Diversification of species and its protective legislation of turtle

[1]Dr. Shirshi Urmila K. [2] Miss.Vairale Bhagwatgeeta Prabhu

[1]Head, Assistant professor, [2]Research Scholar
Dept. of Zoology
Shivaji Mahavidyalaya
Udgir (India)

Abstract- **Turtles are aquatic organisms. In our whole world, 300 species of living turtle and tortoise animals out of that India is the house of 28 species of tortoise and freshwater turtle animals. Freshwater turtles are taped by hard-shelled form coming under family i.e. the Bataguridae and soft-shelled form under the family called Trionychidae. This study is done from July 2022 to June 2023 in the Latur district area of Maharashtra state. From that period we found 4 species of freshwater turtles in this area. Record and note down the turtle biodiversity of this area. But now a day's turtles and tortoises face the main problem throughout the world, habitat is destroyed and fragmented and hunting, pet trading, etc. So the population of turtles is being affect. In this study, we observe the above causes and threats related to this species' loss. So protection is needed to keep the environment and animal fauna stable and conserved.**

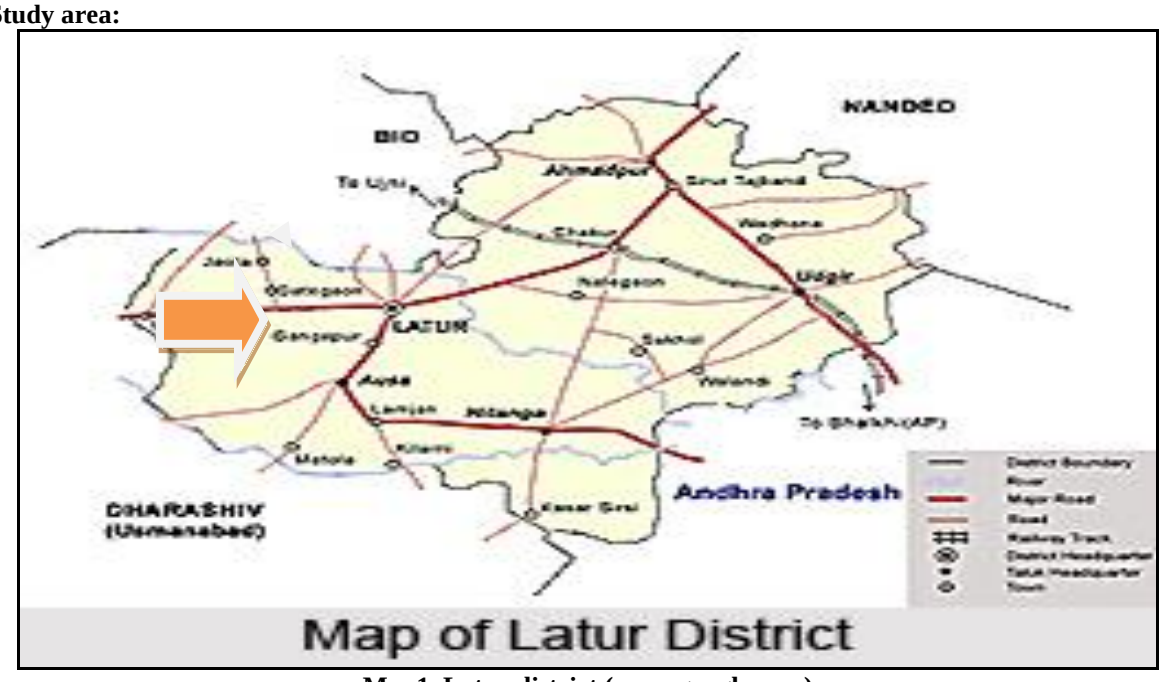
Keywords: **Biodiversity, protection, species, freshwater turtle, etc.**

Introduction

Variation is the nature law. It occurs and is seen everywhere and every moment. The variability and variety of organisms and ecosystems is named as the biological diversity or biodiversity. It is difficult to discretely distinguish the value of biodiversity as distinct characteristics of biological resources [IUCN et.al. 1990]. The protection and conservation of biodiversity are attached to the maintenance of environmental productivity and stability. These attributes are important in sustained development and balance economy of the nation [Mc Neely 1988].

The conservation process involves several various parameters such as Population dynamics, no. of species, habitat, structure, distribution, microhabitats, climate, physical environment, history, and present management. So, the efforts for the conservation and protection of biodiversity should be linked with the processes and it befalls in time and space from small micro level to big mega level. India has an old tradition of nature conservation and protection as the same is observed not only in older culture and literature but also it occurs in the policies, constitution, organizations, and legislation. India has 5 world popular Heritage sites such as Sundarbans, Manas, Nandadevi, Keoladeo National Parks, Kaziranga, etc. At present, there are many more sites, and areas of plants and animals also included under various categories of protection. In the present study is on conservation and protection of related animals particularly on turtles from the Latur District area.

- **Methodology**
  - **Study area:**



Map1. Latur district (www.google.com)

In the present work, survey and fieldwork method is used. Studied and applied on various sites and location areas like land, burrows, freshwater reservoirs, farm areas, etc. from Latur District (M.S.) India. Also use various types of instruments for the measurement of body parts of turtle animals like Scales, Measurement tape, Thread, Scientific instrument as Vernier caliper, pen, and notebook for note down all the information in the field. Apart from the above parts, digital instruments are also used such as cameras, video recorders, etc. In the field, turtle animal is searched and in that habitat, it is to be measured and studied all the body structures i.e. Morphology, body color, shape, size, weight, etc., and release in the habitat as it is without any harm to them.

- **Result and Discussion**
- **Turtles from Latur District**:

Turtles and tortoises are shy aquatic animals. Turtles are present in **class reptilia**. The morphological structure of the turtle shows an upper surface called the **carapace** is the protective covering on the dorsal side and the lower body part is called a **plastron**, rounded eyes, tail, forelimbs, and hind limbs, are modified, and adapted as flipper form due to aquatic habitat. Turtle animals show sexual dimorphism. Turtle included in **order Chelonia** (marine turtle, terrapin or freshwater turtles and the tortoise (the landform). Tortoises and Turtles are easily identified from all other animals by their bony shell. Freshwater turtles or terrapins inhabit freshwater lakes and rivers web-footed turtles. They are of two types: **Soft-shelled** and **hard-shelled turtles.**

About 300 living freshwater turtle and tortoise species, India is the house of about 28 species (34 taxa including subspecies) of freshwater turtles. Out of that the Indian **Chelonians**, the **hard-shelled** forms under a single **family** name **Bataguridae** and the **soft-shelled** form **family** name **Trionychidae** occur in rivers of Indo-Gangetic conditions, and freshwater bodies, ditches, lakes, streams, etc. [Daniel, 2002]

The present study is based on the species variation their diversification, habitat, location, distribution, protective rules for this related animal, and their conservation from this local village areas. The main cause of this study is that the animal's habitat becomes lost, destroyed, degraded, and degraded due to the human increasing population and their enormous development. Also, these animals get hunted for food purposes and many other purposes. So now need their protection.

- **Protection and Conservation:**

Protection and Conservation is a continuation of allowing the able number of members of every species. The diversity of various species is greatly depleting. Animals get threatened due to loss, reduction in fragmented and smaller habitats, space, climate change, pollution, over-exploitation by people, etc. Common facing threats are the steadily growing market for turtle meat, pet trade, eggs, and habitat destruction. [Mahapatra etal, 2010]

Enhancing the pressure of humans on turtle habitat and due to exhaustive fishing also affects freshwater turtles, their nests, eggs, reproduction, and finally on population. Turtles despite legal protection are still directly utilized in their natural environmental habitats for both export and local consumption. [Palita et al., 2009]

To assess the coverage of natural wildlife and environmental other aspects, also reviewed major health security reports (including World Organizations for Animal Health Performance of Veterinary Services reports, and World Health Organization Joint External Evaluations and follow-on National Action Plans for Health Security) organized and published by 107 countries and territories.

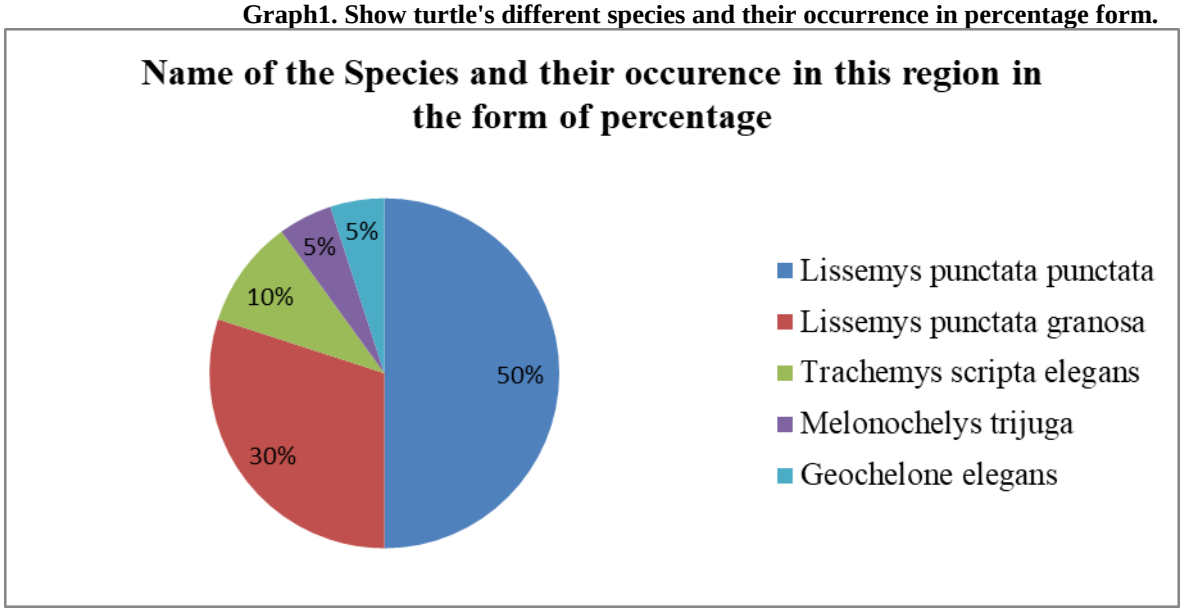
Most soft-shelled and hard-shelled turtles are classified as endangered by the international union for Conservation of Nature (IUCN, 2008). Some species of animals become vulnerable, exist, are critically endangered, and face a high and low risk of extinction these animals are listed and added under Schedule- I of the Wildlife (Protection) Act, 1972 and Schedule – IV.

- **Annotated checklist of freshwater turtles of Latur district with their protection status:**

Table no. 1 (IUCN- International Union of Conservation of Nature and Natural Resources CITES- Convention on International Trade in Endangered Species of Wild Fauna and Flora)

Sr.no.	Scientific Name	Common Name	Legal status	IUCN	CITES
Soft- Shelled Turtles					
1.	Lissemys punctata p.	Flap-shell turtle or Indian Mud turtle	Schedule-I	Lower risk /least concern	Not listed
2.	Lissemys punctata granosa	Southern flap shelled turtle	Schedule IV	Vulnerable	Appendix I
3.	Trachemys scripta elegans	Red eared slider or red eared terrapin	Schedule-I	Lower risk /least concern	Not listed
Hard-Shelled Turtles					
1.	Melanochelys trijuga	Indian Black Turtle	Not listed	Lower risk / near threatened	Not listed
	Tortoise				
1.	Geochelone elegans	Indian star tortoise	Schedule IV	Vulnerable	Appendix I

Graph1. Show turtle's different species and their occurrence in percentage form.



Most of the hard-shell and soft-shell turtle species are categorized in the above table which had to study from this latur district area and their villages, particularly in freshwater reservoirs like rivers, lakes, streams, farm areas, roadside forest land etc. In that, we got some species of turtles and tortoises such as, Lissemys punctata p., Lissemys punctata granosa, Trachemys scripta elegans Melanochelys trijuga, Geochelone elegans, etc. in the habitat like rivers, ponds, lakes, and freshwater reservoirs but above all these species are listed in the red data book, IUCN and CITES. In the present situation all these species becomes endangered, vulnerable, and threatened so that's why their conservation and protection are very necessary. Because these species are part of the ecosystem and food web (as a scavenger) these species maintain the balance of the environment

- **Conclusion**

Tortoises and Turtles are the major components of the biodiversity of the environment. Due to the loss of their habitat, they need greater protection from illegal trading, pet trade, poaching, etc. Gov. should apply strict enforcement of the Wildlife Protection Act (1972). Creating awareness for the protection of animals at the local level of people is necessary. We should value and thanks of environment, nature, and biodiversity. It is very difficult to calculate and estimate the total value of biodiversity due to their lack of uncertainty and information, due to variation from their region to region, location to location, and country to country. Due to the human increasing population and their activity animal species, habitat, and population, their occurrence gets affected badly. Also observed turtle animal species will extinct day by day during this study. So, we all people have to pay attention to the conservation and protection of the environment and animal species.

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