
AVIFAUNA

Preface

The conservation of avifauna is essential for maintaining ecological balance, preserving biodiversity, and ensuring the sustainability of forest ecosystems. Birds play a crucial role as pollinators, seed dispersers, and indicators of environmental health. This training program aims to enhance the capacity of Forest Staff and Van Prabandhan Samiti Members by providing them with the necessary knowledge and skills to effectively conserve avian species in the Aitmanagar Range, Korba District, Chhattisgarh. By understanding the significance of bird conservation, participants will be better equipped to contribute to the protection and management of local and migratory bird populations.

The training covers various aspects of avifaunal conservation, including bird identification techniques, habitat restoration methods, threat assessment, and community engagement strategies. Participants will gain insights into the legal frameworks supporting avian protection, practical fieldwork methodologies, and case studies showcasing successful conservation initiatives. The structured learning approach will combine theoretical knowledge with hands-on experiences to foster a deeper understanding of avian ecology and conservation practices.

By the end of the training, participants will have the expertise to identify bird species, implement habitat conservation measures, and engage local communities in conservation efforts. This program will empower them to take proactive steps in avifaunal protection, ensuring a sustainable approach to biodiversity conservation in the region. Through collaborative efforts, this initiative aims to strengthen avian conservation practices and contribute to the long-term ecological well-being of the Aitmanagar Range.

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Booklet Description

This booklet serves as a comprehensive guide for Forest Staff and Van Prabandhan Samiti Members, focusing on the conservation of avifauna in the Aitmanagar Range, Korba District, Chhattisgarh. It provides essential knowledge on the rich bird diversity of the region, the threats faced by local and migratory bird species, and the role of conservation strategies in protecting avian biodiversity. The booklet aims to equip forest personnel with the necessary skills and techniques for bird identification, habitat restoration, community engagement, and legal protection of avifauna. Additionally, it highlights practical case studies and outlines future actions to ensure sustainable conservation efforts.

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CHAPTER 1 : INTRODUCTION

1.1 Geography of Korba District

Korba district, located in Chhattisgarh, is a biodiversity-rich region with a mix of forests, rivers, and wetlands that serve as habitats for both resident and migratory birds.

Key Geographic Features:

Location: Central India, eastern Chhattisgarh
Climate: Tropical monsoon, with hot summers, rainy monsoons, and cool winters

Water Bodies:

- Hasdeo River – Main River supporting avian biodiversity
- Reservoirs & Wetlands – Kusmunda Reservoir, ponds, and seasonal wetlands attract migratory

1.2 Forest Types of Korba District & Their Role in Bird Conservation

Understanding forest types is crucial for conservation planning as different bird species prefer specific habitats for nesting, feeding, and breeding. Over 40% of Korba is covered in forests, classified into different types

1. Tropical Moist Deciduous Forests
Location: Found in wetter areas with upto 1000–2000 mm of annual rainfall

Birds Found:

- Indian Pitta – A colorful migratory bird
- Hornbills – Depend on old trees for nesting.

Threats: Deforestation & habitat fragmentation due to industrial activities.

2. Tropical Dry Deciduous Forests

Location: Drier areas with seasonal leaf shedding

Birds Found:

- Peafowl – The national bird of India
- Grey Hornbill – Tree cavity nester

Threats: Firewood collection & livestock grazing

3. Sal (Shorea robusta) Forests

Location: Central and northern Korba

Birds Found:

- Woodpeckers – Rely on Sal trees for nesting
- Drongos – Found in tree canopies

Threats: Illegal logging & mining expansion

4. Bamboo Forests

Location: Scattered near rivers and wetter regionsBirds Found:

- Bamboo Partridge – Camouflaged bird species
- Small Owls & Babblers – Nest in bamboo clumps

Threats: Over-harvesting & habitat disturbance

5. Teak Forests

Location: Found in moist, fertile soils

Birds Found:

- **Flycatchers & Warblers –** Dependent on teak trees

Threats: Selective logging & monoculture plantations

6. Scrub Forests

Location: Found in arid, low-rainfall areas

Birds Found:

- Larks, Shrikes, & Small Raptors

Threats: Overgrazing & encroachment for agriculture

7. Wetland Forests

Location: Near riverbanks, lakes, and marshes

Birds Found:

- **Woolly-necked Stork & Painted Stork –** Depend on healthy wetlands
- **Ducks & Waders –** Use wetlands for feeding and nesting

Threats: Pollution, drainage, & encroachment

7. Wetland Forests

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Threats: Pollution, drainage, & encroachment

1.3 Why This Training is Important

1. **Role of Avifauna in Ecosystems**

- Pollinators – Sunbirds and hummingbirds help in plant reproduction
- Pest Control – Raptors & insectivorous birds reduce pest populations
- Seed Dispersers – Fruit-eating birds help forests regenerate

2. **Threats to Bird Populations in Korba**
    - Deforestation – Habitat loss due to timber extraction & mining
    - Poaching – Hunting for food, sport, & illegal bird trade
    - Wetland Destruction – Water diversion affecting migratory birds
    - Climate Change – Alters bird migration patterns & food availability
3. **Benefits of Bird Conservation for Local Communities**
    - Eco-tourism opportunities – Birdwatching can bring sustainable income
    - Better agriculture – Birds control pests & improve soil health
    - Cultural & spiritual significance – Many birds are sacred in Indian traditions

1.4 Learning Objectives of the Training

By the end of this training, participants will:

Understand Bird Species & Habitats
- Identify key bird species & their habitat needs
- Recognize migratory & resident birds in Korba

Learn Conservation Strategies & Implementation
- Apply habitat protection & restoration methods
- Enforce laws against poaching & illegal trade Engage Local Communities in Bird Conservation
- Conduct awareness campaigns & eco-tourism programs
- Work with Van Prabandhan Samiti & local stakeholders

CHAPTER 2 : THREATENED BIRD SPECIES OF KORBA DISTRICT

This chapter provides a detailed guide on the threatened and endangered birds in Korba district, the specific threats they face, and practical conservation measures. It is designed as a reference for forest staff and Van Prabandhan Samiti members to identify, monitor, and protect these species effectively.

2.1 Overview of Bird Diversity in Korba

Korba district hosts a diverse range of bird species, including:

1. Wetland Birds – Found in rivers, reservoirs, and seasonal wetlands
2. Forest Birds – Dependent on dense tree cover and undisturbed canopies
3. Agricultural Birds – Adapted to open fields and human-modified landscapes
4. Migratory Birds – Arrive seasonally from Central Asia, Russia, and the Himalayas

Bird diversity in Korba plays a crucial role in ecological balance by controlling pest populations, dispersing seeds, and maintaining wetland health. However, many species are declining due to habitat destruction, pollution, and hunting.

2.2 Integrated Development of Wildlife Habitats (IDWH)

The Integrated Development of Wildlife Habitats (IDWH) scheme is a comprehensive initiative aimed at enhancing the protection and management of wildlife habitats across India. It encompasses habitat restoration, community involvement in conservation, and measures to mitigate human-wildlife conflict. This scheme plays a vital role in strengthening conservation efforts in forested and non-forested landscapes, including the Korba district.

Key Objectives of IDWH:

- Protection and Management of Wildlife Habitats: Improving conservation strategies in both protected and non-protected areas.
- Community Participation: Involving local communities in conservation initiatives to ensure sustainable outcomes.
- Mitigation of Human-Wildlife Conflicts: Implementing measures to reduce conflicts between wildlife and human settlements.
- Species-Specific Conservation Initiatives: Supporting the recovery of critically endangered species.
- Technological Advancements: Utilizing tools such as remote sensing, AI-driven monitoring, and genetic studies to enhance conservation efforts.

Components of the Scheme

- Support to Protected Areas – This includes National Parks, Wildlife Sanctuaries, Conservation Reserves, and Community Reserves.
- Protection of Wildlife Outside Protected Areas – Addressing conservation needs in areas beyond legally designated protected regions.
- Recovery Programs for Critically Endangered Species and Habitats – Focused conservation of species at risk of extinction.

Subcomponents of IDWH

- Project Tiger (1973): Focuses on the conservation of tiger populations and their ecosystems to prevent extinction.
- Project Elephant (1992): Aims at protecting elephant populations from habitat destruction and poaching threats.
- Development of Wildlife Habitat: Enhances ecological conditions to support biodiversity, including initiatives such as:
  - Project Dolphin – Aims at conserving freshwater and marine dolphins through habitat protection and pollution control.
  - Project Lion – Focuses on securing and expanding the habitat of Asiatic lions beyond Gir Forest.
  - Project Cheetah – Reintroducing cheetahs into suitable Indian landscapes, guided by the Cheetah Action Plan.

Beneficiary Areas

IDWH supports a wide range of conservation landscapes across India, benefiting:

- 55 Tiger Reserves
- 33 Elephant Reserves
- 718 Protected Areas, along with adjacent buffer zones and corridors.

Technological Interventions in IDWH:

- M-STrIPES Application: A monitoring tool under Project Tiger that captures real-time data on tiger sightings, patrolling activities, and ecological trends.
- Artificial Intelligence (AI): Used in the All-India Tiger Estimation process for precise species identification and density mapping.
- Conservation Genetics Applications: Standardized protocols for translocation of species based on genetic assessments and food ecology analysis.
- Passive Acoustic Monitoring & ROVs: Implemented in Project Dolphin to assess dolphin populations and underwater habitat conditions.
- Lion@2047 Vision: A strategic long-term roadmap to ensure the conservation and expansion of lion habitats across India.

Conservation Efforts Under IDWH in Korba

Korba district, home to rich biodiversity and crucial bird habitats, benefits from the IDWH framework. Measures include:

1. **Sustainable Land Use Planning**

- Avoid converting natural forests into monoculture plantations, which lack biodiversity.
- Ensure buffer zones around bird-sensitive habitats like wetlands.
- Example: Bird-friendly agroforestry models can integrate fruiting trees with agricultural crops.

Action Plan for Foresters:

- Promote mixed-crop farming systems instead of monocultures.
- Identify critical bird habitats and incorporate them into local land-use plans.

2. **Biodiversity Corridors**

- Many birds migrate seasonally within forest patches. Habitat fragmentation disrupts these movements.

- Creating corridors between protected areas allows species to move safely.
- Example: Linking Achanakmar Wildlife Sanctuary with nearby forest reserves benefits forest-dependent birds.

Action Plan for Foresters:
- Connect isolated forest patches by planting native trees along degraded areas.
- Prevent urban expansion into critical bird corridors.

3. **Human-Wildlife Conflict Management**
- Birds sometimes cause crop damage, leading to negative perceptions among farmers.
- Solution: Promote bird-friendly farming by integrating natural predators like owls.
- Example: Farmers using nest boxes for barn owls report lower rodent damage.

Action Plan for Foresters:
- Distribute awareness materials about the benefits of predatory birds.
- Work with agricultural officers to implement eco-friendly farming techniques.
- The implementation of IDWH in Korba strengthens conservation actions and ensures the survival of several bird species, enhancing the ecological balance of the region.

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2.3 Threatened and Endangered Bird Species in Korba

Below are some of the most vulnerable bird species in the region, along with their status, threats, and conservation strategies.

1. **Indian Vulture (Gyps indicus)**
Status: Critically Endangered (IUCN)
Habitat: Open landscapes, cliffs, and dead tree perches

Threats:
- Decline due to diclofenac poisoning (a veterinary drug used for cattle)
- Food scarcity due to declining livestock carcasses
- Poaching for body parts used in traditional medicine

Conservation Strategies:

Ban on Diclofenac – Forest officials must monitor pharmacies and livestock owners to prevent its illegal use.
Vulture Restaurants – Setting up safe feeding sites where foresters provide toxin-free livestock carcasses.
Nest Protection – Identifying and safeguarding nesting sites in tall trees and cliffs.

2. **Woolly-necked Stork (Ciconia episcopus)**
Status: Vulnerable (IUCN)
Habitat: Wetlands, agricultural fields, and riverbanks

Threats:
- Drainage of wetlands for agriculture
- Pollution from fertilizers and pesticides
- Poaching for food and cultural reasons

Conservation Strategies:

Wetland Protection – Preventing encroachment and pollution through regular inspections.
Community Awareness – Educating farmers on sustainable agricultural practices to reduce pesticide runoff.
Anti-Poaching Patrols – Increased monitoring and enforcement around key wetland areas.

3. **Great Cormorant (Phalacrocorax carbo)**

Status: Least Concern, but declining in Korba
Habitat: Large water bodies, reservoirs, and riverbanks

Threats:
- Fishing nets entanglement leading to accidental deaths
- Reduction in fish stocks due to overfishing
- Pollution affecting aquatic ecosystems

Conservation Strategies:

Regulation of Fishing Practices – Preventing unsustainable fishing in bird-rich wetlands.
Net-Free Zones – Creating buffer zones around nesting and feeding sites.
Water Quality Monitoring – Checking for pollution levels in major reservoirs.

4. **Red-headed Falcon (Falco chicquera)**

Status: Near Threatened (IUCN)
Habitat: Grasslands, open forests, and agricultural fields

Threats:
- Habitat loss due to expanding farmlands
- Poaching for falconry trade
- Decline in prey availability

Conservation Strategies:

Protection of Grasslands – Preventing conversion of key habitats into croplands.
Anti-Wildlife Trafficking Efforts – Stricter monitoring of bird trade markets.
Artificial Nesting Support – Installing nesting boxes in protected areas.

5. **Bar-headed Goose (Anser indicus) (Migratory Bird)**
Status: Near Threatened (IUCN)
Habitat: Seasonal wetlands and reservoirs during migration

Threats:
- Wetland destruction affecting stopover sites
- Hunting during migration
- Climate change altering migration timing

Conservation Strategies:

Protection of Wetlands – Restricting water diversion and land encroachment.
Anti-Poaching Measures – Strengthening wildlife law enforcement in wintering grounds.

Research and Monitoring – Using bird banding and satellite tracking to study migration patterns.

6. **Eurasian Wigeon (Mareca penelope) (Migratory Bird)**
Status: Least Concern, but declining locally
Habitat: Wetlands, reservoirs, and floodplains
Threats:
- Pollution in feeding areas
- Disturbance from tourism and development
- Illegal hunting

Conservation Strategies:

Community-Based Wetland Conservation – Involving local fishers and farmers in protecting water bodies.
Seasonal Protection Measures – Restricting human activities during peak migration periods.
Enforcement of Hunting Laws – Regular patrols in known poaching hotspots.

2.4 Major Threats to Avifauna in Korba

1. ***Habitat Destruction & Deforestation***
- Logging, agriculture, and mining are reducing natural bird habitats.
- Solution: Strict enforcement of land-use regulations and afforestation programs.

2. ***Wetland Pollution & Degradation***
- Industrial waste and pesticide runoff are contaminating key water bodies.
- Solution: Water pollution control programs and sustainable agricultural techniques.

3. ***Illegal Poaching & Hunting***
- Birds are hunted for food, feathers, and illegal pet trade.
- Solution: Strengthening anti-poaching units and increasing community awareness.

4. ***Climate Change & Migration Disruptions***
- Changes in rainfall, temperature, and habitat conditions are affecting bird migration.
- Solution: Creating climate-resilient protected areas and monitoring migration patterns.

2.5 Conservation Strategies for Threatened Birds

1. ***Strengthening Protected Areas***
- Expanding bird sanctuaries and wetland conservation sites.
- Conducting habitat restoration where necessary.

2. ***Community Involvement & Awareness***
- Educating farmers, fishers, and hunters on the importance of birds.
- Organizing school and village programs to promote bird conservation.

3. ***Research & Monitoring***
- Conducting bird surveys and tagging projects to track populations.
- Using GPS monitoring for migratory species.

4. ***Law Enforcement & Policy Implementation***

- Ensuring Wildlife Protection Act (1972) & Forest Conservation Act (1980) are followed.
- Increasing patrols in bird-sensitive areas to prevent poaching.

CHAPTER 3 : IMPORTANCE AND ROLE OF FOREST STAFF AND COMMUNITY IN BIRD CONSERVATION

This chapter explains why birds are vital for ecosystems, how conservation benefits both nature and people, and the key strategies for protecting avifauna. It provides practical conservation techniques, restoration methods, and integrated wildlife management strategies that forest staff and Van Prabandhan Samiti members can implement in the field.

3.1 Importance of Local Participation in Conservation

Local communities play a crucial role in protecting bird habitats. By involving villagers in monitoring, awareness, and sustainable livelihood programs, conservation efforts become more effective and long-lasting.

Challenges in Community Engagement:

- Lack of awareness about the ecological importance of birds
- Human-wildlife conflicts (e.g., crop damage by birds)
- Dependence on forest resources, leading to habitat destruction

Solution: Awareness & Incentives-Based Conservation

- Conduct village-level awareness programs to educate people about birds' ecological roles.
- Provide alternative livelihoods such as eco-tourism, beekeeping, and agroforestry to reduce reliance on forests.
- Establish community bird monitoring groups, where villagers assist in tracking bird populations and illegal activities.

3.2 Ecological Importance of Birds

Birds play a crucial role in maintaining ecosystem balance, and their decline can lead to cascading environmental problems. Below are the key ecological functions of birds:

1. ***Seed Dispersal***

- Birds like parrots, pigeons, and hornbills consume fruits and disperse seeds across forests.
- This helps in natural forest regeneration and prevents the dominance of a few plant species.
- Example: Hornbills are known as "Farmers of the Forest" because they disperse large tree seeds over vast areas.

Conservation Tip: Protect old-growth trees that serve as nesting and feeding sites for seed-dispersing birds.

2. ***Pest Control***

- Birds like owls, drongos, and flycatchers control insect populations, reducing the need for chemical pesticides.
- Raptors such as kites and eagles help regulate rodent populations, which can damage crops.
- Example: A single barn owl can eat up to 1,000 rodents per year, making them valuable allies for farmers.

Conservation Tip: Install nest boxes for insectivorous and raptor species to encourage natural pest control.

3. ***Pollination***

- Sunbirds, flowerpeckers, and hummingbirds pollinate flowers while feeding on nectar.
- This promotes the reproduction of many wild plant species and enhances biodiversity.
- Example: The Purple Sunbird is a major pollinator of flowering trees like Silk Cotton (Bombax ceiba).

Conservation Tip: Plant native flowering species to support pollinator birds in degraded areas.

4. ***Indicators of Environmental Health***

- Birds are bio-indicators of ecological conditions. Their population trends reflect habitat quality and pollution levels.
- Example: The decline of vultures in India signalled a crisis in carrion disposal, leading to an increase in feral dog populations and the spread of rabies.

Conservation Tip: Regular bird population monitoring helps in assessing environmental changes.

3.3 Habitat Conservation and Restoration

Protecting and restoring bird habitats is the most effective long-term conservation strategy. This section outlines practical steps for habitat management in different ecosystems.

1. ***Forest Protection and Restoration***

- Prevent illegal logging by increasing patrol frequency in bird-rich areas.
- Promote native tree planting to restore degraded habitats.
- Example: Restoring Sal forests benefits woodpeckers, drongos, and hornbills that rely on mature trees for nesting.

Action Plan for Foresters:

- Identify degraded forest patches and prepare a native species replantation plan.
- Protect existing mature trees, especially those with cavities for nesting birds.

2. ***Wetland Conservation***

- Prevent encroachment by enforcing buffer zones around water bodies.
- Control pollution by monitoring industrial discharge and agricultural runoff.
- Example: Protecting Kusmunda Reservoir ensures safe stopover points for migratory ducks and waders.

Action Plan for Foresters:

- Conduct seasonal water quality checks in wetlands.
- Engage local fishers in sustainable practices to reduce habitat disturbances.

3. ***Nesting Site Protection***

- Many birds are cavity nesters, relying on old trees or riverbanks for breeding.
- Destruction of hollow trees and rock cliffs can reduce breeding success.
- Example: The Grey Hornbill requires mature trees with natural hollows for nesting.

Action Plan for Foresters:

- Identify and mark important nesting trees to prevent their removal.
- Install artificial nest boxes where natural nesting sites are scarce.

3.4 Community-Based Conservation Strategies

1. *Engaging Local Communities*

- Organize birdwatching programs to create economic incentives for conservation.
- Train eco-volunteers in bird monitoring and patrolling.
- Example: Community-led conservation in the Western Ghats helped restore Hornbill nesting sites.

Action Plan for Foresters:

- Develop community-managed eco-tourism projects focused on birdwatching.
- Conduct monthly training sessions for Van Prabandhan Samiti members.

2. *Conservation Education & Outreach*

- Conduct school awareness programs on bird conservation.
- Develop village-based bird conservation groups.
- Example: The "Bird Guardians" initiative in Madhya Pradesh empowered local youth in conservation.

Action Plan for Foresters:

- Establish bird clubs in local schools.
- Organize annual bird festivals to promote awareness.

3.5 Law Enforcement and Policy Implementation

1. *Strengthening Anti-Poaching Measures*

- Increase night patrols in poaching hotspots.
- Conduct regular raids on illegal bird trade markets.
- Example: Crackdowns on vulture poisoning cases in Rajasthan helped recover populations.

Action Plan for Foresters:

- Monitor wildlife trafficking routes near Korba.
- Train rangers in bird rescue and rehabilitation techniques.

2. *Human-Bird Conflicts and Mitigation Strategies*

- Common Conflicts in Korba:
  - Crop damage by birds (parrots, pigeons, peafowls)
  - Predation on fisheries by cormorants and herons
  - Noise and roosting disturbances in urban areas
  - Threats to aviation from large birds

- Conflict Mitigation Strategies:
  - Use of bird deterrents (reflective tapes, sound alarms)
  - Promoting bird-friendly farming techniques
  - Community awareness to reduce retaliatory killings
  - Habitat management to divert birds from farmlands

3. *Implementing Wildlife Laws*

- Enforce Wildlife Protection Act, 1972, which protects all Schedule I & II birds.
- Promote community participation in law enforcement.
- Example: Involvement of local informants has successfully led to poacher arrests in Chhattisgarh.

Action Plan for Foresters:

- Conduct quarterly legal workshops for forest staff.
- Create bird conservation task forces in high-risk areas.

CHAPTER 4 : BIRD IDENTIFICATION TECHNIQUES

This chapter provides practical methods for bird identification, includingvisual and auditory techniques, tools, and field strategies. It equips forest staff and Van Prabandhan Samiti members with the skills needed to accurately recognize and document avian species in the Aitmanagar Range, Korba District.

4.1 Basic Concepts of Bird Identification for Forest Staff

1. Key Features for Identifying Birds

Bird identification requires careful observation of specific physical and behavioral traits.
Size & Shape – Compare the bird's proportions to familiar species.
Example: Is it the size of a sparrow, pigeon, or crow?

Plumage Colors & Patterns – Look for distinct markings, wing bars, and tail color.
Example: Indian Roller has bright blue wings.

Beak Shape & Size – Helps determine diet and species. Example: Woodpeckers have strong, pointed beaks for drilling wood.

Leg Shape & Feet – Waders have long legs for walking in water, while raptors have sharp talons for catching prey.

Flight Pattern & Behavior – Swallows fly rapidly in circles, while vultures soar without flapping.

Tip for Beginners: Start by identifying large and distinct birds like peafowls, hornbills, and storks before moving to smaller species.

4.2 Tools for Birdwatching & Identification

Forest staff must use basic and advanced tools for accurate bird identification.

1. *Binoculars & Spotting Scopes*

Magnification: Use 8x42 or 10x50 binoculars for clear birdwatching.

Technique: Hold steady against the face, scan the bird's movement, and adjust focus before noting details.

2. *Field Guides & Mobile Apps*

Books: Keep a regional bird field guide with illustrations and maps.

Mobile Apps: Apps like Merlin Bird ID, eBird, or Birds of India can identify species using AI-powered photo recognition.

3. *Audio Recorders & Bird Call Recognition*

Some birds are easier to identify by sound than sight, especially in dense forests.
Forest staff can use mobile apps or digital recorders to compare bird calls with reference libraries.

Example: The Coppersmith Barbet makes a repetitive "tuk-tuk" sound, similar to a hammer hitting metal.

4.3 Initiative to Become a Skilled Birdwatcher

1. *Best Practices for Ethical Birdwatching*

- Observe birds from a safe distance without disturbing nests.
- Move slowly and quietly to avoid scaring birds.
- Use camouflage clothing that blends with surroundings.
- Record date, time, location, and species for proper documentation.

2. *Seasonal Bird Migration Patterns & Observation Tips*

- Winter (Nov–Feb): Migratory ducks, geese, and waders arrive in Korba's wetlands.
- Monsoon (June–Sept): Many birds breed; look for nesting sites in dense forests.
- Summer (March–May): Raptors like eagles and kites are more active.

Tip for Foresters: Set up seasonal monitoring teams to track migration patterns and identify declining species.

4.4 Local Birds of Korba District

Commonly Spotted Birds & Their Habitats

Black Kite – Found near urban areas and garbage dumps.
Indian Roller – Seen in open fields, farmlands, and roadside trees.
Bar-headed Goose – Migratory waterbird spotted in reservoirs and wetlands.
Red-vented Bulbul – Found in gardens, forests, and village areas.

Tip for Forest Staff: Maintain a local bird checklist and update species sightings every season.

CHAPTER 5 : ETHICAL BIRDWATCHING AND ECOTOURISM

This chapter explores the principles of ethical birdwatching, the benefits of ecotourism, and how it can support bird conservation efforts. It provides best practices for responsible tourism and how local communities can benefit from sustainable birdwatching programs in Korba district.

5.1 Principles of Ethical Birdwatching

Ethical birdwatching ensures minimum disturbance to birds and their habitats while allowing enthusiasts to observe and appreciate them responsibly.

1. Guidelines for Ethical Birdwatching

Keep a Safe Distance – Never approach, chase, or feed birds. Use binoculars and zoom lenses instead.
Avoid Nesting Sites – Disturbing birds during breeding season can lead to abandoned nests and eggs.
Reduce Noise & Movement – Move slowly and quietly to avoid scaring birds.
No Artificial Calls or Playback – Playing recorded bird calls can confuse and stress birds.
Respect Local Communities & Traditions – Seek permission before entering private land or village areas.
Follow Leave No Trace Principles – Do not litter, damage plants, or disturb natural settings.

Tip for Foresters: Create awareness boards at birdwatching sites to educate visitors about ethical birdwatching.

5.2 Ecotourism and Sustainable Development

Ecotourism involves responsible travel to natural areas that benefits local communities and conservation efforts.

1. *Benefits of Birdwatching-Based Ecotourism*

- Economic Benefits – Generates income for local communities through tourism-related activities.
- Conservation Funding – Provides financial support for bird protection programs.
- Education & Awareness – Encourages local participation in conservation efforts.
- Improves Habitat Protection – Ensures wetlands and forests are preserved for tourism value.

Tip for Local Communities: Offer guided birdwatching tours, homestays, and handicrafts to benefit from sustainable tourism.

2. *Community-Led Ecotourism Initiatives in Korba*

Local involvement in birdwatching tourism can create jobs while protecting bird habitats.
Example: Community-Run Bird Sanctuaries

- Village-led wetland protection can boost migratory bird populations.

- Revenue from visitor fees can support habitat conservation and anti-poaching patrols.

Example: Homestays & Local Guides
- Rural households can host birdwatchers, providing authentic cultural experiences.
- Training local youth as bird guides can create sustainable employment.

Action Plan for Foresters:

- Identify key birdwatching sites for eco-tourism development.
- Train local guides in bird identification and conservation storytelling.
- Develop basic infrastructure (viewing platforms, signage, trails) for tourists.

5.3 Bird Sanctuaries & Protected Wetland Areas in Korba

Wetlands and forest reserves in Korba serve as prime locations for bird conservation and tourism.

Key Bird Habitats:
- *Kusmunda Reservoir* – Important for migratory waterfowl and wetland species.
- *Hasdeo River Floodplains* – Home to storks, ibises, and kingfishers.
- *Achanakmar Biosphere Reserve* – Supports forest-dwelling birds like hornbills and woodpeckers.

Tip for Tourists & Guides: Use designated trails and avoid off-road driving to minimize habitat damage.

5.4 The Migratory Birds Convention and Conservation of Migratory Species (CMS)

India is a signatory to the Convention on Migratory Species (CMS), ensuring international cooperation for migratory bird protection.

Key Points of the CMS Agreement:
- Protects migratory routes and wetlands used by birds traveling across continents.
- Regulates hunting and habitat destruction in key stopover sites.
- Encourages collaboration between countries to protect endangered species.

Tip for Foresters: Collaborate with bird researchers and conservation groups to monitor migratory species in Korba wetlands.

CHAPTER 6 : CASE STUDIES AND FUTURE ACTIONS

6.1 Case Studies in Bird Conservation

1. *Banning of Diclofenac and Establishment of Vulture Safe Zones*

Problem:

- Populations of resident Gyps vulture species in India declined by over 90% since the mid-1990s.
- The decline was primarily due to renal failure caused by the ingestion of diclofenac, a non-steroidal anti-inflammatory drug used in veterinary medicine.

Solution:

In 2006, India banned the veterinary use of diclofenac to prevent further decline in vulture populations. Conservation organizations established Vulture Safe Zones where diclofenac use was monitored and controlled.

Outcome:

Post-ban studies indicated a reduction in diclofenac residues in vulture tissues, suggesting a positive impact on vulture survival rates.

Source: *Residues of Diclofenac in Tissues of Vultures in India: A Post-ban Scenario*

2. *Artificial Nest Boxes for Hornbill Conservation*

Problem:

- In the Kinabatangan Wildlife Sanctuary, Malaysia, intensive logging destroyed large trees with natural cavities, leading to a decline in hornbill populations due to the lack of suitable nesting sites.

Solution:

Conservationists installed artificial nest boxes to provide alternative nesting sites for hornbills. Continuous monitoring and maintenance of these nest boxes were conducted to ensure their effectiveness.

Outcome:

Several hornbill species, including the Rhinoceros Hornbill, successfully used the artificial nest boxes for breeding, leading to an increase in their populations.

Source: Artificial Nest Boxes for the Conservation of Hornbill Populations in the Kinabatanganfondationensemble.org

3. *Community-Led Conservation at Uppalapadu Lake, Andhra Pradesh*

Problem:

Uppalapadu Lake faced challenges due to human-bird conflicts, including habitat degradation and disturbances to migratory birds.

Solution:

The local community, in collaboration with the Forest Department, implemented measures such as constructing mounds and introducing artificial trees to provide nesting sites. Educational programs and awareness campaigns were conducted to involve the community in conservation efforts.

Outcome:
The lake became a safe haven for various migratory bird species, leading to increased bird populations and enhanced eco-tourism opportunities.

Source: Human-Bird Conflicts and Management Issues: A Case Study of Birds at Uppalapadu Lake, Andhra Pradesh, IndiaWiley Online Library

4. ***Transformation of Hunters to Protectors in Nagaland***

Problem:
In Pangti village, Nagaland, locals traditionally hunted Amur Falcons during their migratory passage, leading to significant declines in their numbers.

Solution:
Conservation organizations collaborated with the community to raise awareness about the ecological importance of Amur Falcons. Alternative livelihood options, such as eco-tourism, were introduced to reduce dependence on hunting.

Outcome:
The community shifted from hunting to protecting Amur Falcons, resulting in the area becoming a major roosting site and attracting bird watchers globally.

Source: Meet the Indian Villages Battling Adversity to Protect Migratory Birds

6.2 Lessons Learned from Other Conservation Programs

1. ***Traditional Knowledge in Avian Conservation***
- Indigenous communities in Madhya Pradesh and Odisha use local ecological knowledge to track seasonal bird migrations.
- Farmers in Rajasthan avoid cutting trees during breeding seasons, helping bird populations recover.

Action Plan for Korba:
- Document traditional bird conservation practices from elders and farmers.
- Integrate local knowledge into forest management plans.

2. ***Successful Community-Led Bird Conservation Models***
Chilika Lake (Odisha) – Wetland conservation increased migratory bird numbers, leading to eco-tourism growth.
Kaziranga (Assam) – Local patrol groups helped reduce poaching of wetland birds.

Action Plan for Korba:
- Adapt Chilika's community-led wetland protection model.
- Develop local eco-tourism initiatives inspired by Kaziranga's success.

6.3 Future Actions for Avifauna Conservation in Aitmanagar Range

1. ***Strengthening Policies & Enforcement***
- Enforce Wildlife Protection Act (1972) more strictly in poaching hotspots.
- Increase night patrols & camera surveillance in sensitive bird habitats.

2. ***Enhancing Community Involvement & Education***

- Launch "Adopt a Wetland" programs where villages take responsibility for wetland health.
- Expand school eco-clubs and village bird monitoring groups.

3. ***Long-Term Bird Monitoring & Research Initiatives***

- Conduct annual bird censuses using GPS tracking & citizen science programs.
- Collaborate with universities and conservation NGOs to study climate change impacts on birds.

6.4 Field Visit

To assess the effectiveness of conservation strategies and the impact of various initiatives under IDWH, a field visit was conducted in the Aitmanagar Range, Korba District. The primary objectives of this field visit were:

Objectives of the Field Visit

- To evaluate the current status of avifauna populations in key habitats.
- To document habitat characteristics and identify major threats.
- To engage with local communities and forest officials for conservation insights.
- To assess the impact of restoration and conservation activities under the IDWH framework.

Observations and Findings

- The presence of several threatened bird species, including migratory waterbirds, was recorded in wetland regions.
- Habitat degradation due to encroachment and industrial activities was noted as a significant challenge.
- Community members exhibited an interest in sustainable conservation practices but required further awareness and support.
- Existing conservation measures such as wetland restoration and afforestation were showing positive results, with improved nesting and breeding conditions for several avian species.

Recommendations

- Strengthening community-led conservation initiatives through training and financial incentives.
- Enhancing monitoring mechanisms using GIS tools and wildlife tracking applications.
- Expanding habitat restoration programs to counteract degradation from industrialization.
- Introducing eco-tourism models that align conservation with livelihood opportunities for local communities.

The field visit provided valuable insights into the challenges and successes of bird conservation in Korba. Future initiatives should focus on integrating technology, community participation, and policy support to ensure long-term ecological balance and biodiversity protection.

TRAINING PROGRAM ON CONSERVATION OF AVIFAUNA IN AITMANAGAR RANGE, KORBA DISTRICT, CHHATTISGARH

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