सत्यमेव जयते
Goverment Of India

India's
Updated National Biodiversity Strategy and Action Plan
(2024-2030)

In alignment with
Kunming-Montreal Global Biodiversity Framework
— A Road Map for Conservation of India's Biodiversity —

Summary for Stakeholders

Government of India
Ministry of Environment, Forest and Climate Change
National Biodiversity Authority

LiFE
Lifestyle for Environment

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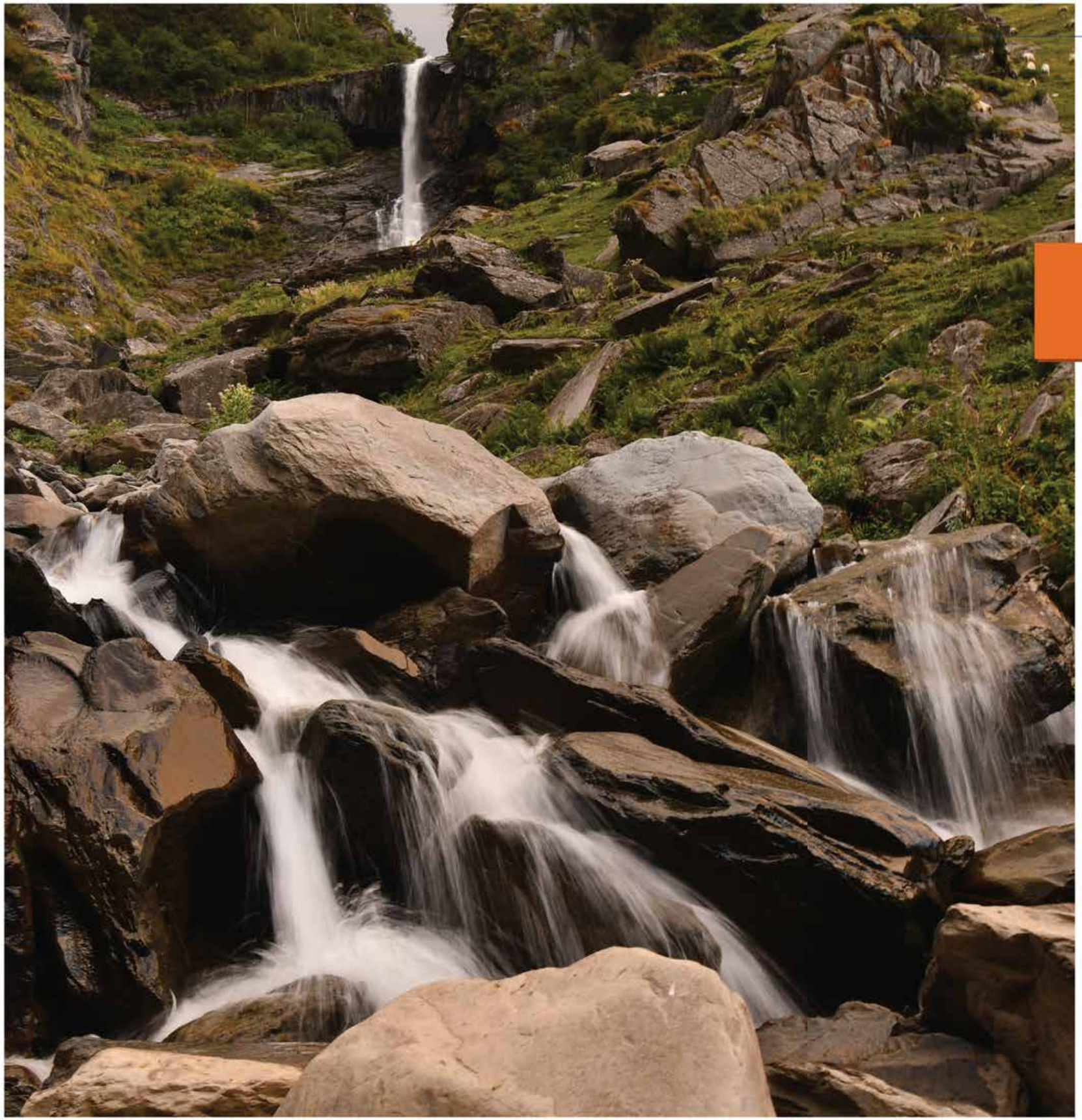
01
INTRODUCTION



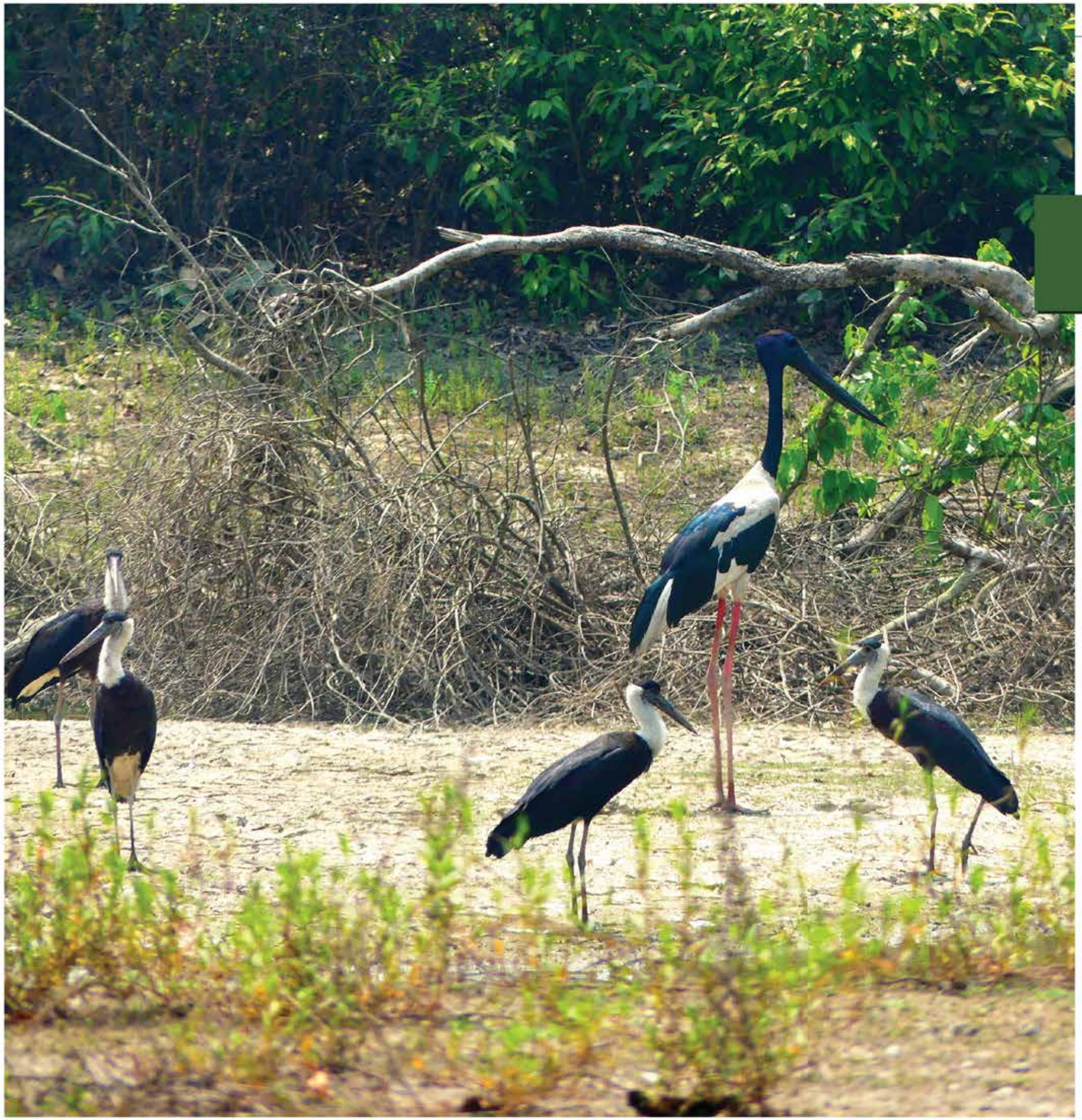
EXECUTIVE SUMMARY

India's Updated National Biodiversity Strategy and Action Plan (NBSAP), finalized in response to the Kunming-Montreal Global Biodiversity Framework (KM-GBF) adopted at the UN Convention on Biological Diversity (CBD) COP 15 in December 2022, represents a pivotal framework for halting and reversing biodiversity loss by 2030. As a megadiverse nation, India hosts approximately 8% of the world's recorded species diversity of plants, animals, and microorganisms across ten biogeographic zones including four global biodiversity hotspots: the Himalayas, Indo-Burma, Western Ghats, and Sundaland. This rich and unique biodiversity is integral to India's environmental stability, economic prosperity, and cultural heritage, supporting millions of livelihoods, particularly of forest-dependent communities, farmers, pastoralists, and fishers. The updated NBSAP aligns with the KM-GBF's vision of "Living in Harmony with Nature" by 2050, integrating global biodiversity goals with national priorities through a 'whole-of-government' and 'whole-of-society' approach.

This comprehensive summary synthesizes and expands upon the key components of the NBSAP. It elaborates on the plan's context, objectives, structure, conservation strategies, implementation architecture, financing mechanisms, monitoring frameworks, and broader significance. By incorporating extensive details from both documents and providing deeper analysis, this summary aims to offer a thorough understanding of India's biodiversity conservation efforts, challenges, and strategies to address global and national imperatives. The document emphasizes India's historical conservation legacy, its response to interconnected global emergencies, and its commitment to sustainable development through inclusive governance, innovative financing, and robust stakeholder engagement.

02

BIODIVERSITY AND ITS
GLOBAL CONTEXT



THE IMPORTANCE OF **BIODIVERSITY**

Biological diversity, or "biodiversity", encompasses ecosystems, species, genes, and their interactions, forming the "myriad creations of nature" that sustain life on Earth. Biodiversity is the "natural heritage for humankind," providing a life support system essential for human well-being and planetary health. Ecosystem diversity ensures the provision of critical services, such as food security, clean water, climate regulation, soil fertility, pollination, and disaster resilience, which are vital for sustainable development. Species diversity serves as the "building blocks" of ecosystems, enabling their resilience and functionality, while genetic diversity ensures the evolutionary and adaptive potential of species, allowing them to respond to environmental changes such as climate shifts or disease pressures.

In India, biodiversity is a cornerstone of economic growth, environmental management, and cultural life. Forests, covering approximately 21% of the country's land area, support carbon sequestration, water regulation, and livelihoods for millions of forest-dependent communities. Wetlands, such as the Sundarbans, sustain fisheries, protect against floods, and harbor unique species like the Bengal tiger. Marine ecosystems across coastal States/ Union Territories, Archipelagos, Bay of Bengal, Arabian Sea and the Indian Ocean include coral reefs and they provide fish stocks and coastal protection. Agrobiodiversity, with India as a Vavilov Center of Origin, underpins food security for a human population exceeding 1.4 billion, supporting diverse crops and livestock breeds. This summary on NBSAP underscores that biodiversity is crucial for addressing global challenges like food insecurity, water crisis, climate change, livelihoods, and natural disasters, and makes it a vehicle for sustainable development. Culturally, biodiversity holds spiritual significance, with sacred groves and traditional knowledge systems reflecting India's deep-rooted connection to nature, evident in practices like the conservation of medicinal plants and sacred species.

INTERCONNECTED
GLOBAL EMERGENCIES

Despite global conservation efforts, biodiversity is declining at an unprecedented rate, threatening the stability of the living planet and human survival. The NBSAP identifies three interconnected emergencies—biodiversity loss, climate change, and pollution (including public health impacts)—all stemming from the "widespread destruction of nature" and a "broken relationship between humans and nature." These crises are driven by five major threats:

1. ***Land and Sea Use Change:*** Deforestation, urbanization, agricultural expansion, and coastal development fragment wilderness and habitats, and reducing ecosystem connectivity and species populations.
2. ***Pollution:*** Chemical runoff, plastic waste, air pollution, and noise pollution degrade terrestrial and aquatic ecosystems, affecting species health and reproduction.
3. ***Species Overexploitation:*** Overfishing, poaching, illegal wildlife trade, and unsustainable harvesting deplete populations, pushing species like the Indian pangolin and Ganges river dolphin toward extinction.
4. ***Climate Change:*** Rising temperatures, shifting precipitation patterns, and extreme weather events disrupt ecosystems, alter species distributions, and exacerbate habitat loss.
5. ***Invasive Species and Diseases:*** Non-native species, such as water hyacinth, and pathogens, like chytrid fungus affecting amphibians, outcompete or harm native biodiversity.

These drivers are interlinked, creating feedback loops that amplify their impact. For example, climate change accelerates habitat degradation, while pollution weakens species resilience to invasive species. This summary emphasizes the urgency of collective action to address to above stated three global emergencies, calling for a nature-positive society that safeguards the planet for the health of all. India's NBSAP responds by prioritizing holistic strategies that tackle these threats while promoting sustainable development, equitable benefit-sharing, and resilience against environmental stressors.

THE KUNMING-MONTREAL
GLOBAL BIODIVERSITY FRAMEWORK (KM-GBF)

Adopted in December, 2022 at CBD COP 15, the KM-GBF is a global roadmap to arrest and reverse biodiversity loss by 2030 and achieve the CBD's vision of "Living in Harmony with Nature" by 2050. The KM-GBF is built around a "Theory of Change" that recognizes the need for urgent policy action at global, regional, and national levels to reduce drivers of biodiversity loss and enable ecosystem recovery. The framework aims to catalyse transformative action by governments, subnational authorities, indigenous people, local communities, and all sectors of the society to achieve its vision, mission, goals, and targets contributing to the CBD's three objectives:

1. ***Conservation of biological diversity***
2. ***Sustainable use of its components***
3. ***Fair and equitable sharing of benefits arising from the use of genetic resources***

THE KM-GBF INCLUDES:

Four Long-Term Goals for 2050:

- Enhance the integrity, connectivity, and resilience of all ecosystems.
- Halt species extinctions, conserve genetic diversity, and ensure sustainable management.
- Promote sustainable use and management of biodiversity for human well-being.
- Ensure equitable access to and sharing of benefits arising from the use of genetic resources, including through digital sequence information.

23 Action-Oriented Targets for 2030:

These global targets address:

- Reducing threats to biodiversity (e.g., protecting 30% of land and sea, restoring degraded ecosystems).
- Sustainable use and benefit-sharing (e.g., sustainable agriculture, fisheries, and forestry).
- Tools and solutions for implementation (e.g., mainstreaming biodiversity, mobilizing resources, capacity building)

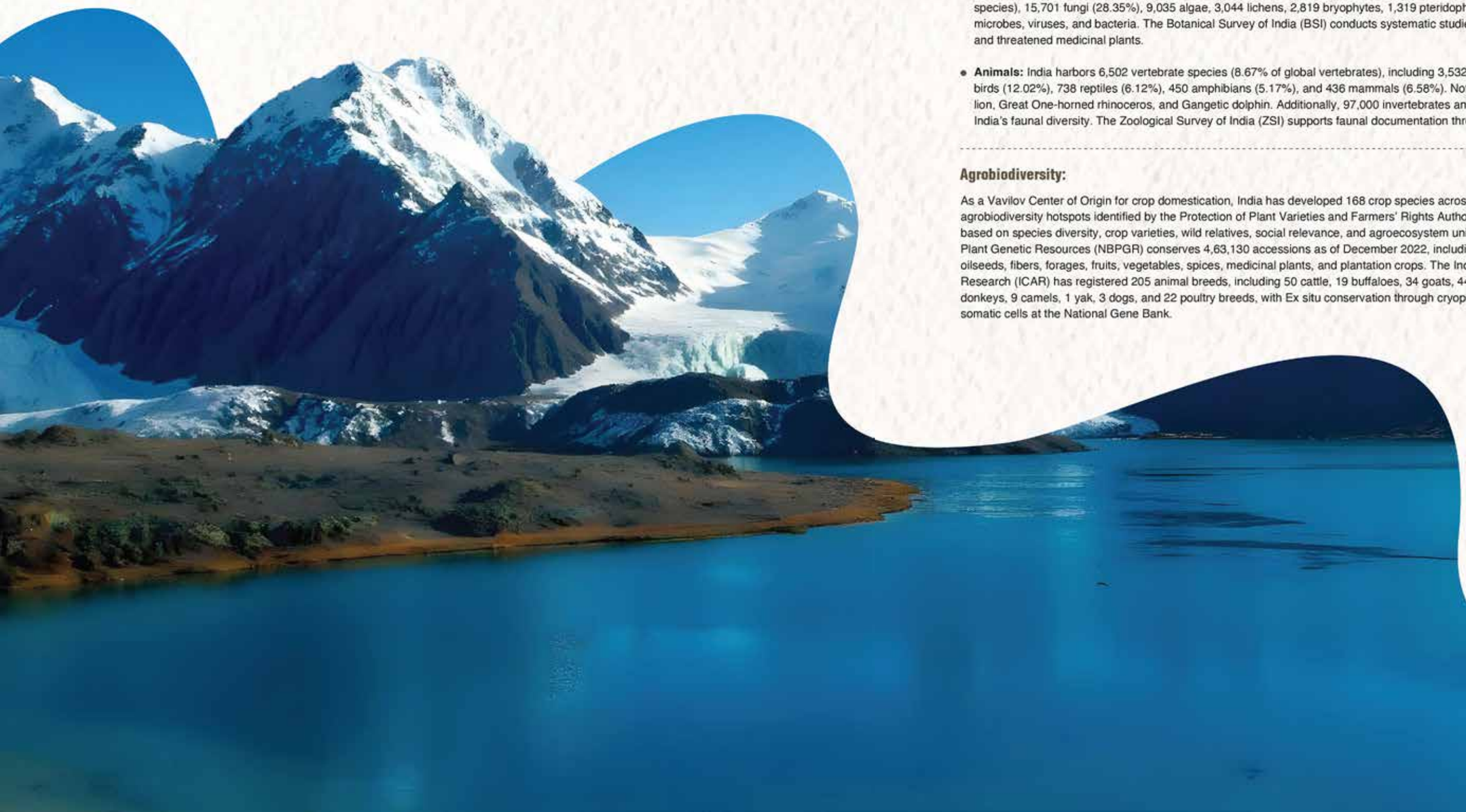
The KM-GBF promotes coherence and cooperation among the CBD, its protocols (Nagoya Protocol on Access and Benefit-Sharing, Cartagena Protocol on Biosafety), and other biodiversity-related conventions, such as the Convention on International Trade in Endangered Species (CITES), the Ramsar Convention on Wetlands, and the Convention on Migratory Species. The NBSAP is the primary instrument for implementing the CBD at the national level, serving as an "umbrella process" for achieving all goals and targets. Periodic National Reports (NRs) by Parties to CBD monitor progress, ensuring transparency and accountability. The KM-GBF mandates countries to update their NBSAPs to align with its goals and targets, and National Biodiversity Targets (NBTs) communicated to CBD in a standardized format while reinforces the framework's role as a global catalyst for transformative change.

03

INDIA'S BIODIVERSITY
PROFILE

A MEGADIVERSE NATION

India's biodiversity is shaped by its diverse physiography, climatic conditions, biogeography, natural and human-induced disturbances, culture and ethos, long history of resource management, demography, and socioeconomic conditions. The NBSAP notes that these factors determine the distribution and status of biodiversity across the country. India spans 10 biogeographic zones—Trans-Himalaya, Himalaya, Desert, Semi-Arid, Western Ghats, Deccan Peninsula, Gangetic Plain, Coasts, Northeast India, and Islands—and 27 biotic provinces adopted since 1988 for conservation planning. These zones ensure comprehensive coverage of ecosystems and associated diversity contributing to India's status as a megadiverse country, harboring nearly 8% documented global plant and animal species.



INDIA'S KEY BIODIVERSITY HIGHLIGHTS INCLUDE:

Ecosystem Diversity: India's ecosystems are diverse and multifunctional:

- **Terrestrial Ecosystems:** Forests (~21% of land area), grasslands, scrublands, and deserts support carbon sequestration, water regulation, and livelihoods. Tropical forests in the Western Ghats and Northeast India are biodiversity-rich, while arid ecosystems in Rajasthan host unique species like the Great Indian Bustard.
- **Aquatic Ecosystems:** Wetlands, rivers, and lakes, such as Chilika Lake and the Ganges River, sustain fisheries, water purification, and flood control. The Sundarbans, a UNESCO World Heritage Site is the world's largest mangrove ecosystem.
- **Coastal and Marine Ecosystems:** Mangroves, coral reefs, and seagrass beds in the Andaman and Nicobar Islands and Gulf of Mannar provide coastal protection, fish nurseries, and tourism opportunities. The NBSAP emphasizes that these ecosystems offer a wide range of services vital for subsistence, livelihoods, and India's environmental, economic, and cultural prosperity.

Species Diversity:

- **Plants:** India hosts 55,387 taxa, representing 9.24% of global plant species. This includes 22,108 angiosperms (40% of plant species), 15,701 fungi (28.35%), 9,035 algae, 3,044 lichens, 2,819 bryophytes, 1,319 pteridophytes, 83 gymnosperms, and 1,278 microbes, viruses, and bacteria. The Botanical Survey of India (BSI) conducts systematic studies, documenting endemic species and threatened medicinal plants.
- **Animals:** India harbors 6,502 vertebrate species (8.67% of global vertebrates), including 3,532 fish (9.71% of global fish), 1,346 birds (12.02%), 738 reptiles (6.12%), 450 amphibians (5.17%), and 436 mammals (6.58%). Notable species include the Asiatic lion, Great One-horned rhinoceros, and Gangetic dolphin. Additionally, 97,000 invertebrates and protozoans account for 93.84% of India's faunal diversity. The Zoological Survey of India (ZSI) supports faunal documentation through extensive field surveys.

Agrobiodiversity:

As a Vavilov Center of Origin for crop domestication, India has developed 168 crop species across 15 agroclimatic zones and 22 agrobiodiversity hotspots identified by the Protection of Plant Varieties and Farmers' Rights Authority (PPVFRA). These hotspots are based on species diversity, crop varieties, wild relatives, social relevance, and agroecosystem uniqueness. The National Bureau of Plant Genetic Resources (NBPGR) conserves 4,63,130 accessions as of December 2022, including cereals, millets, legumes, oilseeds, fibers, forages, fruits, vegetables, spices, medicinal plants, and plantation crops. The Indian Council of Agricultural Research (ICAR) has registered 205 animal breeds, including 50 cattle, 19 buffaloes, 34 goats, 44 sheep, 10 pigs, 7 horses/pony, 3 donkeys, 9 camels, 1 yak, 3 dogs, and 22 poultry breeds, with Ex situ conservation through cryopreservation of semen doses and somatic cells at the National Gene Bank.

BIODIVERSITY
HOTSPOTS

India hosts four of the world's 36 biodiversity hotspots, areas with exceptional species diversity, high endemism, and significant threats:

1. **Himalaya:** Rich in tropical broad-leaved, temperate, sub-alpine forests and alpine flora (e.g., Rhododendron), mammals (e.g., snow leopard, Himalayan tahr), and medicinal plants, but threatened by glacial retreat and overgrazing.

2. **Indo-Burma:** Encompasses Northeast India, with tropical forests, diverse vertebrates (e.g., hoolock gibbon), and high plant endemism, facing disturbances by shifting cultivation, deforestation and poaching.

3. **Western Ghats:** A global hotspot for endemic plants (e.g., Impatiens), amphibians, and birds, threatened by mining, agriculture, and urbanization.

4. **Sundaland:** Includes the Nicobar Islands, known for unique marine biodiversity (e.g., dugongs, corals), but vulnerable to climate change, developmental activities, and growing tourism pressure.

These hotspots underscore India's global responsibility to prioritize conservation efforts, as their loss would have cascading effects on India's tag of megadiverse country, functionality of diverse and productive ecosystems, and human well-being.

04

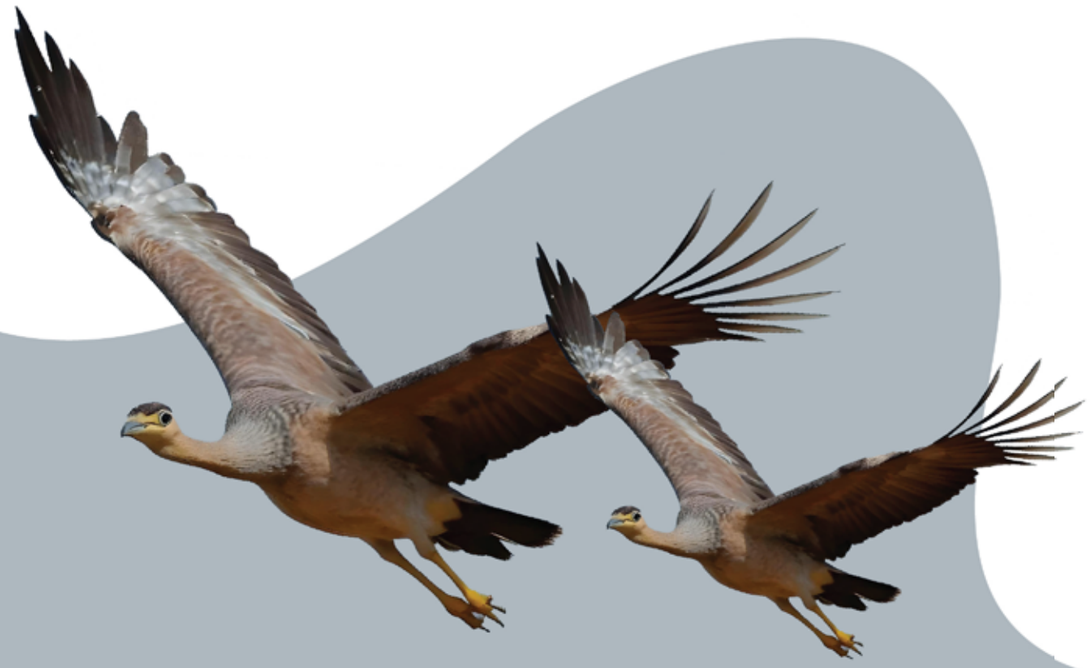
INDIA'S
CONSERVATION LEGACY

HISTORICAL CONTEXT

India's conservation efforts predate the CBD, rooted in its cultural ethos, traditional knowledge systems, and nature-loving communities. India's Updated NBSAP emphasizes that national and subnational governments, alongside local communities, have long protected "nature's treasure" through practices like sacred groves, community-managed forests, and rotational harvesting. These efforts reflect India's deep connection to biodiversity, with cultural practices venerating species like the peepal (Ficus spp.) tree and animals like the cow. Key milestones in India's conservation history include:

- **Pre-CBD Efforts:** Ethnic people and forest-dwelling communities conserved biodiversity through sustainable practices, such as protecting sacred sites and managing community forests, particularly in the northeastern states like Meghalaya and Nagaland.
- **National Policy and Macro-Level Strategy on Biodiversity (1999):** India's first NBSAP, developed through a consultative process under the Global Environment Facility (GEF) Project (2000–2003), included state, regional, and theme-specific plans to address biodiversity conservation and sustainable use.
- **National Biodiversity Action Plan (NBAP, 2008):** Outlined comprehensive strategies for conservation, sustainable use, and equitable benefit-sharing, building on the 1999 framework.
- **Addendum to NBAP (2014):** Aligned with the Aichi Biodiversity Targets (2011–2020), adopting 12 National Biodiversity Targets (NBTs) to address global and national priorities, such as enhancing protected area coverage and promoting sustainable agriculture.
- **National Reports:** The Fifth National Report (NR5) was published, providing an illustrative overview of biodiversity status, trends, and conservation efforts. The Sixth National Report (NR6) was submitted online to the CBD, offering updated insights into progress and challenges. In 2019, "An Overview: Implementation of India's National Biodiversity Action Plan" documented achievements, gaps, and future strategies.

These sequential national documents provide a robust foundation for understanding India's biodiversity status, policy frameworks, governance mechanisms, threats, conservation initiatives, and areas for improvement, informing the updated NBSAP.



LEGAL AND INSTITUTIONAL FRAMEWORK

The Biological Diversity Act (2002) is a landmark legislation that operationalizes the CBD's three objectives: conservation of biological diversity, sustainable use of its components, and fair and equitable sharing of benefits from the use of genetic resources. Recognizing India's richness in biodiversity and traditional knowledge, the Act established a three-tier governance structure:

1. National Biodiversity Authority (NBA)

Based in Chennai, the NBA coordinates national-level efforts under the Ministry of Environment, Forest and Climate Change (MoEFCC), overseeing policy development, access and benefit-sharing (ABS), and international commitments.

2. State Biodiversity Boards (SBBs) and Union Territory Biodiversity Councils (UTBCs):

28 SBBs and 8 UTBCs manage state- and UT-level conservation efforts, tailoring strategies to regional ecosystems and socio-economic contexts.

3. Biodiversity Management Committees (BMCs):

2,77,688 BMCs operate at the local level, engaging communities in biodiversity documentation, conservation, and sustainable use, particularly through People's Biodiversity Registers (PBRs).

The MoEFCC serves as the central nodal ministry, coordinating with national, state, and international agencies, and providing financial and technical support for biodiversity conservation, environmental management, climate change mitigation, and sustainable development. The NBSAP notes that several national-level organizations under MoEFCC, including survey and scientific institutions (e.g., BSI, ZSI, FSI), research and training organisations (e.g., Indira Gandhi National Forest Academy, Wildlife Institute of India, Indian Council of Forestry Research and Education), and regulatory authorities (e.g., Central Pollution Control Board), support the implementation of conventions, policies, laws, and programs relevant to forests, wildlife, environment, and biodiversity.

State Forest Departments (SFDs) are custodians of public forestlands, managing forests, wildlife, protected areas, and other ecosystems through a hierarchical cadre of professionals and field-level formations. Local communities, particularly forest dwellers and tribal groups living in or near forests, play a vital role in conservation, assisting SFDs with forest protection, control of poaching, intelligence gathering, habitat improvement, and management of forest fires. The NBSAP highlights that community-managed forests, especially in the northeastern region, are autonomously governed by autonomous tribal district councils, showcasing decentralized conservation models. State departments of agriculture, horticulture, livestock, animal husbandry, dairying, and fisheries contribute to conserving domestic biodiversity, such as landraces, crop varieties, and fish stocks.

Beyond MoEFCC, 21 central ministries and 2 departments, including the Ministry of Agriculture and Farmers' Welfare (MoAFW) and the Ministry of Fisheries, Animal Husbandry and Dairying (MoFAHD), directly or indirectly support biodiversity conservation. These ministries regulate or utilize biodiversity, ensuring alignment with CBD protocols like the Nagoya Protocol on ABS and the Cartagena Protocol on Biosafety. The NBSAP notes that UN agencies, international organizations, NGOs, businesses, entrepreneurs, and individuals supplement conservation efforts, creating a robust ecosystem of stakeholders. For example, NGOs like the World Wildlife Fund, Trust of India and corporate CSR initiatives fund conservation projects, while international partners like the UNDP provide technical support.

05

UPDATING THE **NBSAP**

PROCESS AND METHODOLOGY

The updated NBSAP was developed to align with the KM-GBF, as mandated by COP Decision 15/6, which prioritized updating NBSAPs to set National Biodiversity Targets (NBTs), formulate strategies, establish monitoring systems, and adopt a "whole-of-government" and "whole-of-society approach". The NBSAP details the process, led by the National Biodiversity Authority (NBA) under the guidance of the Ministry of Environment, Forest and Climate Change (MoEFCC), involving a comprehensive and inclusive methodology:

1. **Rapid Stocktaking and Review:** Analysis of the existing NBAP (2008) and its 2014 Addendum, alongside contextual factors such as biodiversity trends, policy frameworks, and socio-economic conditions.

2. **Stakeholder Analysis and Consultations:** Nationwide, interministerial, and regional/ state-level consultations engaged diverse stakeholder, including central and state governments, SBBs, BMCs, local communities, indigenous peoples, NGOs, research institutions, and private sector representatives. These consultations ensured inclusivity and incorporated traditional knowledge.

3. **Situation and Problem Analysis:** Identification of biodiversity threats (e.g., habitat loss, climate change), gaps (e.g., inadequate funding, limited public awareness), and priorities (e.g., wetland conservation, agrobiodiversity protection).

4. **Data Collection:** Primary data from 21 central ministries and two departments on biodiversity-related schemes, expenditures, financial needs, and subsidies, supplemented by secondary data on conservation efforts, species trends, and ecosystem status.

5. **Setting National Biodiversity Targets:** Development of 23 NBTs aligned with the KM-GBF's 23 global targets, supported by objective analysis, stakeholder inputs, and a focus on measurable outcomes.

6. **Draft Preparation: Creation of a draft NBSAP, incorporating:**
   - *Policy alignment with national and international frameworks*
   - *Sectoral integration across agriculture, fisheries, urban planning, and industry*
   - *Implementation architecture with vertical and horizontal coordination*
   - *Sub-plans for capacity development, technology incorporation, communication, education, and public awareness (CEPA), biodiversity finance, and resource mobilization*
   - *Monitoring frameworks with indicators and reporting mechanisms*

7. **Review and Feedback:** Incorporation of inputs from a 21-member high-level Working Group, comprising senior officials, policy makers, and experts, alongside broader stakeholder feedback to refine the draft.

8. **Finalization and Adoption:** Completion of the NBSAP for implementation, with approval from MoEFCC, and submission to the CBD.

The process was collaborative, with the NBA working closely with the United Nations Development Programme (UNDP) and under the stewardship of senior MoEFCC officials and the Chairman, NBA. The NBSAP emphasizes the whole-of-government and whole-of-society approach, which ensured interministerial coordination, stakeholder engagement, and a consultative process that reflected India's diverse ecological and cultural contexts.

STRUCTURE OF THE NBSAP

The NBSAP is organized into seven chapters,

Background and Contextual Analysis:

Chapter 1
Provides the global and national context, including the KM-GBF, CBD objectives, and India's biodiversity significance.

Chapter 2
Offers a situational analysis, detailing the current status of India's biodiversity, conservation practices, policy frameworks, and institutional mechanisms.

Chapter 3
Conducts a problem analysis, identifying threats, gaps, and priorities for action.

Action-Oriented Framework:

Chapter 4
Details the 23 National Biodiversity Targets, action points, and strategies across six conservation domains.

Chapter 5
Focuses on capacity building and development, including training programs and institutional strengthening.

Chapter 6
Addresses biodiversity finance and resource mobilization, including expenditure reviews and innovative financing solutions.

Chapter 7
Outlines the biodiversity monitoring framework, with indicators, agency responsibilities, and reporting mechanisms.

This structure balances analytical rigor with actionable strategies, ensuring the NBSAP is both a diagnostic tool and a roadmap for implementation.

06

NATIONAL BIODIVERSITY TARGETS (NBTS)

NATIONAL BIODIVERSITY TARGETS

India's 23 NBTs, developed through a country-wide consultative process, correspond to the KM-GBF's 23 global targets and are grouped into three broad themes:

Reducing Threats to Biodiversity (8 targets):

NBT 1: Biodiversity inclusive integrated land / sea use planning

NBT 2: Ecosystem restoration

NBT 3: Conserve biodiversity in land, water and sea

NBT 4: Manage species and genetic diversity

NBT 5: Sustainable harvest, trade, and use of wild species

NBT 6: Manage invasive alien species

NBT 7: Reduce pollution risks and negative impact

NBT 8: Minimize the impact of climate change

Meeting People's Needs through Sustainable Use and Benefit-Sharing (5 targets):

NBT 9: Sustainable use of wild species for multiple benefits

NBT 10: Sustainable management of agriculture, animal husbandry, fisheries, aquaculture and forest areas

NBT 11: Enhance and maintain ecosystem services and regulate air and water quality, hazards and extreme events

NBT 12: Enhance green and blue spaces for increased access and human well-being

NBT 13: Access and benefit sharing

Tools and Solutions for Implementation and Mainstreaming (10 targets):

NBT 14: Mainstreaming biodiversity

NBT 15: Sustainable production, supply chains and disclosure of risks

NBT 16: Promote sustainable consumption choices

NBT 17: Strengthen biosafety regulatory capacity

NBT 18: Repurpose detrimental incentives for biodiversity

NBT 19: Resource mobilization

NBT 20: Capacity development, technology and scientific cooperation

NBT 21: Communication, awareness, and knowledge management

NBT 22: Equitable and effective participation in decision-making

NBT 23: Gender equality in decision-making and implementation

Each NBT will be assessed using global, headline, component, and national indicators, with contributions from lead agencies like the NBA, Forest Survey of India (FSI), and Wildlife Institute of India (WII).

These targets cover six conservation domains,
as detailed in the updated NBSAP:

- **Area-Based Conservation:**
  Expanding protected areas and OECMs
- **Building Ecosystem Resilience:**
  Restoring degraded habitats and enhancing connectivity
- **Recovery, Rehabilitation, and Conservation of Threatened Species:**
  Protecting species like the Indian vulture and Olive Ridley turtle
- **Conservation of Agrobiodiversity:** Safeguarding crop wild relatives and indigenous breeds
- **Sustainable Management and Use of Biodiversity:**
  Promoting sustainable practices in agriculture and fisheries
  Enabling Conditions, Tools, and Solutions for Implementation: Strengthening policy, finance, and capacity

07

CONSERVATION APPROACHES

AREA-BASED CONSERVATION

The CBD recognizes protected areas (PAs) as the cornerstone of biodiversity conservation, maintaining diverse ecosystems, building blocks – species diversity, key habitats, gene pool, and ecological and evolutionary processes. The NBSAP notes that India employs five biodiversity governance models across a landscape continuum:

1. State-Driven Models

- **Protected Areas (PAs):** Legally designated national parks, wildlife sanctuaries, conservation reserves, and community reserves, covering ~5% of India's land area, protect species like tiger, elephant, and rhinocerose, gharial, Olive Ridley turtle, Great Indian bustard, river doplhin. Examples of PAs include Jim Corbett National Park, Keoladeo National Park, and Little rann of Kutch Wildlife Sanctuary
- **Managed Forests (MFs):** Reserved forests, protected forests, and undermarcated forests managed by SFDs, support biodiversity while allowing regulated resource use.

2. Community-Driven Models

- **Autonomous Community Efforts:** Tribal councils in states like Nagaland manage community forests, conserving biodiversity through customary laws.
- **Co-Management:** Joint forest management (JFM) committees involve communities in forest protection and restoration.
- **Decentralized Governance Institutions:** BMCs and village councils promote local conservation initiatives.

These models, particularly PAs and MFs, are effective but face enormous challenges in human-dominated landscapes, such as proliferation of invasive species, human-wildlife conflict, and encroachment. The NBSAP emphasizes mobilizing communities to identify and expand "Other Effective Area-Based Conservation Measures (OECMs)", such as community-managed wetlands and sacred groves, aligning with KM-GBF Target 3 to protect 30% of land and sea areas by 2030.

IN SITU AND EX SITU CONSERVATION

India's conservation strategies evolved over a period of time balance In Situ and Ex situ approaches:

1. In Situ Conservation

- **Protected Areas:** PAs cover wide range of terrestrial and aquatic ecosystems, from Himalayan meadows to coastal mangroves, supporting flagship species, and ecological processes.
- **Landscape/ Riverscape Approaches:** Initiatives like the National Mission for a Green India promote connectivity across ecosystems, facilitating species migration and gene flow. The Ganges River dolphin conservation program exemplifies riverscape management.
- **OECMs:** Community-managed forests, wetlands, and agricultural landscapes expand conservation coverage, leveraging traditional practices.

1. Ex situ Conservation

- **Gene Banks and Seed Banks:** Presently, NBPGR conserves ~4,63,130 crop accessions, including rice, wheat, and medicinal plants, in gene banks and seed vaults.
- **Cryopreservation:** The National Gene Bank preserves livestock semen doses and somatic cells, safeguarding breeds like the Gir cattle and Murrah buffalo.
- **Botanical and Zoological Gardens:** Facilities like the Padmaja Naidu Himalayan Zoological Park and Arignar Anna Zoological Park protect rare species and support breeding programs.
- **Seed Vaults and Tissue Culture:** Technologies like cryopreservation and in vitro propagation preserve genetic material of threatened species.

COMMUNITY INVOLVEMENT

Local communities, particularly forest dwellers, tribal groups, and indigenous people, are integral to conservation. The NBSAP highlights their contributions:

- **Forest Protection:** Communities support SFDs in forest monitoring, preventing illegal logging, and control of forest fires.
- **Wildlife Conservation:** Tribal and other ethnic groups provide intelligence on poaching and assist in habitat restoration, protecting species like the lion-tailed macaque.
- **Traditional Knowledge:** Indigenous practices, such as seed selection and herbal medicine, inform sustainable management and conservation strategies.
- **Community-Managed Forests:** In the northeast, autonomous tribal district councils manage forests, balancing biodiversity conservation with livelihood needs.

BMCs empower local governance, documenting biodiversity through PBRs and implementing conservation projects. The NBSAP notes that community involvement is critical for expanding OECMs and ensuring inclusive governance, particularly in biodiversity-rich but economically marginalized regions

PRIORITY AREAS AND CHALLENGES

The NBSAP identifies conservation priority areas requiring urgent attention:

- **Wetlands:** Despite their ecological importance, wetlands face drainage, pollution, and encroachment, necessitating stronger protection.
- **Coastal and Marine Ecosystems:** Mangroves and coral reefs are threatened by coastal development and climate change, requiring integrated management.
- **Genetic Diversity and Biosafety:** Cross-breeding and biotechnology risks threaten landraces and indigenous breeds, demanding enhanced biosafety measures.
- **Participatory Approaches and Ecodevelopment:** Community engagement and livelihood-focused conservation need scaling up.
- **Communication and Public Awareness:** Urban and rural populations, and policymakers require greater awareness of biodiversity's values.

CHALLENGES INCLUDE:

- **Human-Wildlife Conflict**
  Increasing human interactions with wildlife, particularly with elephants and leopards, threaten both biodiversity, and human safety and property.
- **Funding Shortfalls**
  Limited budgets constrain field level conservation efforts, particularly species recovery, ecorestoration, research, monitoring and capacity building.
- **Climate Change**
  Rising temperature and erratic monsoon disrupt ecosystems, requiring adaptive strategies.
- **Policy Gaps**
  Inconsistent policies, such as those favoring high-yield crops, undermine agrobiodiversity conservation.

The NBSAP addresses these through targeted strategies, such as wetland restoration programs, conservation of marine protected areas, and public awareness campaigns.

08

AGROBIODIVERSITY
CONSERVATION

AGROBIODIVERSITY CONSERVATION SIGNIFICANCE

Agrobiodiversity, a subset of biodiversity, is vital for food security, nutrition, and rural livelihoods. The NBSAP notes that India as a Vavilov Center of Origin has domesticated 168 crop species across 15 agroclimatic zones, ranging from the Himalayan highlands to coastal plains. The Protection of Plant Varieties and Farmers' Rights Authority (PPVFRA) has identified 22 agrobiodiversity hotspots across the country based on species diversity, crop varieties, wild relatives, social relevance, agricultural history, and agroecosystem uniqueness. These hotspots, such as the Western Ghats for spices and the Northeast for rice, are global treasures.

The NBPGR has prioritized 171 native crops (769 species), conserving 4,63,130 accessions as of December 2022. These include cereals (e.g., rice, wheat), millets, legumes, oilseeds, fibers, forages, fruits, vegetables, spices, medicinal plants, and plantation crops. ICAR has registered 205 animal breeds, including 50 cattle, 19 buffaloes, 34 goats, 44 sheep, 10 pigs, 7 horses/pony, 3 donkeys, 9 camels, 1 yak, 3 dogs, and 22 poultry breeds. Ex situ conservation through cryopreservation of semen doses and somatic cells at the National Gene Bank ensures the preservation of genetic diversity, critical for breeding resilient varieties.

SUPPORTING INSTITUTIONS

The National Agriculture Research and Education System, backed by ICAR supports agrobiodiversity conservation through:

- **113 research institutes,** such as the Indian Agricultural Research Institute
- **4 deemed-to-be-universities**
- **74 agricultural** universities
- **3 central** universities
- **731 Krishi Vigyan Kendras (KVKs)** for extension services

These institutions develop high-yielding varieties, conserve germplasm, and train farmers. The Ministry of Agriculture and Farmers Welfare (MoAFW) and Ministry of Fisheries, Animal Husbandry and Dairying (MoFAHD) oversee agriculture, animal husbandry, dairying, and fisheries, promoting sustainable practices. Bureaus for animal, fish, and microbial genetic resources complement NBPGR's efforts, conserving germplasm of livestock, aquatic species, and agriculturally important microorganisms.

CHALLENGES: Threats to agrobiodiversity include:

- **Cross-Breeding:** Hybridization with modern varieties reduces genetic diversity in landraces and indigenous breeds, such as the Red Sindhi cattle.
  Policy Gaps: Policies favoring high-yielding crops and female progeny neglect traditional varieties and breeds.
- **Inadequate Incentives:** Farmers and herders lack adequate financial support and incentives for conserving landraces and indigenous breeds.
- **Climate Change:** Changing rainfall patterns and temperatures affect crop yields and livestock health.
- **Loss of Traditional Knowledge:** Urbanization and modernization erode seed-saving and breeding practices.

STRATEGIES: The NBSAP proposes:

- **In Situ Conservation:** Promoting community seed banks and on-farm conservation of landraces.
- **Ex situ Conservation:** Expanding gene banks and cryopreservation facilities.
- **Research and Development:** Enhancing studies on crop wild relatives and indigenous breeds.
- **Incentives:** Providing subsidies and market access for farmers conserving traditional varieties of crops and breeds.
- **Policy Reforms:** Integrating agrobiodiversity into agricultural policies and extension services.

These strategies aim to safeguard India's agrobiodiversity, ensuring food security and resilience in a changing climate.

09

IMPLEMENTATION
ARCHITECTURE

HIERARCHICAL GOVERNANCE

The NBSAP's implementation requires a multiscale, multidisciplinary, and multistakeholder approach. The NBSAP highlights a vertical and horizontal integrated architecture, promoting a bottom-up governance mechanism:

- **National Level:** The NBA, under MoEFCC, coordinates policies, resource allocation, and international commitments, ensuring alignment with the CBD and KM-GBF.
- **State/UT Level:** 28 SBBs and 8 UTBCs tailor strategies to regional ecosystems, socio-economic contexts, and cultural practices, collaborating with Forest Department and other state departments.
- **Local Level:** 2,77,688 BMCs engage communities in grassroots conservation, documenting biodiversity, implementing projects, and promoting sustainable use.

This hierarchical structure ensures that national policies are adapted to local realities, fostering inclusivity and accountability.

SECTORAL INTEGRATION

Biodiversity is mainstreamed into sectors like agriculture, fisheries, forestry, urban planning, tourism, and industry. The NBSAP aims to ensure that concerned 21 central ministries and two departments contribute, and coherence with CBD protocols and national development goals. For example:

- **MoAFW promotes** sustainable and climate smart agriculture and crop diversity.
- **MoFAHD** supports livestock and fisheries (fresh water, brackish water, and marine) conservation.
- **The Ministry of Housing and Urban Development** integrates green and blue spaces into city planning besides waste recycling, and pollution control.
- **The Ministry of Tourism** develops eco-tourism guidelines to minimize environmental impact.

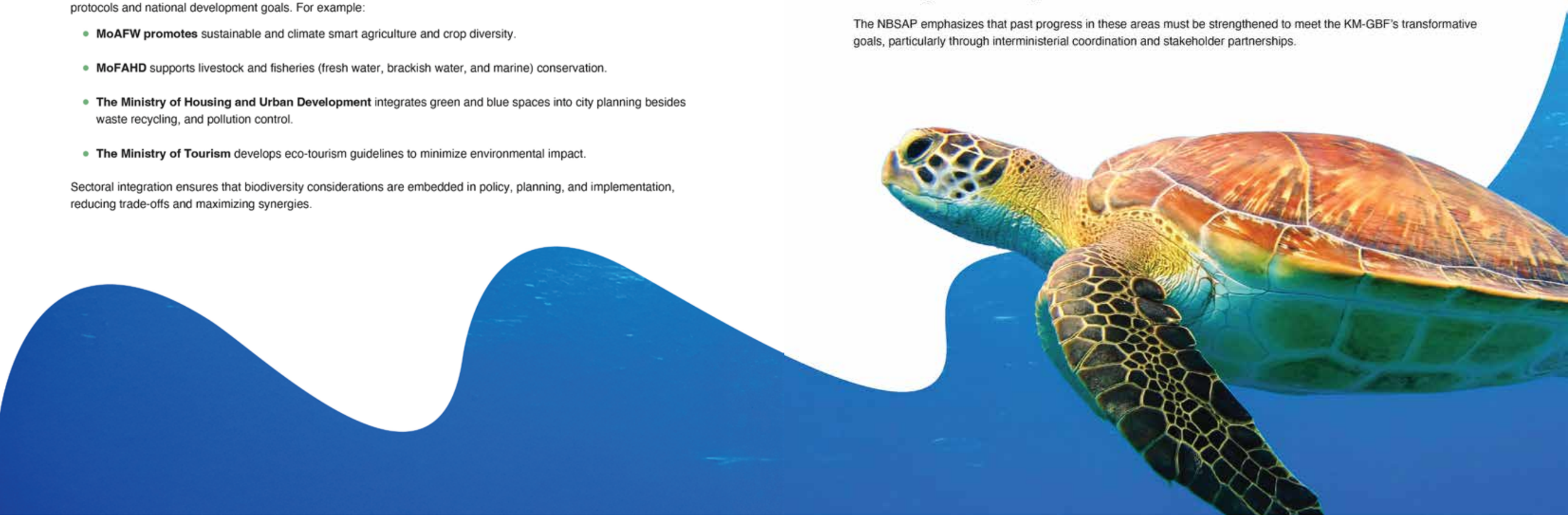
Sectoral integration ensures that biodiversity considerations are embedded in policy, planning, and implementation, reducing trade-offs and maximizing synergies.

ENABLING CONDITIONS

Key enablers for implementation include:

- **Biodiversity Research and Monitoring:** Institutions like BSI, ZSI, and the Wildlife Institute of India provide data on species, ecosystems, and threats, informing evidence-based policies besides FSI, IIFM and ICFRE contribute towards assessment and management of forest resources. The National Tiger Conservation Authority and Project Elephant promotes landscape approach to conservation.
- **Capacity Development:** Training programs for SBBs, BMCs, forest officials, and farmers enhance technical skills and institutional capacity.
- **Communication, Education, and Public Awareness (CEPA):** Revamped strategies target policymakers, communities, youth, and urban populations, using digital platforms, community radio, school curricula, and public campaigns to highlight biodiversity's value.
- **Access and Benefit-Sharing (ABS):** Implementing the Nagoya Protocol, the NBSAP ensures equitable benefits from genetic resources, supporting indigenous communities and local economies. NBA in collaboration with SBBs play a pivotal role.
- **Resource Mobilization:** Innovative financing mechanisms, such as green bonds and public-private partnerships, bridge funding gaps.
- **Technology Integration:** Tools like GIS, remote sensing, satellite telemetry, camera traps, UAVs, and DNA barcoding enhance monitoring and conservation efforts.

The NBSAP emphasizes that past progress in these areas must be strengthened to meet the KM-GBF's transformative goals, particularly through interministerial coordination and stakeholder partnerships.



10

BIODIVERSITY
FINANCING

BIODIVERSITY EXPENDITURE REVIEW (BER)

The Biodiversity Finance Initiative (BIOFIN), detailed in the NBSAP, includes a Biodiversity Expenditure Review (BER) for 2017–2022, estimating average annual biodiversity expenditure at INR 32,207.13 crore (USD ~3.9 billion) across 21 central ministries and two departments. This expenditure covered programs like the National Afforestation Programme, Project Tiger, and wetland conservation schemes. Using forecasting methods, the projected expenditure for 2024–2030 is INR 81,664.88 crore annually, reflecting a significant funding gap to meet NBSAP targets.

The NBSAP elaborates that the BER analysed budgetary allocations, actual expenditures, and financial needs, identifying gaps in funding for priority areas like marine conservation and agrobiodiversity. The gap underscores the need for innovative financing to supplement public funds, particularly for resource-intensive activities like monitoring and restoration.

FINANCING SOLUTIONS

The NBSAP proposes a menu of innovative financing solutions:

- **Public-Private Partnerships (PPPs):** Engage businesses in conservation projects, such as corporate-funded reforestation or eco-tourism initiatives.
- **Green Bonds:** Issue bonds to attract investments for ecosystem restoration, renewable energy, and sustainable agriculture.
- **Corporate Social Responsibility (CSR):** Channel corporate funds to biodiversity projects, leveraging India's mandatory CSR laws for large companies.
- **Payment for Ecosystem Services (PES):** Compensate communities for maintaining ecosystem services, such as watershed protection or carbon sequestration.
- **International Funding:** Leverage support from UN agencies (e.g., UNDP, GEF), multilateral banks, and bilateral donors.
- **Biodiversity Offsets:** Require developers to offset environmental impacts by funding conservation elsewhere, such as restoring wetlands to compensate for coastal development.
- **Eco-Tourism Revenues:** Allocate tourism revenues from PAs to conservation and community development.

These solutions aim to diversify funding sources, reduce reliance on public budgets, and align financial incentives with conservation goals.

RESOURCE MOBILIZATION

The NBSAP stresses the need for mechanisms to channel funds from diverse sources, including NGOs, community contributions, and international partners. For example:

- NGOs like **WWF-India and ATREE fund** community-based conservation and research.
- Community crowdfunding supports local projects, such as **seed banks or mangrove restoration.**
- International donors, such as the **GEF**, provide grants for transboundary conservation and capacity building.

The NBSAP proposes establishing a National Biodiversity Fund to centralize and distribute resources, ensuring transparency and accountability. The NBSAP highlights that urgent efforts are needed to create mechanisms for accepting and managing these funds, particularly given the reliance on public budgets.

11

BIODIVERSITY MONITORING FRAMEWORK

STRUCTURE AND INDICATORS

The KM-GBF emphasizes comprehensive biodiversity monitoring to track progress on national targets. The NBSAP outlines a framework with:

- **Indicators:**
  - ***Global Indicators:*** Align with KM-GBF metrics, such as the percentage of protected areas or species extinction risk.
  - ***Headline Indicators:*** Provide high-level metrics, such as ecosystem extent or genetic diversity.
  - ***Component Indicators:*** Offer detailed metrics, such as habitat connectivity or pollution levels.
  - ***National Indicators:*** Tailored to India's context, such as the number of BMCs with updated PBRs or the area under sustainable agriculture.
- **Lead and Supporting Agencies:** MoEFCC, BSI, ZSI, WII, FSI, ICFRE, ICAR, SBBs and state departments are assigned responsibilities for data collection, analysis, and reporting.
- **Periodicity:** Regular monitoring (annual or biennial) with biennial reporting to the CBD via the Clearing House Mechanism (CHM), ensuring global accountability.

The NBSAP elaborates that the framework includes qualitative and quantitative indicators, covering ecological, social, and economic dimensions. For example, indicators for agrobiodiversity include the number of conserved accessions and the adoption of indigenous breeds, while those for ecosystem resilience track restoration outcomes and carbon sequestration.

CHALLENGES

Monitoring is complex, expensive, and resource-intensive, requiring:

- **Manpower:** Trained personnel for field surveys, data analysis, and reporting.
- **Technology:** Tools like satellite imagery, drones, and eDNA for accurate data collection.
- **Funding:** Sustained budgets for long-term monitoring programs.
- **Coordination:** Harmonizing data across agencies and regions to avoid duplication.

The NBSAP notes that the country-wide consultative process aided in identifying and selecting indicators, ensuring relevance and feasibility. However, challenges like data gaps, inconsistent methodologies, and limited capacity in remote areas persist, necessitating investment in technology and training.

IMPLEMENTATION

The monitoring framework assigns clear roles:

- **BSI and ZSI:** Conduct species inventories and ecosystem assessments.
- **ICAR and NBPGR:** Monitor agrobiodiversity trends and genetic resources.
- **SFDs and BMCs:** Collect field-level data on habitats and community initiatives.
- **MoEFCC:** Consolidates data, prepares national reports, and submits to the CBD.

The framework integrates with existing systems, such as the National Biodiversity Information System, and leverages technology to enhance efficiency. The NBSAP emphasizes that biennial reporting ensures transparency, while periodic reviews allow for adaptive management, enabling India to refine strategies based on lesson learned, emerging trends, and challenges.

12

COMMUNICATION AND CAPACITY BUILDING

COMMUNICATION, EDUCATION, AND PUBLIC AWARENESS (CEPA)

Effective communication is crucial, as people influence biodiversity's state and are responsible for its decline. The NBSAP highlights India's considerable past efforts in CEPA but calls for a revamped strategy to address new challenges and emerging needs. The NBSAP targets diverse groups:

- **Policymakers:** To integrate biodiversity into national and sectoral policies.
- **Communities:** To promote sustainable practices and traditional knowledge.
- **Youth and Students:** To foster environmental stewardship through education.
- **Urban Populations:** To bridge the disconnect between urban lifestyles and nature.
- **Private Sector:** To encourage biodiversity-friendly business practices.

CEPA STRATEGIES INCLUDE:

- **Digital Platforms:** Social media campaigns, mobile apps, and websites like the NBA portal to disseminate information.
- **Community Outreach:** Village-level workshops, community radio, and folk media to engage rural audiences.
- **Educational Campaigns:** School curricula, eco-clubs, and university programs to build awareness.
- **Public Events:** Biodiversity fairs, World Environment Day celebrations, and citizen science initiatives to promote participation.
- **Media Partnerships:** Collaborations with television, print, and online media to amplify messages.

Priority themes include biodiversity's role in sustainable livelihoods, climate resilience, food security, and cultural heritage. The NBSAP emphasizes tailored approaches, such as using regional languages for rural communities and interactive tools for urban youth, to maximize impact.

CAPACITY DEVELOPMENT

The NBSAP notes significant past investments in capacity building, creating reputed training institutions, infrastructure, and curricula for diverse stakeholders. Over the past five decades, sectors like forestry, agriculture, and wildlife have developed specialized programs, such as the Indira Gandhi National Forest Academy for forest officers and ICAR's training for farmers. However, the NBSAP recognizes that capacity development must address three levels to meet emerging needs:

- **Individual:** Training for professionals (e.g., forest guards, SBB staff), community leaders, and farmers in areas like species monitoring, GIS, and sustainable farming.
- **Organizational:** Strengthening institutions like SBBs, BMCs, and research bodies through infrastructure upgrades, staff recruitment, and process improvements.
- **Enabling Environment:** Policy reforms, legal frameworks, and funding to create a supportive ecosystem for conservation.

Relatively newer stakeholders, such as SBBs, BMCs, and community-based organizations (CBOs), require updated curricula addressing priority areas like wetland conservation, biosafety, and climate adaptation. The NBSAP highlights neglected areas, such as marine biodiversity and genetic resource management, which need specialized training. Training delivery modes include:

1. **Workshops and seminars**
2. **Online courses and webinars**
3. **Field-based training and exposure visits**
4. **Peer-to-peer learning and knowledge exchange**

The NBSAP proposes establishing regional training hubs, leveraging ICAR's KVKs and existing institutions, to scale up capacity building. Partnerships with universities, NGOs, and international organizations will enhance access to expertise and resources.

13

CHALLENGES AND WAY FORWARD

KEY CHALLENGES

Implementing the NBSAP faces several hurdles:

- **Funding Gaps:** The projected expenditure of INR 81,664.88 crore annually (2024–2030) far exceeds current allocations, requiring innovative financing to bridge the gap.
- **Capacity Constraints:** Limited trained personnel, infrastructure, and use of advanced technology hinder monitoring, enforcement, and community engagement, particularly in remote areas.
- **Climate Change:** Rising temperatures, erratic monsoons, and extreme weather events disrupt ecosystems, threaten species, and affect agricultural productivity.
- **Human-Wildlife Conflict:** Increasing human interactions with wildlife, particularly with species such as elephant, leopard, and crocodile, threaten human safety, property and biodiversity, necessitating conflict mitigation strategies.
- **Public Awareness:** Urban populations and policymakers often lack understanding of biodiversity's values, limiting support for conservation initiatives.
- **Policy Gaps:** Inconsistent policies, such as those prioritizing high-yielding crops over landraces, undermine agrobiodiversity and sustainable practices.
- **Data Gaps:** Incomplete species inventories, inconsistent monitoring, and limited access to remote areas hamper evidence-based decision-making.

WAY FORWARD

The NBSAP proposes a roadmap to overcome these challenges:

- **Strengthening Interministerial Coordination:** Establish a high-level committee to align policies across ministries, ensuring biodiversity is mainstreamed into country's development planning.
- **Expanding OECMs:** Mobilize communities to identify, expand and manage OECMs, such as sacred groves and community forests, to meet KM-GBF Target 3.
- **Leveraging Technology:** Use GIS, remote sensing, drones, and eDNA for monitoring, restoration, and conflict mitigation, enhancing efficiency and accuracy.
- **Enhancing CEPA:** Scale up public awareness campaigns, targeting urban audiences and youth through digital media, eco-tourism, and citizen science.
- **Innovative Financing:** Implement green bonds, PPPs, and PES to diversify funding, while strengthening the National Biodiversity Fund for transparent resource management.
- **Adaptive Management:** Regularly review monitoring data to refine strategies, addressing emerging threats like climate change and invasive species.
- **Community Empowerment:** Strengthen BMCs and CBOs through training, funding, and legal support, ensuring inclusive governance and equitable benefits.
- **Policy Reforms:** Revise agricultural and industrial policies to prioritize biodiversity, such as incentivizing landrace conservation and regulating coastal development.

The NBSAP emphasizes that these strategies will position India as a global leader in biodiversity conservation, fostering a nature-positive society and sustainable development.

14

SIGNIFICANCE OF THE UPDATED NBSAP

The updated NBSAP is a landmark document with far-reaching implications:

- **Global Alignment:** By aligning with the KM-GBF, the NBSAP contributes to global biodiversity goals, positioning India as a leader among megadiverse nations. Its 23 NBTs mirror the KM-GBF's targets, ensuring coherence with international obligations and commitments.
- **Holistic Approach:** The plan integrates conservation with sustainable development, climate action, and livelihoods, addressing interconnected emergencies through a systems-based perspective.
- **Inclusive Governance:** By empowering local communities, indigenous peoples, and marginalized groups, the NBSAP ensures equitable participation and benefit-sharing, reflecting India's democratic ethos.
- **Innovative Financing:** Creative solutions like green bonds, PPPs, and CSR address funding gaps, setting a model for resource mobilization in developing nations.
- **Robust Monitoring:** The comprehensive monitoring framework, with tailored indicators and biennial reporting, enhances accountability, transparency, and adaptive management.
- **Cultural Integration:** The plan leverages India's cultural heritage, such as sacred groves and traditional knowledge, to foster a nature-positive society rooted in local values.
- **Scalability:** The whole-of-government and whole-of-society approach provides a scalable model for other nations, demonstrating how to balance biodiversity conservation with development priorities.

The NBSAP's significance lies in its ability to address both global imperatives and national priorities, ensuring that India's biodiversity - forests, rivers, species, and genetic resources - - remains a global asset for future generations.

CONCLUSION

India's updated National Biodiversity Strategy and Action Plan is a forward-looking, inclusive, and action-oriented framework that aligns with the Kunming-Montreal Global Biodiversity Framework while reflecting the nation's unique biodiversity, cultural heritage, and developmental aspirations. By adopting a whole-of-government and whole-of-society approach, the NBSAP aims to halt and reverse biodiversity loss, promote sustainable use, and ensure equitable benefit-sharing by 2030, paving the way for the CBD's vision of "Living in Harmony with Nature" by 2050. Its comprehensive strategies—spanning area-based conservation, agrobiodiversity protection, innovative financing, robust monitoring, and stakeholder engagement—address the interconnected crises of biodiversity loss, climate change, and pollution, while fostering resilience, equity, and sustainability.

The NBSAP's success hinges on robust implementation, requiring sustained political will, interministerial coordination, community empowerment, and global partnerships. Innovative financing mechanisms, such as green bonds and public-private partnerships, will bridge funding gaps, while advanced technologies like GIS and eDNA will enhance monitoring and restoration. By empowering local communities, leveraging traditional knowledge, and mainstreaming biodiversity into development, India is poised to lead by example, demonstrating how megadiverse nations can balance conservation with human well-being. As India navigates the challenges of a rapidly changing world, the NBSAP serves as a beacon of hope, reinforcing the nation's commitment to protecting its natural heritage and contributing to a healthier, more sustainable planet.

16

INDIA'S NATIONAL BIODIVERSITY TARGETS (NBTS)

NBT 1

Biodiversity inclusive integrated **land / sea use planning**

Ensure that all areas are under participatory and integrated biodiversity- inclusive spatial planning and effective management processes addressing land and sea use change, to bring the loss of areas of high biodiversity importance, including ecosystems of high ecological integrity, close to zero by 2030, while respecting the rights of Local Communities (LCs).

ACTION POINTS

1. Prepare national and state level spatial plans using high-resolution geospatial data for delineating areas of high biodiversity importance and degraded ecosystems.
2. Prepare Forest Working Plan(s) as per the National Working Plan Code to mainstream biodiversity conservation.
3. Prepare management plan for all categories of PAs, and conservation plans for BHS, CRZs, wetlands and OECMs
4. Promote integrated approaches to the management of river basins considering upstream and downstream inflows and withdrawals by season, pollution loads and natural regeneration capacities, in particular, for maintenance of in-stream ecological values.
5. Adopt a comprehensive approach to integrated coastal management by addressing linkages between coastal areas, wetlands, and river systems in relevant policies, regulations and programmes.

Lead Agencies: Forest Survey of India (FSI), National Remote Sensing Centre (NRSC), National Centre for Coastal Research (NCCR), Indian Institute of Forest Management (IIFM).

Collaborating/ Supporting Agencies: Space Applications Centre (ISRO-SAC), Wildlife Institute of India (WII), National Centre for Sustainable Coastal Management (NCSCM), National Institute of Oceanography (NIO), Central Marine Fishery Research Institute (ICAR-CMFRI), Directorate of Economics and Statistics (DES) – MoAFW, State Forest Department (SFDs), State Wetland Authorities, State Remote Sensing Applications Centre(s), CSIR-National Institute of Oceanography, BSI, ZSI, MoPR, MoRD, ICFRE, NBA, SBBs.

National Indicators	Responsible Agencies
1.1. Trends in reflection of biodiversity and ecosystem services in policy decisions, planning and reporting processes	i. Forest Survey of India (FSI) ii. National Centre for Coastal Research (NCCR) iii. National Remote Sensing Centre (NRSC) iv. Indian Institute of Forest Management (IIFM)
1.2. Changes in area under riverine ecosystems and wetlands (inland and coastal)	i. Space Applications Centre (ISRO-SAC) ii. National Centre for Sustainable Coastal Management (NCSCM) iii. State Wetland Authorities
1.3. Number of wetlands under integrated management plans	i. State Wetland Authorities ii. State Remote Sensing Applications Centre(s)
1.4. Extent of area under shifting cultivation on 10-year/ 5-year/ 3-year cycle	i. Directorate of Economics and Statistics (DES) ii. Ministry of Agriculture and Farmers Welfare (MoAFW)
1.5. Trends in finalizing Integrated Coastal Zone Management (ICZM) plan for identified priority stretches – those with sensitive ecosystems, facing severe anthropogenic pressure due to tourism, etc	i. National Centre for Sustainable Coastal Management (NCSCM) ii. State Forest Department (SFDs)
1.6. Trends in preparing management plans for specific areas identified within Critically Vulnerable Coastal Areas (CVCAs) to reduce anthropogenic pressure.	i. National Centre for Sustainable Coastal Management (NCSCM) ii. State Forest Department (SFDs)

NBT 2

Ecosystem **restoration**

Ensure that by 2030, at least the prioritized 30 per cent areas of degraded terrestrial, inland water, and marine and coastal ecosystems are under effective restoration, in order to enhance biodiversity and ecosystem functions and services, ecological integrity and connectivity.

ACTION POINTS

1. Undertake mapping of degraded terrestrial, inland water and marine and coastal ecosystems for prioritizing areas for rehabilitation and restoration.
2. Strengthen and augment the existing programmes, schemes and activities of the Central and State Governments relating to restoration of all prioritized degraded ecosystems.
3. Undertake restoration of degraded ecosystems through multi-stakeholder partnerships to enhance ecological connectivity, and restore ecosystem functions and services.
4. Institutionalize a system of monitoring projects in all approved mining plans to ensure safe disposal of tailings and ecosystem rehabilitation following the principles of ecological succession.
5. Strengthen capacity and make available techniques and technologies for the regeneration and restoration of ecosystems.
6. Prepare and implement thematic action plans incorporating watershed management strategies to arrest and reverse desertification and expand green cover.
7. Mitigate and manage the impacts on biodiversity due to river valley projects, power plants, industries, linear infrastructure, and mines.
8. Initiate actions to restore vital spatial and temporal connectivity (longitudinal, horizontal, vertical and temporal) within riverscapes and ensure Environmental flow.

Lead Agencies: Indian Council of Forestry Research and Education (ICFRE)

Supporting agencies: National Afforestation and Ecodevelopment Board (NAEB), Green India Mission (GIM), Forest Survey of India (FSI), Space Applications Centre (ISRO-SAC), National Remote Sensing Centre (NRSC), National Institute of Hydrology (NIH), Eco Task Force, Wildlife Institute of India (WII), ICFRE- Centre of Excellence for Sustainable Land Management, Forest Research Institute (FRI), Ministry of Jal Shakti (MoJS), Ministry of Rural Development (MoRD), National Mission for Clean Ganga (NMCG), National River Conservation Directorate (NRCD), National Centre for Sustainable Coastal Management (NCSCM), Central Mine Planning and Design Institute (CMPDI), Indian Council of Agricultural Research (ICAR), State Forest Department (SFDs), MS Swaminathan Foundation; State Forest Research Institutes (SFRI); CPCB, State Pollution Control Boards/ Committees, Jawaharlal Nehru Tropical Botanic Garden & Research Institute (JNTBGRI), Kerala; State Agricultural Institutes; Coastal Zone Management Authorities; State Wetland Authorities; WWF-India; International Agricultural Research Centre(s), Nature Conservation Foundation, Ecological Restoration Alliance, MoPR, MORD, DBT, ICAR-Central Arid Zone Research Institute (CAZRI), ICAR-National Bureau of Soil Survey & Land Use Planning (NBSSLUP).

National Indicators	Responsible Agencies
2.1. Trends in forest cover	i. Forest Survey of India (FSI) ii. Indian Council of Forestry Research and Education (ICFRE) iii. Forest Research Institute (FRI)
2.2. Trends in aquatic ecosystems	i. Space Applications Centre (ISRO-SAC) ii. National Centre for Sustainable Coastal Management (NCSCM) iii. National Institute of Hydrology (NIH) iv. Wetland Division, MoEFCC
2.3. Trends in mangrove cover and coastal area management	i. Coastal Zone Management Authorities ii. State Wetland Authorities iii. National Mission for Clean Ganga (NMCG) iv. National River Conservation Directorate (NRCD)
2.4. Trends in river water quality in river stretches of high concern	i. National River Conservation Directorate (NRCD) ii. National Mission for Clean Ganga (NMCG) iii. Ministry of Jal Shakti (MoJS) iv. Central Pollution Control Board (CPCB)/ State Pollution Control Boards (SPCBs)
2.5. Trends in afforestation and restoration	i. National Afforestation and Ecodevelopment Board (NAEB) ii. Green India Mission (GIM) iii. State Forest Department (SFDs) iv. Forest Research Institute (FRI)
2.6. Trends in Combating desertification	i. National Afforestation and Ecodevelopment Board (NAEB) ii. ICFRE- Centre of Excellence for Sustainable Land Management iii. ICAR-Central Arid Zone Research Institute (CAZRI)
	iv. Forest Research Institute (FRI) v. Nature Conservation Foundation vi. Ecological Restoration Alliance
2.7. Trends in the maintenance of natural fertility in agricultural lands	i. Indian Council of Agricultural Research (ICAR) ii. ICAR-National Bureau of Soil Survey & Land Use Planning (NBSSLUP)
2.8. Extent of abandoned areas of shifting cultivation	i. Indian Council of Agricultural Research (ICAR)
2.9. Extent of restoration of degraded wetlands	i. State Wetland Authorities ii. Coastal Zone Management Authorities iii. Ecological Restoration Alliance

NBT 3

Conserve biodiversity in land, water and sea

Ensure and enable that by 2030, at least 30 per cent of terrestrial, inland waters, and coastal and marine areas, especially areas of importance of biodiversity, ecosystem functions and services, are effectively conserved through ecologically representative, well-connected protected areas and Other Effective Area-based Conservation Measures (OECMs). Also, integrate tribal areas wherever applicable into wider landscapes/ seascapes and ensure that sustainable use is legal and consistent with conservation outcomes while respecting the rights of Local Communities (LCs), including their traditional territories.

ACTION POINTS

1. Promote establishment of Conservation Reserves and Community Reserves to ensure adequate representation of all biogeographic zones in the country.
2. Establish self-sustaining monitoring system for overseeing management effectiveness of the PA network.
3. Implement site-specific ecodevelopment programmes in fringe areas of PAs, to enhance livelihoods and provisioning of ecosystem services for local communities.
4. Strengthen and support research work on PAs, Biosphere Reserves and fragile ecosystems by involving research institutions and universities to develop baseline data on biological and management attributes and ecosystem functions and services.
5. Strengthen the protection of areas of high biological diversity, rich in threatened species, endemism and genetic resources while providing alternative livelihoods and access to resources to local communities.
6. Develop partnerships with local communities for enhancement of wildlife habitats and biodiversity conservation in Conservation Reserves and Community Reserves.

Lead Agencies: Indian Council of Forestry Research and Education (ICFRE)

Supporting agencies: National Afforestation and Ecodevelopment Board (NAEB), Green India Mission (GIM), Forest Survey of India (FSI), Space Applications Centre (ISRO-SAC), National Remote Sensing Centre (NRSC), National Institute of Hydrology (NIH), Eco Task Force, Wildlife Institute of India (WII), ICFRE- Centre of Excellence for Sustainable Land Management, Forest Research Institute (FRI), Ministry of Jal Shakti (MoJS), Ministry of Rural Development (MoRD), National Mission for Clean Ganga (NMCG), National River Conservation Directorate (NRCD), National Centre for Sustainable Coastal Management (NCSCM), Central Mine Planning and Design Institute (CMPDI), Indian Council of Agricultural Research (ICAR), State Forest Department (SFDs), MS Swaminathan Foundation; State Forest Research Institutes (SFRI); CPCB, State Pollution Control Boards/ Committees, Jawaharlal Nehru Tropical Botanic Garden & Research Institute (JNTBGRI), Kerala; State Agricultural Institutes; Coastal Zone Management Authorities; State Wetland Authorities; WWF-India; International Agricultural Research Centre(s), Nature Conservation Foundation, Ecological Restoration Alliance, MoPR, MORD, DBT, ICAR-Central Arid Zone Research Institute (CAZRI), ICAR-National Bureau of Soil Survey & Land Use Planning (NBSSLUP).

National Indicators	Responsible Agencies
2.1. Trends in forest cover	i. Forest Survey of India (FSI) ii. Indian Council of Forestry Research and Education (ICFRE) iii. Forest Research Institute (FRI)
2.2. Trends in aquatic ecosystems	i. Space Applications Centre (ISRO-SAC) ii. National Centre for Sustainable Coastal Management (NCSCM) iii. National Institute of Hydrology (NIH) iv. Wetland Division, MoEFCC
2.3. Trends in mangrove cover and coastal area management	i. Coastal Zone Management Authorities ii. State Wetland Authorities iii. National Mission for Clean Ganga (NMCG) iv. National River Conservation Directorate (NRCD)
2.4. Trends in river water quality in river stretches of high concern	i. National River Conservation Directorate (NRCD) ii. National Mission for Clean Ganga (NMCG) iii. Ministry of Jal Shakti (MoJS) iv. Central Pollution Control Board (CPCB)/ State Pollution Control Boards (SPCBs)
2.5. Trends in afforestation and restoration	i. National Afforestation and Ecodevelopment Board (NAEB) ii. Green India Mission (GIM) iii. State Forest Department (SFDs) iv. Forest Research Institute (FRI)
2.6. Trends in Combating desertification	i. National Afforestation and Ecodevelopment Board (NAEB) ii. ICFRE- Centre of Excellence for Sustainable Land Management iii. ICAR-Central Arid Zone Research Institute (CAZRI)
	iv. Forest Research Institute (FRI) v. Nature Conservation Foundation vi. Ecological Restoration Alliance
2.7. Trends in the maintenance of natural fertility in agricultural lands	i. Indian Council of Agricultural Research (ICAR) ii. ICAR-National Bureau of Soil Survey & Land Use Planning (NBSSLUP)
2.8. Extent of abandoned areas of shifting cultivation	i. Indian Council of Agricultural Research (ICAR)
2.9. Extent of restoration of degraded wetlands	i. State Wetland Authorities ii. Coastal Zone Management Authorities iii. Ecological Restoration Alliance

NBT 3

Conserve biodiversity in land, water and sea

Ensure and enable that by 2030, at least 30 per cent of terrestrial, inland waters, and coastal and marine areas, especially areas of importance of biodiversity, ecosystem functions and services, are effectively conserved through ecologically representative, well-connected protected areas and Other Effective Area-based Conservation Measures (OECMs). Also, integrate tribal areas wherever applicable into wider landscapes/ seascapes and ensure that sustainable use is legal and consistent with conservation outcomes while respecting the rights of Local Communities (LCs), including their traditional territories.

ACTION POINTS

1. Promote establishment of Conservation Reserves and Community Reserves to ensure adequate representation of all biogeographic zones in the country.
2. Establish self-sustaining monitoring system for overseeing management effectiveness of the PA network.
3. Implement site-specific ecodevelopment programmes in fringe areas of PAs, to enhance livelihoods and provisioning of ecosystem services for local communities.
4. Strengthen and support research work on PAs, Biosphere Reserves and fragile ecosystems by involving research institutions and universities to develop baseline data on biological and management attributes and ecosystem functions and services.
5. Strengthen the protection of areas of high biological diversity, rich in threatened species, endemism and genetic resources while providing alternative livelihoods and access to resources to local communities.
6. Develop partnerships with local communities for enhancement of wildlife habitats and biodiversity conservation in Conservation Reserves and Community Reserves.

7. Ensure effective management of ecologically sensitive areas/ eco-sensitive zones through implementation of zonal master plan.

8. Integrate conservation and wise use of wetlands and river basins involving all stakeholders, in particular local communities to ensure maintenance of hydrological regimes and conservation of biodiversity.

9. Identify hotspots of agrobiodiversity under different agroclimatic zones and promote on-farm conservation.

10. Accord priority attention to mitigate potential adverse impacts on designated UNESCO's natural World Heritage Sites and Biodiversity Heritage Sites in view of their incomparable values that merit stricter standards than in otherwise comparable situations.

11. Update the database on sacred groves, ponds and landscapes and to document bioresources and associated knowledge systems.

12. Promote expansion of the extent of OECMs in land, inland waters and marine areas, and develop a centralized national/ state-level database on OECMs.

Lead Agencies: Wildlife Institute of India (WII), Ministry of Earth Science (MoES), Centre for Marine Living resources and ecology (CMLRE)

Supporting agencies: Forest Survey of India; National Remote Sensing Centre (NRSC); National Biodiversity Authority (NBA), National Tiger Conservation Authority (NTCA), Bombay Natural History Society (BNHS), Wetland Division, MoEFCC, Wetland International -South Asia, National Centre for Sustainable Coastal Management (NCSCM), State Biodiversity Boards (SBBs), International Union for Conservation of Nature (IUCN), UNESCO C2C, Botanical Survey of India (BSI), Zoological Survey of India (ZSI), Central Pollution Control Board (CPCB), State Pollution Control Boards (SPCBs), Ministry of Agriculture and Farmers Welfare (MoAFW), and Indian Council of Agriculture Research (ICAR); State Agriculture Department (SADs): Biodiversity related Centre(s) of Excellence, WWF-India, UNDP-India, Ministry of Panchayati Raj (MOPR), Minsirty of Rural development (MORD), Foundation for Ecological Security (FES), Corbett Foundation, National Institute of Disaster Management (NIDM).

National Indicators	Responsible Agencies
3.1. Trends in PA coverage under four legal categories (National Park, Wildlife Sanctuary, Community Reserve and Conservation Reserve)	i. Wildlife Institute of India (WII) ii. Wildlife Division, MoEFCC
3.2. Trends in Other Area-Based Conservation Measures	i. National Biodiversity Authority (NBA) ii. State Biodiversity Boards (SBBs)
3.3. Trends in coverage under Biodiversity Heritage Sites (BHS)	i. National Biodiversity Authority (NBA) ii. State Biodiversity Boards (SBBs)
3.4. Trends in wetlands brought under integrated management	i. Wetland division, MoEFCC ii. State Wetland Authorities iii Wetland International- South Asia
3.5. Trends in Important Bird Areas (IBAs)	i. Bombay Natural History Society (BNHS) ii. Zoological Survey of India (ZSI)
3.6. Trends in forest cover in four canopy density categories	i. Forest Survey of India (FSI) ii. National Remote Sensing Centre (NRSC)
3.7. Trends in areas of exceptionally rich agrobiodiversity and their threat status	i. Indian Council of Agriculture Research (ICAR) ii. State Agriculture Department (SADs) iii. State Biodiversity Boards (SBBs)
3.8. Trends in extent and conservation of coastal and marine areas	i. National Centre for Sustainable Coastal Management (NCSCM) ii. Wildlife Institute of India (WII)
3.9. Trends in extending additional protection to coastal areas identified as highly sensitive within coastal ESAs	i. National Centre for Sustainable Coastal Management (NCSCM) ii. Wildlife Institute of India (WII)
3.10. Trends in approved master plans for notified ESZs around protected areas	i. Ministry of Environment, Forest and Climate Change (MoEFCC) ii. State Forest Department (SFDs)
3.11. Trends in approved management plans for PAs/ BHSs/ OECMs	i. Wildlife Division, Ministry of Environment, Forest and Climate Change (MoEFCC) ii. National Biodiversity Authority (NBA)

NBT 4

Manage species and genetic diversity

Ensure urgent management actions to halt human-induced extinction of known threatened species, as well as recovery and conservation. Also, maintain and restore the genetic diversity within and between populations of native wild and domesticated species to maintain their adaptive potential through in situ and ex situ conservation and sustainable management practices and effectively manage human-wildlife interactions.

ACTION POINTS

1. Undertake measures to mitigate the impacts of human-wildlife interactions through developing innovative technologies.

2. Establish viable populations of threatened plant and animal species through appropriate augmentation/ reintroduction programmes.

3. Update periodically the needs and criteria for placing particular species in different schedules of the Wildlife (Protection) Act.

4. Develop appropriate models for on-farm conservation of livestock herds maintained by different institutions and local communities.

5. Promote ex situ conservation of threatened and endemic and insufficiently known floral and faunal species.

6. Focus on conservation of genetic diversity (in situ, ex situ, in vitro) of cultivated plants, domesticated animals and their wild relatives to support breeding programmes.

7. Strengthen national ex situ conservation system for crop and livestock diversity, including poultry, linking national gene banks, clonal repositories and field collections maintained by different research centres and universities.

8. Undertake DNA profiling for assessment of genetic diversity in threatened and endemic species to assist in developing their conservation programmes.

9. Develop a unified national database covering all in situ, on farm and ex situ conservation sites.

10. Consolidate, augment and strengthen the network of zoos, aquaria, and ex situ conservation sites.

11. Strengthen research on reproduction biology and management and recovery of threatened and endemic species of both terrestrial and aquatic habitats to support reintroduction programmes.

12. Update national list of threatened species including keystone, umbrella and endemic flora and fauna based on internationally accepted criteria and develop models/ packages for their conservation.

13. Expand area-specific surveys of landraces, traditional cultivars of crops, wild relatives of crop plants and breeds of domesticated animals.

14. Promote conservation of forest/ grassland genetic resources by way of documentation, characterization (morphological, chemical, molecular, and pathological), propagation, and efforts towards in situ and ex situ conservation.

15. Identify and map potential/ vulnerable areas from the perspective of enhanced human-wildlife interactions, create awareness, and adopt participatory approaches to manage conflict.

Lead Agencies: Wildlife Institute of India (WII), Zoological Survey of India (ZSI), Botanical Survey of India (BSI), Indian Council of Forestry Research and Education (ICFRE)

Supporting agencies: Central Zoo Authority (CZA), National Tiger Conservation Authority (NTCA), Indian Council of Agriculture Research (ICAR), Indian Veterinary Research Institute (IVRI), Centre for Cellular and Molecular Biology (CCMB), National Bureau of Plant Genetic Resources (NBPGR), National Bureau of Animal Genetic Resources (NBAGR), National Bureau of Fish Genetic Resources (NBFGR), National Bureau of Agriculturally Important Insects (NBAII), National Bureau of Agriculturally Important Microorganisms (NBAIM), Wildlife Institute of India (WII), Indian Council of Forestry Research and Education (ICFRE), Central Inland Fishery Research Institute (CIFRI), Central Marine Fisheries Research Institute (CMFRI), National Fish Development Board (NFDB), National Centre for Sustainable Coastal Management (NCSCM), MoAFW, MoFAHD, MoJS, MoRD, SFDs, International Union for Conservation of Nature (IUCN), World Wide Fund for Nature-India (WWF-India), TRAFFIC-India, and Nature Conservation Foundation (NCF); National Institute of Biotic Stress Management (NIBSM); Kerala Forest Research Institute (KFRI), M S Swaminathan Botanical Garden (MSSBG), UNDP-India, MoAYUSH, Protection of Plant Varieties and Farmers' Rights Authority (PPVFRA).

National Indicators	Responsible Agencies
4.1. Population trends of selected species	i. Wildlife Institute of India (WII) ii. Zoological Survey of India (ZSI) iii. Botanical Survey of India (BSI) iv. Indian Council of Fore
4.2. Status and population trends of terrestrial and marine species under the Integrated Development of Wildlife Habitats (IDWH) Scheme	i. Wildlife Institute of India (WII) ii. Wildlife Division, Ministry of Environment, Forest and Climate Change (MoEFCC)
4.3. Trends in the status of Indian plant and animal species included in the Red Data Book	i. Botanical Survey of India (BSI) ii. Zoological Survey of India (ZSI) iii. International Union for Conservation of Nature (IUCN)
4.4. Conservation status of species.	i. International Union for Conservation of Nature (IUCN) ii. National Tiger Conservation Authority (NTCA) iii. National Bureau of Plant Genetic Resources (NBPGR) iv. National Bureau of Animal Genetic Resources (NBAGR) v. National Bureau of Fish Genetic Resources (NBFGR) vi. National Bureau of Agriculturally Important Insects (NBAII) vii. National Bureau of Agriculturally Important Microorganisms (NBAIM)
Animal Genetic Diversity 4.5. Trends in number of indigenous/ domesticated breeds (in situ) 4.6. Trends in populations of domestic breeds (in situ) 4.7. Initiatives/ measures taken to conserve indigenous animal breeds 4.8. Trends in Animal Genetic Resources accessions in ex situ collection	i. Indian Council of Agriculture Research (ICAR) ii. National Bureau of Animal Genetic Resources (NBAGR) iii. National Bureau of Fish Genetic Resources (NBFGR) iv. National Bureau of Agriculturally Important Insects (NBAII) v. National Bureau of Agriculturally Important Microorganisms (NBAIM)
Plant Genetic Diversity 4.9. Trends in numbers of indigenous varieties (in situ) 4.10. Trends in area under cultivation and production/ yield (in situ) 4.11. Initiatives/ measures taken to conserve indigenous crop varieties and their wild relatives 4.12. Trends in germplasm accessions in ex situ collection	i. Indian Council of Forestry Research and Education (ICFRE)– IFGTB ii. Indian Council of Forestry Research and Education (ICFRE) – FRI iii. Indian Council of Agriculture Research (ICAR) iv. Protection of Plant Varieties and Farmers' Rights Authority (PPVFRA) v. National Bureau of Plant Genetic Resources (NBPGR), vi. Kerala Forest Research Institute (KFRI)

4.13. Trends in management of human wildlife interactions	i. Wildlife Division, Ministry of Environment, Forest and Climate Change (MoEFCC) ii. National Tiger Conservation Authority (NTCA) iii. Project Elephant iv. Chief Wildlife Wardens (CWLWs) v. State Forest Department (SFDs)
4.14. Trends in species recovery	i. National Tiger Conservation Authority (NTCA) ii. Wildlife Institute of India (WII) iii. Central Zoo Authority (CZA) iv. Indian Council of Forestry Research and Education (ICFRE), v. World Wide Fund for Nature (WWF) vi. Wildlife Trust of India (WTI) vii. Indian Council of Agricultural Research (ICAR) viii. State Forest Department (SFDs)

NBT 5

Sustainable harvest, trade, and use of wild species

Ensure that the use, harvesting, and trade of wild species are sustainable, safe, and legal, preventing overexploitation, minimizing impact on non-target species and ecosystems, and reducing the risk of pathogen spillover. Apply the ecosystem approach while respecting and protecting customary sustainable use by Local Communities (LCs).

ACTION POINTS

1. Combat poaching and illegal trade in wild animal and plant species.
2. Undertake survey and bioprospecting of native economically important biological resources.
3. Encourage cultivation of plants of economic value including medicinal and aromatic plants and marine organisms from their natural populations to prevent their decline and unsustainable extraction.
4. Promote development of innovative tools and techniques to provide fair price to collectors, ensure sustainable use, avoid over harvest, and eliminate harmful methods of collecting/ harvesting of NTFPs to prevent recurrent forest fires, poor regeneration, and impact on non-target species and ecosystems.
5. Assess the status of regeneration, recruitment, and reproduction/ breeding success of wild species that are being harvested/ exploited and ensure adequate establishment and survival rate.
6. Develop awareness and capacity of BMCs, and other stakeholders for sustainable harvest, and use of legally traded wild species.
7. Build a database of bioresources in trade.
8. Support NTFP markets to ensure fair and optimum price for collectors, in a manner that ensures sustainable use and not over extraction.
9. Develop tools and mechanism for certification of sustainable harvesting and trade of wild species.

Lead Agencies: Central Marine Fisheries Research Institute (CMFRI), National Fisheries Development Board (NFDB), National Medicinal Plant Board (NMPB), Indian Council of Forestry Research and Education (ICFRE)

Supporting Agencies: Botanical Survey of India (BSI), Ministry of AYUSH (MoAYUSH), Foundation for Revitalization of Local Health Traditions (FRLHT), State Forest Department (SFDs), Wildlife Crime Control Bureau (WCCB), Wildlife Institute of India (WII), TRAFFIC-India, State Fisheries Department(SFDs), Customs, Plant Quarantine Department, Marine Products Export Development Authority (MPEDA), Indian Council of Medical Research (ICMR), Keystone Foundation, Defence Research and Development Organization (DRDO), ZSI, NBA, SBBs, UTBCs, NMCB, TRIFED, GBPNIHE, Directorate General of Foreign Trade (DGFT), Fishery Survey of India, CSIR - Central Institute of Medicinal and Aromatic Plants (CIMAP), Agricultural & Processed Food Products Export Development Authority (APEDA)

National Indicators	Responsible Agencies
5.1 Proportion of fish stocks within biologically sustainable levels	i. ICAR-Central Marine Fisheries Research Institute (CMFRI) ii. ICAR-Central Inland Fisheries Research Institute (CIFRI) iii. ICAR-Central Institute for Brackish water for Aquaculture (CIBA)
5.2. Trends in collection of plants from wild / natural sources providing raw drugs used in Indian systems of medicine	i. National Medicinal Plant Board (NMPB) ii. Agricultural & Processed Food Products Export Development Authority (APEDA) iii. Indian Council of Forestry Research and Education (ICFRE) iv. Botanical Survey of India (BSI) v. State Forest Department (SFDs) vi. Directorate of Plant Protection, Quarantine & Storage-MoAFW vii. Directorate General of Foreign Trade (DGFT) viii. CSIR - Central Institute of Medicinal and Aromatic Plants (CIMAP)
5.3. Management measures to sustainable fisheries harvest	i. ICAR-Central Marine Fisheries Research Institute (CMFRI) ii. ICAR-Central Inland Fisheries Research Institute (CIFRI) iii. ICAR-Central Institute for Brackish water for Aqua- culture (CIBA)
5.4. Trends in illegal trade of wild flora and fauna	i. Wildlife Crime Control Bureau (WCCB) ii. TRAFFIC India
5.5. Number of Medicinal Plant Conservation Areas (MPCAs) established in the country	i. National Medicinal Plant Board (NMPB) ii. Foundation for Revitalization of Local Health Traditions (FRLHT) iii. CSIR-Institute of Medicinal and Aromatic Plants (CIMAP), iv. State Forest Department (SFDs)

5.6. Trends in collection of Non-Timber Forest Products (NTFPs)	i. Indian Council of Forestry Research and Education (ICFRE) ii. State Forest Department (SFDs) iii. Tribal Cooperative Marketing Development Federation of India (TRIFED)

NBT 6

Manage invasive alien species

Eliminate, minimize, reduce and or mitigate the impact of prioritized invasive alien species on biodiversity and ecosystem services by identifying and managing pathways for the introduction of alien species and eradicating or controlling invasive alien species, especially in priority sites, such as islands.

ACTION POINTS

1. Strengthen domestic quarantine measures to monitor introduction pathways and contain the spread of invasive species from and to neighbouring areas and other countries.
2. Develop appropriate early warning and awareness systems against invasive alien species, and establish a national database on the extent and control of invasive alien species reported in India.
3. Promote regional cooperation in the adoption of uniform quarantine measures and containment of invasive alien species.
4. Assess invasion potential of introduced species and develop measures for their control and management.
5. Support capacity building for managing invasive alien species at different levels especially of local bodies.
6. Provide priority funding to basic/applied research on managing invasive species.

Lead Agencies: Indian Council of Forestry Research and Education (ICFRE), Directorate of Plant Protection, Quarantine and Storage (MoAFW), Ministry of Earth Sciences (MOES), ICAR-National Bureau of Fish Genetic Resources (NBFGR).

Supporting agencies: National Tiger Conservation Authority (NTCA), Project Elephant, Wildlife Institute of India (WII), National Centre for Sustainable Coastal Management (NCSCM), MoJS, NFDB, Central Marine Fisheries Research Institute (CMFRI), Central Inland fisheries Research Institute (CIFRI) and ICAR-Directorate of Weed Research, SFDs, State Agricultural Department(s), State Fisheries Department(s), NBFGR, National Institute of Biotic Stresses Management (NIBSM), NRSC, Ashoka Trust for Research in Ecology and the Environment (ATREE), KFRI, BSI, ZSI and Fisheries Survey of India, Indian Institute of Forest Management (IIFM), Corbett Foundation, Indian Council of Medical Research, MOAFW - Directorate of Plant Protection, Quarantine and Storage, ICAR-Directorate of Weed Research, NBFGR

National Indicators	Responsible Agencies
6.1. Number and coverage of management plans developed for prioritized invasive species and integration with PA management plans and wetland management plans	i. Indian Council of Forestry Research and Education (ICFRE) ii. Wildlife Institute of India (WII) iii. National Tiger Conservation Authority (NTCA) iv. National Centre for Sustain- able Coastal Management (NCSCM)
6.2. Change in areas affected by priority invasive species in PAs	i. National Tiger Conservation Authority (NTCA) ii. Indian Council of Forestry Research and Education (ICFRE) iii. State Forest Department (SFDs)
6.3. Rate of invasive species establishment and their impact	i. National Tiger Conservation Authority (NTCA) ii. Indian Council of Forestry Research & Educa- tion (ICFRE) iii. Wildlife Institute of India (WII) iv. ICAR-Directorate of Weed Research v. Central Inland Fisheries Research Institute (CIFRI) vi. Central Marine Fisheries Research Institute (CMFRI) vii. State Forest Department (SFDs)
6.4. Number of invasive alien species on the national list	i. Indian Council of Forestry Research and Education (ICFRE) ii. Botanical Survey of India (BSI) iii. Zoological Survey of India (ZSI) iv. Fisheries Survey of India (FSI) v. Indian Institute of Forest Management (IIFM) vi. Indian Council of Medical Research vii. MOAFW - Directorate of Plant Protection, Quaran- tine and Storage viii. ICAR-Directorate of Weed Research ix. ICAR-Central Marine Fisheries Research Institute (CMFRI), x. ICAR-Central Inland Fisheries Research Institute (CIFRI) xi. ICAR-Central Institute for Brackish water for Aquaculture (CIBA)
6.5. Number of invasive pests detected and quarantined	i. MOAFW - Directorate of Plant Protection, Quarantine and Storage ii. Customs, Plant Quarantine Department iii. MoFAHD, Department of Animal Husbandry and Dairying - Animal Quarantine and Certification Services

NBT 7

Reduce pollution risks and negative impact

Reduce pollution risks and the negative impact of pollution from all sources by 2030 to levels that are not harmful to biodiversity and ecosystem functions and services, considering cumulative effects by (a) reducing excess nutrients lost to the environment including through more efficient nutrient cycling and use; (b) reducing the overall risk from pesticides and highly hazardous chemicals by at least half, including through integrated pest management, based on science, taking into account food security and livelihoods; and (c) preventing, reducing, and working towards eliminating plastic pollution.

ACTION POINTS

1. Develop and implement viable models of public-private partnerships which can benefit local bodies/ authorities/ local communities for collection, segregation, and setting up/ operating secure landfills, incinerators, and deployment of other appropriate techniques for the treatment and disposal of municipal waste, toxic and hazardous wastes, both industrial and biomedical.
2. Survey and develop a national inventory of toxic and hazardous waste dumps and an online monitoring system for the movement of hazardous wastes. Strengthen the capacity of institutions responsible for monitoring and enforcement in respect of toxic and hazardous wastes.
3. Strengthen the legal instruments and response measures for addressing emergencies arising out of transportation, handling and disposal of hazardous wastes as part of the chemical accident regime.
4. Minimize and eliminate activities leading to biodiversity loss due to point and non-point sources of pollution and promote the development of clean technologies.
5. Strengthen the monitoring and enforcement of emission standards for both point and non-point sources.
6. Treat and manage domestic and industrial effluents so as to minimize adverse impacts on terrestrial and aquatic (fresh water and marine) biological resources.
7. Promote biodegradable and recyclable substitutes for non-biodegradable materials and develop and implement strategies for their recycling, reuse, and final environmentally benign disposal, including through the promotion of relevant technologies and the use of incentive-based instruments.
8. Develop and implement a strategy for strengthening regulation and addressing the impacts of ship-breaking activities on human health and coastal and marine bioresources.
9. Support assessments of e-waste and plastic pollution including micro and nano plastics in terrestrial, inland waters, and coastal and marine ecosystems and develop innovative approaches.
10. Promote and support the approach of India Blue Flag Certification to maintaining clean beaches.
11. Develop strategies for creating awareness and enhancing capacity of all stakeholders, especially youth and school children, about the adverse effects of pollution and disseminate possible mitigating action.
12. Encourage utilization of non-hazardous industrial waste (e.g., fly ash) to reduce pollution.
13. Raise awareness of pollution risks and the negative impact of pollution from all sources on biodiversity and human health.

Lead Agencies: Central Pollution Control Board (CPCB)

Supporting agencies: State Pollution Control Boards (SPCBs)/ Committees, Botanical Survey of India (BSI), Zoological Survey of India (ZSI), Wildlife Institute of India (WII), National Institute of Urban Affairs (NIUA), CSIR - Indian Institute Of Toxicology Research (IITR), MoHUA, Indian Council of Agriculture Research (ICAR), MoAFW, Ministry of Chemicals and Fertilizers (MoCF), MoJS, National Mission for Clean Ganga, (NMCG), National River Conservation Directorate (NRCD), Fishery Survey of India (FISI), and Central Ground Water Board (CGWB), Ministry of Earth Sciences, State Urban Affairs Department(s), Ministry of Panchayati Raj, Ministry of Rural Development, Centre for Science and Environment, Ministry of Drinking Water and Sanitation, Confederation of Indian Industry (CII), Federation of Indian Chambers of Commerce and Industry (FICCI), The Energy and Resources Institute (TERI), Forest Survey of India (FSI), Wetland Division-MoEFCC and State Wetland Authorities, National Centre for Sustainable Coastal Management (NCSCM).

National Indicators	Responsible Agencies
7.1. Extent of restored forest cover in India	i. Forest Survey of India (FSI) ii. State Forest Department (SFDs) iii. National Afforestation and Eco development Board (NAEB)
7.2. Trends in natural farming/ agricultural products and their certifications	i. National Centre for Organic and Natural Farming (NCONF) ii. Wetland Division, MoEFCC iii. Indian Council of Agriculture Research (ICAR) iv. Agricultural & Processed Food Products Export Development Authority (APEDA)
7.3. Trends in wetlands area being brought under integrated management for delivering freshwater	i. State Wetland Authorities, ii. Ministry of Jal Shakti (MoJS)
7.4. Trends in the proportion of people using improved water services	i. National Institute of Urban Affairs (NIUA) ii. Ministry of Drinking Water and Sanitation iii. Central Ground Water Board (CGWB
7.5. Trends in the management of e-waste and biomedical waste	i. Central Pollution Control Board (CPCB) ii. State Pollution Control Boards (SPCBs)
7.6. Trends in coastal water quality near metropolitan/ cities	i. Central Pollution Control Board (CPCB) ii. State Pollution Control Boards (SPCBs) iii. National Mission for Clean Ganga, (NMCG) iv. National Centre for Sustainable Coastal Management (NCSCM)

NBT 8

Minimize the impact **of climate change**

Minimize the impact of climate change and ocean acidification on biodiversity and increase its resilience through mitigation, adaptation, and disaster risk reduction actions through nature-based solutions and/ or ecosystem-based approaches. Minimize negative impacts and foster positive impacts of climate action on biodiversity.

ACTION POINTS

1. Identify and delineate the key ecologically rich areas of the country vulnerable to climate change at national, state and local levels and incorporate ecosystem-based approaches and relevant measures in various programmes including watershed management, coastal and marine areas planning and regulation, agricultural technologies and practices, forest management, and health programmes.
2. Explicitly consider the vulnerability of coastal areas and their biodiversity to climate change and sea level rise in coastal management plans, as well as infrastructure planning and construction norms for taking mitigation and adaptation measures.
3. Develop ecological criteria for identifying the species and ecosystems at greater risk from climate change and their priority habitats.
4. Strengthen efforts for partial substitution of fossil fuels with biofuels and other alternative energy resources.
5. Create awareness among the people for the adoption of the country's program on Lifestyle for Environment (Mission LiFE).
6. Develop capacity of diverse stakeholders for integrating climate risks into conservation of biodiversity.
7. Promote research on various aspects of climate change and its impact on biodiversity.
8. Promote ecosystem-based approaches for climate change mitigation and adaptation.
9. Promote approaches for integration of biodiversity conservation and ecosystem management into State Action Plans on Climate Change and Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS).
10. Develop/ promote methodologies for assessment of climate co-benefits of biodiversity conservation and promote conservation actions that maximizes co-benefits.
11. Promote measures and develop stakeholders' capacity for integration of ecosystem-based disaster risk management into national, state and district level disaster management plans and strategies.
12. Strengthen capacity to assess and address the interlinkages of biodiversity, climate change and human health, including through research, education, knowledge and communication tools and enhance international cooperation.

Lead Agencies: National Institute of Disaster Management (NIDM)

Collaborating/ Supporting Agencies: Forest Survey of India (FSI), Indian Institute of Tropical Meteorology – Centre for Climate Change Research (IITM-CCCR), Indian Institute of Science (IISc), The Energy and Resource Institute (TERI), Indian Meteorological Department (IMD), Indian Council of Forest Research and Education (ICFRE), National Afforestation and Ecodevelopment Board (NAEB), National CAMPA, IIFM, SFDs, State Environment Department(s), State Climate Cells, MoAFW, MoRD, MoJS, MoNRE, and MoHUA, NRSC, CII, FICCI, Advanced Centre for Atmospheric Radar Research (ACARR), CSIR, UNDP-India, ICAR, Wadia Institute of Himalayan Geology, GB Pant National Institute of Himalayan Environment, NIO, Indian National Centre for Ocean Information Services (INCOIS), National Center for Coastal Research (NCCR), Centre for Marine Living Resources and Ecology (CMLRE), MoES, ICARS (IIT-Roorkee), WWF-India, Indian Institute of Forest Management (IIFM), Wildlife Institute of India (WII).

National Indicators	Responsible Agencies
8.1. Trends in biodiversity-inclusive climate change adaptation and mitigation measures formulated/ implemented through State Action Plans on Climate Change (SAPCC)	i. Ministry of Environment, Forest, Climate Change (MoEFCC) ii. National Institute of Disaster Management (NIDM) iii. Indian Meteorological Department (IMD) iv. Advanced Centre for Atmospheric Radar Research (ACARR) v. National Centre for Ocean Information Services (INCOIS) vi. National Centre for Coastal Research (NCCR) vii. State Forest Department (SFDs) viii. State Environment Department(s) ix. State Climate Cells
8.2. Number of state / UT governments that adopt and implement ecosystem-based disaster risk reduction strategies.	i. National Disaster Management Authority (NDMA) ii. National Institute of Disaster Management (NIDM) iii. State Disaster Management Authority (SDMAs)
8.3. Trends in the decline of availability of drinking water	i. Ministry of Drinking Water and Sanitation ii. National Institute of Disaster Management (NIDM) iii. Indian Institute of Tropical Meteorology – Centre for Climate Change Research (IITM-CCCR) iv. Indian National Centre for Ocean Information Services (INCOIS) v. ICARS (IIT-Roorkee)
8.4. Trends in the number of studies on biodiversity-inclusive environment impact assessment, cumulative environment impact assessment (CEIA) and strategic environment assessment (SEA)	i. State Environment Department(s) ii. State Climate Cells iii. Central Pollution Control Board (CPCB) iv. State Pollution Control Boards (SPCBs)
8.5. Trends in identification, assessment, establishment and strengthening of incentives that reward positive contributions to biodiversity and ecosystem services	i. Ministry of Statistics and Programme Implementation (MoSPI)

NBT 9

Sustainable use of wild species **for multiple benefits**

Ensure that the sustainable management and use of wild species as per National laws, thereby providing social, economic and environmental benefits for people, especially those in vulnerable situations and dependent on biodiversity.

ACTION POINTS

1. Promote conservation, management and sustainable utilization of priority wild species as per the National laws for maintaining species diversity through *ex situ* and *in situ* measures.
2. Promote best practices based on traditional and sustainable use of biodiversity as permissible and devise mechanisms for providing benefits to local communities.
3. Build and regularly update a database on NTFPs, monitor and rationalize their use, and ensure their sustainable availability to local communities.
4. Promote sustainable use of permissible wild species by supporting studies on traditional utilization in selected areas to identify incentives and disincentives and promote best practices.
5. Promote capacity building at the grassroots level for participatory decision-making to ensure legal and sustainable use of wild species.
6. Encourage and support relevant institutions and community organizations, such as JFMCs/ EDCs/ BMCs/ Panchayats, tribal bodies, Community Forest Resource Management Committees (CFRMCs), etc., in the development of participatory management plans for sustainable use of legally approved wild species through the development of plans for micro and small entrepreneurs, sustained supply of raw material, including harvesting protocols and value addition.
7. Develop an inventory of legally permitted wild species used across India, collate and correlate with the information available in PBRs.

Lead Agencies: Indian Council of Forestry Research and Education (ICFRE), National Biodiversity Authority (NBA), and State Biodiversity Boards (SBBs).

Supporting Agencies: National Medicinal Plants Board (NMPB) - MoAYUSH, National Fish Research and Development Institute (NFRDI), Central Marine Fishery Research Institute (CMFRI), Botanical Survey of India (BSI), Zoological Survey of India (ZSI), Foundation for Revitalisation of Local Health Traditions (FRLHT), MoAFW, National Bureau of Plant Genetic Resources (NBPGR), National Bureau of Animal Genetic Resources (NBAGR), and National Bureau of Fish Genetic Resources (NBFGR), CSIR- National Botanical Research Institute (CSIR- NBRI), G.B. Pant 'National Institute of Himalayan Environment' (NIHE), Indian Council of Agricultural Research (ICAR), National Centre for Sustainable Coastal Management (NCSCM).

National Indicators	Responsible Agencies
9.1. Number of folk users of medicinal plants documented from Peoples Biodiversity Registers (PBRs) prepared by BMCs	i. National Biodiversity Authority (NBA) ii. State Biodiversity Boards (SBBs)
9.2. Number of wild species used as per PBRs	i. National Medicinal Plants Board (NMPB) ii. Indian Council of Forestry Research and Education (ICFRE) iii. National Fish Research and Development Institute (NFRDI) iv. Central Marine Fishery Research Institute (CMFRI) v. Botanical Survey of India (BSI) vi. Zoological Survey of India (ZSI) vii. Foundation for Revitalisation of Local Health Traditions (FRLHT) viii. National Biodiversity Authority (NBA)/ State Biodiversity Boards (SBBs) ix. National Bureau of Plant Genetic Resources (NBPGR) x. National Bureau of Animal Genetic Resources (NBAGR) xi. National Bureau of Fish Genetic Resources (NBFGR) xii. CSIR- National Botanical Research Institute (CSIR- NBRI) xiii. G.B. Pant 'National Institute of Himalayan Environment' (NIHE) xiv. Indian Council of Agricultural Research (ICAR) xv. National Centre for Sustainable Coastal Management (NCSCM)
9.3. Percentage of national marine catch that is Marine Stewardship Council (MSC) certified	i. Central Marine Fishery Research Institute (CMFRI) ii. World Wide Fund for Nature (WWF-India) iii. Seafood Exporters Association of India (SEAI)

NBT 10

Sustainable management of agriculture, **animal husbandry, fisheries, aquaculture and forest areas**

Ensure areas under agriculture, animal husbandry, fisheries, aquaculture, forests, grasslands, inland waters, and coastal and marine ecosystems are managed sustainably so as to contribute towards food security, community resilience, restoration of biodiversity, long-term efficiency, and productivity for enhanced ecosystem services.

ACTION POINTS

1. Encourage adoption of science-based and traditional sustainable land use practices through research and development, knowledge sharing, pilot scale demonstrations, and large-scale dissemination, including farmer's training and, wherever necessary, access to institutional finance.

2. Promote sustainable alternatives to shifting cultivation where it is no longer ecologically viable, ensuring that the culture and social fabric of the local people are not disrupted.

3. Encourage agroforestry, organic farming, agroecological approaches, environmentally sustainable cropping patterns, traditional crop varieties, and the adoption of efficient irrigation techniques.

4. Integrate wetland conservation, including management of village ponds and tanks, springs and streams, into sectoral development plans for poverty alleviation and livelihood improvement, and link efforts for conservation and sustainable use of wetlands with the ongoing rural infrastructure development and employment generation programmes.

5. Enhance restoration and strengthen sustainable management of mangroves to ensure the protection of coastal belts and conservation of flora and fauna.

6. Encourage integrated pest management practices use of organic manures, bio-pesticides and biofertilizers and discourage use of chemical fertilizers, fungicides, herbicides, pesticides and insecticides.

7. Promote natural and sustainable farming of locally adapted and traditional crop varieties through traditional practices (draught animals) and appropriate incentives and direct access to markets duly supported by appropriate certification systems.

8. Strengthen effective management of forests for multiple benefits while ensuring sustained flow of ecosystem services.

9. Provide support for effective regulation/ enforcement of guidelines/ rules/ laws for sustainable inland and marine fisheries.

10. Promote climate-smart agriculture and water-efficient crops.

11. Promote best animal husbandry practices for semi-domesticated and indigenous livestock.

12. Support integrated and sustainable management for pastoral/ grazing areas, especially for alpine pastures.

13. Support individual experts, farmers, and NGOs helping in reviving traditional practices of farming, maintaining indigenous breeds of livestock, and germplasm conservation.

14. Raise awareness of the interlinkages between biodiversity and health for nutrition, food security, livelihoods and food system resilience.

Lead Agencies: Indian Council of Agriculture Research (ICAR)

Collaborating/ Supporting Agencies: Central Ground Water Board (CGWB), National Centre for Organic and Natural Farming, Indian Agriculture Research Institute (IARI), National Fish Research and Development Institute (NFRDI), Central Marine Fishery Research Institute (CMFRI), National Fish Development Board (NFDB), National Centre for Sustainable Coastal Management (NCSCM), Centre For Marine Living Resources and Ecology (CMLRE), National Institute of Oceanography (NIO), ICFRE-Forest Research Institute (FRI), Forest Survey of India (FSI), Botanical Survey of India (BSI), Zoological Survey of India (ZSI), Foundation for Revitalisation of Local Health Traditions (FRLHT), Ministry of Statis tics and Programme Implementation (MoSPI), Ministry of Commerce and Industry (MoCI), MoRD, MoCF - Department of Fertilizers, NITI Aayog, MoFAHD, MoAYUSH, NBPGR, NBAGR, NBFGR, ICAR-National Bureau of Soil Survey and Land Use Planning (NBSSLUP), ICAR- Indian Institute of Water and Soil Conservation (IIWSC), CGWB, MoAFW.

National Indicators	Responsible Agencies
10.1. Trends in area under natural farming and its certification.	i. National Centre for Organic and Natural Farming (NCONF) ii. ICAR-Indian Agriculture Research Institute (IARI) iii. Indian Council of Agriculture Research (ICAR)
10.2. Trends in area under integrated pest management	i. Indian Council of Agriculture Research (ICAR)
10.3. Trends in the production/ usage of agrochemical fertilizers	i. Department of Fertilizers - Ministry of Chemicals (MoCF) ii. Ministry of Agriculture and Farmers Welfare (MoAFW)
10.4. Trends in the use of bio-fertilizers/ biofuels, organic manure and vermicomposting	i. Department of Fertilizers-Ministry of Chemicals (MoCF) ii. Indian Council of Agriculture Research (ICAR)
10.5. Trends in soil quality	i. ICAR-National Bureau of Soil Survey and Land Use Planning (NBSSLUP) ii. ICAR-Indian Institute of Water and Soil Conservation (IIWSC) iii. Indian Council of Agriculture Research (ICAR)
10.6. Trends in groundwater table	i. Central Ground Water Board (CGWB)
10.7. Trends under organic production on farms of agricultural research institutions and universities	i. Indian Council of Agriculture Research (ICAR) ii. National Bureau of Plant Genetics Resources (NBPGR)
10.8. Trends in the proliferation of traditional crops and varieties that are more adapted to the environment, requiring less external inputs and therefore more integrated into the ecosystem, at the same time enhance prospects of greater household food security	i. Indian Council of Agriculture Research (ICAR) ii. Ministry of Agriculture and Farmers Welfare (MoAFW) iii. State Agriculture Department (SADs)
10.9. Percentage of forest area covered in terms of approved Working Plans under National Forest Working Plan Code	i. Forest Conservation Division, Ministry of Environment, Forest and Climate Change (MoEFCC) ii. Indian Council of Forestry Research and Education (ICFRE) iii. State Forest Department (SFDs)

10.10. Trends in area of restored forests.	i. National Afforestation and Ecodevelopment Board (NAEB) ii. Green India Mission (GIM) iii. Forest Survey of India (FSI) iv. National Mission for Clean Ganga (NMCG) v. State Forest Department (SFDs)
10.11. Extent of use of non-selective fishing gears	i. ICAR-Central Marine Fishery Research Institute (CMFRI) ii. National Fish Research and Development Institute (NFRDI) iii. National Fish Development Board (NFDB)
10.12. Trends in the certification of fish produce	i. Central Marine Fishery Research Institute (CMFRI) ii. National Fish Research and Development Institute (NFRDI) iii. National Fish Development Board (NFDB)
10.13. Trends in NTFP production	i. State Forest Department (SFDs) ii. Forest Research Institute (FRI) iii. Indian Council of Forestry Research and Education (ICFRE)
10.14. Wild relatives of cultivated plants	i. National Bureau of Plant Genetics Resources (NBPGR) ii. Indian Council of Agriculture Research (ICAR) iii. Indian Agriculture Research Institute (IARI)

NBT 11

Enhance and maintain ecosystem services and **regulate air and water quality, hazards and extreme events**

Restore, maintain and enhance nature's contributions to people, including ecosystem services, such as the regulation of air, water and climate, soil health, pollination and reduction of disease risk, as well as prevention and protection from hazards and disasters, through nature-based solutions and/ or ecosystem-based approaches for the benefit of all people and nature.

ACTION POINTS

1. Scale up studies on the economic evaluation of ecosystem services and develop standardized protocols for wider use and consistency.
2. Promote ecosystem-based approaches to enhance ecosystem services and regulation of air, water, hazards and extreme events.
3. Ensure timely and effective planning and management for dealing with exigencies, disasters, and extreme events impacting PAs and other biodiversity-rich areas.
4. Strengthen and support activities relevant to forest fire prevention, mitigation, and preparedness so as to eliminate/ minimize recurrent human-induced forest fires impacting biodiversity.
5. Implement suitable measures for restoring soil health and strengthen the soil health card programme.
6. Promote the concept of biodiversity integrated 'One Health' approach and its effective implementation.
7. Scale up activities relevant to rejuvenation of mountain springs, streams, rivers and water catchment areas.
8. Maintain crop species diversity and reduce excessive use of pesticides/ insecticides to enhance pollination services.
9. Maintain refugia for biological control of pests and diseases.
10. Incentivize community participation for effective management and enhancement of ecosystem services.
11. Monitor and regulate noise levels in different ecosystems including under water noise levels.

Lead Agencies: Central Pollution Control Board (CPCB)

Collaborating/ Supporting Agencies: Indian Institute of Forest Management (IIFM), National Fish Research and Development Institute (NFRDI), Central Marine Fishery Research Institute (CMFRI), Indian Council of Forestry Research and Education (ICFRE), ICAR, SPCBs, MoAFW, MoFAHD, MoJS, MoHUA, National Disaster Management Authority (NDMA), National Institute of Disaster Management (NIDM), Central Ground Water Board (CGWB), and ICAR-NBSSLUP, GBPNIHE, MoEFCC, Ministry of New and Renewable Energy (MoNRE), Ministry of Road Transport and Highways of India (MoRTH), ICARS, IIT-Roorkee.

National Indicators	Responsible Agencies
11.1. Status and trends of ambient air quality in metropolitan cities and critically polluted areas; monitoring water quality for physico-chemical and bacteriological parameters, trace metals, pesticides at selected sites;	i. Central Pollution Control Board (CPCB) ii. State Pollution Control Board (SPCBs)
11.2. Trends in Soil health parameters in agricultural ecosystems	i. ICAR-National Bureau of Soil Survey and Land Use Planning (NBSSLUP) ii. Ministry of Agriculture and Farmers Welfare (MoAFW)

NBT 12

Enhance green and blue spaces for **increased access and human well-being**

Significantly increase the area, quality, and connectivity of green and blue spaces in urban areas for enhanced access and sustainable use.

ACTION POINTS

1. Develop protocols and guidelines for adoption by all municipal bodies to assess the extent of green and blue urban spaces.
2. Support reclamation, restoration and expansion of quality green and blue spaces in the urban areas.
3. Promote and support the establishment of national and state-level databases on green and blue spaces and urban biodiversity.
4. Develop guidelines for safeguarding biodiversity in green and blue spaces by municipal bodies.
5. Prevent degradation, land use change, encroachment in green and blue spaces.
6. Mandate urban planners and developers to integrate blue and green spaces in plans and projects.
7. Map recognise and expand OECMs in urban blue and green spaces.

Lead Agencies: National Institute of Urban Affairs (NIUA)

Collaborating/ Supporting Agencies: Ministry of Housing and Urban Affairs (MoHUA), MoEFCC, Ministry of Drinking Water and Sanitation (MoDWS), ICFRE, FSI, NRSC, SFDs, BSI, CZA, Local Municipal Bodies, Autonomous Tribal District Councils (ATDCs), SBBs, GBPNIHE, CSIR-National Botanical Research Institute (NBRI).

National Indicators	Responsible Agencies
12.1. Trends in the availability of urban green and blue spaces	i. National Institute of Urban Affairs (NIUA) ii. Ministry of Housing and Urban Affairs (MoHUA) iii. State Forest Department (SFDs) iv. Forest Survey of India (FSI)
12.2. Number of Biodiversity Parks, Botanical/ Public Gardens, Orchards, Water Bodies, Heritage Sites and Nature Learning and Interpretation Centers (NILC) in urban areas	i. National Institute of Urban Affairs (NIUA) ii. Ministry of Housing and Urban Affairs (MoHUA) iii. Botanical Survey of India (BSI) iv. State Forest Departments (SFDs)
12.3. Number of cities prepared City Biodiversity Index	i. National Institute of Urban Affairs (NIUA) ii. ICLEI – Local Governments for Sustainability iii. State Biodiversity Boards (SBBs)
12.4. Number of sacred trees and sacred groves in urban areas	i. National Institute of Urban Affairs (NIUA) ii. State Biodiversity Boards (SBBs) iii. Botanical Survey of India (BSI)

NBT 13

Access and **benefit sharing**

Take effective legal, policy, administrative and capacity-building measures at all levels to ensure and increase the fair and equitable sharing of benefits that arise from the utilisation of biological resources/ genetic resources and digital sequence information as well as traditional knowledge associated with biological/ genetic resources, and facilitating appropriate access and benefit-sharing instruments.

ACTION POINTS

1. Develop sui generis system for protection of traditional knowledge and related rights.
2. Raise awareness at the central, state and local levels for effective implementation of the provisions under the Biological Diversity Act.
3. Provide support and capacity building for preparation and updation of PBRs with technical help from the scientific institutions and convert them into e-PBRs.
4. Strengthen systems for documentation, application and protection of biodiversity associated traditional knowledge, providing adequate protection to these knowledge systems while encouraging benefits to communities.
5. Revive and revitalize sustainable traditional practices and other folk uses of components of biodiversity and associated benefits to local communities with a view to promoting and strengthening traditional knowledge and practices.
6. Update the modalities for operationalizing provisions for prior informed consent and benefit sharing under the Biological Diversity Act.
7. Encourage and support SBBs/ UTBCs to develop and maintain state/UT level web portal on biodiversity management information system.
8. Establish a common platform for states with common biological resources to synergize ABS mechanisms.
9. Undertake inventorization of potential resources for commercial utilization and disseminate to BMCs/ Panchayats for effective benefit sharing.
10. Set up traceability mechanisms especially for use of Digital Sequence Information (DSI) from genetic resources and traditional knowledge linked to genetic resources.
11. Monitor various monetary modalities for benefit sharing from DSI and enable a mechanism for receiving funds from Global Multilateral Fund related to DSI.

Lead Agencies: National Biodiversity Authority (NBA), Controller General of Patent, Design and Trademarks-India Patent office.

Collaborating/ Supporting Agencies: State Biodiversity Boards (SBBs)/ UTBCs, MoAFW, Ministry of Commerce and Industries (MoCI), NBPGR, NBAGR, and NBFGR, NBAIR, NBAIM and BMCs, Protection of Plant Varieties and Farmers' Rights Authority (PPVFRA).

National Indicators	Responsible Agencies
13.1. Trends in number of proposals for intellectual property rights	i. National Biodiversity Authority (NBA) ii. Controller General of Patents, Designs and Trade Marks - India Patent Office
13.2. Trends in number of cases seeking third party transfer for accession of biological resources and associated traditional knowledge	i. National Biodiversity Authority (NBA)
13.3. Trends in number of cases for seeking prior approval of National Biodiversity Authority (NBA) for transferring the results of research to foreign nations, companies, Non- Resident Indians (NRIs) for commercial purposes	i. National Biodiversity Authority (NBA)
13.4. Trends in number of cases seeking approval to bioresources and associated traditional knowledge for commercial utilization	i. National Biodiversity Authority (NBA) ii. State Biodiversity Boards (SBBs)/ UTBCs
13.5. Trends in number of Genome Saviour Awards to communities and individuals	i. Protection of Plant Varieties and Farmers' Rights Authority (PPVFRA)
13.6. Trends in the number of accessions in repositories and gene banks	i. ICAR-National Bureau of Animal Genetic Resources (NBAGR) ii. ICAR-National Bureau of Fish Genetic Resources (NBFGR) iii. ICAR-National Bureau of Agriculturally Important Micro-organisms (NBAIM) iv. ICAR-National Bureau of Agricultural Insect Resources (NBAIR)
13.7. Number of Benefit Sharing Agreements with Stakeholders and Biodiversity Management Committees (BMCs)	i. National Biodiversity Authority (NBA) ii. State Biodiversity Boards (SBBs)/ UTBCs
13.8. Number of Certificates of Origin issued by Biodiversity Management Committees (BMCs) to industries and traders.	i. National Biodiversity Authority (NBA) ii. State Biodiversity Boards (SBBs) iii. Biodiversity Management Committees (BMCs)
13.9. Number of Memorandum of Understandings (MoUs) signed between SBBs/BMCs and industries/ traders.	i. State Biodiversity Boards (SBBs) ii. Biodiversity Management Committees (BMCs)

NBT 14

Mainstreaming **biodiversity**

Ensure the full integration of biodiversity and its multiple values into policies, regulations, planning, budgeting and development processes.

ACTION POINTS

1. Promote inter-sectoral linkages and synergies to develop and realize the full economic potential of ex situ conserved materials in crop and livestock improvement programmes.
2. Secure integration of biodiversity concerns into inter-sectoral policies and programmes to identify elements having adverse impacts on biodiversity and design policy guidelines to address such issues.
3. Ensure that valuation of biodiversity is an integral part of the pre-appraisal of projects and programmes to minimize adverse impacts on biodiversity.
4. Integrate biodiversity concerns across developmental sectors (such as industry, infrastructure, power, mining, etc.) and promote use of clean technologies.
5. Undertake environmental assessment of sectoral policies and programmes to address and mitigate potential adverse impacts on biodiversity.
6. Ensure that in all cases of forest land diversion, the essential minimum needed land for the project or activity is permitted. Restrict the diversion of dense natural forests, particularly areas of high endemism of genetic resources, to non-forest to safeguard vital national interests.
7. Give priority to impact assessment of development projects around/ near wetlands, particularly ensuring that environmental services of wetlands are explicitly factored into cost-benefit analysis.
8. Adopt best practice norms for infrastructure construction to avoid habitat fragmentation and/ or minimize damage to sensitive ecosystems and despoiling of landscapes.
9. Review enabling policies to prevent transfer of prime agricultural land to non-agricultural purposes, and promote sustainability of agricultural lands.
10. Formulate policies, guidelines, and schemes for supporting conservation and management of grasslands, pastoral lands, sacred groves and other areas significant for biodiversity conservation such as Important Bird areas, Key biodiversity areas.
11. Identify emerging areas for new legislation, based on better scientific understanding, economic and social development, and development of multilateral environmental regimes.
12. Review existing legislations relevant to biodiversity conservation to develop synergies among relevant statutes and regulations, eliminate obsolescence, and amalgamate provisions with similar objectives.
13. Effectively use the System of Environmental Economic accounting (SEEA), including the SEEA Ecosystem Accounting (EA) to reflect the ecological and economic values of biodiversity, with special attention to green accounting techniques in national accounts.

Lead Agencies: Forest Conservation Division, MoEFCC

Collaborating/ Supporting Agencies: Forest Survey of India (FSI), MoAFW, MoFAHD, MoJS, MoHUA, MoRD, Ministry of Statistics and Programme Implementation (MoSPI), NITI Aayog, State Biodiversity Boards (SBBs), Ministry of Tribal Affairs (MoTA), North Eastern Council (NEC), Ministry of Finance, Ministry of Commerce, Ministry of Power, Ministry of Mines, Ministry of Steel, BNHS, NDMA, NIDM, ICARS (IIT – Roorkee), MoNRE, Ministry of Tourism.

National Indicators	Responsible Agencies
14.1. Trends in preparation of State Biodiversity Strategy Action Plans (SBSAPs)	i. National Biodiversity Authority (NBA) ii. State Biodiversity Boards (SBBs)
14.2. Trends in implementing the activities envisaged under Local Biodiversity Strategy and Action Plans (LBSAPs)	i. National Biodiversity Authority (NBA) ii. State Biodiversity Boards (SBBs) iii. Biodiversity Management Committees (BMCs)
14.3. Trends in percentage of biodiversity attributable expenditure under large multi-purpose schemes such as Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA)	i. Ministry of Rural Development (MoRD)
14.4. Compliance on earlier strategic environmental impact assessments	i. Environmental Appraisal Committee-MoEFCC ii. Forest Conservation Division, MoEFCC iii. Project Monitoring Committees iv. Integrated Regional Offices (IROs)

NBT 15

Sustainable production, **supply chains and disclosure of risks**

Take legal, administrative or policy measures to encourage and enable businesses, particularly large and transnational companies and financial institutions to regularly monitor, assess and disclose risks, dependencies and impacts related to biodiversity.

ACTION POINTS

1. Develop appropriate liability and redress mechanisms for businesses to internalize environmental costs and address economic concerns in case of any damage to biodiversity.
2. Harmonize provisions concerning disclosure of the source of biological material and associated knowledge used in the inventions under the Patents Act, Protection of Plant Varieties and Farmers' Rights Act, and Biological Diversity Act to ensure the sharing of benefits by the communities holding traditional knowledge from such use.
3. Promote adoption of best practice norms in key sectors like tourism, renewable energy for addressing biodiversity concerns.
4. Ensure compliance with the Business Reporting and Sustainability Reporting (BRSR) framework by all major and medium-sized companies, and encourage Business Groups to adopt sustainable practices and disclose information related to their environmental, social, and governance (ESG) performance.
5. Create a cadre of biodiversity auditors and certifying agencies.
6. Expand the scope of SEBI notification on the mandatory BRSR reporting on the company's value chains.
7. Implement mandatory disclosure of the movement of biological resources that are not native to the country or from priority conservation areas.

Lead Agencies: National Biodiversity Authority (NBA)

Collaborating/ Supporting Agencies: Ministry of Corporate Affairs (MoCA), and Ministry of Statistics and Programme Implementation (MoSPI), SEBI, All Chambers of Commerce and Industries, Ministry of Commerce, Ministry of Micro, Small and Medium Enterprises (MSME), Department of Economic Affairs, Ministry of Chemical and Fertilizers, MoFAHD.

National Indicators	Responsible Agencies
15.1. Number of/ Trends in Companies submitted Business responsibility and sustainability reporting, sector wise and follow up action taken	i. Securities and Exchange Board of India (SEBI) - Ministry of Finance (MoF) ii. Ministry of Corporate Affairs (MoCA) iii. All Chambers of Commerce and Industries iv. Ministry of Micro, Small and Medium Enterprises (MSME) v. Department of Economic Affairs - Ministry of Finance (MoF)
15.2. Trends in sector- specific biodiversity reporting.	i. Securities and Exchange Board of India (SEBI) - Ministry of Finance (MoF)
15.3. Trends in reporting biodiversity related risks in disclosures	i. Securities and Exchange Board of India (SEBI) - Ministry of Finance (MoF) ii. Confederation of Indian Industry (CII)- India Business and Biodiversity Initiative (IBBI)

NBT 16

Promote sustainable **consumption choices**

Ensure that people are encouraged and enabled to make choices for sustainable consumption to reduce the footprint of unsustainable consumption in an equitable manner.

ACTION POINTS

1. Implement mission LIFE actions to encourage citizens to adopt environment friendly actions.
2. Create awareness to make choices for sustainable consumption and reduce food waste.
3. Formulate national policy and programmes on consumer information including ecolabels/ product labelling and/ or certification enabling consumers to make wise choices
4. Identify sources and patterns of unsustainable consumption within the government system, urban and rural societies and industries to take appropriate measures for its redressal.
5. Strengthen programmes to promote cold storages and food processing to reduce wastage of perishable commodities.

Lead Agencies: National Biodiversity Authority with the support of Mission LIFE Cell.

Collaborating/ Supporting Agencies: Centre for Environment and Education (CEE), Ministry of Education (MoE), Ministry of Agriculture and Farmers Welfare (MoAFW), Ministry of Housing and Urban Affairs (MoHUA), Food Corporation of India (FCI), Ministry of Statistics and Programme Implementation (MoSPI), Ministry of Fisheries, Animal Husbandry and Dairying (MoFAHD), MoAYUSH, CMFRI, Ministry of Consumer Affairs, NCSCM, CSIR-Central Food Technological Research Institute (CFTRI), Central Inland Fisheries Research Institute – CIFRI.

National Indicators	Responsible Agencies
16.1. Trends in Consumer awareness enabling consumer choices	i. Indian Council of Agricultural Research (ICAR) ii. Ministry of Agriculture and Farmers Welfare (MoAFW) iii. CSIR- Central Food Technological Research Institute (CFTRI) iv. Food Corporation of India (FCI)
16.2. Post-harvest storage and distribution losses of Central/ State Pool Stocks of wheat and rice	i. Food Corporation of India (FCI) ii. CSIR- Central Food Technological Research Institute (CFTRI) iii. Ministry of Agriculture and Farmers Welfare (MoAFW)
16.3. Number of municipal corporations using waste segregation techniques	i. Ministry of Housing and Urban Affairs (MoHUA) ii. Municipal corporations/ councils
16.4. Number of companies taking up Extended Producer Responsibility (EPR) for Hazardous Waste, Plastic Wastes, Used Batteries and Tyres and following circular economy principles	i. Ministry of Environment, Forest and Climate Change (MoEFCC) ii. Ministry of Consumer Affairs (MoCA)
16.5. Quantifiable Indices from Mission Life adopted.	i. National Biodiversity Authority supported by Mission LiFE Cell

NBT 17

Strengthen biosafety **regulatory capacity**

Strengthen capacity for implementation of biosafety measures.

ACTION POINTS

1. Periodically review and update the national biosafety guidelines/rules to ensure that these are based on current scientific knowledge.
2. Develop protocols for monitoring products based on restricted genetic engineering technologies.
3. Ensure conservation of biodiversity and human health while dealing with LMOs in transboundary movement in a manner consistent with the multilateral biosafety protocol.
4. Strengthen capacities for risk assessment, management, implementation of national rules and procedures and communication of information to government staff, researchers, students and general public, on LMOs.

Lead Agencies: Ministry of Environment, Forest and Climate Change (MoEFCC) - Genetic Engineering Appraisal Committee (GEAC)

Collaborating/ Supporting Agencies: Department of Biotechnology (DBT) - Ministry of Science and Technology, Indian Council of Agricultural Research, Biotech Consortium India Limited (BCIL), Council of Scientific and Industrial Research (CSIR), Indian Veterinary Research Institute (IVRI), Department of Pharmaceuticals – Ministry of Chemicals and Fertilizers, Indian Council of Medical Research (ICMR), Drug Controller General of India (DCGI), Food Safety and Standards Authority of India (FSSAI), Directorate General of Foreign Trade (DGFT), Central Pollution Control Board, State Pollution Control Board, State Agriculture Departments, State Agriculture Universities, State Biotechnology Coordination Committees, District Level Committees, Department of Customs Excise and Narcotics, Directorate of Revenue Intelligence (DRI), Ministry of Commerce, Ministry of Home Affairs, NBA, SBBs.

National Indicators	Responsible Agencies
17.1. Number of Biosafety Laboratories for Living Modified Organisms (LMOs) detection in place	i. Indian Council of Medical Research (ICMR) – National Institute of Virology (NIV) ii. Department of Biotechnology (DBT) iii. Indian Council of Agricultural Research (ICAR) - Indian Veterinary Research Institute (IVRI) iv. ICAR- Central Institute for Cotton Research - National Bureau of Plant Genetic Resources (NBPGR) v. Council of Scientific and Industrial Research (CSIR)

17.2. Number of guidelines and procedures for new categories of living Modified Organisms (LMOs) and emerging technologies for including storage, transportation and sampling etc.,	i. Genetic Engineering Appraisal Committee (GEAC) - Ministry of Environment, Forest and Climate Change (MoEFCC) ii. Department of Biotechnology (DBT) iii. Council of Scientific and Industrial Research (CSIR)
17.3. Number of technical resources prepared for training and a number of trainings conducted at the regional and national levels, food safety inspectors, officials of the State Pollution Control Board, customs, and State Agriculture Departments etc.,	i. Department of Biotechnology (DBT) ii. Indian Council of Medical Research (ICMR) iii. Council of Scientific and Industrial Research (CSIR) iv. Indian Council of Agricultural Research (ICAR) - Indian Veterinary Research Institute (IVRI)
17.4. Number of online resources for information access and sharing	i. Council of Scientific and Industrial Research (CSIR) - ii. Indian Council of Agricultural Research (ICAR) - Indian Veterinary Research Institute (IVRI) iii. Indian Council of Medical Research (ICMR) iv. Department of Biotechnology (DBT) - Ministry of Science and Technology
17.5. Number of State Biotechnology Coordination Committee (SBCC) and District Level Committee (DLC) constituted.	i. State Governments
17.6. Number of Living Modified Organisms (LMOs)/ GMOs undergone Risk Assessment and Risk Management (RARM)	i. Genetic Engineering Appraisal Committee (GEAC) - Ministry of Environment, Forest and Climate Change (MoEFCC)

NBT 18

Repurpose detrimental incentives **for biodiversity**

Identify and repurpose incentives, including subsidies detrimental to biodiversity, and scale up positive incentives for the conservation and sustainable use of biodiversity progressively.

ACTION POINTS

1. Identify and assess the extent of detrimental subsidies e.g., in agriculture, fossil fuel, construction, automobile, fisheries, etc. and plan to repurpose detrimental incentives.
2. Promote positive incentives for effective conservation and sustainable use of biodiversity.

Lead Agencies: Ministry of Chemicals and Fertilizers supported by the National Institute of Agricultural Extension Management (MANAGE).

Collaborating/ Supporting Agencies: Ministry of Environment, Forest and Climate Change (MoEFCC), Ministry of Statistics and Programme Implementation (MoSPI), MoAFW, Ministry of Fisheries, Animal Husbandry and Dairying (MoFAHD), Ministry of Petroleum and Natural Gas (MoPNG), Ministry of Road Transport and Highways (MoRTH), Central Marine Fishery Research Institute (CMFRI), National Fish Development Board, National Centre for Sustainable Coastal Management (NCSCM), Ministry of Mines, Ministry of Development of North Eastern Region (MoDNER), MoAYUSH, Ministry of New and Renewable Energy (MNRE), Ministry of Commerce and Industry, Ministry of Finance (MoF), National Institution for Transforming India (NITI Aayog).

National Indicators	Responsible Agencies
18.1. Number of policy instruments adopted to repurpose subsidies for sustaining biodiversity	i. Ministry of Chemicals and Fertilizers (MoCF) supported by the National Institute of Agricultural Extension Management (MANAGE)
18.2. Percentage of budget aligned to green budgeting.	i. Ministry of Finance (MoF) ii. National Institution for Transforming India (NITI Aayog)
18.3. Trends in states availing incentive to reduce chemical fertilizer subsidy	i. Ministry of Chemicals and Fertilizers (MoCF)
18.4. Trends in market development assistance made available to promote organic/ biofertilizers under Galvanizing Organic Bio-Agro Resources Dhan (GOBAR-dhan) scheme	i. Department of Drinking Water and Sanitation, Ministry of Jal Shakti (MoJS)
18.5. Trends in under recovery and writing off of power charges in the agriculture sector by state level power utilities	i. Ministry of Power (MoP) ii. State Agriculture Department (SADs)

NBT 19

Resource **mobilization**

Ensure the flow of adequate financial resources from all sources, including public, private, international, and other innovative financial mechanisms, to implement the NBSAP, SBSAPS, and LBSAPS.

ACTION POINTS

1. Mobilize additional resources from all possible sources for biodiversity conservation.
2. Assess the utility of traditional and innovative fiscal instruments for promoting conservation and sustainable utilization of biodiversity.

3. Explore and access supplemental financial resources through private finance, international finance, and other innovative finance solutions, such as biodiversity cess, conservation license plates, cess for using biodiversity logos/ mottos, and the District Mining Fund.

4. Ensure the development of protocols for promoting biodiversity credits.

5. Develop systems for ploughing back the revenues generated in protected areas, zoological parks, botanical gardens. wetlands, aquaria, etc., for effective management of these areas through engagement of local communities.

6. Provide adequate and timely support for mobilizing resources for effective implementation of NBSAPs, SBSAPs, and LBSAPs

Lead Agencies: CS-III Biodiversity Division - Ministry of Environment, Forest and Climate Change (MoEFCC) and National Biodiversity Authority (NBA)

Collaborating/ Supporting Agencies: NITI Aayog, Ministry of Statistics and Programme Implementation (MoSPI), MoAFW, MoJS, MoRD, Ministry of Corporate Affairs (MoCA), MoAYUSH, Ministry of Panchayati Raj (MoPR), Ministry of Fisheries, Animal Husbandry and Dairying (MoFAHD), Ministry of Finance, and Other Central Ministries and Departments, State Governments, UNDP-India, Securities and Exchange Board of India (SEBI), Ministry of Commerce and Industries, NABARD, Ministry of Road Transport and Surface Transport, Department of Atomic Energy (DAE), SBBs.

National Indicators	Responsible Agencies
19.1. Trends in financial resources made available (public, private including Corporate Social Responsibility (CSR) and philanthropic sources, international fund flow) for implementing KM-GBF and National Biodiversity Targets	i. CS-III Biodiversity Division - Ministry of Environment, Forest and Climate Change (MoEFCC) ii. National Biodiversity Authority (NBA)
19.2. Trends in human resources made available for implementing KM-GBF and	i. CS-III Biodiversity Division - Ministry of Environment, Forest and Climate Change (MoEFCC) ii. National Biodiversity Authority (NBA)
19.3. Trends in technical resources made available for implementing KM-GBF and National Biodiversity Targets	i. CS-III Biodiversity Division - Ministry of Environment, Forest and Climate Change (MoEFCC) ii. National Biodiversity Authority (NBA)
19.4. Percentage of Corporate Social Responsibility (CSR) funds to meet National Biodiversity Targets	i. Ministry of Corporate Affairs (MoCA) ii. CS III Biodiversity Division - Ministry of Environment, Forest and Climate Change (MoEFCC)
19.5. Trends in innovative financial solutions e.g., Green Credits, Green Bonds, Access and Benefit Sharing (ABS), Carbon Credits, etc.	i. National Biodiversity Authority (NBA) ii. CS III Biodiversity Division - Ministry of Environment, Forest and Climate Change (MoEFCC)

NBT 20

Capacity development, technology and scientific cooperation

Strengthen capacity development, access to and transfer of technology, and promote access and development of innovations, technical and scientific cooperation, through South-South, North-South and Triangular Cooperation.

ACTION POINTS

1. Develop the capacity of policy and decision-makers, professionals, BMCs, farmers, fisher folk, and communities, including youth.

2. Incorporate modules on conservation and sustainable utilization of biodiversity in foundational and professional training courses for the officers of various services.

3. Facilitate the interactions of concerned scientific institutions and NGOs to promote their technical cooperation with SBBs and BMCs.

4. Enhance capacity to promote use of geospatial tools for effective management of areas of biological importance.

5. Expand area-specific surveys of landraces, traditional cultivars of crops, wild relatives of crop plants, and breeds of domesticated animals.

6. Enhance the capacity of climate modelling in the country substantially to get a clear idea of the impacts of climate change on biodiversity at national and local levels.

7. Promote livelihood diversification opportunities for making value-added bioresource and traditional knowledge-based products and building upon traditional as well as emerging environmental technologies customized at the local/ field level.

8. Promote enabling conditions to develop transboundary collaborative actions with other countries especially in South Asia on knowledge exchange, joint monitoring, capacity building, enhancing ecological connectivity, managing illegal wildlife trade, and biodiversity conservation.

9. Promote scientific cooperation and transfer of technology at all levels, including regional and international cooperation for ecosystem restoration, recovery and conservation of threatened species, pollution control and waste management, sustainable management of coastal and marine ecosystems, addressing human wildlife interactions, control of invasive alien species, and climate change.

10. Raise awareness, capacities and international cooperation for assessment of the interlinkages between biodiversity and health, and for promotion of biodiversity integrated 'One Health' approach.

Lead Agencies: National Biodiversity Authority (NBA), NCSCM, IGNFA, NAARM

Collaborating/ Supporting Agencies: State Biodiversity Boards (SBBs), State Forest Department , Directorate of Forestry Education (DFE), Indira Gandhi National Forest Academy (IGNFA), Wildlife Institute of India (WII), Indian Institute of Forest Management (IIFM), Ministry of Statistics and Programme Implementation (MoSPI), MoAFW, MoJS, MoRD, MoAYUSH, Ministry of Fisheries, Animal Husbandry and Dairying (MoFAHD), Ministry of Science and Technology (MoST), Controller General of Patents, Design and Trademarks, Zoological Survey of India (ZSI), Botanical Survey of India (BSI), Ministry of Education, ATI, SIRD, State Forest Training Institute (SFTI), NAARM, Indian Council of Forestry Research and Education (ICFRE), LBSNAA, CASFOS, NIRD, Ministry of Women and Child Development, R&T Division of MoEFCC, National Institute of Disaster Management (NIDM), ICAR, National Institute of Rural Development and Panchayati Raj (NIRDPR), NCBS – Bangalore, WWF-India, Centre of Excellence for Animal Husbandry (CEAH)- MoFAHD, Centre for Environment Education (CEE), Ministry of Electronics and Information Technology.

3. Explore and access supplemental financial resources through private finance, international finance, and other innovative finance solutions, such as biodiversity cess, conservation license plates, cess for using biodiversity logos/ mottos, and the District Mining Fund.

4. Ensure the development of protocols for promoting biodiversity credits.

5. Develop systems for ploughing back the revenues generated in protected areas, zoological parks, botanical gardens. wetlands, aquaria, etc., for effective management of these areas through engagement of local communities.

6. Provide adequate and timely support for mobilizing resources for effective implementation of NBSAPs, SBSAPs, and LBSAPs

Lead Agencies: CS-III Biodiversity Division - Ministry of Environment, Forest and Climate Change (MoEFCC) and National Biodiversity Authority (NBA)

Collaborating/ Supporting Agencies: NITI Aayog, Ministry of Statistics and Programme Implementation (MoSPI), MoAFW, MoJS, MoRD, Ministry of Corporate Affairs (MoCA), MoAYUSH, Ministry of Panchayati Raj (MoPR), Ministry of Fisheries, Animal Husbandry and Dairying (MoFAHD), Ministry of Finance, and Other Central Ministries and Departments, State Governments, UNDP-India, Securities and Exchange Board of India (SEBI), Ministry of Commerce and Industries, NABARD, Ministry of Road Transport and Surface Transport, Department of Atomic Energy (DAE), SBBs.

National Indicators	Responsible Agencies
19.1. Trends in financial resources made available (public, private including Corporate Social Responsibility (CSR) and philanthropic sources, international fund flow) for implementing KM-GBF and National Biodiversity Targets	i. CS-III Biodiversity Division - Ministry of Environment, Forest and Climate Change (MoEFCC) ii. National Biodiversity Authority (NBA)
19.2. Trends in human resources made available for implementing KM-GBF and	i. CS-III Biodiversity Division - Ministry of Environment, Forest and Climate Change (MoEFCC) ii. National Biodiversity Authority (NBA)
19.3. Trends in technical resources made available for implementing KM-GBF and National Biodiversity Targets	i. CS-III Biodiversity Division - Ministry of Environment, Forest and Climate Change (MoEFCC) ii. National Biodiversity Authority (NBA)
19.4. Percentage of Corporate Social Responsibility (CSR) funds to meet National Biodiversity Targets	i. Ministry of Corporate Affairs (MoCA) ii. CS III Biodiversity Division - Ministry of Environment, Forest and Climate Change (MoEFCC)
19.5. Trends in innovative financial solutions e.g., Green Credits, Green Bonds, Access and Benefit Sharing (ABS), Carbon Credits, etc.	i. National Biodiversity Authority (NBA) ii. CS III Biodiversity Division - Ministry of Environment, Forest and Climate Change (MoEFCC)

NBT 20

Capacity development, technology and scientific cooperation

Strengthen capacity development, access to and transfer of technology, and promote access and development of innovations, technical and scientific cooperation, through South-South, North-South and Triangular Cooperation.

ACTION POINTS

1. Develop the capacity of policy and decision-makers, professionals, BMCs, farmers, fisher folk, and communities, including youth.

2. Incorporate modules on conservation and sustainable utilization of biodiversity in foundational and professional training courses for the officers of various services.

3. Facilitate the interactions of concerned scientific institutions and NGOs to promote their technical cooperation with SBBs and BMCs.

4. Enhance capacity to promote use of geospatial tools for effective management of areas of biological importance.

5. Expand area-specific surveys of landraces, traditional cultivars of crops, wild relatives of crop plants, and breeds of domesticated animals.

6. Enhance the capacity of climate modelling in the country substantially to get a clear idea of the impacts of climate change on biodiversity at national and local levels.

7. Promote livelihood diversification opportunities for making value-added bioresource and traditional knowledge-based products and building upon traditional as well as emerging environmental technologies customized at the local/ field level.

8. Promote enabling conditions to develop transboundary collaborative actions with other countries especially in South Asia on knowledge exchange, joint monitoring, capacity building, enhancing ecological connectivity, managing illegal wildlife trade, and biodiversity conservation.

9. Promote scientific cooperation and transfer of technology at all levels, including regional and international cooperation for ecosystem restoration, recovery and conservation of threatened species, pollution control and waste management, sustainable management of coastal and marine ecosystems, addressing human wildlife interactions, control of invasive alien species, and climate change.

10. Raise awareness, capacities and international cooperation for assessment of the interlinkages between biodiversity and health, and for promotion of biodiversity integrated 'One Health' approach.

Lead Agencies: National Biodiversity Authority (NBA), NCSCM, IGNFA, NAARM

Collaborating/ Supporting Agencies: State Biodiversity Boards (SBBs), State Forest Department , Directorate of Forestry Education (DFE), Indira Gandhi National Forest Academy (IGNFA), Wildlife Institute of India (WII), Indian Institute of Forest Management (IIFM), Ministry of Statistics and Programme Implementation (MoSPI), MoAFW, MoJS, MoRD, MoAYUSH, Ministry of Fisheries, Animal Husbandry and Dairying (MoFAHD), Ministry of Science and Technology (MoST), Controller General of Patents, Design and Trademarks, Zoological Survey of India (ZSI), Botanical Survey of India (BSI), Ministry of Education, ATI, SIRD, State Forest Training Institute (SFTI), NAARM, Indian Council of Forestry Research and Education (ICFRE), LBSNAA, CASFOS, NIRD, Ministry of Women and Child Development, R&T Division of MoEFCC, National Institute of Disaster Management (NIDM), ICAR, National Institute of Rural Development and Panchayati Raj (NIRDPR), NCBS – Bangalore, WWF-India, Centre of Excellence for Animal Husbandry (CEAH)- MoFAHD, Centre for Environment Education (CEE), Ministry of Electronics and Information Technology.

National Indicators	Responsible Agencies
20.1. Trends in training/ capacity building and development and Human Resource Development (HRD) by institutions at local and community levels	i. National Institute of Rural Development and Panchayati Raj (NIRDPR) ii. State Institute of Rural Development and Panchayat Raj (SIRDPRs) iii. National Biodiversity Authority (NBA) iv. State Biodiversity Boards (SBBs) v. State Forest Department (SFDs) vi. State Forest Training Institute (SFTI) vii. Research and Training (R&T) Division of MoEFCC viii. Indira Gandhi National Forest Academy (IGNFA) ix. Indian Council of Forestry Research and Education (ICFRE) x. Central Academy for State Forest Service (CASFOS), xi. Wildlife Institute of India (WII)
20.2. Numbers of State Biodiversity Boards (SBBs), Biodiversity Management Committees (BMCs), Panchayati Raj Institutions (PRI) and other related line department personnel trained	i. National Institute of Rural Development and Panchayati Raj (NIRDPR) ii. State Institute of Rural Development and Panchayat Raj (SIRDPRs) iii. State Biodiversity Boards (SBBs) vi. State Forest Department (SFDs) v. Wildlife Institute of India (WII) vi. Indian Institute of Forest Management (IIFM)
20.3. Documentation of awareness meetings/ capacity building and development workshops/ seminars/ conferences for various target groups (NGOs, CBOs, Mahila Mandals, academicians, Youth groups), preferably done in regional/ local languages	i. National Biodiversity Authority (NBA) ii. State Biodiversity Boards (SBBs) iii. Research and Training (R&T) Division of MoEFCC iv. Wildlife Institute of India (WII) v. Indian Institute of Forest Management (IIFM) vi. State Biodiversity Boards (SBBs) vii. Central Academy for State Forest Service (CASFOS) viii. State Forest Department (SFDs)
20.4. Trends in the number of MoUs signed between scientific, educational institutions, user agency, and industry for the development of innovative technology and technology transfer for conservation and sustainable utilization of bioresources	i. National Biodiversity Authority (NBA)
20.5. Trends in technology developed and transferred	i. Department of Scientific and Industrial research (DSIR) ii. Department of Science and Technology (DST) iii. Biotechnology Industry Research Assistance Council (BIRAC) iv. Technology Information, Forecasting & Assessment Council (TIFAC) v. State Innovation Councils
20.6. Number of active portals of various ministries documenting biodiversity- related information	i. National Biodiversity Authority (NBA) ii. State Biodiversity Boards (SBBs) iii. Centre for Environment Education (CEE) iv. Research and Training (R&T) Division of MoEFCC v. World Wide Fund for Nature-India vi. National Centre for Sustainable Coastal Management (NCSCM) vii. Indira Gandhi National Forest Academy (IGNFA) viii. Wildlife Institute of India (WII) ix. Ministry of Fisheries, Animal Husbandry and Dairying (MoFAHD) x. Zoological Survey of India (ZSI) xi. Botanical Survey of India (BSI)
20.7. Number of start-ups that are involved in developing technological solutions for sustainable management of biodiversity	i. State Biodiversity Boards (SBBs) ii. Ministry of Electronics and Information Technology
20.8. Trends in funding made available to developing countries for promoting development, transfer, dissemination and diffusion of environmentally sound technologies through South – South and Triangular Cooperation	i. National Biodiversity Authority (NBA) ii. State Biodiversity Boards (SBBs) iii. Centre for Environment Education (CEE) iv. Research and Training (R&T) Division of MoEFCC v. World Wide Fund for Nature-India vi. National Centre for Sustainable Coastal Management (NCSCM) vii. Indira Gandhi National Forest Academy (IGNFA) viii. Wildlife Institute of India (WII) ix. Ministry of Fisheries, Animal Husbandry and Dairying (MoFAHD) x. Zoological Survey of India (ZSI) xi. Botanical Survey of India (BSI)

NBT 21

Communication, awareness, and knowledge management

Ensure that the best information and knowledge from science, research, and evidence-based sources are accessible to decision-makers, practitioners, and the public to guide effective and equitable governance and integrated and participatory management and strengthen communication, education, awareness-raising, research, monitoring, and knowledge management relevant to the conservation of biodiversity.

ACTION POINTS

1. Strengthen multidisciplinary research and citizen science initiatives for key areas pertaining to the conservation and management of biodiversity.
2. Undertake survey, identification and inventory activities for unexplored areas and data deficient species.
3. Undertake coordinated research to assess impacts of climate change, land use change, pollution, linear infrastructure on various facets of wild and domesticated biodiversity and develop effective solutions.
4. Develop an integrated national biodiversity information system and ICT tools for dissemination, awareness creation, and decision making.
5. Develop a National Biodiversity Monitoring System (NBMS).
6. Mandate and enable science centres, museums, Zoos and extension institutions to promote interactive biodiversity education.
7. Promote traditional folk media through the usage of different folk arts and other cultural means for awareness creation.

Lead Agencies: Ministry of Environment, Forest and Climate Change (MoEFCC)- Environment Information, Awareness, Capacity Building and Livelihood Program (EIACP)

Collaborating/ Supporting Agencies: State Forest Department (SFDs), Indian Council of Forestry Research and Education (ICFRE), Central Zoo Authority (CZA), NTCA, WII, Botanical Survey of India (BSI), Zoological Survey of India (ZSI), National Centre for Sustainable Coastal Management (NCSCM), Ministry of Tribal Affairs (MoTA), Ministry of Education (MoE- Department of School Education and Literacy), Ministry of Communications (MoC), Indian Institute of Mass Communication (IIMC), International Union for Conservation of Nature (IUCN India), BNHS, Ministry of Agriculture and Farmer's Welfare (MoA&FW), R&T Division of MoEFCC, National Council of Science Museums - Ministry of Education (MoE), ADRES (ICAR), Centre for Environment Education (CEE), Indian National Agricultural Research and Education System (NARES), Protection of Plant Varieties and Farmers Rights Act (PPVFRA).

National Indicators	Responsible Agencies
21.1. Trends in digitization of biodiversity, associated traditional knowledge related data including number of e-PBRs prepared.	i. National Biodiversity Authority (NBA) ii. Ministry of Environment, Forest and Climate Change (MoEFCC) iii. Environment Information, Awareness, Capacity Building and Livelihood program (EIACP) iv. State Biodiversity Boards (SBBs) v. National Agriculture Research and Education System (ICAR-NARES) vi. PPVFRA
21.2. Number of documentaries and feature films related to biodiversity	i. State Biodiversity Boards (SBBs) ii. State Forest Department (SFDs) iii. Indian Institute of Mass Communication (IIMC) iv. International Union for Conservation of Nature (IUCN India) v. Centre for Environment Education (CEE) vi. Ministry of Environment, Forest and Climate Change (MoEFCC) vii. Environment Information, Awareness, Capacity Building and Livelihood Program (EIACP) viii. Research & Training (R&T) Division of MoEFCC ix. National Biodiversity Authority (NBA)
21.3. Number of exhibits and galleries on biodiversity in science centres / museums	i. National Council of Science Museums (NCSM) – Ministry of Culture (MoC) ii. Ministry of Environment, Forest, Climate Change (MoEFCC) iii. Ministry of Agriculture and Farmers' Welfare (MoAFW) iv. Ministry of Fisheries, Animal Husbandry and Dairying (MoFAHD) v. Indian Council of Agricultural Research (ICAR) vi. National Biodiversity Authority (NBA) vii. State Biodiversity Boards (SBBs) viii. Ministry of Communications (MoC) ix. Indian Institute of Mass Communication (IIMC)
21.4. Trends in visits to Protected Areas/ Natural History Museums/ Science Centers, conservation exhibitions, and zoological and botanical gardens, urban parks, city forests and eco-tourism areas	i. Central Zoo Authority (CZA) ii. National Council of Science Museums and Science Cities under State Governments iii. Centre for Environment Education (CEE) iv. Botanical Survey of India (BSI) v. Zoological Survey of India (ZSI) vi. National Tiger Conservation Authority (NTCA) vii. Research & Training (RT) Division of MoEFCC viii. National Museum of National History (NMNH)

NBT 22

Equitable and effective participation in decision-making

Ensure the full, equitable, inclusive, effective and gender- responsive representation and participation in planning, decision- making, management, and access to justice and information related to biodiversity by youth, ethnic groups, and local communities.

ACTION POINTS

1. Strengthen capacities of local bodies (PRIs, BMCs, CFRMCs, Van Panchayats, Gram Sabhas) and CBOs (JFMCs, EDCs) for inclusive and participatory management of natural resources.
2. Strengthen inclusive and participatory approaches to encourage women, girls, local communities in planning and management of natural resources.
3. Design and implement gender responsive awareness and capacity development programmes especially for rural and tribal women, diverse ethnic and youth groups and communities for implementation of SBSAPs, LBSAPs and ABS.
4. Promote legal awareness amongst District Autonomous Councils, BMCs, traditional tribal bodies, tribal people, local communities and other marginalized groups for biodiversity conservation.
5. Recognize, acknowledge and document cultural practices, traditional knowledge, and customary laws which contribute towards biodiversity conservation.

Lead Agencies: Ministry of Tribal Affairs (MoTA), Ministry of Social Justice and Empowerment (MoSJE)

Collaborating/ Supporting Agencies: State Biodiversity Boards/ UT Biodiversity Councils, Indian Council of Forestry Research and Education (ICFRE), Ministry of Environment, Forest and Climate Change (MoEFCC), MoAFW, MoFAHD, MoJS, MoSPI, MoRD, MoPR, Autonomous Tribal District Councils (ATDCs), and National Human Rights Commission (NHRC), Ministry of Education (MoE), Ministry of Youth Affairs (MoYA), Nehru Yuva Kendra Sangathan, NSS, Nature/ Eco Clubs, Himal Rakshaks, Ministry of Panchayat Raj (MoPR), Management of Community Forest Resources (CFRI).

National Indicators	Responsible Agencies
22.1. Number of awareness and capacity development programmes organized	i. National Biodiversity Authority (NBA) ii. National Institute of Rural Development and Panchayati Raj (NIRDPR) iii. State Biodiversity Boards (SBBs) iv. Union Territory Biodiversity Councils (UTBCs) v. Indian Council of Forestry Research and Education (ICFRE) vi. Ministry of Statistics and Programme Implementation (MoSPI)
22.2. Trends in number of Civil Society Organizations/ Non-governmental organizations working in the field of conservation of biodiversity	i. Ministry of Panchayat Raj (MoPR) ii. Ministry of Tribal Affairs (MoTA) iii. Ministry of Social Justice and Empowerment (MoSJE) iv. Autonomous Tribal District Councils (ATDCs)
22.3. Trends in number of Biodiversity Management Committees (BMCs), Joint Forest Management Committees (JFMCs), Ecodevelopment Committees (EDCs), Panchayati Raj Institutions (PRIs), Management of Community Forest Resources (CFRMC) constituted/ operationalized	i. National Biodiversity Authority (NBA) ii. State Biodiversity Boards (SBBs) iii. Ministry of Environment, Forest and Climate Change (MoEFCC), iv. State Forest Department (SFDs) v. Ministry of Panchayat Raj (MoPR) vi. Ministry of Tribal Affairs (MoTA)

NBT 23

Gender equality in decision-making and implementation

Ensure gender equality in the implementation of the NBSAP, SBSAPs and LBSAPS through a gender-responsive approach, where all women and girls have equal opportunity and capacity in decision-making related to biodiversity.

ACTION POINTS

1. Strengthen capacity of national, state and local level departments, agencies and institutions to mainstream gender responsive approaches for biodiversity conservation.
2. Ensure that women and other marginalised groups are represented in governance and decision-making at various levels in local communities, ethnic groups, PRIs, district, and state-level committees relevant to biodiversity.
3. Ensure that women and girls, have fair and equal opportunity and capacity to contribute to conservation and sustainable use of biodiversity, and have access to benefits accrued out of ABS.
4. Promote equitable, gender-responsive, and effective participation of communities to undertake actions for implementing SBSAPs, LBSAPs and ABS.

Lead Agencies:
Ministry of Women and Child Development

Collaborating/ Supporting Agencies:
RT Division of MoEFCC, State Biodiversity Boards (SBBs), MoSPI, ICFRE, MoEFCC, MoAFW and MoTA, National Commission for Women (NCW), Ministry of Health and Family Welfare, Ministry of Panchayati Raj, RT Division of MoEFCC, Rashtriya Mahila Kosh (RMK), Centre for Environment Education (CEE), National Institute of Rural Development and Panchayati Raj (NIRDPR), State Institute of Rural Development and Panchayat Raj (SIRDPRs).

National Indicators	Responsible Agencies
23.1. Trends in budget allocation for gender-responsive schemes linked to biodiversity	i. Ministry of Statistics and Programme Implementation (MoSPI) ii. Rashtriya Mahila Kosh (RMK) iii. National Commission for Women (NCW) iv. Ministry of Women and Child Development
23.2. Trends in training of women members of Biodiversity Management Committees (BMCs)	i. Rashtriya Mahila Kosh (RMK) ii. National Commission for Women (NCW) iii. Ministry of Women and Child Development iv. National Institute of Rural Development and Panchayati Raj (NIRDPR) v. State Institute of Rural Development and Panchayat Raj (SIRDPRs) vi. Ministry of Statistics and Programme Implementation (MoSPI)
23.3. Trends in women self-help groups dealing with bioresources for economic and social empowerment	i. Ministry of Women and Child Development ii. Rashtriya Mahila Kosh (RMK) iii. National Commission for Women (NCW)
23.4. Trends in the representation of women in governance and decision-making at various levels in local communities, groups, Panchayati Raj Institutions, districts and state	i. Ministry of Women and Child Development ii. National Commission for Women (NCW) iii. Rashtriya Mahila Kosh (RMK) iv. Ministry of Panchayati Raj (MoPR)
23.5. Gender Plan of action for biodiversity conservation in all sectors	i. National Biodiversity Authority (NBA) ii. State Biodiversity Board (SBBs)

Ministry of Environment, Forest and Climate Change

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