# ANALYSIS OF ENVIRONMENTAL IMPACT

A Project Report
Submitted in partial fulfilment of the
requirements for the award of the Degree of

**BACHELOR OF MANAGEMENT STUDIES**

**(E-COMMERCE OPERATIONS)**

By


**Mrs. Kuval Kumar Suryawanshi**

Seat Number 22EE1A-11


Under the esteemed guidance of

**Mr. Ashley Fernandes**

Assistant Professor


NMIMS KIRANDWALA COLLEGE (Autonomous)

*(Affiliated to the University of Mumbai)*

MUMBAI, 400 064

MAHARASHTRA


2022-23

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MALAD KANDIVALI EDUCATION SOCIETY'S

**NAGINDAS KHANDWALA COLLEGE OF COMMERCE, ARTS & MANAGEMENT STUDIES and**

**SHANTABEN NAGINDAS KHANDWALA COLLEGE OF SCIENCE**

AUTONOMOUS

Bachelor of Management Studies (E-Commerce Operations)

# Certificate

This is to certify that **MR. Kuval Kumar Suryawanshi**

Seat No. **22FE1A-11** has completed the Project as a part of the Environmental Studies with(Course Code: 2022UEOES) syllabus titled **"Analysis of environmental impact"** during the Academic Year 2022-23.

20/03/23.

Mr. Ashley Fernandes
Project Guide

Dr. Mona Mehta
Vice Principal &
Programme Coordinator

Prof. Dr. Moushumi Datta
Principal

**College Seal**

**Date:**

K. N. K. COLLEGE OF COMM. ARTS & MGMT. STUDIES & COLLEGE OF SCIENCE (AUTONOMOUS) MALAD MUMBAI 400064.

## DECLARATION

I wish to state that the work embodied in this project titled **"Analysis of environmental impact"** is my contribution. The project is carried out under the guidance of Asst. Prof. Ashley Fernandes in the academic year 2022-2023.

SIGNATURE OF THE CANDIDATE

PLACE: MUMBAI

DATE: 20/3/23

# ACKNOWLEDGEMENT

I pay my deep sense of gratitude to the principal of our college Dr. Mrs. Moushumi Datta for allowing me to conduct my survey so smoothly.

I would like to express my deep gratitude and thanks to the very supportive guide professor Ashley Fernandes and the coordinator of our department professor Ashish Modi, whose valuable guidance and kind supervision is given to me throughout my work which shaped the present work as shows am immensely obliged to my friend for their elevating inspiration, encouraging

guidance and a very generous help on many occasions.

I wish to extend my gratitude to the respondents of the study area for the unconditional help and support during my field study.

Last but not least my parents are also an important inspiration for me so with regards I express my gratitude to them

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# Chapter 1

## 1.1 Introduction and Background of the Study

Mangroves are a unique and important ecosystem found in coastal areas around the world. These trees and shrubs grow in brackish water and provide vital habitats for a wide variety of wildlife, including birds, fish, and crustaceans. Mangroves also serve as a natural barrier against storms and erosion, helping to protect shorelines and communities from the damaging effects of natural disasters. Despite their importance, mangroves are under threat from human activities such as deforestation, pollution, and development. We must work to protect and preserve these valuable ecosystems for future generations. Veermata Jijabai Bhosale Udyan Zoo, also known as Byculla Zoo, is a popular attraction located in the heart of Mumbai, India. The zoo was established in 1861 and is one of the oldest in the country. It is home to a wide variety of animals, including tigers, lions, elephants, and many species of birds and reptiles. The zoo is also known for its conservation efforts and breeding programs for endangered species. Visitors can enjoy a day out with their family and friends, learning about wildlife conservation and enjoying the beautiful gardens and greenery of the zoo. However is important to note has criticism of the inadequate living conditions for some of the animals, and steps are being taken to improve their welfare. Pollution is a major issue affecting our planet today, and several types of pollution have a significant impact on our environment and health. Noise pollution is caused by excessive noise levels, which can lead to hearing loss, stress, and other health problems. Air pollution is caused by the release of harmful gases and particles into the atmosphere, which can lead to respiratory problems and other health issues. Water pollution is caused by the release of harmful chemicals and waste into our waterways, which can have devastating effects on aquatic life and can also make water unsafe for human consumption. We must take steps to reduce and prevent all forms of pollution, including noise, air, and water pollution, to protect our planet and ensure a healthy future for ourselves and generations to come. Electronic waste, or e-waste, is becoming a growing concern in our society. With the constant evolution and upgrading of technology, many electronic devices are quickly becoming obsolete and end up being discarded. Unfortunately, most of these devices contain toxic materials such as lead, mercury, and cadmium, which can cause severe environmental and health problems if not disposed of properly. We must take responsibility for our e-waste and make efforts to recycle or dispose of it in an eco-friendly manner. By doing so, we can help reduce the negative impact of e-waste on our planet and protect our health and well-being.

## 1.2 RESEARCH METHODOLOGY

**Pre-Field:**

The pre-field stage of research methodology is a critical phase that involves preparing and planning for data collection. During this stage, the researcher defines the research question, conducts a literature review, develops a research design, pilot tests research instruments, identifies and recruits participants, and obtains ethical approval. This stage is crucial for ensuring that the research is well-designed and feasible and that the data collected will be relevant and reliable. By carefully planning and preparing in the pre-field stage, the researcher can increase the chances of collecting meaningful data that can be used to answer the research question and make valuable contributions to the field.

**On-Field:**

On-field research methodology refers to the stage in the research process where data is collected in the field or real-world setting. This stage involves implementing the research design, collecting data using research instruments such as surveys or interviews, and managing the logistics of data collection.

**Post-Field:**

Post-field research methodology refers to the stage in the research process where data collected from the field is processed, analyzed, and interpreted. This stage involves organizing and cleaning the data, conducting statistical analysis or qualitative analysis, and drawing conclusions based on the findings.

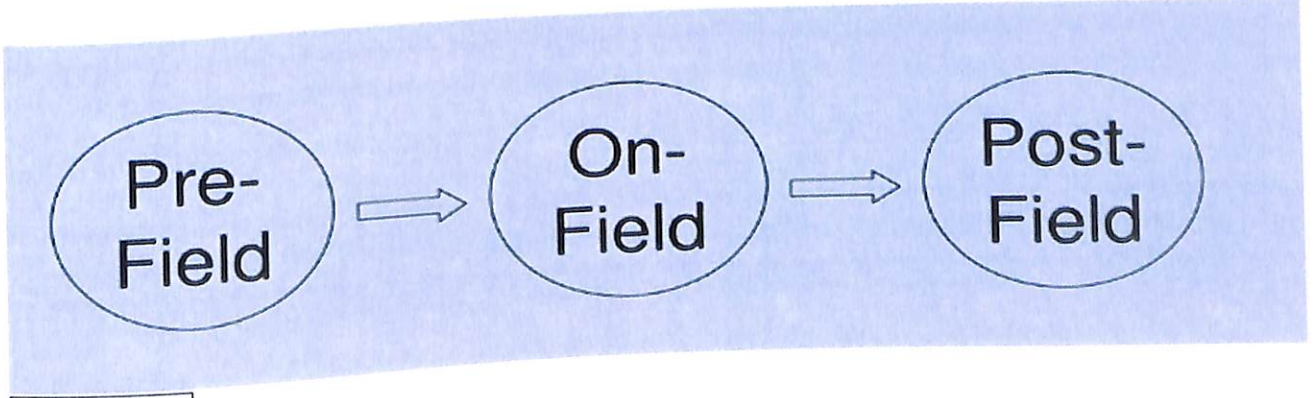



Figure no 1

## 1.3 Implication of the study

- The study of mangrove ecosystems has important implications for the environment and people. Mangroves provide crucial benefits such as carbon storage and coastline stabilization. Recent research has shown that storm surge ponding can cause mangrove dieback, highlighting the need for better management and restoration practices. This study also suggests that mangroves may be vulnerable to climate change, and further research is needed to understand its effects on mangrove health. Overall, understanding and protecting mangrove ecosystems is crucial for the health of our planet and for the well-being of communities that depend on them.
- Byculla Zoo is making significant progress in animal welfare and conservation efforts. The zoo has successfully bred several endangered species, which has important implications for their conservation. The study of Byculla Zoo highlights the importance of public education and engagement in conservation efforts. Byculla Zoo serves as an important model for other zoos around the world to follow in promoting animal welfare and conservation. The study of Veermata Jijabai Bhosale Udyan Zoo has important implications for the conservation of wildlife, the management of zoos, and public education and engagement in conservation efforts.
- The study of noise, air, and water pollution helps us understand the harmful impacts of these pollutants on human health and the environment. It enables us to identify the sources of pollution and devise effective strategies to reduce or eliminate them. The study also highlights the disproportionate burden of pollution on certain communities and the need for targeted interventions to address environmental injustice. It informs the development and implementation of regulations and policies aimed at protecting public health and the environment. Ultimately, the study of pollution is crucial for promoting sustainable development and ensuring a healthy and livable planet for future generations.
- E-waste contains toxic chemicals that can pollute the environment and pose a threat to human health, which highlights the need for proper disposal and recycling methods. The improper disposal of e-waste can lead to environmental degradation, such as soil and water contamination. E-waste contains valuable resources that can be recovered and reused, reducing the need for new mining and extraction, which can help conserve natural resources. The study of e-waste can help raise awareness about the importance of responsible consumption and disposal of electronic devices, promoting

sustainable practices, and reducing electronic waste. The management and recycling of e-waste can create employment opportunities, particularly in developing countries, where e-waste management has become a significant challenge.

## 1.4 LIMITATIONS OF THE STUDY:

- Limited scope: A study may be limited in terms of its geographic or temporal scope, which can affect the generalizability of its findings.
- Sample bias: The study's results may be affected by the selection bias of the sample population, which may not represent the entire population or may not be representative of the population being studied.
- Measurement errors: Errors in the measurement of pollutants or other variables can affect the accuracy and reliability of the study's findings.
- Confounding factors: The presence of other factors that may influence the outcome but are not measured or controlled for in the study can affect the validity of the study's conclusions.
- Resource constraints: The resources available to conduct the study, including funding, staff, and time, may limit the study's scope, sample size, or ability to collect and analyze data, which can affect the study's reliability and validity.

# Chapter 2: Study of Mangroves of Malad Creek

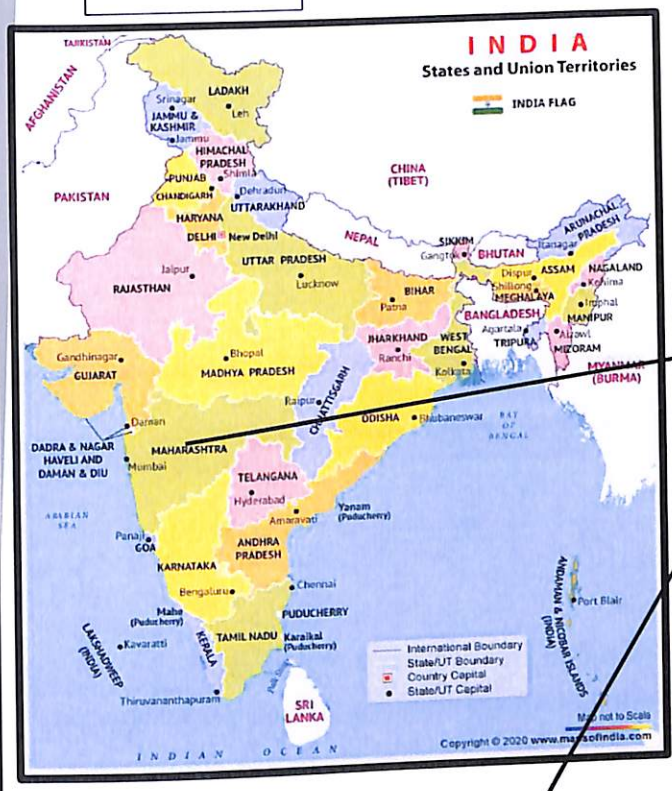
## 2.1 Introduction:

Malad Creek is a tidal creek located in Mumbai, India, and is home to a significant mangrove ecosystem. Mangroves are trees and shrubs that grow in saline coastal habitats and are critical for maintaining the health and productivity of these ecosystems. Mangroves in Malad Creek play an essential role in preventing erosion, protecting shorelines from storms, filtering pollutants from the water, and providing habitat for numerous fish, birds, and other wildlife species.

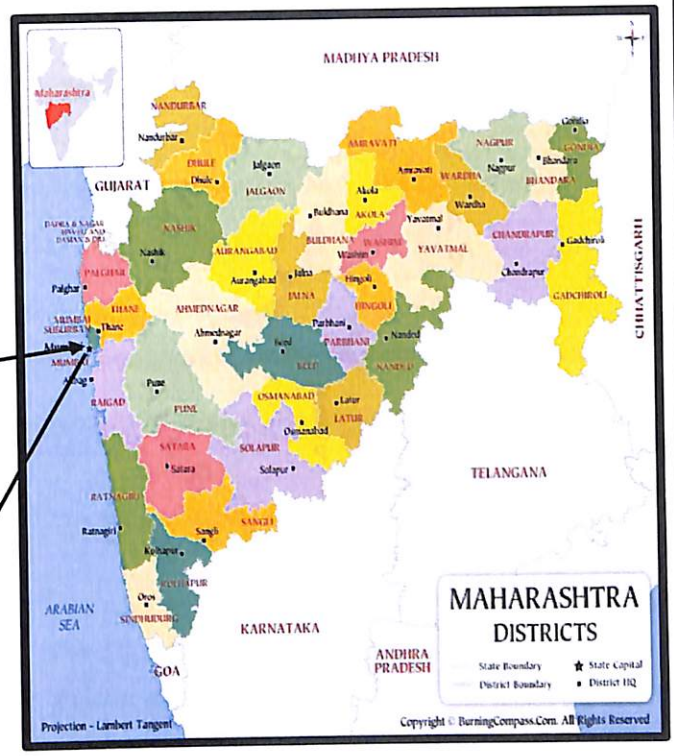
Despite their importance, mangroves in Malad Creek face threats from pollution, encroachment, and development. Unregulated development and pollution have caused significant damage to this ecosystem, leading to the loss of mangrove habitat and the decline of wildlife populations. Efforts are underway to protect and restore the mangroves in Malad Creek. These efforts include initiatives to raise awareness among local communities about the importance of mangroves and their role in supporting the health and resilience of coastal ecosystems. Additionally, conservation efforts, including restoration and reforestation, are being implemented to support the recovery of the mangrove ecosystem in Malad Creek.

## 2.2 AREA OF STUDY:

Figure no 1.1




MAP OF INDIA

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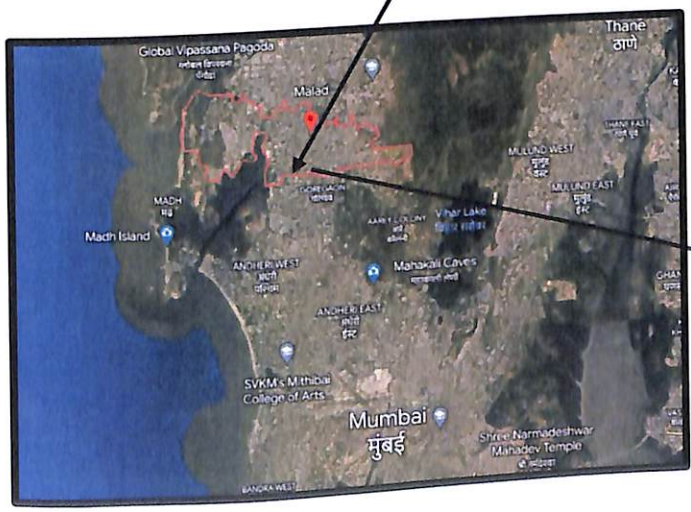
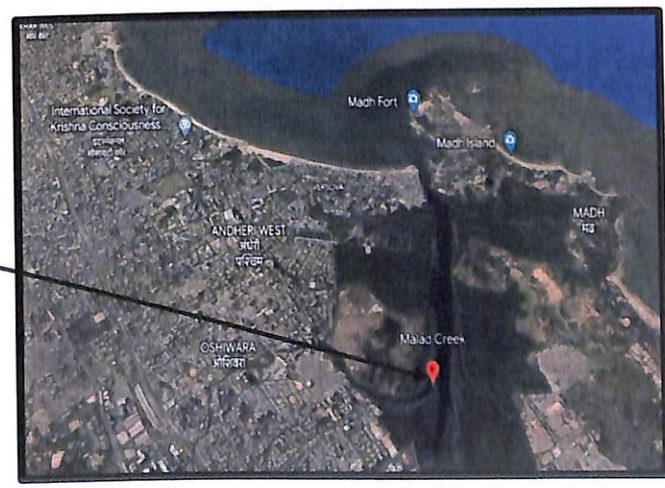


## 2.3 Matter of the project:

The project of the Malad Creek mangrove restoration involves several key objectives to protect and restore this critical ecosystem. Some of the main goals of the project include:

1. Protection of mangrove forests: The project aims to protect the remaining mangrove forests in Malad Creek from further encroachment, pollution, and degradation. This will involve efforts to raise awareness among local communities about the importance of mangroves and their role in supporting the health and resilience of coastal ecosystems.
2. Restoration and reforestation: Restoration and reforestation efforts will be implemented to restore degraded mangrove habitats in Malad Creek. This will involve planting new mangrove saplings and rehabilitating degraded areas to create new habitats for fish, birds, and other wildlife species.
3. Monitoring and research: The project will involve monitoring the health and status of the mangrove ecosystem in Malad Creek. This will include research on the ecology of the mangroves, the impact of pollution and climate change, and the effectiveness of restoration efforts.
4. Collaboration and partnership: The success of the project will depend on collaboration and partnership with local communities, NGOs, government agencies, and other stakeholders. The project will involve engaging with these stakeholders to build support for mangrove conservation and to develop sustainable management practices that promote the long-term health and resilience of the mangrove ecosystem in Malad Creek.

Overall, the Malad Creek mangrove restoration project is crucial for protecting this critical ecosystem, promoting sustainable development, and ensuring a healthy and livable environment for local communities and wildlife species.

the changes in mangrove ecosystems over time and to understand their response to these changes.

- Collaboration: Collaboration between researchers, government agencies, NGOs, and local communities is essential for the successful conservation and management of mangrove ecosystems. Working together can ensure the sustainability of these ecosystems and their benefits for local communities and the environment.

## 2.6 Comparative study

**Fig no 1.2**

**Malad creek in 1990**

Malad Creek is a tidal creek located in the western suburbs of Mumbai, India. In the early 1990s, the creek was home to a thriving mangrove ecosystem.

Mangroves are a unique type of tree that can grow in salty, swampy conditions. They are important for coastal communities because they provide a natural barrier against storms and coastal erosion. Mangroves also serve as nurseries for fish and other marine life.

In the 1990s, the mangroves in Malad Creek were under threat from rapid urbanization and development. Land reclamation projects were underway, and the creek was being filled with debris and waste. This led to a decline in the mangrove ecosystem and the loss of important habitat for local wildlife.

Environmental groups and concerned citizens raised awareness about the importance of the mangroves and pushed for their protection. In response, the government of Maharashtra designated the mangroves in Malad Creek as a protected area under the Indian Forest Act of 1927. This provided legal protection for the mangroves and helped to slow down the destruction of the ecosystem.

Today, the mangroves in Malad Creek are still under threat, but they continue to provide important ecological and economic benefits to the local community. The efforts to protect and preserve this ecosystem are ongoing and serve as a reminder of the importance of protecting our natural resources for future generations.

**Malad creek in 2020**

Malad Creek is a tidal creek located in the western suburbs of Mumbai, India. In 2020, the creek was facing several environmental challenges.

One major issue was the pollution of the creek's water. Due to the discharge of untreated sewage and industrial waste, the water in the creek was heavily contaminated. This harmed the health of the mangrove ecosystem and the marine life that depended on it.

Another challenge facing Malad Creek in 2020 was the encroachment and destruction of the mangroves. Land reclamation projects and the construction of infrastructure such as roads and bridges had led to the loss of important habitats for local wildlife. This also increased the vulnerability of the area to storms and coastal erosion.

Environmental groups and concerned citizens continued to raise awareness about the importance of protecting the mangroves and the creek ecosystem. In 2020, the Bombay High Court ordered the demolition of illegal constructions in the mangrove areas of the creek, which was a positive step toward their preservation.

Efforts were also being made to clean up the water in the creek through the installation of sewage treatment plants and the implementation of other pollution control measures.

Despite the challenges facing Malad Creek in 2020, there were ongoing efforts to protect and restore the ecosystem. The importance of this work was underscored by the recognition of Malad Creek as a Ramsar site in 2021, which is an international designation for wetlands of global importance

## 2.7 Conclusion:

In conclusion, the study of the mangroves in Malad Creek highlights the critical importance of these ecosystems for coastal communities and the environment. Mangroves play an essential role in protecting shorelines, filtering pollutants from the water, and providing habitat for numerous fish, birds, and other wildlife species.

However, the mangroves in Malad Creek face significant threats from pollution, encroachment, and development. Unregulated development and pollution have caused damage to this ecosystem, leading to the loss of mangrove habitat and the decline of wildlife populations.

Efforts to protect and restore the mangroves in Malad Creek are underway, including initiatives to raise awareness about the importance of mangroves, restoration and reforestation efforts, monitoring and research, and collaboration and partnership with local communities, NGOs, government agencies, and other stakeholders.

The study highlights the need for continued research and monitoring to understand the dynamics of mangrove ecosystems, the impact of human activities, and the effectiveness of restoration efforts. It also emphasizes the importance of sustainable management practices and the involvement of local communities in conservation and restoration efforts.

The successful conservation and management of mangroves in Malad Creek and other coastal areas are crucial for promoting sustainable development, protecting the environment, and supporting the livelihoods of local communities

# Chapter 3: Study of Veermata Jijabai Udyaan

## 3.1. Introduction:

Veermata Jijabai Bhosale Udyan Zoo, also known as Byculla Zoo, is a popular zoo located in the heart of Mumbai, India. It is one of the oldest zoos in the country, established in 1861, and covers an area of approximately 50 acres. The zoo is home to a diverse range of wildlife species, including mammals, birds, reptiles, and amphibians, from India and around the world.

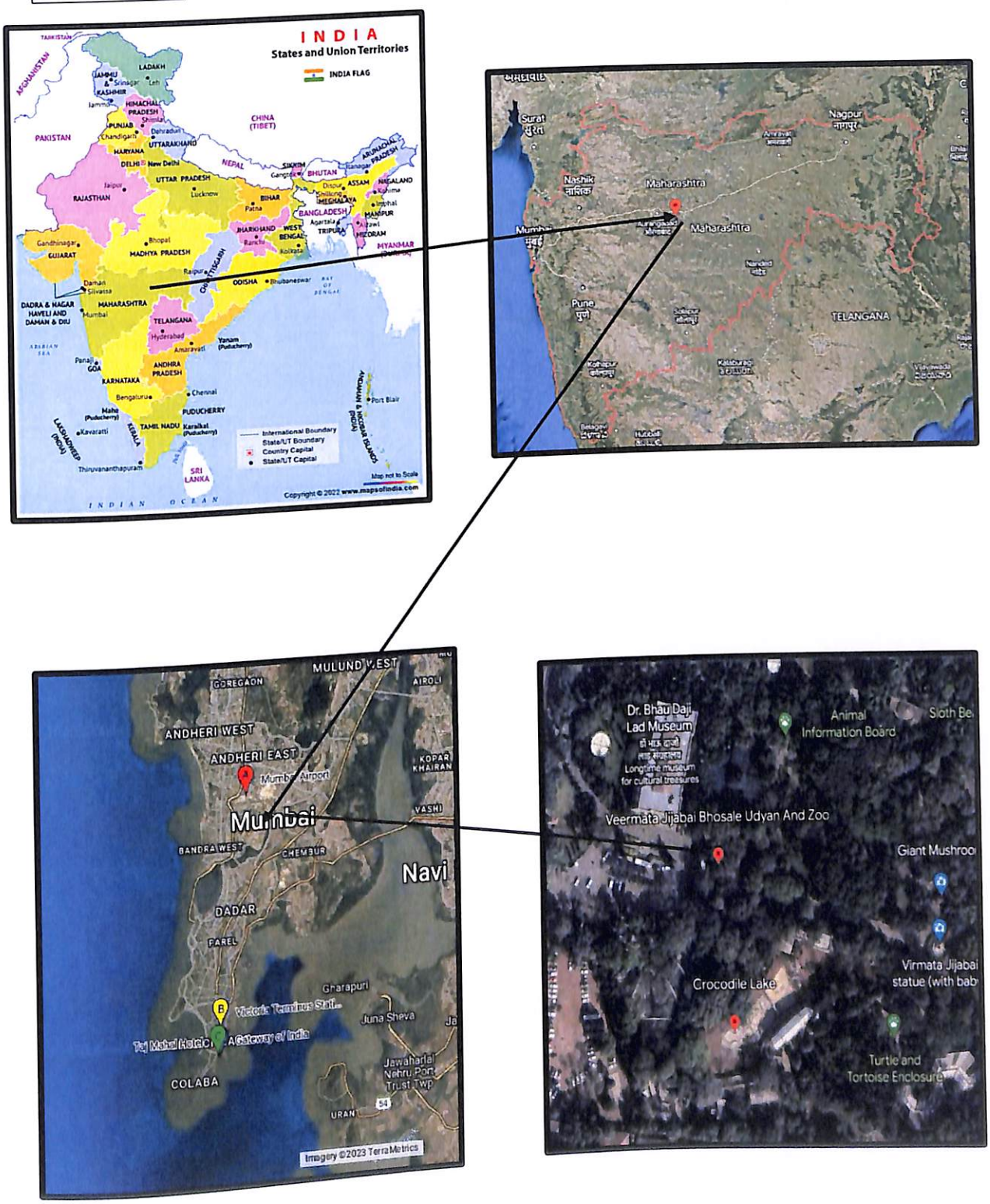
The zoo is named after Jijabai, the mother of Shivaji Maharaj, who was a prominent figure in the Maratha Empire. Over the years, the zoo has undergone several changes and renovations to improve the living conditions of the animals and provide a better experience for visitors.

The Veermata Jijabai Bhosale Udyan Zoo serves as an important educational and conservation facility, providing visitors with an opportunity to learn about and appreciate the diversity of wildlife in India and around the world. It also plays a crucial role in the conservation of endangered species, with several breeding programs aimed at the conservation of species such as the Humboldt penguin and the green anaconda.

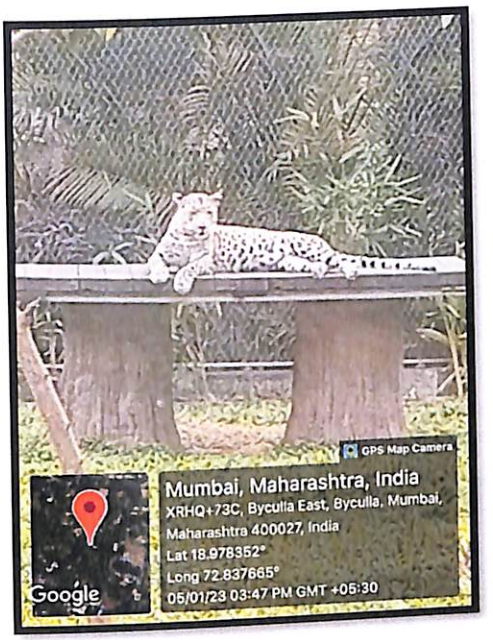
The study of the Veermata Jijabai Bhosale Udyan Zoo is essential to understand the ecology, behavior, and conservation needs of the animals housed in the zoo. It also provides insights into the challenges faced by zoos in managing captive animal populations, such as providing suitable habitats, nutrition, and enrichment activities. Ultimately, the study of Byculla Zoo can inform strategies for improving the welfare and conservation outcomes of animals in captivity, both in India and globally.

## 3.2 Area of study:

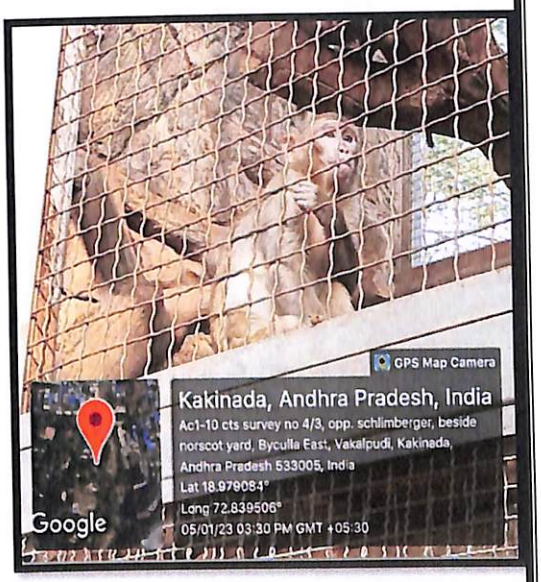
Figure no 1.3



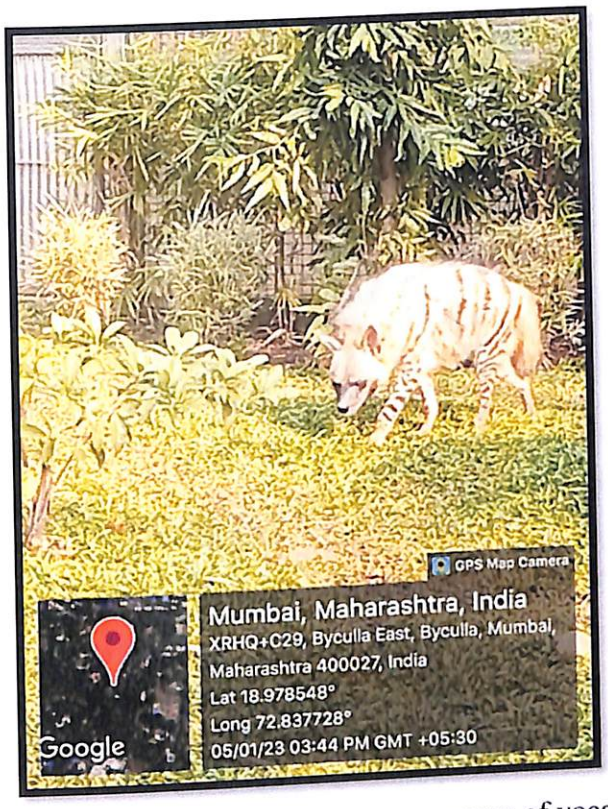
## 3.3 Analysis:




**Leopards** are large and agile felines that are found in parts of Africa and Asia. They are part of the Panthera genus, which also includes lions, tigers, jaguars, and snow leopards. Leopards have a distinctive spotted coat that provides camouflage in their natural habitat, which includes forests, grasslands, and mountains. Leopards are opportunistic predators, hunting a variety of prey, including deer, antelopes, monkeys, and birds. They are also known to scavenge on carrion and are capable of taking down prey larger than themselves.

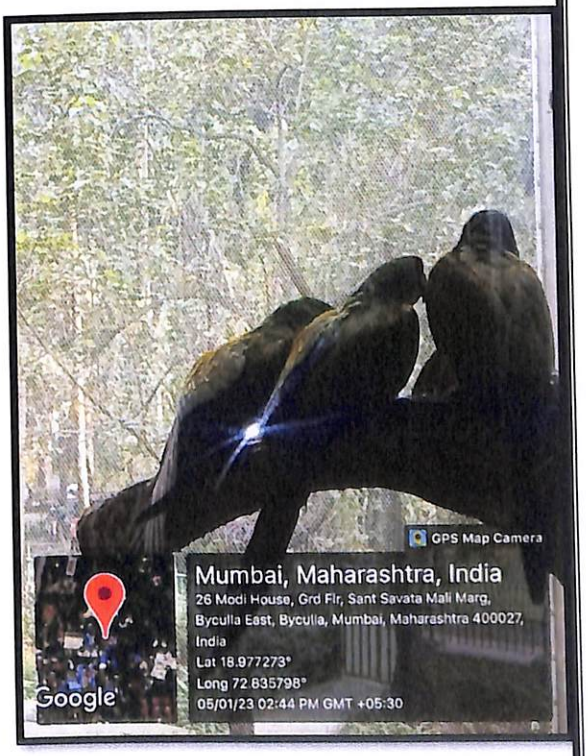


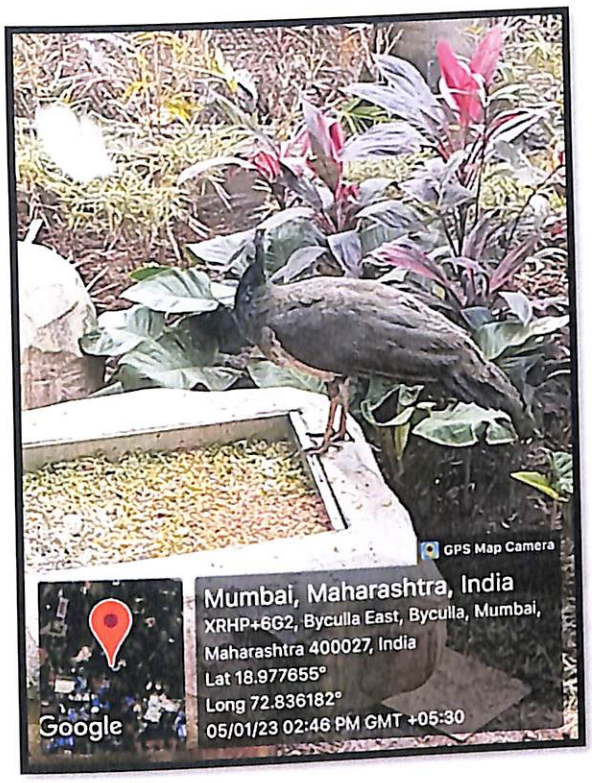

**Monkeys** are highly intelligent and social animals that live in groups, known as troops. They communicate with each other through vocalizations, body language, and facial expressions. Monkeys are also known for their dexterity and problem-solving skills, using their hands and feet to manipulate objects and solve puzzles. There are over 260 species of monkeys, ranging from arboreal species that live in trees to ground-dwelling species that inhabit grasslands and forests. Many species of monkeys are threatened by habitat loss, poaching, and other forms of human-wildlife conflict. However, conservation efforts are underway to protect these important primates and their habitats, with measures such as protected areas, wildlife corridors, and community-based conservation initiatives.




**Hyenas** are carnivorous mammals that are found in parts of Africa and Asia. There are four species of hyenas: the spotted hyena, the brown hyena, the striped hyena, and the aardwolf. Hyenas are known for their distinctive appearance, with a sloping back and a powerful build. They have strong jaws and teeth, which they use to crush bones and scavenge on carrion. However, hyenas are also skilled hunters, able to take down large prey such as antelopes and wildebeest. Hyenas are social animals that live in clans, which can consist of up to 80 individuals. They communicate with each other through a range of vocalizations, body language, and scent markings.

**Parrots** are colorful and highly intelligent birds that are found in tropical and subtropical regions around the world. There are over 350 species of parrots, ranging in size from the tiny pygmy parrot, which is just a few inches long, to the large macaws, which can be over three feet in length. Parrots are known for their ability to mimic human speech and other sounds and are popular pets around the world. However, many species of parrots are threatened by habitat loss and poaching, and conservation efforts are underway to protect these important birds and their habitats.

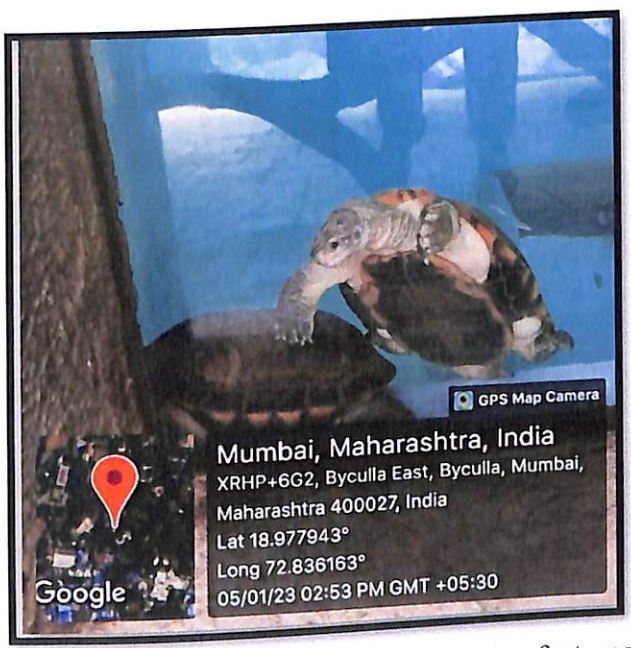





**Peacocks** are large, colorful birds that are native to South Asia but can now be found in many parts of the world due to their popularity as ornamental birds. The male of the species, known as a peacock, is known for its stunningly beautiful feathers, which it displays during courtship rituals to attract a mate. Peafowl, the family to which peacocks belong, are omnivorous birds that feed on a variety of foods, including insects, plants, and small animals. They are also skilled runners and fliers, able to escape predators with their speed and agility. Peafowl is highly social animals that live in groups, known as parties or pride. They communicate with each other through a range of vocalizations and body language and are known for their distinctive calls and displays.

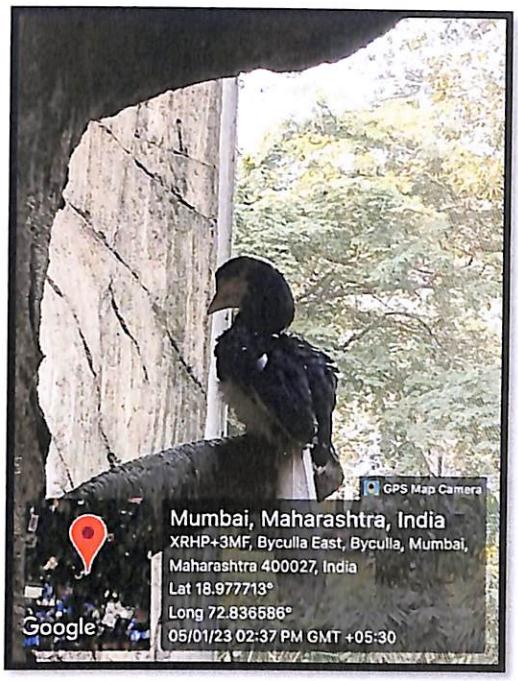

**Elephants** are the largest land animals in the world, found in parts of Africa and Asia. There are two species of elephant: the African elephant and the Asian elephant. They are known for their distinctive trunks, which they use for a variety of tasks, including breathing, smelling, drinking, and grasping objects. Elephants are social animals that live in groups, known as herds, which can consist of up to 100 individuals. They communicate with each other through a range of vocalizations, body language, and chemical signals, and are known for their strong social bonds and complex social structures

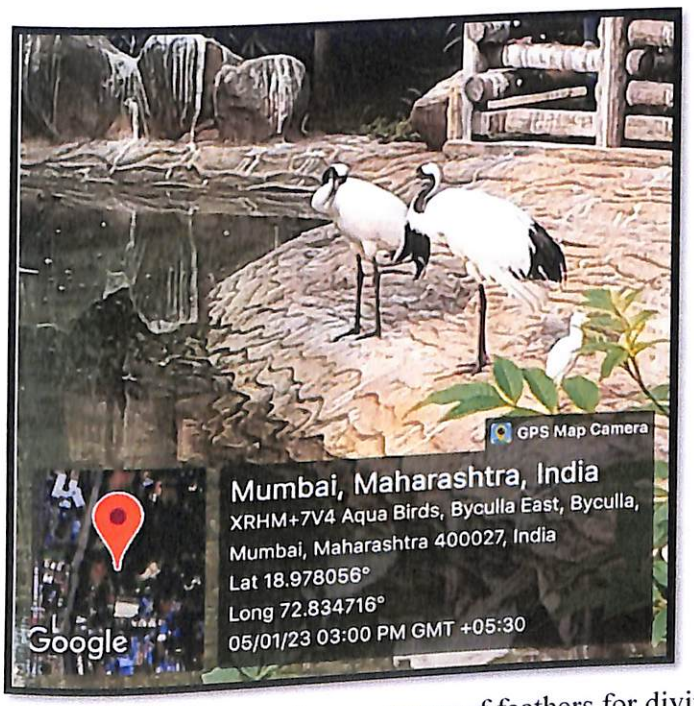
**The hippopotamus** often referred to simply as a "hippo," is a large semi-aquatic mammal native to Africa. It is one of the largest land animals on the continent and is known for its massive size, with males weighing up to 1,500 kg (3,300 lb) and females weighing up to 1,300 kg (2,900 lb). Hippos are herbivorous, feeding mainly on grass, and spend much of their time submerged in water to keep cool during the hot African days. Despite their large size, hippos are known to be surprisingly agile and can run at speeds of up to 30 km/h (19 mph) on land.


**A tortoise** is a land-dwelling reptile known for its hard, protective shell, which is used as a defense mechanism against predators. Tortoises are found in many parts of the world, with over 50 species living in North and South America, Europe, Asia, and Africa. Tortoises are herbivores, feeding on a diet of grasses, leaves, and flowers. They are also known for their long lifespans, with some species living for over 100 years. Tortoises have a slow metabolism, and their movements are generally slow and deliberate. One of the most distinctive features of the tortoise is its shell, which is made up of two parts: the carapace (upper shell) and the plastron (lower shell). The shell protects the tortoise's body and is also used as a means of regulating body temperature.

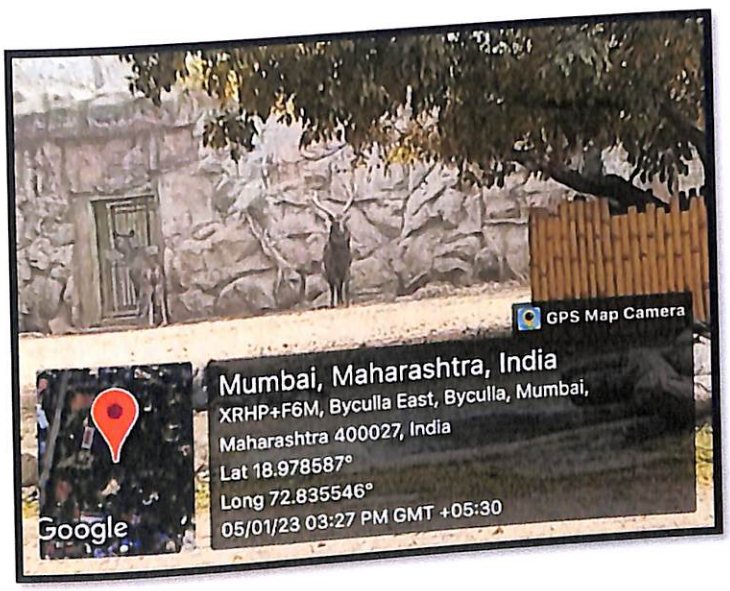
**Toucans** are a group of colorful birds native to Central and South America. They are known for their large, colorful bills, which can be up to half the length of their bodies. These bills are not only visually striking but also serve several functions, including helping them to reach fruit and as a means of defense. Toucans primarily feed on fruit but also consume insects and small vertebrates. They are important seed dispersers, helping to maintain the health of tropical forests. Due to habitat loss and hunting for their feathers, toucans are facing threats and some species are now considered endangered.




**Water birds** are a group of birds that are adapted to aquatic environments such as wetlands, lakes, rivers, and oceans. Depending on their habitat and behavior, they are also known as aquatic birds, waterfowl, or seabirds. Water birds come in a wide variety of shapes and sizes, from small songbirds like the kingfisher to large birds like the albatross. They have several adaptations that help them survive in their aquatic habitats, such as webbed feet for swimming, waterproof feathers for diving, and long bills for catching fish or other prey.

**The tiger** is the largest member of the cat family and is known for its distinctive orange coat with black stripes. They are native to Asia and are found in a variety of habitats, including forests, grasslands, and wetlands. Tigers are carnivores and primarily hunt large ungulates such as deer, wild boar, and buffalo. They are also capable swimmers and can hunt in the water. Tigers are solitary animals and are most active at night, using their excellent eyesight and hearing to hunt their prey.

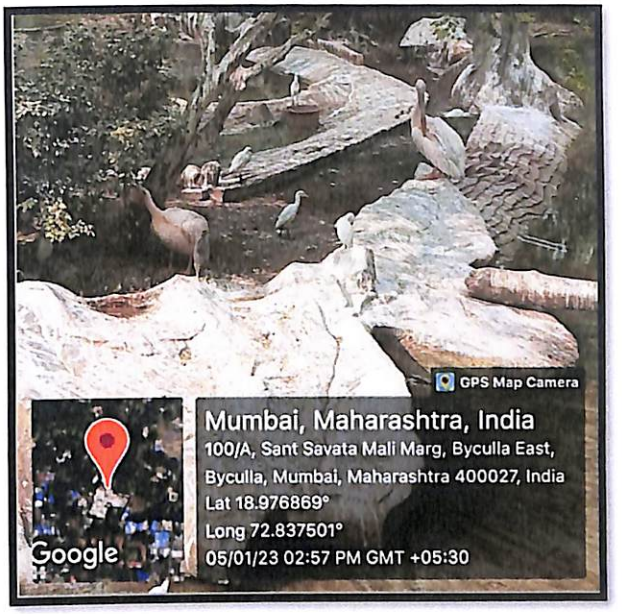



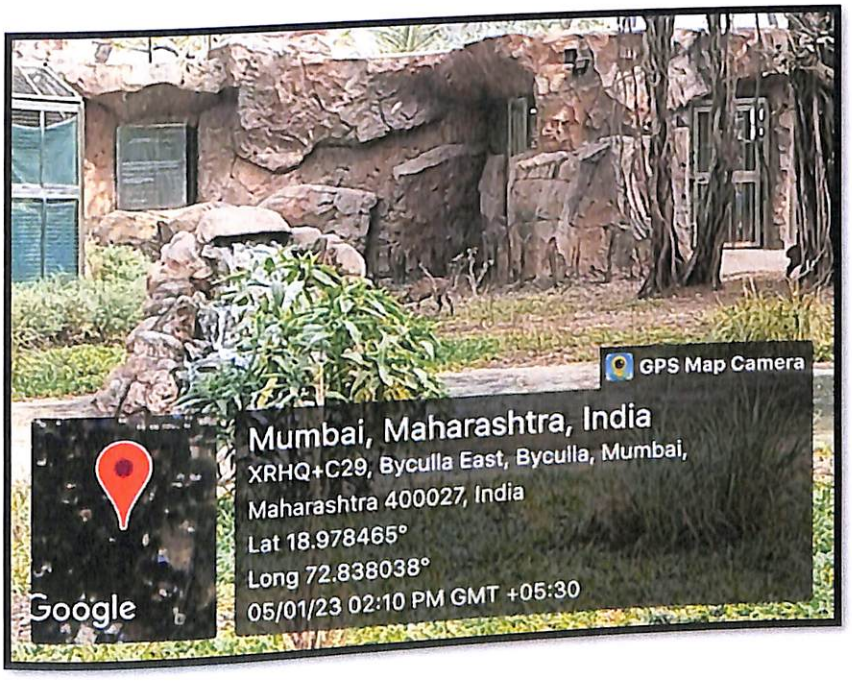

**The reindeer**, also known as caribou, is a species of deer found in the Arctic and Subarctic regions of the world, including North America, Europe, and Asia. They are well adapted to cold environments and have unique characteristics that help them survive in harsh conditions.

Reindeer have a thick coat of fur that provides insulation and helps them stay warm in cold temperatures. They also have large, concave hooves that act like snowshoes, allowing them to walk on soft snow without sinking. Reindeer are herbivores and mainly feed on lichens, mosses, and shrubs that grow in the tundra.

**Pelicans** are a group of large water birds found throughout the world, with most species living in tropical and subtropical regions. They are characterized by their long beaks and throat pouches, which they use to catch fish and other aquatic prey.

Pelicans are excellent swimmers and divers, using their webbed feet to propel themselves through the water. They have a unique feeding strategy, where they float on the surface of the water and scoop up fish and other prey in their pouches.




**A deer** is a group of herbivorous mammals found in various habitats around the world, including forests, grasslands, and mountainous regions. There are over 90 species of deer, ranging in size from the tiny pudu deer of South America to the large moose of North America and Eurasia. Deer are well adapted to their environments, with different species having various adaptations such as long legs for running, antlers for defense or dominance, and keen senses of smell, sight, and hearing to detect predators.

## 3.4 Conclusion:

In conclusion, the study of Veermata Jijabai Udyaan, also known as Byculla Zoo, is important for understanding the role of zoos in conservation efforts and educating the public about biodiversity. The zoo houses a diverse range of animals, including many endangered species, and plays an important role in captive breeding programs and wildlife research.

The zoo also serves as a popular destination for visitors, both local and international, providing opportunities for people to learn about and appreciate the beauty and complexity of the natural world. However, it is important to ensure that the welfare and well-being of the animals are given the utmost priority and that the zoo operates by ethical standards and best practices in animal care.

Continued efforts towards conservation, education, and animal welfare will help ensure that Veermata Jijabai Udyaan remains a valuable resource for the public and a center for wildlife conservation and research

# Chapter 4: Analysis of Air, Water, and Noise Pollution levels

## 4.1 Introduction:

Air, noise, and water pollution are three types of environmental pollution that have significant negative impacts on human health and the natural world.

Air pollution occurs when harmful substances such as gases, particulates, and biological molecules are released into the atmosphere in high concentrations. These substances can come from both natural sources, such as volcanic eruptions and wildfires, and human activities, such as transportation, energy production, and industrial processes. Air pollution can cause a range of health problems, including respiratory illnesses, heart disease, and lung cancer.

Noise pollution refers to excessive or disruptive noise that can harm human health and disrupt ecosystems. Sources of noise pollution include transportation (such as aircraft, trains, and cars), industrial activities, construction sites, and loud music. Long-term exposure to noise pollution can lead to hearing loss, sleep disturbance, and other health problems.

Water pollution occurs when harmful substances are released into bodies of water, such as rivers, lakes, and oceans. These substances can come from many sources, including agricultural runoff, industrial discharges, and sewage treatment plants. Water pollution can seriously impact aquatic ecosystems, such as killing fish and other wildlife and harming human health through contaminated drinking water sources.

All three types of pollution have significant impacts on the environment, human health, and the economy. Efforts to reduce pollution levels require cooperation from individuals, businesses, and governments to reduce emissions, improve waste management practices, and implement effective regulations and policies

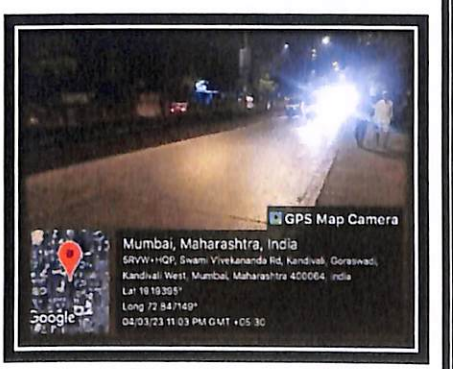
## 4.2 Analysis: Of Noise Pollution

| Sr No. | Location | dB reading | Time | Date | Remark |
|---|---|---|---|---|---|
| 1 | Building | 68 | 01:09 pm | 12/03/23 | Low |
| | | 78 | 06:26 pm | | Medium |
| | | 63 | 09:17 pm | | Very Low |
| 2 | Dominic colony | 63 | 01:06 pm | 12/03/23 | Very Low |
| | | 74 | 06:41 pm | | Medium |
| | | 62 | 09:24 pm | | Very Low |
| 3 | Bhadran Nagar | 58 | 01:24 pm | 12/03/23 | Very Low |
| | | 81 | 06:22 pm | | High |
| | | 55 | 09:32 pm | | Very Low |

Figure NO 1.4

### 1] Building

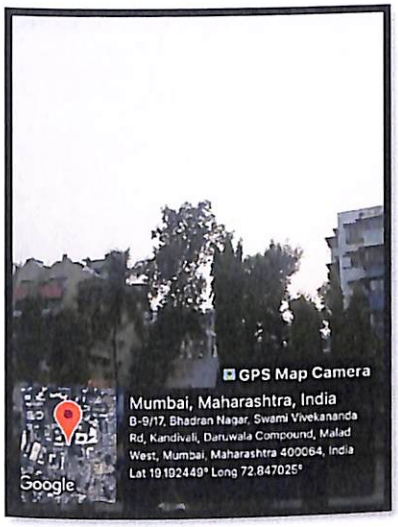


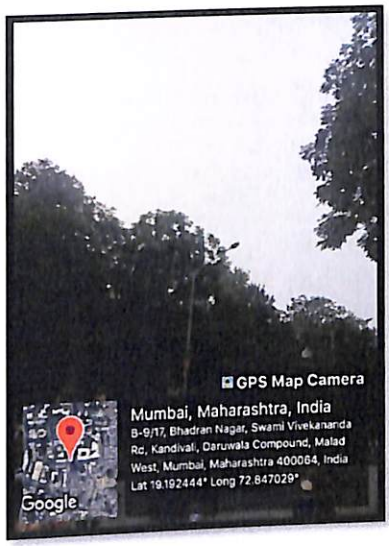


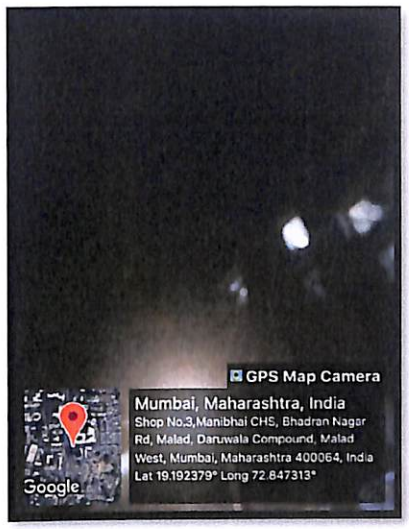

### 2]Dominic Colony



## 3] Bhadran Nagar




Noise pollution is the excessive or disturbing sound that disrupts the natural balance of human and animal life. It is caused by a variety of sources, including traffic, industrial machinery, construction sites, aircraft, and household appliances. Noise pollution can have adverse effects on both physical and mental health, and it can also affect wildlife and their natural habitats.

Here are some of the effects of noise pollution:

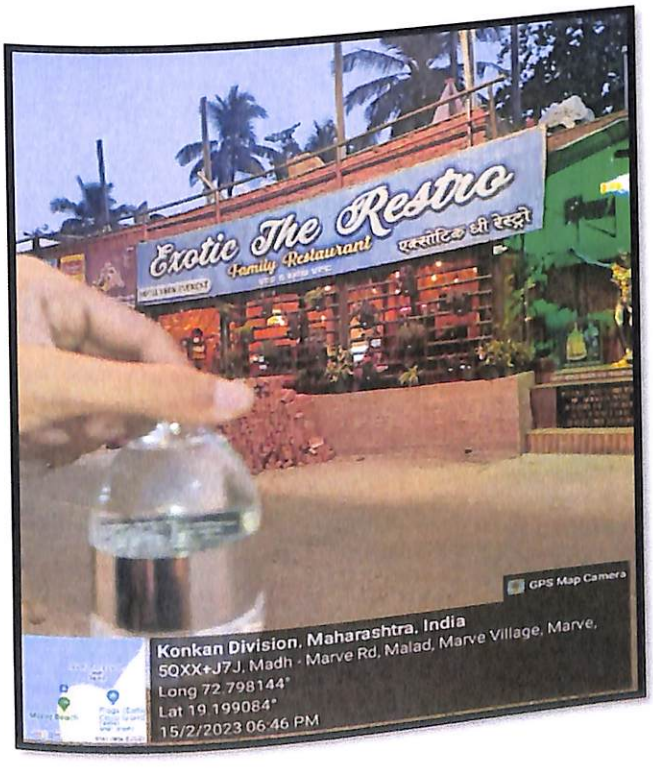
I. Hearing Loss: Prolonged exposure to loud noise can damage the sensory cells in the inner ear, leading to permanent hearing loss.
II. Sleep Disturbances: Noise pollution can disturb sleep patterns and lead to insomnia, which can lead to other health problems.
III. Cardiovascular Problems: Exposure to high levels of noise pollution can lead to an increase in blood pressure, heart rate, and stress levels, which can increase the risk of heart disease.
IV. Communication Interference: Noise pollution can interfere with speech communication, causing difficulties in learning, work, and social interactions.
V. Environmental Effects: Noise pollution can harm wildlife, disrupting mating calls, feeding patterns, and migration routes Overall, noise pollution can have a significant impact on human health and the environment. It is important to take measures to reduce noise pollution, such as the

## 4.3 Water Pollution

Figure no 1.5

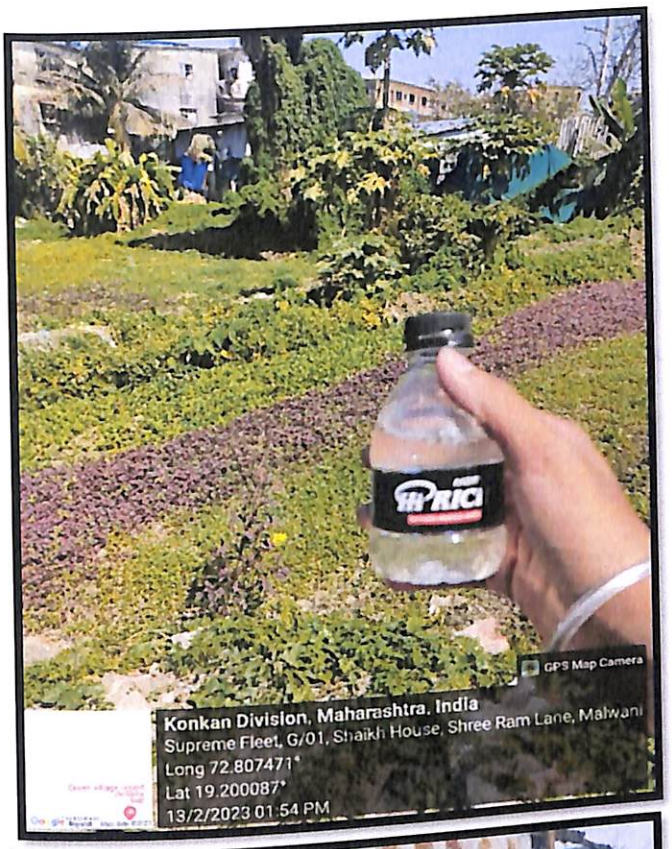

Chinese:

The Water sample was taken from the water used for cooking. As you can see the PH Value is 7.50 which makes it slightly alkaline. This is usually safe for cooking.



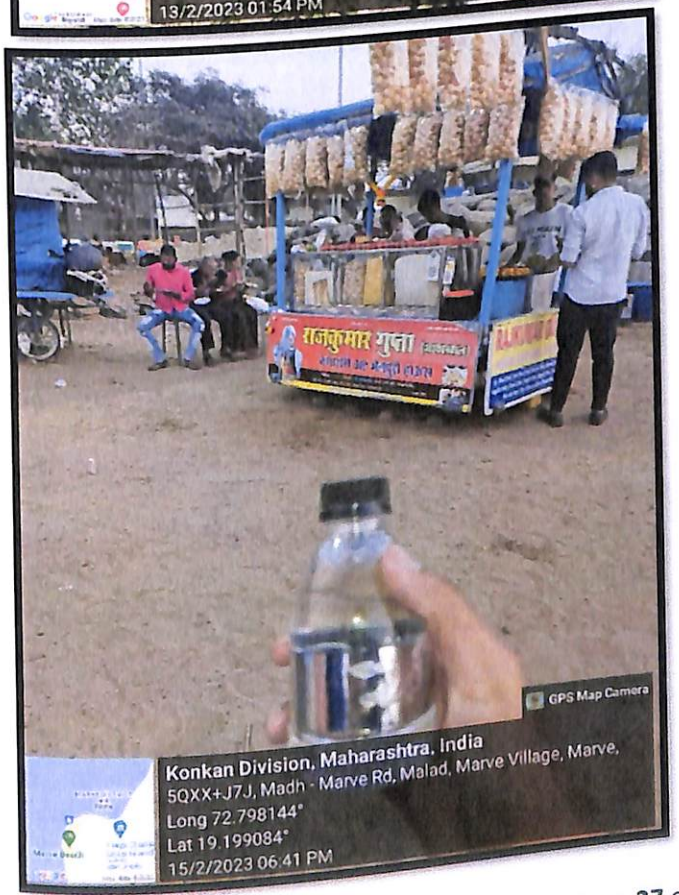

Restaurant:

The water sample was taken from the jug of drinking water served at the restaurant. As you can see the PH Value is 7.50 slightly alkaline which is usually safe for consumption.



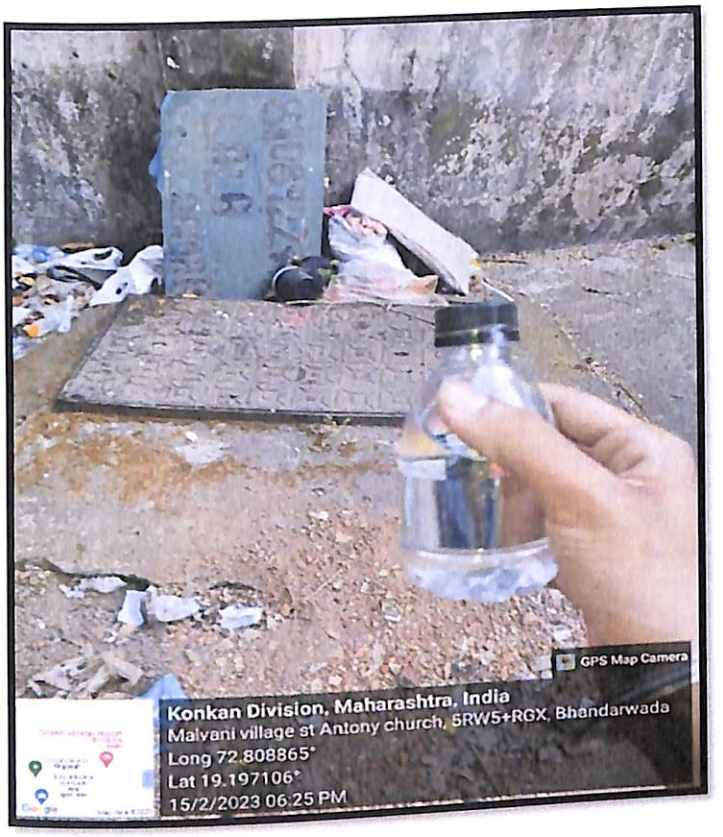

## Farm:

This water sample was taken from the source of water which is used to water the farm. As you can see the PH Value is 4.00 which is highly Acidic. This is caused due to higher levels of organic matter in the water.



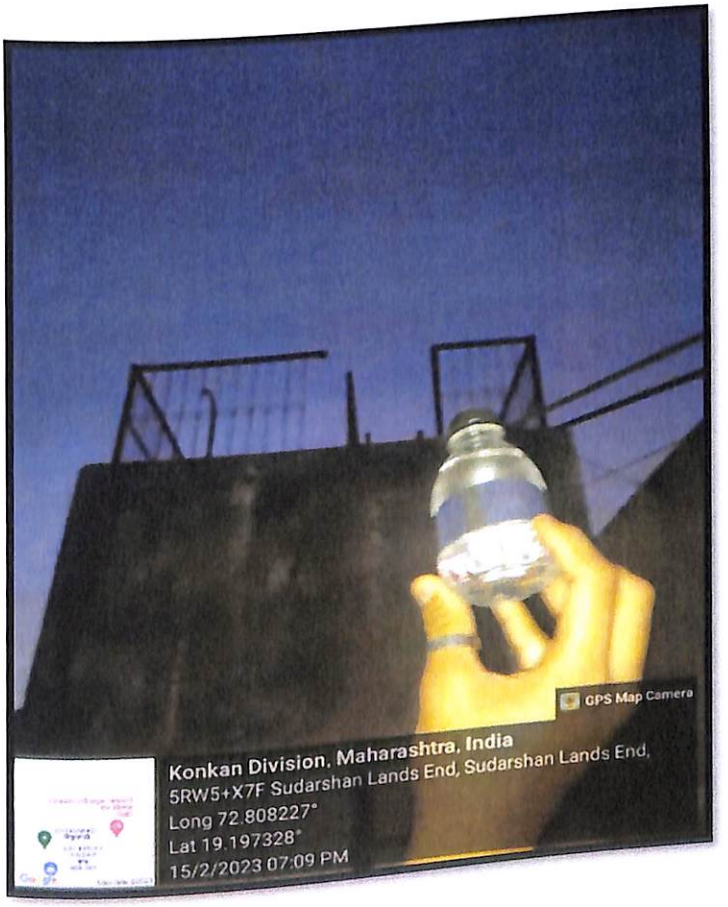

## Panipuri stall :

The water sample was taken from the source of drinking water provided by the stall. As you can see the PH Value is 7.00 which is neutral. This water is safe for consumption.




## Borewell:

The water sample was taken from the Borewell of the building, and as we can see the PH Value is 9.00 which makes it highly Alkaline. This occurs due to high amounts of trace minerals in the groundwater.




## Rainwater Trap:

The water sample was taken from the Rain Trap of the Building, as we observe the PH Value is 6.00 which makes it slightly acidic. It can be made potable after treatment.

## 4.4 For Air Pollution:

| Sir No | Location | AQI | Remark |
|---|---|---|---|
| 1 | Bandra | 192 | Moderate |
| 2 | Borivali | 172 | Moderate |
| 3 | Chembur | 277 | Unhealthy for Sensitive Group |
| 4 | Mahalakshmi | 208 | Unhealthy for Sensitive Group |
| 5 | Worli | 222 | Unhealthy for Sensitive Group |
| 6 | Colaba | 248 | Unhealthy for Sensitive Group |

Figure no 1.6



Chembur East, Mumbai
NAQI (IN)
277
0
500
Poor air quality
Same as usual
Home
Map
Air Quality
Pollen
Profile


Mahalakshmi, Mumbai
NAQI (IN)
208
0
500
Poor air quality
Worse than usual
Home
Map
Air Quality
Pollen
Profile


Colaba Bus Station, Mumbai
NAQI (IN)
248
0
500
Poor air quality
Worse than usual
Home
Map
Air Quality
Pollen
Profile

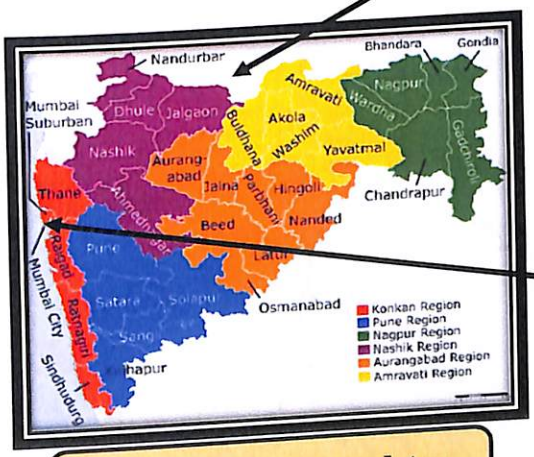

Worli, Mumbai
NAQI (IN)
222
0
500
Poor air quality
Worse than usual
Home
Map
Air Quality
Pollen
Profile

## 4.5 Area of Study:

Figure no 1.7

Map of World


Map of India




Map of Maharashtra

Map of Mumbai

● The red dots are the places that were visited for Air, Noise, and Water pollution studies

## 4.6 Conclusion:

Air, water, and noise pollution are three significant environmental issues that have widespread impacts on human health, ecosystems, and the economy. These types of pollution arise from a variety of human activities, including industrial processes, transportation, and agricultural practices, and are often caused by the release of harmful substances into the environment.

The consequences of pollution are far-reaching and can include respiratory illnesses, cardiovascular disease, hearing loss, contaminated water sources, and ecological damage. The effects of pollution can be particularly severe for vulnerable populations, such as children, the elderly, and those with pre-existing health conditions.

Efforts to combat pollution require the cooperation of individuals, businesses, and governments. Reducing pollution levels can involve measures such as improved waste management practices, the adoption of cleaner technologies, and the implementation of effective regulations and policies.

While progress has been made in reducing pollution levels in many parts of the world, these issues remain a significant challenge. Continued efforts are needed to address pollution's root causes and implement sustainable solutions that can protect human health and the environment.

We must prioritize these issues and work towards reducing pollution levels to create a healthier and more sustainable world. By taking action to reduce pollution, we can protect our health, safeguard our natural resources, and ensure a brighter future for generations to come.

# Chapter 5: E- waste Collection

## 5.1 Introduction:

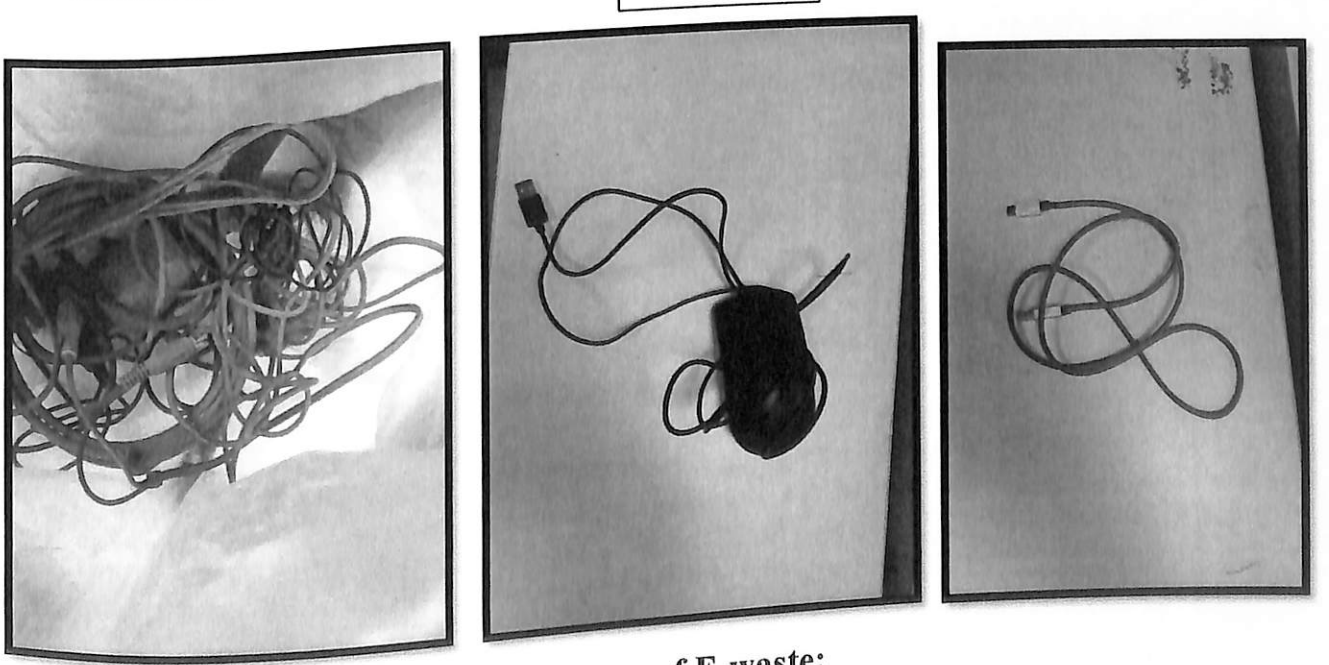
E-waste, or electronic waste, is a growing problem as the world becomes increasingly dependent on electronic devices. E-waste includes discarded electronics such as computers, televisions, mobile phones, and other electronic devices. These items contain hazardous materials such as lead, mercury, and cadmium that can pose a threat to human health and the environment if not disposed of properly.

The collection of e-waste is an important step in ensuring that these hazardous materials are disposed of safely and that valuable resources are not wasted. E-waste collection involves properly sorting, storing, and transporting electronic devices to recycling facilities, where the materials can be extracted and reused.

Governments, non-governmental organizations, and private companies are all involved in e-waste collection efforts. Many countries have established e-waste collection programs to ensure that discarded electronics are properly handled and recycled. Private companies also offer e-waste collection services to consumers and businesses.

Proper collection and disposal of e-waste can help reduce the environmental impact of electronics and protect human health. It also helps to conserve valuable resources and reduce the need for new raw materials

Figure no 1.8



## 5.2 Types of E-waste:

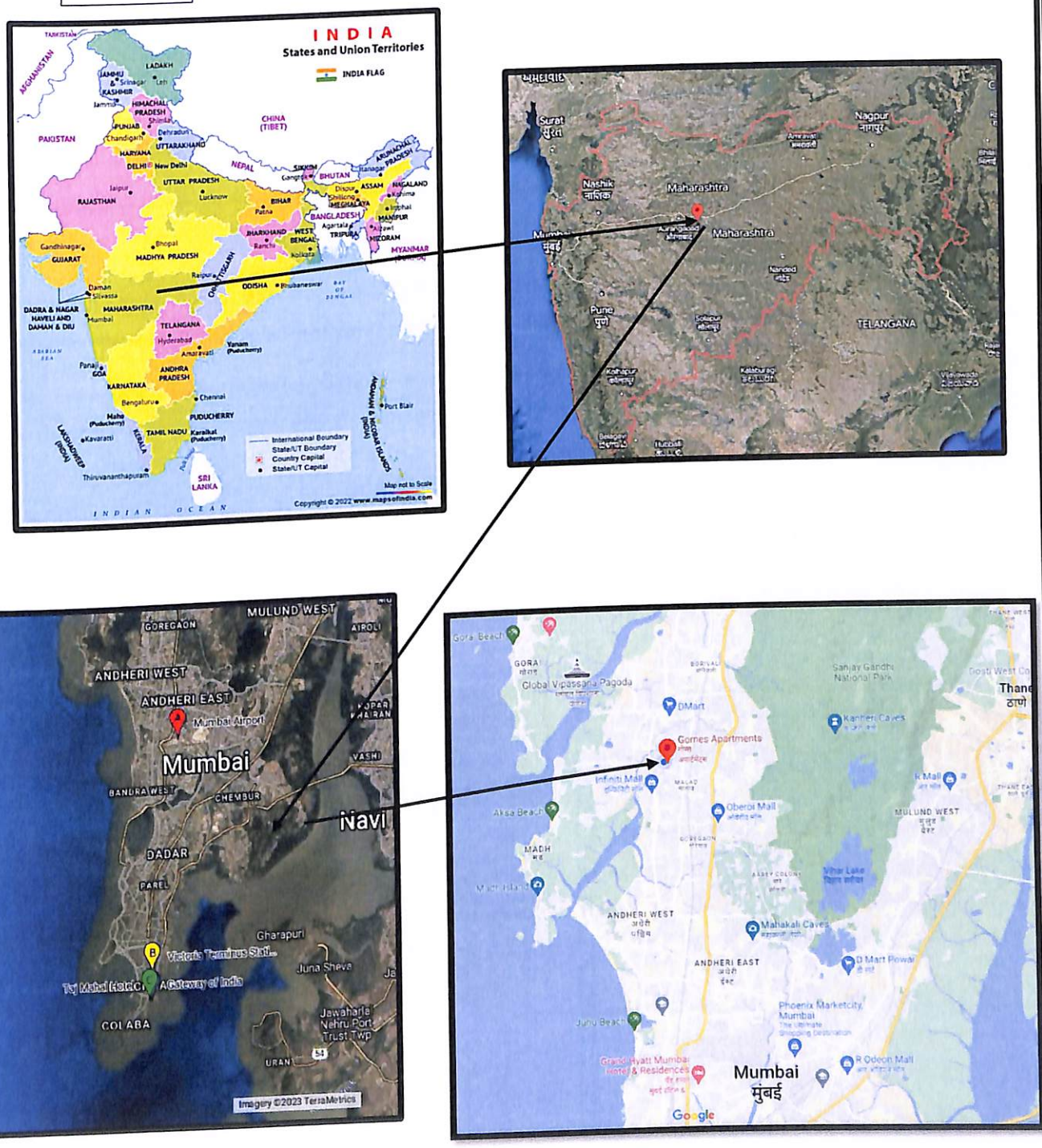
Electronic waste, or e-waste, refers to any discarded electronic device, including computers, mobile phones, televisions, printers, and other electronic equipment. E-waste can be categorized into various types based on the nature of the devices, components, and materials involved. Some of the common types of e-waste are:

- IT and Telecommunication Equipment: This includes discarded computer hardware, such as desktop computers, laptops, servers, routers, and switches, as well as communication devices like mobile phones, landline phones, and fax machines.
- Consumer Electronics: This includes household electronics, such as televisions, DVD players, gaming consoles, cameras, and audio equipment.
- Large Household Appliances: This category includes refrigerators, washing machines, dryers, air conditioners, and other large appliances.
- Small Household Appliances: This category includes small appliances, such as vacuum cleaners, irons, toasters, and blenders.
- Lighting Equipment: This category includes fluorescent tubes, LED bulbs, and other types of lighting equipment.
- Medical Devices: This includes discarded medical equipment like X-ray machines, CT scanners, and other electronic devices used in healthcare facilities.
- Electronic Toys and Tools: This includes electronic toys, such as video games and remote-controlled cars, as well as electronic tools, such as drills and saws.

Each type of e-waste may contain different components and materials, some of which may be hazardous to human health and the environment. Proper disposal and recycling of e-waste are essential to prevent the release of hazardous materials and to recover valuable resources.

## 5.3 Ares of study:

Figure 1.9



## 5.4 Conclusion:

In conclusion, the collection of e-waste is an essential step towards reducing the environmental and health impacts of discarded electronic devices. E-waste can contain hazardous materials such as lead, mercury, and cadmium, which can pose a threat to human health and the environment if not disposed of properly. Additionally, the improper disposal of e-waste can contribute to the depletion of natural resources and exacerbate environmental pollution.

Efforts to collect and recycle e-waste are critical for reducing the impact of discarded electronics on the environment and conserving valuable resources. Governments, non-governmental organizations, and private companies all have a role to play in e-waste collection and recycling. Consumers can also contribute to these efforts by properly disposing of their electronic devices through e-waste collection programs and ensuring that any personal data is securely erased.

Overall, continued efforts towards e-waste collection and recycling are necessary to mitigate discarded electronics' environmental and health impacts and promote a sustainable future.


# Chapter 6

## 6.1 Major findings and Challenges

The zoo is a well-liked tourist destination and has made efforts to better the living conditions of its animals and provide them with natural habitats. Endangered species like white tigers, lion-tailed macaques, and Himalayan black bears have been successfully bred at the zoo, and its crocodile breeding program has increased its population.

Mangroves are threatened by deforestation, pollution, and climate change, which can negatively affect the ecosystem and the species that depend on it. • Mangroves play a critical role in mitigating climate change by sequestering carbon from the atmosphere. They also serve as natural barriers against storms and tidal waves while supporting rare plant and animal species.

## 6.2 Conclusion

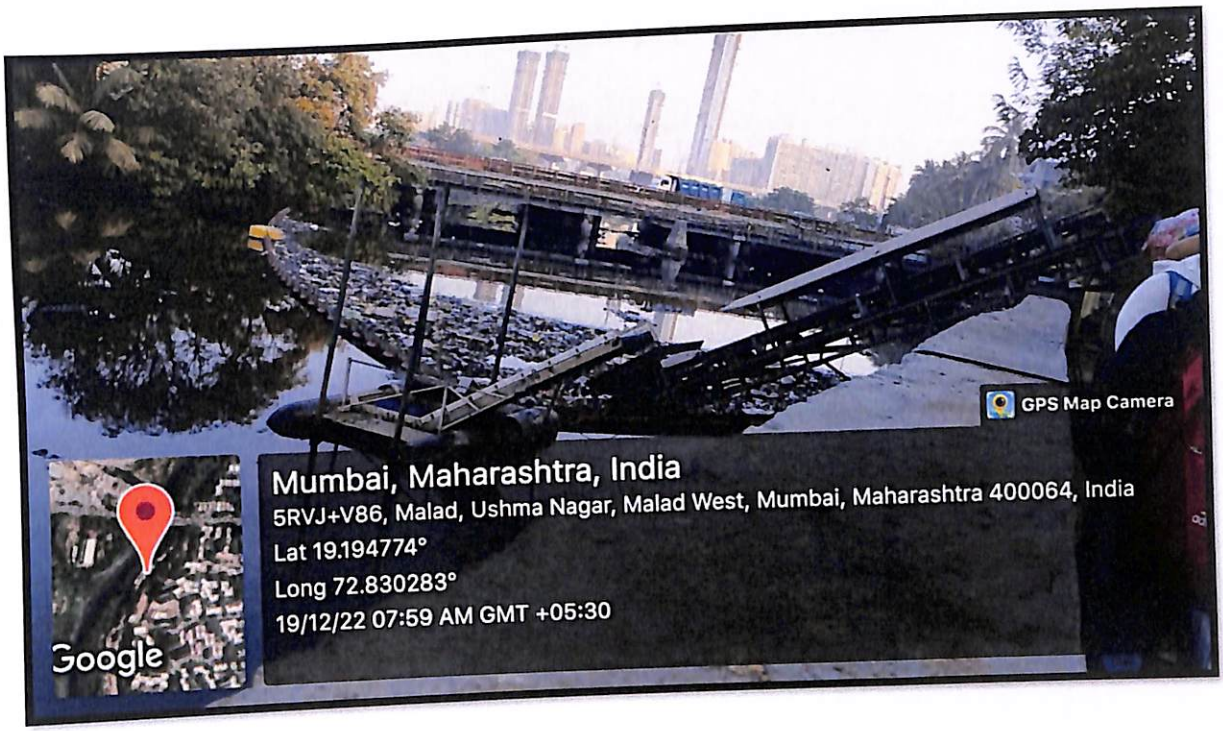
The study of mangroves concludes by emphasizing the crucial role they play in reducing climate change, safeguarding coastal communities, and sustaining rare plant and animal species. To safeguard and maintain these vital ecosystems, however, we must work together and launch awareness-raising campaigns since they are in danger due to deforestation, pollution, and climate change.

The campaign to collect e-waste highlights how crucial it is to handle e-waste properly to decrease waste and recover precious resources like gold, silver, and copper. To ensure efficient e-waste collection, transportation, and recycling, it also emphasizes the necessity for cooperation between governments, corporations, and people. By taking immediate action, we can lessen the harm that e-waste does to the environment and people's health.

# Appendix

## Appendix 1


## Appendix 3


GPS Map Camera
Mumbai, Maharashtra, India
5RVJ+V86, Malad, Ushma Nagar, Malad West, Mumbai, Maharashtra 400064, India
Lat 19.194774°
Long 72.830283°
19/12/22 07:59 AM GMT +05:30
Google