

India's Conservation of Wildlife Strategies Difficulties and Challenges

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ABSTRACT

Plant and animal species that exist and flourish in locations where humans do not live are referred to as wildlife. It encompasses all non-domesticated animals and plants, as well as a wide range of other creatures and fungus. Fauna can be found in all habitats, including forests, plains, grasslands, deserts, and other locations, and each ecosystem has its own unique wildlife. However, as human civilizations advanced, wild animals and flora were domesticated for human advantage, which had a significant impact on the ecosystem. Many wild animals adapted to the changes in the environment as a result of human activity and began to coexist with humans in a domestic setting. Dogs, cats, cows, buffaloes, goats, rodents, and a few kinds of birds are examples of such creatures. The fauna and ecosystems were seen to be harmed as human activities expanded and development took place on a massive scale. It was discovered that the exploitation of wild animals for human gain and pleasure purposes was increasing.

Keywords- wildlife conservation, difficulties and challenge, strategies, implementation.

I. INTRODUCTION

Wildlife resources are a critical link in the human species' survival, and they have long piqued people's curiosity, attention, and inquiry around the world. Today, when wildlife habitats are under severe threat and a large number of species of wild fauna are on the verge of extinction, efficient wild animal conservation is critical. Because we rely on plants and animals for all aspects of our well-being, their continued existence is more than a question of convenience; it is a matter of life and death. Plants and animals, as living members of the ecosystem, contribute to human well-being by providing.

- Genetic understanding of genetic resources and how to protect them and,
- Advantage to human life in terms of money.
- Major contributors to life satisfaction (e.g., recreation).

It is common knowledge that India is home to 16 percent of the world's population. 411 mammalian species, 456 reptiles, 219 amphibians, 1,232 bird species, 2,546 fish species, 83,436 types of invertebrates, and over 50,000 plant species all call this subcontinent home. India's wildlife is a priceless natural resource, with a vast range of flora and fauna. India is home to one

of the world's most diverse biodiversity hotspots. This country's wildlife includes a diverse range of plant and animal species. Native wild animals native to this country include the tiger, wolves, lion, rhinoceros, bears, monkeys, camels, crocodiles, different reptiles, bison, Asian elephants, and deer. and. Peafowl, pelicans, parakeets, woodpeckers, and flamingos are among the many bird species found there. India contains three biodiversity hotspots, which are located in the Eastern Himalayas, Western Ghats, and the Indo-Burma region, respectively, among the world's 34 biodiversity hotspots. Western India's grasslands are known for their hunting animals as well as their grazing herds. The Indian cheetah is no longer found in its native region, while lions and leopards still roam the plains.

Genetic resources provide nearly all of humanity's food, nearly half of its medications, much of its clothes, all of its fuel and building materials in some areas, and a portion of its mental and spiritual well-being.

The future does not appear to be very bright, given the way we are galloping ahead, ignorant of what legacy we intend to leave for future generations. According to statistics, the human population will have grown by more than half by 2020, and arable farmland and tropical forests will be less than half of what they are now. Genetic resources are handled as if they were endless mineral riches, but they must be protected. The concept of wildlife management and conservation comes into play here, because anything that isn't human or tamed is considered "wildlife."

Ecological and historical variables influence the presence or absence of an animal or plant in a certain area. Animals and plants are live markers of their environment's features; their ranges indicate areas with comparable or identical environmental circumstances. To properly evaluate a species' range, one must first understand the conditions under which the species may exist and prosper. Zoogeography is a science that encompasses both ecological and historical considerations. Based on this, the world can be divided into six zoogeographical areas:

Palaearctic without India.	-	Eurasia would be
Ethiopian south of the Sahara.	-	Africa is located
Nearctic Zone America's	-	Greenland and North
Geotropically regions America's and the Antilles	-	South and Central

Australian countries	-	Australia and New Zealand
Oriental	-	Indochina and India

II. INDIA'S CONSERVATION OF WILDLIFE

With a land area of 3,287,263 km², a national border of 15,200 km, and a coastline of 7516 km, India is the world's seventh largest country and Asia's second largest. India is divided into 28 states and union territories for administrative purposes, and it has a population of over 1 billion people, or over 16% of the world's population. India may be classified into three ecological regions:

The Himalayan Mountain range, the peninsular India subregion (woodlands and desert), and the tropical rain forest region are all part of the Himalayan Mountain range.

These places, as well as India's wetlands and maritime areas, are rich in biological richness. This diversity is measured in terms of the number of species and their fraction of the total number of species on the planet (Table 1).

Table 1: Shows the number of species found in India and around the world

Group	Number of species in India (SI)	Number of species in the world (SW)	SI/SW (%)
Reptiles	408	6550	6.2
Birds	1224	9702	12.6
Amphibians	197	4522	4.4
Mammals	350	4629	7.6
Fishes	2546	21,730	11.7

The people of the Indian subcontinent used to have access to some of the world's most abundant natural resources, water-filled Himalayan Mountains, including lush forests, fertile estuaries, abundant coastal fisheries, abundant river systems, and grassy pastures. Rainfall was plentiful, and the soils were fertile. Years of mismanagement, have destroyed our forests, on the other hand, poisoned our aquifers, and damaged our coastline, resulting in catastrophic consequences. India now has 172 species of animals that are classified as globally threatened by the IUCN (2.9 percent of the world's total). There are 53 mammalian species, 23 reptile species, 69 bird species, and three amphibian species among them.

Evolutionary success is measured in terms of survival; failure is measured in terms of extinction. Most recent extinctions may be traced back to human population and technological expansion, commercialized species exploitation, and human-caused environmental

change, either directly or indirectly. These factors have influenced endangered species' reproduction rates as well as their ability to adapt to changing environmental conditions. Wildlife conservation is, in reality, a concern for us.

III. THE CONSERVATION OF WILDLIFE DIFFICULTIES AND THREATS

The process of protecting animal and plant species in their native habitats is referred to as "wildlife conservation." The primary goal of wildlife conservation is to protect animals while also preserving nature and natural habitats for humans and wildlife. Many governmental and non-governmental organizations have been established for the purpose of wildlife conservation and protection in support of this endeavor.

Human activities for their own survival and benefit have had a significant impact on wildlife all over the world. This has led to the demise of many wild creatures and plants, as well as a loss of biodiversity. According to research, a significant number of animal and bird species have become extinct in the last 2000 years. Some of the reasons were due to climatic change, while others were due to human actions for personal gain, such as food, clothes, housing, and medicine. Many more species of wildlife are predicted to go extinct in the near future unless they are protected through good conservation measures and the enactment of effective legislation. As a result, international organizations and almost all nations around the world have banded together to protect wildlife and the environment by passing legislation, enacting laws, establishing national parks, biosphere reserves, and wildlife sanctuaries, and strictly enforcing these laws and acts in their respective countries and regions.

However, wildlife protection has become a big concern. Animal and plant conservation primarily tries to prevent endangered species from becoming extinct as a result of numerous human and human-induced activities. Human invasion and activities, as well as a few natural elements, pose numerous risks to wildlife, which are listed below:

- 1. Illegal trading, hunting, and poaching of endangered species:** Illegal hunting and poaching have posed a severe threat to wildlife, which is exacerbated by forest officials' failure to properly manage and employ resources to combat the threat and save the animals.
- 2. Habitat loss due to destruction, fragmentation, and degradation:** Habitat destruction and fragmentation can occur as a result of human activities such as tree felling, river dredging, dam construction, wetlands filling, mowing fields, land use for agriculture, house and road construction, and so on. Habitat degradation can occur as a result of rising pollution levels, the invasion of new species, and changing ecosystems, among other factors.

3. Overexploitation of resources: The exploitation and overexploitation of resources for food and other purposes has put wildlife, particularly endangered species, in jeopardy. Overuse of wild animals and plants for food, medicine, clothing, and other purposes has had a negative impact on wildlife populations, posing a threat to their survival.

4. Pollution: Due to human activities and industrial operations, pollution levels are steadily rising, resulting in the release of dangerous and poisonous pollutants into the air, water, and land. As a result, it has had a negative impact on species, putting them at risk of extinction.

5. Climate change: Global warming and climate change have both posed significant threats to species. This is also due to human-induced activities such as the combustion of fossil fuels and other activities that have resulted in global climate change.

As a result, the threat to wildlife and endangered plant and animal species necessitates their conservation in order to maintain the ecosystem's balance and rescue the globe. Governments all over the world are working to protect and conserve wildlife by establishing legislation and acts and ensuring that these legislation and acts are effectively implemented. The Indian government has responded by creating national parks, wildlife sanctuaries, biosphere reserves, and protected regions in response to the dangers. The first national park was founded in 1936 and was originally known as the Hailey National Park before being renamed the Jim Corbett National Park. The number of national parks progressively increased after that, and as of April 2012, the country had 104 national parks. More than 500 animal sanctuaries and 18 biosphere reserves have been established in the country to support it. There are currently 515 wildlife sanctuaries, 41 of which have been designated as tiger reserves under Project Tiger. In addition, the Indian government has enacted a number of laws and acts relating to the protection and conservation of wildlife in the country.

IV. WILDLIFE PROTECTION IMPLEMENTATION CHALLENGES

The exploitation of wildlife for trade and other human purposes has resulted in the enactment and enforcement of numerous laws and acts in practically every country on the planet. India, as a country with abundant biodiversity, is not immune to this. Despite the fact that laws developed with the goal of safeguarding and conserving wildlife include rigorous safeguards, animal resource exploitation and illegal trading continue. Hunting, animal poaching, tree uprooting, and the use of rare plant species for various reasons have all contributed to the country's biodiversity loss and threat of extinction. Despite provisions in India's Wildlife Protection Act, Customs Act, and import-export policies regulating the conservation and trade of wildlife species,

particularly endangered species, illegal hunting and poaching activities and trade continue to flourish, and these endangered species are still exploited. The WP Act also does not apply to foreign endangered plant and animal species, and hence does not have the ability to protect them if they are hunted, poached, or utilized.

It should be noted that the Act's sanctions and punishments are insufficient to stop and manage wildlife exploitation. Offenders can still get away with paying fines, and those challenging cases are unconcerned because cases in Indian courts are settled far too slowly. The rationale for this also explains why there are lakhs of backlogged cases in district courts and other courts. As a result, the courts' judgment in such cases takes around ten years, and by that time, the criminals have prospered in their activities and the exploitation of animals. Another issue that has been discovered is that forest departments and forest officers are unable to function effectively in enforcing laws and facilitating conservation initiatives due to a lack of proper training and resources. The enforcement system of the legislation in India for the conservation and protection of wildlife appears to be problematic. On the one hand, the laws empower forest officials to safeguard the forest's resources, but they lack the authority to formulate policies in response to the situation, which complicates the confiscation of felled timber or poached animals. This has also aided in the expansion of exploitation activities. For selfish interests and corruption, the forest department, on the other hand, participates in exploitation operations. It has been observed that forest officials have never enlisted the help of local residents in the surrounding areas to stop the continued exploitation of wildlife resources, despite the fact that these people are capable of assisting in the prevention of exploitation and the protection of wildlife resources.

Environmentalists, NGOs, and law enforcement officials concerned with wildlife protection and conservation have recently become aware of a new threat. Many birds classified in Schedule I of the Wildlife Protection Act of 1972 have been killed as a result of the human recreation of flying kites. Many of the Schedule I birds are killed by the threads, locally known as "manja," which are used for kite flying, particularly the Chinese thread. Despite the fact that the use of Chinese thread for kite flying is prohibited under Section 5 of the Environment (Protection) Act, 1986, it is nonetheless widely used. This has resulted in the deaths of a large number of birds, some of which are native to the country and others of which are migrating species.

4.1 Indian Antelope's/Blackbuck Current Situation

The blackbuck (*Antelope cervicapra*), often known as the Indian antelope, is a beautiful antelope that is only found on the Indian subcontinent. It is definitely the most magnificent specimen of the antelopes, with its distinctive sandy hue and elegant curled horns. It is also the fastest long-distance runner among mammals,

capable of running for up to 10 kilometers at 60 kilometers per hour at the first sign of danger. A family consists of a buck and five does. Blackbucks are prolific breeders when they are given protection.

The blackbuck was formerly plentiful, but human persecution has regrettably reduced its numbers to the point where it is now classified as an endangered species. The blackbuck has vanished from areas where it once thrived. It was found in the plains of Punjab, Uttar Pradesh, Haryana, Orissa, Rajasthan, Tamil Nadu, and Gujarat, where it was hunted by princely states using trained cheetahs.

The blackbuck is mostly a land mammal that prefers open, flat, or slightly undulating terrain, and it thrives in thorny and dry deciduous woodlands. However, as forests have been destroyed, the animal has adapted to wastelands and agricultural fields. Following the cheetah's extinction in the early 1960s, the blackbuck population surged, and the species was found in huge numbers throughout Punjab's central and southern regions. It was labeled a crop robber and killed mercilessly, particularly during the "produce more food campaign." Everyone enjoyed the meat.

The blackbuck was designated as the state animal of Punjab and Haryana under Schedule I of the Wildlife (Protection) Act, 1972. In the Abohar region of Punjab, Rajasthan, and Haryana, there are currently around 4,000 blackbucks.

Only around 5% of Punjab's total land area is forested, and much of it is found in narrow strips along roads, railway lines, and canals, where little wildlife can be found. Various types of reserve forests have been developed, but they only account for 2% of the state's total area. Furthermore, only 2% of this area has been set aside for the diverse animal species that live there.

In Punjab, there are five wildlife sanctuaries. The Abohar Wildlife Sanctuary, which protects the blackbuck, was formed under the auspices of the local Bishnoi community. The Bishnoi are mostly an agricultural Hindu group that prohibits tree felling and the slaughter of all wild creatures, including birds. Peafowl, partridges, hares, jungle cats, nilgai, and other wild creatures have been protected thanks to a stringent policy of local collaboration and noninterference with native fauna. The Bishnois' preservation of blackbucks is unquestionably commendable, but the government should also devise a plan to save the animal.

4.2 Conservation

The gangetic gharial was resurrected from the brink of extinction thanks to restocking initiatives that began in India in 1975 and Nepal in 1978. There are nine protected areas in India dedicated to gharial management, with a combined size of almost 3000 km². At six breeding centres, gharials are captive bred for release. Eggs are also taken from wild nests and raised in captivity before being released. More than 3000 juveniles have been released at 12 locations, with follow-up surveys indicating that the wild population has

grown by more than 1500 individuals. However, the restocking operation has not resulted in a population rise in some places, despite the presence of some gharials. Between 1978 and 1994, 432 individuals were released into the wild in Nepal. Pakistan is also working to improve the status of this unusual animal by engaging with its neighbours. Despite the fact that the gangetic gharial is nearly extinct in Pakistan, there are plans to begin a restocking operation with the help of Indian institutions.

4.3 Status of the Gangetic Gharial in Freshwater

The gangetic gharial (*Gavialis gangeticus*) is an aquatic crocodile that lives in deep, fast-flowing rivers. It is predominantly a fish-eating species that nests on sandbanks. The gangetic gharial used to have a vast range in Indochina, but it is now one of the most endangered crocodylians. According to a gharial status survey conducted in Nepal, there are 60 wild gharials. There are only one or two gharials left in Pakistan's Sind area. Bhutan and Myanmar have nearly wiped out the species. Bangladesh is in a much worse state. Due to substantial consequences from fishing activity and habitat destruction, no wild gangetic gharials can be found there.

4.4 Threats to the Gangetic Gharial's Survival

Gharial conservation efforts are threatened by the expensive expense of captive breeding and the scarcity of additional release places. The negative consequences of agriculture and fishing, as well as increased interactions between riverbank human populations and the gharial, limit successful gharial populations to a few sections along isolated and protected rivers. Migration of gharials out of protected areas has been highlighted as a major factor impeding population recovery.

4.5 Priority Conservation Projects for the Gangetic Gharial (GGC)

The following projects are prioritized for the conservation of the gangetic gharial:

- population modeling
- using population and habitat viability analyses (PHVA) to develop future conservation plans
- In India, the formulation of a national management plan and the implementation of the gharial PHVA's recommendations
- continuous gharial replenishment
- A study of genetic diversity and the consequences of a founding stock bottleneck
- Ongoing surveillance of populations that have been preserved or restored
- an investigation into the status and distribution of gangetic gharial in Pakistan
- heightened public awareness
- India and Nepal are working together to build international cooperation for gharial management and conservation.
- Nepal's restoration initiative is being expanded.

- In Pakistan, a captive-rearing centre will be established.
- a survey of the gangetic gharial status in Myanmar's river basins

V. WILDLIFE CONSERVATION SOLUTIONS AND IMPLEMENTATION

All issues relating to wildlife preservation and conservation must be addressed in accordance with the law while also considering alternative solutions to ensure that wildlife is preserved and conserved. In order to put a halt to the illicit and unlawful exploitation of wildlife resources in India, harsher measures must be implemented. These actions could take the form of public awareness campaigns as well as educational programmes for wildlife protection officials and law enforcement officers.

1. Public and Official Awareness: In order to achieve the goal of protecting and conserving species, forest and other government officials stationed in protected areas and reserves must be made aware of the situation. These individuals should receive training and research in animal conservation techniques as well as the legal provisions available to protect them. There is also a need to engage local residents who live in the protected areas' surrounding areas by educating them about the value of wildlife conservation and protection, as well as the laws that govern them. All applicable legal options for safeguarding and conserving wildlife and threatened species should be made available to the local population. They should also be informed about the penalties and punishments that will be imposed if any laws are broken and wildlife is harmed. This will aid in raising awareness among the local population, which will in turn assist in offering support to forest officials and government officials operating in these protected regions.

2. Conservation In-situ and Ex-of-situ: Ex-situ and in-situ conservation tactics are two significant strategies for wildlife conservation, particularly for endangered plants and animals. Ex-situ conservation is carried out in a location outside of these species' natural environment, whereas in-situ conservation is carried out in their natural habitat. These conservation measures help with wildlife reintroduction and transfer, preserving threatened species from climate change and human activities. Captive breeding of animals and plants that are threatened by human activities and climate change and are on the verge of extinction is one example of this form of plant and animal conservation. These conservation operations take place in protected areas, but the effectiveness of these strategies is dependent on the severity of climate change and its impact on species.

3. Recognizing and involving NGOs: Through their initiatives, non-governmental organizations (NGOs) play an important role in the protection and conservation of wildlife. The Wildlife Preservation Society of India is

one such group that strives to provide information and support to government officials working with wildlife protection and conservation in order to combat illicit wildlife trade and poaching of wild animals, ultimately conserving the ecosystem. The cooperation of such NGOs will significantly aid in the protection of India's wildlife riches. In-situ and ex-situ breeding, enhancing the resilience of natural reserves, and the construction and management of biosphere reserves are some more ways to maintain and conserve species.

4. Increasing Nature Reserve Resilience: This strategy entails maintaining natural reserves, creating buffer zones, minimizing human activities such as building, transportation, and roads, preserving genetic diversity, minimizing wildlife tourism, and protecting biodiversity "hot spots," thereby preventing extinction and protecting threatened species. In order to maximize resilience, buffer zones around fragmented landscapes must be created. Buffer zone-protected areas also require rehabilitation, which focuses on mitigating specific climate change impacts. Some ecosystems have intact landscapes and may have sufficient resilience, but the use of land and water by humans who live in these areas must be controlled in order to avoid the loss of resilience. The management of vegetation within these reserves also contributes to the preservation of resilience. In locations where the threat to wildlife and endangered species is greater, such solutions must be undertaken by the government. In these natural reserves and buffer zones, the government also needs to control wildlife tourism. Wildlife tourism has a negative impact on breeding and feeding patterns as well as disrupts nesting sites, so the government must keep a close eye on these activities and ensure that the rules and regulations set forth in the relevant acts and legislation are followed by forest officials and other interested parties. If rigorously followed, this technique will be extremely advantageous in terms of wildlife protection and conservation, as well as the preservation of species in their natural habitat.

5.1 Biosphere Reserves: Establishment and Management

A biosphere reserve is a micro-territory or a large piece of land that handles the challenges of plant and animal species protection using various methods depending on their situation. These reserves are sometimes divided into smaller groups based on geographical or human reasons. The biosphere reserve is divided into three zones: core, buffer, and transition zones. Depending on the needs and aims of the biosphere reserve, each zone is treated differently.

The establishment and administration of a number of biosphere reserves and other protected areas is an essential strategy for wildlife protection and conservation. It entails connecting corridors and habitat matrices, which aid in the connectivity of fragmented areas and landscapes by allowing flora and wildlife to disperse and migrate. There are now 18 biosphere

reserves in India. The Indian government established these reserves in order to protect and conserve wildlife. Human activities in and around these protected areas have resulted in a variety of issues and hazards for wild animals and vegetation. As a result, the government must be vigilant and aware of human activity, including study in these areas. The federal government and state governments should work together to manage these biosphere reserves and ensure that the personnel stationed there follow the legal laws and regulations. If rules are broken and wildlife is injured, the government should implement more stringent punishment procedures.

VI. CONCLUSIONS

The world's wildlife habitats and species are in jeopardy. By 2050, global warming is expected to cause the extinction of 15–37 percent of all species. Another element that requires consideration is the loss of over 1.25 million species. This loss, unlike other environmental losses, cannot be reversed since biodiversity does not have a second chance in nature.

With increased worries about illegal trade and exploitation of animal resources, wildlife protection and conservation are significant tasks in India. This goal will not be fulfilled unless and until all arms of the government, villagers and local people living in and surrounding protected areas, non-profit and non-governmental organizations, law enforcement officers, and the general public collaborate. India has a rich history and is endowed with natural resources that are both valuable and indigenous to the country, making it a biodiversity hotspot. As a result, everyone must work together to conserve this valuable resource and maintain a healthy ecosystem.

The requirement for effective methods and solutions for the protection and conservation of wildlife in India is urgent. In a context when various animal species are imperiled and many are on the edge of extinction, the government must operate in accordance with current needs and desires. To safeguard wildlife and prevent illicit hunting and trading of these endangered species and wildlife in general, state governments and the federal government must collaborate and implement all relevant laws and conservation plans.

When we evaluate the conventional explanations for the extinction of wildlife in Asia, India performs significantly better than other countries. In India, a vast protected area network of research institutions has been established, with legislation, socioeconomic issues, and wildlife research all playing important roles. The Central Zoo Authority collaborates with zoos to plan research activities linked to wild animal conservation and propagation. Studies on wildlife biology, species-specific food requirements, genetic variability, epidemiological surveys, animal behaviour, and illness diagnosis through postmortem inspection are

among the planned research activities. Interactions between captive and wild animals, biodiversity preservation, and genetic and demographic changes of species all have a role in the future. India still contains 65 percent of Asia's tigers, 85 percent of Asia's rhinos, 80 percent of Asia's elephants, and 100 percent of Asia's lions. All of these creatures are critically endangered and have been poached.

Despite the fact that the country's laws pertaining to the protection of wildlife and their natural habitat have been adopted and implemented to offer rigorous legal protection for the cause of wildlife protection and conservation, the ground reality is not the same. Animals are still hunted and exchanged for human profit, and wildlife is still abused. Even the use of dangerous substances in industries, daily human activities, road and building construction, leisure and entertainment activities has a negative impact on the environment, which impacts wildlife and their natural habitat. Illegal wildlife hunting and trade continue to take place in India, notwithstanding the laws' provisions. As a result, there is a considerable need for public knowledge of wildlife protection and conservation, as well as effective and stringent enforcement of these laws by each state. State governments must monitor the successful implementation of wildlife protection and conservation laws at the district and municipal levels.

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