**CLASS VI**

**THEME1- Disappearing sparrows**

**Common bird goes uncommon**

The tiger is going extinct in India.

So is the vulture.

The elephant.

And the Ganges river dolphin.

These are larger than life, magnificent creatures. Hearing their stories of extinction makes us sad.

But would your heart be as full to hear that the common house sparrow is also vanishing?

Yes, sparrows are slowly being wiped out as our malls and sleek apartment buildings come up in a 'Shining' India?

Sparrows are as important to our ecology system as tigers.

Gone are days when house sparrows were the most common birds amongst bird species in India. The chirpy sounds made by these small birds are rarely heard today; and their absence, even though tiny, is increasingly becoming noticeable. Due to decrease in numbers, a bird as common as the sparrow was included by the List of threatened species in 2002 alongside the glamorous snow leopard, tiger and red panda.

A frequently asked question by ornithologists, researchers, scientists, and bird lovers is the reason behind the sudden disappearing of these common birds that were once regarded as dominant bird species.

The destruction of wetland bird areas, loss of shrub vegetation coupled with reduction in potential breeding sites, has accelerated the rate of decline in the sparrow population in India. But the major reason for this decline in their number is the scarcity of insects and grains which serve as protein supplements for the young ones of sparrows. The presence of anti-knocking agents like lead in petrol is known to cause deadly poisoning in birds.

Human population is growing at a frantic pace. As a result, development is happening too fast, and in way which doesn't take issues like biodiversity conservation into consideration, when (*the construction of*) buildings, townships and development is undertaken.

The new buildings and landscaped gardens which are being constructed are not at all sparrow friendly. The modern glass-clad match box shape buildings do not have cavities which are important for sparrows to make nests.

We are also becoming increasingly intolerant as a species. For example, today people would not like sparrows nesting in their homes and dropping nesting material inside.

The lifestyle of people has also changed. Women no longer sit outside their homes to clean grain or offer grain or *chapatti*, which was a daily routine once upon a time and this was a source of food for sparrows.

As the habitat and food is shrinking, so are the numbers of house sparrows.

**Sparrows as an indicator of change**

Since sparrows are sensitive to changes in the environment, they serve as an important bio-indicator for a healthy urban ecosystem, indirectly indicating human health, and their decline today has started resulting in increasing diseases among the people. The growing numbers of rock pigeons has created an imbalance among the species and they now dominate the bird population.

People in urban areas are often seen feeding grains to rock pigeons. Due to availability of plenty food which gives these pigeons bliss of food security has resulted in over-explosion of their population. These pigeons are now occupying the nesting spaces of sparrows, as a result of which the sparrow population has drastically reduced in urban areas in the country.

**Evidence of absence or absence of evidence**

Lack of research and understanding, the reasons for the vanishing of sparrows are still unknown. We still lack a large scale systematic community that pools in information on species,

Though sparrows have not declined below the threshold limit in Delhi, therefore we can still afford to bring them back through proper conservation practices.

Changing human lifestyles, climate change, pollution, human induced changes in species’ micro-habitat are some of the reasons for this drop in their numbers.

The declining numbers of sparrows could actually be used as a pointer to more direct problems such as an increase in infectious diseases.

In the areas where the sparrows have declined, rock pigeons have increased drastically. And pigeon's excreta is a confirmed carrier of disease causing bacteria. Although not linked directly, the decline in bird population and tree health can be used as an indicator of the environmental health of a region.

The declining yard birds, which include house sparrows, was one of the 15 critical indicators of the quality of life in any area.Despite their importance, birds like the house sparrow are often neglected by even environmentalists due to their apparent commonness.

World Sparrow Day is celebrated on March 20. The aim of marking this day is to stress on the need to conserve sparrows. The rationale for celebrating World Sparrow Day is not only to commemorate the event for a day, but also to use it as a platform to highlight the need to conserve sparrows as well as urban biodiversity. The event aims to bring together individuals, national and international groups. The aim is also to attract the attention of government agencies and the scientific community to take notice of the need for the conservation of the common bird species and urban biodiversity.

Scientists first started to notice a decline in the number of the house sparrow in the 1990s. Over the last few years several campaigns, outreach and awareness programmes, research surveys have been carried out to understand the decline of a species that had learned to exist in and around human habitations and was found in huge numbers in urban areas.

World wide, countries have participated in various activities to celebrate the World House Sparrow Day. Citizen Sparrow is an ongoing citizen science project in India in which members of the public are encouraged to contribute information on presence and absence of the house sparrow from different locations and for different time periods. This information is to be uploaded on their website (www.citizensparrow.in/).This can be done by an individual or a school group or an NGO and even corporate companies as a part of their corporate social responsibility.

 These little chirpy creatures are now seen in fewer places.

-The easiest thing one can do is to put bird feeders outside your house.

-Also, it has been observed that many people put water bowls during summer season outside their houses for birds to re-hydrate.

-Grow more plants as this may encourage some birds, who are common to that habitat, to come back.

-Talk to people living around your society to create awareness about sparrows.

-Discourage the use of excessive insecticides and pesticides in gardens.

The [**Citizen Sparrow Project**](http://citizensparrow.in/) aims at creating a constituency for sparrows among the citizens in India. A joint initiative by the [**Bombay Natural History Society**](http://www.bnhs.org/)and Ministry of Environment and Forests, this project is inviting inputs by citizens on the sightings of sparrows. The project ultimately will help in estimating the exact reason for the reduction in the sparrow population. The program so far has received around 7461 contributions from 4701 people at 6019 locations in India.

These birds, being an indicator of environmental health, need to be saved before they can be seen only in books or on the internet.  **(1168 Words)**

**Answer the following questions**

Q1 (a) What factors lead to the sudden disappearance of sparrows that were once regarded as dominant bird species? 2 Marks

Ans, The destruction of wetland bird areas, loss of shrub vegetation, reduction in potential breeding sites, scarcity of insects and grains which serve as protein supplements for the young ones of sparrows, presence of lead in petrol known to cause deadly poisoning in birds are some reasons for sudden disappearance of the sparrows.

Q1 (b) How can we save sparrows from becoming extinct? 3 Marks

 -Placing bird feeders outside your house.

 - Putting water bowls during summer season outside their houses for birds to re-hydrate.

 -Growing more plants as this may encourage some birds, who are common to that habitat, to come back.

-Talking to people living around our society to create awareness about sparrows.

-Discouraging the use of excessive insecticides and pesticides in gardens.

Q2 (a) How has [Citizen Sparrow Project](http://citizensparrow.in/) sensitized citizens towards protecting sparrow**s**? 2 Marks

Ans The  **[Citizen Sparrow Project](http://citizensparrow.in/)** aims at creating a constituency for sparrows among the citizens in India. A joint initiative by the [**Bombay Natural History Society**](http://www.bnhs.org/)and Ministry of Environment and Forests, this project is inviting inputs by citizens on the sightings of sparrows. The project ultimately will help in estimating the exact reason for the reduction in the sparrow population.

Q2 (b) Why are sparrows considered as indicators of environment health? 3 Marks

The declining numbers of sparrows could actually be used as a pointer to more direct problems such as an increase in infectious diseases.In the areas where the sparrows have declined, rock pigeons have increased drastically. And pigeon's excreta is a confirmed carrier of disease causing bacteria. Although not linked directly, the decline in bird population and tree health can be used as an indicator of the environmental health of a region.

**CLASS VI**

**THEME 11-HEALTH**

**Village Pharmacy**

We have all seen neem trees growing near our houses, on roadsides, in parks, in gardens, in forests and even in our own courtyards. Some of us also know a few of its uses. But do you know that the neem is a wonder tree and that every part of it has several useful qualities? Don’t you think, then, that it is correct to call it a village pharmacy (a place where medicines are prepared and given out)?

It was already six in the evening. Neema, a student of standard VIII, had not yet returned home from school. Iniyavan, her father, a paediatrician at the city hospital, her mother, Vembu and her grandparents who had come from the village were very much worried.

Neema entered just then with a sapling in her hand.

All : What happened to you? Why are you so late from school?

Neema : Grandma, we have planted 94 neem saplings in our school campus . I have brought home one sapling to be planted in our garden.

Grandma : I think your grandpa will be the right person to tell you about it. He has lived in the village all his life, and he knows better than anybody else, that it is the “village pharmacy.”

Neema : Grandpa, do tell me about the medicinal value of the neem. In fact we have a Science exhibition in our school next week. May be our class could prepare something on the ‘Neem.’

Grandpa:It’s true that we villagers call the neem tree our ‘village pharmacy.’ To begin with, look at my teeth. I am eighty. Can you believe? This is thanks to the neem twigs that I use to clean my teeth every morning. Look at my skin–still blemish less as a child’s. Thanks again to the neem paste that I apply regularly. I’m hale and hearty even at eighty. Thanks once again to the neem juice that I drink. It purifies the blood and cures all ailments.

Neem, also called Azadirachta indica is an aboriginal tree found in tropical and semi-tropical countries like Burma and India; Neem has been declared non-toxic to humans and each part of the tree is used as an active ingredient in different industries. Neem tree has been given its due recognition, with a number of researches being conducted on an international level to understand the benefits and potential of neem. Today neem is used on a commercial basis and finds immense use in a number of products in industries ranging from cosmetics to agriculture, from pharmaceuticals to Ayurveda.

Neem tree is native to India and Mynammar. Neem history dates back to Harappa Mohenjo-Daro civilizations in India where the medicinal properties and its use in household things began.

India was number one in importing the medicine. When Julius Caesar established the Roman Empire, a public complaint was issued by Pliny the Elder against the volume of export and drainage of Roman gold to India owing to this. So when the early explorers came to India for trade, they demanded all the Indian medicines and brought back to their countries. This included neem in abundant.

Hence with the advent of British empire in India all the local things were being discouraged and were named as backward. So with this practices like use of neem as insecticide, use of neem leaves to protect crops etc were discouraged. More modern chemicals replaced the old traditions of India including the medicinal plants and other products.

But the in 1920s commercial use of Neem oil and neem cake was done by the Indian Institute of Science in Bangalore. For an experiment neem cakes were used in sugarcane fields and it really worked as it had kept the termites at bay.

 Do you know what motivated your father to become a doctor? Well, he used to watch my father preparing medicines. That created an interest in ‘medicine’. Traditionally, in India, the neem has been used widely as a medicine, for many centuries. It can fight inflammation, hypertension and ulcers. It can combat diabetes and malaria. Boils, rashes and wounds disappear in no time. You name it and the neem cures it. It is a panacea for many ailments.

Even as early as 4000-4500 years ago, various parts of the neem tree were used in cosmetics and medicinal products by East Indian Harappans. Evidence of these uses exist in the remains excavated at the Harappan site. These days, even toothpaste, soap and shampoo are made from the neem. And, here I must tell you something about Mahatma Gandhi. The prayer meetings at the Sabarmati ashram were conducted under a Neem tree and neem leaf chutney was a part of his everyday diet.

And Neema, if you think that the Neem has medicinal properties alone, you are mistaken. It also increases the fertility of the soil. Thus it is eco-friendly. It is a good insect repellent. In fact research has proved that its chemical makeup is such that it is resistant to more than two hundred different types of insects. It has also proved to be a good pesticide.

Neem is thus agrofriendly too. It protects crops from harmful insects, viruses and bacteria. The litter of its fallen leaves is rich in organic content and hence serves as good manure. The neem is also an ideal source of timber for carpentry, for it’s wood is termite resistant.

You would be surprised to know that during the hot summer months, the temperature under the neem tree is 10º C less that the surrounding temperature. In fact your air conditioners may not match the healthy cooling effect of the neem. Thus it is a ‘free air-cooler service’!

These evergreen, perennial trees can grow in any type of soil. They grow very fast. They can reach a height of 30 feet in 5 years. And if they escape your axe, they can survive for even 200 to 300 years.

Is that all you want to know, or…. Neema :

Neema-Oh, grandpa! How blessed I am to be named NEEMA!

Grandma: No wonder the neem is known as the ‘wonder tree’ and you’re a wonder girl too!

 **1034 words**

**Answer the following questions:**

 1.(a) How old was Neema’s grandfather?

 Ans.eighty years

 (b) What was about to happen in Neema’s school the following week?

 Ans. Science exhibition

1(c) How did Neema’s father get motivated to become a doctor?

Ans.He saw his grandfather preparing medicines from various parts of neem tree. This made him interested in medicine.

 2(a)Why did the villagers call the neem tree ‘the village pharmacy’?

Ans.Every part of it can be used to cure so many diseases.The neem tree is a store house of useful qualities. 4.It is an appropriate title because a pharmacy is a place where one gets medicines of various kinds. In the same way the neem tree provides cures for several kinds of diseases. For the village people it is the safe and easy answer to several of their common health problems.

2(b)In India medicines have traditionally been prepared from plants, herbs, spices and everyday kitchen ingredients. Our mothers and grandmothers know how to prepare some of these medicines at home. They often use such home remedies to cure small health problems and ailments. Find out at least 2 such home-remedies Individual responses.

**Additional Questions**

Q1Neema’s grandfather had a lot of knowledge about the neem tree. List at least 10 things that he told Neema about the neem tree.

Ans It is a medicine for several diseases. It has been used since ancient times for several purposes .It is used to purify the blood and clear the skin. It purifies the air around it. Its wood is termite resistant. It is an insect repellent; it is eco-friendly as well. It is being used to make soaps, shampoos, and oils.

Q 2.You have read about the many uses of Neem.Would you like to start using neem products? Are you inspired to use more natural products like neem? Give reasons for your answer.

Ans.Individual responses.

Q3. Do you know that besides neem, there are many other trees around us which are very useful? Find out about two more such trees and write at least 3 ways in which each of them can be used.

Ans.Individual responses.

Q4. What evidence is there that Neem tree products were in demand in the past.?

Ans.Even as early as 4000-4500 years ago, various parts of the neem tree were used in cosmetics and medicinal products by East Indian Harappans. Evidence of these uses exist in the remains excavated at the Harappan site.

Q5.Why did were Neem products discouraged by the British Empire?

Ans.With the advent of British empire in India all the local things were being discouraged and were considered backward. The Britishers promoted their own products for business gains.