WILDLIFE PROJECTS OF INDIA

Lion Conservation in India

Asiatic Lion

The Asiatic lion (scientific name *Panthera leo persica*) is a lion subspecies found exclusively in India's Gir Forest in Gujarat.

The IUCN Red List of Threatened Species classifies it as **endangered**.

Once ranging from the Mediterranean to northeastern India, Asiatic lions faced severe population decline due to hunting, pollution, and loss of prey.

Conservation Issues

Asiatic lions are threatened by several key factors:

Issue	Description
Poaching	Illegal hunting for trophies and body parts
Habitat Fragmentation	Loss of connected habitat areas
Illegal Electrical Fences	Used by farmers to protect crops, these fences often kill lions and other wildlife
Livestock Predation and Poisoning	Retaliatory killings by farmers
Open Wells	Many lions drown in uncovered irrigation wells
Natural Disasters	Floods, fires, and disease outbreaks pose a risk to the concentrated population
Overcrowding	The Gir Forest is reaching its carrying capacity for lions

Conservation Efforts

The first conservation efforts for Asiatic lions began in 1910 when the Nawab of Junagadh banned lion hunting in his province. This ban persisted after India's independence. Key conservation efforts include:

- **Gir Forest Sanctuary:** Established in the 1960s, this area is a protected home for the lions.
- **Lion Conservation Programme:** Launched in 1965, this program has steadily increased the lion population.

- **Kuno-Palpur Project:** This project in Madhya Pradesh aims to relocate lions from overcrowded Gir Forest. Historically, lions inhabited the Kuno-Palpur area.

Project Lion

Initiation

- Project Lion was announced on August 15, 2020, during India's 74th Independence Day celebrations.
- Its focus is on the conservation of the Asiatic Lion, with its last wild population residing in Gujarat's Asiatic Lion Landscape.

Aims

- Enhance habitat development through the integration of modern management technologies.
- Address diseases affecting the lion population.
- Manage human-wildlife conflict, engaging local communities near the lion landscape and addressing potential livelihood impacts.

Implementation

- Overseen by the Ministry of Environment, Forest and Climate Change.
- Modelled after the successful Project Tiger initiative.
- Three dedicated "gene pool" breeding sites established: Rampara in Saurashtra, Sakkarbaug, and Satveerada in Junagadh.

Six New Potential Reintroduction Sites

Project Lion has identified these sites in addition to Kuno-Palpur Wildlife Sanctuary:

- Madhav National Park (Madhya Pradesh)
- Sitamata Wildlife Sanctuary (Rajasthan)
- Mukundra Hills Tiger Reserve (Rajasthan)
- Gandhi Sagar Wildlife Sanctuary (Madhya Pradesh)
- Kumbhalgarh Wildlife Sanctuary (Rajasthan)
- Jessore-Balaram Ambaji WLS and adjoining landscape (Gujarat)

Activities

Project Lion's long-term vision centers on Asiatic lion conservation and supporting sustainable livelihood options for stakeholders. Key activities in 2022 include:

- **Wildlife Disease Center:** Blueprint creation and site identification for an All India Wildlife Disease Diagnostic Research and Referral Centre.
- **Project Vision:** Development of the 'Project Lion: Lion @47 vision for Amrutkal' document, shared with the Gujarat government.

Gujarat Forest Department Activities:

Activity	Description
Habitat Improvement	Efforts to enhance the natural environment
Monitoring	Radio-collaring, camera traps, telemetry, SIMBA system, and e-Guj patrolling
Conflict Management	Addressing human-wildlife conflict
Eco-development	Projects supporting ecological balance
Awareness and Sensitization	Educational initiatives

Status of Asiatic Lions

- **2020 Population Increase:** In June 2020, the Gujarat Forest Department reported a 29% population increase since the 2015 census, with a total count of 674 lions.
- **Expanded Range:** The lions' distribution area expanded by 36%, covering 30,000 sq. km in 2020 compared to 22,000 sq. km in 2015.
- **Census Postponement:** The 15th Lion Census, scheduled for June 2020, was postponed due to the COVID-19 pandemic.
- **Successful Conservation:** The population growth highlights the ongoing success of conservation efforts driven by community participation, technology, wildlife healthcare, habitat management, and human-lion conflict mitigation.

Elephant Conservation in India

Asian Elephants

The Asian Elephant (*Elephas maximus*), India's largest terrestrial mammal, once ranged widely across Asia. Today, their distribution is more limited, primarily within the Indian subcontinent, Southeast Asia, and islands such as Sri Lanka, Indonesia, and Malaysia. Despite over half of the wild population residing in India, the IUCN Red List classifies them as 'Endangered' since 1986.

Fascinating Elephant Facts

- **Matriarchal Structure:** Elephant herds are led by an experienced female. Families comprise mothers, sisters, daughters, and calves.
- **Strong Bonds:** Elephants form deep bonds with their families and friends.
- **Cooperative Childcare:** Females help raise each other's calves, teaching essential behaviors.
- **Long Pregnancy:** Elephants have the longest gestation period of all mammals, around 22 months.
- **Birth Intervals:** Females give birth every four years on average, with intervals increasing slightly with age.

Habitat of Elephants in India

- **Large Range:** Elephants require extensive habitats to meet their significant food and water needs.
- **Forest Health Indicator:** The health of elephant populations reflects the condition of the forests they inhabit.
- **Current Distribution:** Wild elephants in India are found in the South, Northeast (including North West Bengal), Central India (Orissa, South West Bengal, Jharkhand), and Northwest India (Uttarakhand and Uttar Pradesh).

Conservation Issues

Asian elephants face critical threats:

- **Habitat Loss, Fragmentation, Degradation:** Development and human activities reduce and divide elephant habitat.
- **Illegal Killing:** Poaching for ivory and other products, along with retaliatory killings due to conflicts, endanger elephants.
- **Genetic Viability:** Small, isolated populations risk losing genetic diversity.

Human-Elephant Conflict

This conflict is escalating in several Indian states (Tamil Nadu, Assam, Kerala, Odisha, Jharkhand, West Bengal, etc.) due to factors including:

Issue	Description
Habitat Loss & Fragmentation	Development shrinks and divides elephant territory
Blocked Corridors	Human activities obstruct traditional elephant migration routes
Illegal Activities	Activities like illicit harvesting disrupt elephant habitat
Human Enclaves	Settlements within forests increase conflict potential
Estate Labour Colonies	Colonies located on corridors hinder elephant movement
Trespassing & Pilgrimages	Movement of people through elephant territory increases conflict risk

This conflict tragically causes around 100 elephant deaths and 400 human deaths annually in India.

Project Elephant (PE)

Initiation

The Government of India launched Project Elephant in 1992 as a Centrally Sponsored Scheme.

Objectives

- Protect elephants, their habitats, and migration corridors.
- Address human-elephant conflict.
- Ensure the welfare of domesticated elephants.

Implementation

- The Ministry of Environment, Forest and Climate Change provides financial and technical support to major elephant range states through Project Elephant.
- The project is currently implemented in 22 states/UTs: Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Jharkhand, Karnataka, Kerala, Maharashtra, Meghalaya, Nagaland, Odisha, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal, Rajasthan, Andaman & Nicobar, Bihar, Punjab, Gujarat, and Haryana (where Project Elephant supports an elephant rescue centre).

Main Activities

- Restoration of natural elephant habitats and migratory routes.
- Scientific and planned management for elephant habitat conservation and viable wild populations.

- Mitigation of human-elephant conflict in critical areas and reduction of human and livestock pressures on elephant habitats.
- Protection of wild elephants from poaching and unnatural deaths.
- Research on elephant management.
- Public education and awareness programs.
- Eco-development and veterinary care.

Monitoring of Illegal Killing of Elephants (MIKE) Programme

Initiation of MIKE Programme

The MIKE programme was initiated in South Asia in 2003, as mandated by the resolution of the Conference of the Parties (COP) of CITES.

Objectives of MIKE Programme

The MIKE programme aims to:

- Measure levels and trends in the illegal hunting of elephants.
- Determine changes in these trends over time.
- Identify the factors causing or associated with such changes.
- Assess, in particular, the extent to which observed trends are a result of any decisions taken by the Conference of the Parties to CITES.

Implementation of MIKE Programme

Since 2004, Project Elephant has been formally implementing the MIKE Programme in 10 Elephant Reserves. Under the programme, data is collected from all sites on a monthly basis using a specified MIKE patrol form. This data is then submitted to the Sub Regional Support Office for the South Asia Programme, located in Delhi, which assists the Ministry in implementing the programme.

MIKE Sites in India

The following table lists the 10 Elephant Reserves in India where the MIKE Programme is implemented:

Table

Elephant Reserve	State
Chirang-Ripu Elephant Reserve	Assam
Deomali Elephant Reserve	Arunachal Pradesh
Dihing Patkai Elephant Reserve	Assam
Garo Hills Elephant Reserve	Meghalaya
Eastern Dooars Elephant Reserve	West Bengal
Mayurbhanj Elephant Reserve	Odisha

Shivalik Elephant Reserve	Uttarakhand
Mysore Elephant Reserve	Karnataka
Nilgiri Elephant Reserve	Tamil Nadu
Wayanad Elephant Reserve	Kerala

Elephant Census

- The most recent elephant census, conducted in 2017, registered a total of 29,964 elephants. This census is carried out every five years.
- According to the 2017 Elephant Census, the state with the highest number of elephants was Karnataka, with 6,049 elephants, followed by Assam with 5,719, and Kerala with 3,054.
- In terms of regions, the southern region had the highest population with 11,960 elephants, followed by the northeast region with 10,139, the east-central region with 3,128, and the northern region with 2,085.
- The Asian Nature Conservation Foundation (ANCF) at the Indian Institute of Science in Bengaluru, along with several NGOs and independent conservationists, assisted the Project Elephant Directorate and the forest departments of 23 states in this exercise.
- During the presentation of the Elephant Census, a nationwide campaign called "Gaj Yatra" was launched to protect elephants. This campaign aims to cover 12 elephant range states.
- The indices from the 2017 census indicate an increase in the elephant population, including the birth rate, and an expansion of their geographical range. However, since the 1990s, the increase in the elephant population has been marginal.

State-wise Elephant Population (2017 Census)

Table

State	Number of Elephants
Karnataka	6,049
Assam	5,719
Kerala	3,054

Region-wise Elephant Population (2017 Census)

Table

Region	Number of Elephants
Southern	11,960
Northeast	10,139

East-Central	3,128
Northern	2,085

Rhinoceros Conservation in India

- **Greater One-horned Rhinoceros**
  - The **Indian Rhinoceros (Rhinoceros unicornis)**, also known as the **Greater One-horned Rhinoceros**, is a member of the **Rhinocerotidae family**.
  - This large mammal, listed as a **vulnerable species**, is primarily found in parts of north-eastern India and protected areas in the Terai of Nepal. Here, populations are confined to the riverine grasslands in the foothills of the Himalayas.
  - Weighing between **2260 kg and 3000 kg**, it is the fourth largest land animal and has a single horn, which measures **20 cm to 57 cm** in length.
- **Five Species of Rhino**
  - There are five species of rhino: white and black rhinos in Africa, and the greater one-horned, Javan and Sumatran rhino species in Asia.

    IUCN Red List Status of Five Rhino Species

Rhino Species	IUCN Red List Status
Black Rhino	Critically Endangered
White Rhino	Near Threatened
One-Horned Rhino	Vulnerable
Javan Rhino	Critically Endangered
Sumatran Rhino	Critically Endangered

- **Conservation Issues**
  - In the nineteenth and early twentieth century, the Indian Rhinoceros was persistently hunted.
  - The Indian rhino is illegally poached for its horn, which some cultures in East Asia believe has healing and potency powers and therefore is used for **Traditional Chinese Medicine** and other Oriental medicines.
  - **Habitat loss** is another threat.
- **Conservation Efforts**
  - In the early 1900s, officials became concerned at the rhino's declining numbers.
  - By 1908 in Kaziranga, one of the rhino's main ranges, the population had fallen to around 12 individuals. In 1910, all rhino hunting in India became prohibited.

- **Operation Rhino** is a major success of conservation. Only 100 remained in the early 1900s; a century later, their population increased to about 2000 again.
- The governments in Nepal and India have taken major steps toward Indian Rhinoceros conservation with the help of the **World Wildlife Fund (WWF)**.
- The **Kaziranga National Park** (having the highest number of rhinos) and **Pobitora reserve forest** (having the highest Indian rhino density in the world) are the most important rhino habitats.
- The **National Rhino Conservation Strategy** adopted by India in 2019 aims to increase the rhino distribution by 5% by 2030.
- It has called for active engagement between India and Nepal to conserve the greater one-horned rhinoceros.

Indian Rhino Vision 2020 (IRV2020)

- **Initiation of IRV2020**
  - The **IRV2020** was launched in **2005** and concluded in **April 2021**.
- **Aim of IRV2020**
  - The primary goal of the IRV2020 was to attain a population of **3000 wild rhinos** in Assam, distributed over seven of its protected areas (PAs) by the year 2020.
  - The seven protected areas include **Kaziranga**, **Pobitora**, **Orang National Park**, **Manas National Park**, **Laokhowa wildlife sanctuary**, **Burachapori wildlife sanctuary**, and **Dibru Saikhowa wildlife sanctuary**.
  - An essential part of IRV2020 was wild-to-wild translocations, which involved moving rhinos from densely populated parks like Kaziranga National Park to parks in need of more rhinos, like Manas National Park.
- **Implementation of IRV2020**
  - The **Department of Environment and Forests** of the Government of Assam implemented IRV2020.
  - The **Bodo Autonomous Council** was an active partner in the program.
  - The program was supported by **WWF-India**, **WWF AREAS (Asian Rhino and Elephants Action Strategy) Programme**, **The International Rhino Foundation (IRF)**, **Save the Rhinos Campaign** of Zoological Institutions worldwide, and a number of local NGOs.
- **Performance of IRV2020**
  - The program concluded after translocating two rhinos from **Pobitora Wildlife Sanctuary** to **Manas National Park** in Assam on **13 April 2021**. It was the eighth round of rhino translocation under IRV2020.
  - With this, the IRV2020 is believed to have reached its target of achieving a population of **3,000 rhinos** in Assam.

- However, the plan to spread the population of the rhinos across four protected areas beyond Pobitora wildlife sanctuary, Orang, and Kaziranga national parks was not accomplished.

Number and Distribution

- Decisive action against poaching, in conjunction with habitat creation, has helped increase the population of the greater one-horned rhinoceros to **4,014**.
- The number of the one-horned rhinos was **426 higher** than the tally reported in 2018, as stated by the **State of Rhino Report 2022**.
- A decade ago, the population of the one-horned rhino was **2,454**.
- Kaziranga alone reported **200 more rhinos** than the number recorded in 2018.
- The population is growing largely due to the governments of India and Nepal creating habitat for rhinos, while also preventing poaching.

Distribution of One-Horned Rhinos

Protected Area	Number of Rhinos
Kaziranga National Park, Assam	2,613
Jaldapara National Park, West Bengal	287
Orang National Park, Assam	125
Pobitora Wildlife Sanctuary	107
Gorumara National Park, West Bengal	52
Manas National Park, Assam	40
Dudhwa National Park, Uttar Pradesh	38

Great Indian Bustard Conservation

Great Indian Bustard

- The **Great Indian Bustard** is one of the largest flying bird species found globally. It was once widespread in the grasslands of India and Pakistan but is now extinct from 95 per cent of its former range and has disappeared from the three wildlife sanctuaries that were once declared for its protection.

Facts Related to the Great Indian Bustard

- **Scientific Name**: Ardeotis Nigriceps
- **Population**: 200 individuals worldwide
- **Height**: 100 cms
- **Length**: Wingspan of 210-250 cm
- **Status**: Listed as 'Critically Endangered' on the IUCN Red List
- **Geographical habitat**: It is native to India and Pakistan.

Range States in India

- In India, the bird was historically found in Punjab, Haryana, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Orissa, Andhra Pradesh, Rajasthan, Gujarat, Maharashtra, Karnataka and Tamil Nadu. Today, the bustard is restricted to isolated pockets in Andhra Pradesh, Gujarat, Karnataka, Maharashtra, Madhya Pradesh and Rajasthan.

Protection Status

- It is listed in Schedule I of the **Indian Wildlife (Protection) Act, 1972**. It is also listed in the CMS (Convention on Migratory Species) and Appendix I of CITES.
- It has also been identified as one of the species for the recovery programme under the Integrated Development of Wildlife Habitats of the Ministry of Environment and Forests.

- It is the State Bird of Rajasthan and the State has also been running a conservation project for the bird since 2012.

Conservation Issues

- The biggest threat to this species is hunting, which is still prevalent in Pakistan. This is followed by occasional poaching outside Protected Areas, collisions with high tension electric wires, fast moving vehicles and free-ranging dogs in villages.
- Other threats include habitat loss and alteration as a result of widespread agricultural expansion and mechanised farming, infrastructural development such as irrigation, roads, electric poles, as well as mining and industrialization.
- Thar Desert is the only landscape in the world that provides a viable breeding population to Great Indian Bustards, and it was with this in mind that over 3,100 sq km of areas was notified as Protected Area and declared a sanctuary in the 1980s.
- While changing lifestyles in the desert, and unregulated human activities have endangered the species, thousands of windmills around the park are also posing a serious threat to the Great Indian Bustards.
- The population of Great Indian Bustards is said to be around 150 with India, particularly Rajasthan, comprising 70-80 percent of this species.

Conservation Efforts

Project Great Indian Bustard

- In 2012, the Ministry of Environment and Forests issued guidelines to start a Centrally sponsored plan called "Project Bustard" in the bustard range States.
- On the lines of Project Tiger and Project Elephant, other Great Indian Bustard states such as Rajasthan, Karnataka, Andhra Pradesh, Madhya Pradesh, Gujarat and Maharashtra were invited to submit species recovery plans to the Centre to avail of funding and start long-term conservation programmes.
- With an objective of conservation of the remaining population of Great Indian Bustard, locally called Godawan in Rajasthan, a conservation program namely, Project Great Indian Bustard, was launched by the Government of Rajasthan in June 2013.

Desert National Park

- As a representative of the desert ecosystem, an area of 3162 square kilometers of Thar Desert spreading in the districts of Jaisalmer and Barmer was designated as Desert National Park (DNP) Sanctuary in the year 1980 with an objective of conservation of unique biological diversity of this desert ecosystem including Great Indian Bustard.
- Among faunal components, Great Indian Bustard is the flagship species with its population ranging from 35 to 40 is mainly concentrated in the Sudashri landscape area of DNP Sanctuary, which is the northern part of the sanctuary.

Bustard Recovery Programme

- WWF-India is a partner of the Government of India in developing the 'Guidelines for the State Action Plan for Resident Bustard Recovery Programme'.

- It has played an important role in raising awareness about the declining populations and highlighting the importance of implementing a focused bustard conservation programme at the national level.

Conservation Breeding Facility

- MoEFCC, Rajasthan government and Wildlife Institute of India (WII) have also established a conservation breeding facility in Desert National Park at Jaisalmer in June 2019.
- The objective of the programme is to build up a captive population of Great Indian Bustards and to release the chicks in the wild for increasing the population.

Central Electricity Authority (Construction of Electric Lines in Great Indian Bustard Area) Regulations, 2023

- The Central Electricity Authority (CEA) has issued Draft Central Electricity Authority (Construction of Electric Lines in Great Indian Bustard Area) Regulations, 2023, making mandatory for electric lines to be underground or overhead through the 'Great Indian Bustard Area'.
- As per the regulations, all electric lines of 33 KV and below passing through the 'Great Indian Bustard Area' will be underground, while those above 33KV will be overhead lines installed with bird flight diverters.
- The regulations came in light of a case in the Supreme Court on the issue of threat to the Great Indian Bustards.
- The Supreme Court of India in April 2021 ordered that all overhead power transmission lines in core and potential GIB habitats in Rajasthan and Gujarat should be made underground.