiger, barking deer, wild boar, fox, |

| | | |
|-----------------------------------|------------------------------|--|
| sanctuary- | | jungle cat |
| 4 Pakal sanctuary hyena, birds | Warangal (T.S) | Teak, bamboo, tiger, panther, ningai, |
| 5 Kinnerasani sanctuary | Khammam (T.S) | Teak, bamboo, tiger, wild dog, snog bear Chinkara, marsh crocodile. |
| 6 Papikonda sanctuary | East & West Godavari (AP) | wild dog, hyena, tiger, panther, gaur Mouse deer, barking deer, wild dog. |
| 7 Kolleru sanctuary | West Godavari (AP) | water birds, herons, flammingos |
| 8 Koringa sanctuary (AP) ducks | East Godavari | sea gulls, storks, herons, flammingos, |
| 9 Krishna sanctuary | Krishna & Guntur (AP) | fishing cat, otter, jackal, birds |
| 10 Tiger project | Karimnagar | Teak, tiger, langur, sambar, python, (T.S) Cheetah |
| 11 Rajiv gandhi tiger park | Kurnool (AP) | deers, Tigers, jackal, birds |

The Animals Lawsuit against Humanity

What happened when the animals decided to revolt and take the humans to court for cruelty? A 1,000-year-old story that should still be told today, let us read the story...

Beraf the wise, king of spirits arose from his throne, the sear of judgement and proclaimed: "If you humans would practise loving-kindness, the animals would work willingly alongside you. Heaven and Earth would come together and gentle rain would fall. No one would need direction or instruction and all things would take their course. If you humans understood this, like would be transformed and all would be at peace.

"If you humans wish to rule, you must serve with humility. If you choose to lead, you must learn what it means to follow. In this way, when you rule, the animals will not feel oppressed and they will not be harmed. The whole world will support you and not tire of you.

"Do you think you can rule the world and actually improve it?

"I, Beraf, do not believe it can be done. The world is sacred. You cannot improve it. Ultimately, you can change only yourselves.

"The Creator's providence gives all things life. All Nature's creatures are nourished by it and so all of us seek to follow Nature's way. They want to do this because it is natural for them. How does the Creator's providence give them life and rear them? It nurse them on loving kindness, bring them to maturity, feeds and shelters them.

"Therefore, oh humans, heed my words: cultivate loving-kindness in yourselves. Cultivate if in your families. Cultivate if in your settlements. Cultivate if in your nations. Cultivate if in the world and it will everywhere. Then Bersaf the king declared: "Now I will deliver my verdict".

And all the king's advisers and the sage spirits, all the representatives of the humans, and all the emissaries of the animals rose up and stood silently awaiting his words.



"By the grace of Nature, I find in favour of the animals, for they have been sorely tested and abused. However, it is clear to me that these humans now realise the harm they have caused to Nature's other creations and now begin to understand more of what it means to be their rulers. Therefore, although I find in favour of the animals in their lawsuit, the humans are guilty for what they have done up until now.

"You humans are hereby served notice that your behaviour towards your fellow creatures must change! And to ensure your compliance with this court's decision, I am sending a record of these proceedings to the Supreme Court on high.

"Furthermore, acting as agent of that Court on High, I am setting 10 signs as warnings to you lest you backslide. If these things begin to occur, know that you had better change course and return to the Creator's way lest catastrophe overtake you.

"Should you err, the animals will begin to disappear, one by one, forever, from the face of the Earth; and the air in your settlements and fortresses will become dangerous to breathe.

"Should you still not change, the sky will weaken and the earth will reveal its nakedness to the sun, the water in your streams and the rain in the sky slowly will turn undrinkable.

"Persevere in your wicked ways, and still worse will happen: the seasons will be reversed and your climates turned on end; the earth will cease yielding up its goodness and the sky will cease its rain. In the middle of summer, plants will drop their leaves, and unripe fruits will fall as if it were autumn.

"Nor shall this be end. Continue, and the animals you eat-fish and fowl, beast and bug-will bring sickness and death upon you, and you will be forced to fight each other - and even eat each other - for lack of food.

"In the end, should you ignore all these previous signs - you humans will be displaced from your place of glory and no longer rule the Earth.

"So mark my words, you humans, and heed my warning. Change your ways while there is yet time.

"Oh humans, Creation is good; you can be good. So cease this ferocity towards your fellow creatures. Things need not turn out as I have said.

"For now, let me simply remind you of your duty: you have domesticated some of the beasts, and now that they are used to shelter and a regular supply of water and grains, they could not survive again in the wild.

"You humans have responsibility for them and you will be held accountable for the health and vitality of the domesticated creatures. You ought not to rule them, but to serve them, so that they might serve you better. The beasts are simple-hearted. In time they may come to trust you again if you carry your task out well.



"This is my verdict, as nature is my witness."

The humans stood in stunned silence, contemplating the weight of the fearsome curses and picturing what life would be like if the King's prophecy were to come about, but no one could muster a response, with heads bowed.

All stood as mutes, with heads bowed.

Finally, Hochmach, that wise and sagacious woman, came forward. Then she prayed and confessed; "Praise to the Ruler of All World, the Source of being and Giver of life to us all. What you say is true, our Lord and King, and your judgement is just.

"We have done wrong and we will try to do better. We must choose our leaders wisely and not surrender to crude anger, violence and power.

"Universe is One, Creation is one, all life is one. And when one part of that whole suffers, all of it eventually will suffer. Practising loving-kindness restores wholeness and build unity. Thus we should always have this essential unity and wholeness in mind. My Lord and King, you bands of spirit sages, and you families of animals, we shall try to live our lives defferently."