Expanding Horizons. Enriching Lives

PREPARATION OF ZONAL MASTER PLAN OF ECO-SENSITIVE ZONES OF NATIONAL PARKS AND SANCTUARIES LISTED IN CLUSTER 1 OF MADHYA PARDESH

ZONAL MASTER PLAN
BAGDARA WILDLIFE SANCTUARY

VOLUME 1

TABLE OF CONTENTS

DEFINITION

Eco-Sensitive Zone. Eco-Sensitive Zones (ESZs) are areas notified by the Ministry of Environment, Forests and Climate Change (MoEFCC), Government of India around Protected Areas, National Parks and Wildlife Sanctuaries. The purpose of declaring ESZs is to create some kind of "shock absorbers" to the protected areas by regulating and managing the activities around such areas.

Ecologically Sensitive Area. ESA refers to an area around protected areas, National parks and Wildlife sanctuaries which acts as a transition zone from areas of high protection to areas involving less protection. Ecologically Sensitive Areas (ESAs) have been identified and notified by the Ministry of Environment, Forests and Climate Change (MoEFCC), Government of India since 1989.

Ecosystem Services. The Millennium Ecosystem Assessment defined Ecosystem Services as "the benefits people derive from ecosystems".

Environmentally Sensitive Area. Environmentally sensitive areas (ESAs) are landscape elements or places which are vital to the long-term maintenance of biological diversity, soil, water or other natural resources both on the site and in a regional context. They include wildlife habitat areas, steep slopes, wetlands, and prime agricultural lands.

Protected Area. A protected area is a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values. (IUCN Definition 2008)

Core Zone. Core zone formed by undisturbed ecosystems and characteristic of a specific region. It is the area with the greatest protection, it only allows activities that do not interfere in the conservation of the ecosystem and must ensure the protection of biodiversity in the long term.

Buffer Zone. Buffer zones are areas created to enhance the protection of a specific conservation area, often peripheral to it. Within buffer zones, resource use may be legally or customarily restricted, often to a lesser degree than in the adjacent protected area so as to form a transition zone.

National Park. A national park is a park in use for conservation purposes. Often it is a reserve of natural, semi-natural, or developed land that a sovereign state declares or owns.

Wildlife Sanctuary. Wildlife sanctuaries refer to an area which provides protection and favorable living conditions to the wild animals. Wildlife Sanctuary is a natural habitat, owned by the government or private agency that safeguards particular species of birds and animals.

Zonal Master Plan. Zonal Development/Master Plan is a detailed plan for a Zone conceived and prepared within the framework of a Master Plan containing proposals for various land uses, roads and streets, parks and open spaces, community facilities, services and public utilities, etc.

Carrying Capacity. As per the WTO (World Trade Organization) carrying capacity is defined as "The maximum number of people that may visit a tourist destination at the same time, without causing destruction of the physical, economic, socio-cultural environment and an unacceptable decrease in the quality of visitors' satisfaction."

Keystone Species. A keystone species is a plant or animal that plays a unique and crucial role in the way an ecosystem functions. Without keystone species, the ecosystem would be dramatically different or cease to exist altogether.

ABBREVATIONS

CBD	Convention on Biological diversity
COP	Conference of parties
ESA	Eco-Sensitive Area
ESZ	Eco-Sensitive Zone
MOEFCC	Ministry of Environment, Forest & Climate Change
MPTB	Madhya Pradesh Tourism Board
NP	National Park
PA	Protected Area
SEPL	Socio- ecological Production Landscape
ULB	Urban Local Body
WLS	Wildlife Sanctuary
ZMP	Zonal Master Plan

1. PLANNING A GREEN LANDSCAPE

1.1 The Vision

The vision for the Bagdara Eco-Sensitive Zone (ESZ) aims to sustain and enhance natural and human habitats while supporting resilient livelihoods that depend on eco-friendly economic activities. It envisages the promotion of nature-based tourism, sustainable agriculture, and conservation of biodiversity through an integrated governance framework that facilitates participatory management by local communities alongside government agencies. This framework invests in the long-term preservation and sustainable management of natural resources by addressing the ecological, social, and economic needs synergistically. It acknowledges the ESZ as a buffer that mitigates anthropogenic pressures on core protected areas, thereby contributing to the stability of biodiversity and ecosystem services.

A key driving principle of the vision is the reduction of pressure on core protected areas by engaging communities through eco-development programs, enabling sustainable resource use, and fostering partnerships with local governance bodies, NGOs, and other stakeholders. This includes the enhancement of livelihood options, fostering skill development, and promoting eco-tourism models that deliver socio-economic benefits to local people and contribute to conservation objectives.

1.2 Objectives of Management

1.2.1. Sustainable Management of Resources

Sustainable management requires a balance between resource use and natural regeneration. The ESZ is characterized by extensive dependency on forest and groundwater resources which, if not managed prudently, can lead to depletion and environmental degradation such as frequent forest fires and lowering groundwater tables. The ZMP aims to ensure the sustainable harvesting and restoration of these resources to maintain ecosystem health and support community needs without compromising ecological integrity.

1.2.2. Maintenance of Ecosystem Services

The ecosystems within and around the ESZ provide critical services including soil regeneration, nutrient cycling, water purification, pollination, carbon sequestration, and regulating micro-climates. These services are vital for the well-being of surrounding communities and wildlife. Acknowledging the frequent underestimation of these services, the ZMP aims to quantify and safeguard them through conservation measures and habitat protection, thereby ensuring their availability for future generations.

1.2.3. Sustainable Livelihood Enhancement

Recognizing the vulnerability of local livelihoods to ecological pressure and conservation restrictions, the plan prioritizes diversified, sustainable livelihood strategies. These include crop diversification, agroforestry, labor-intensive soil and moisture conservation works through programmes like MGNREGS, promotion of clean energy sources (LPG, improved cookstoves, biogas), and enhancement of self-help groups and microfinance support. Eco-tourism and home-stay development serve as additional economic drivers aligned with conservation goals.

1.2.4. Nature-Based Tourism

Tourism development within ESZ aims to balance visitor influx with ecological sensitivity. It is intended to promote employment opportunities and economic diversification while limiting impacts on sensitive natural and cultural sites. Nature-based tourism is envisaged as a mechanism to generate revenue that supports community welfare and conservation funding, whenever designed and operated sustainably and guided by carrying capacity and buffer guidelines.

1.3 Short-Term Objectives

In the short term, the plan aims to implement measures to reduce human-wildlife conflicts, stabilize and rejuvenate water bodies with rainwater harvesting, introduce sanitation and solid waste management systems, and create awareness about pollution control. Alternative livelihood options such as handicrafts, organic farming, and eco-tourism services will be fostered to decrease dependency on forest resources and reduce illegal activities.

1.4 Long-Term Objectives

Long-term objectives emphasize establishing contiguous, unfragmented wildlife habitats, embedding adaptation to climate change, enforcing stringent pollution controls on air, water, and noise, and consolidating sustainable tourism infrastructure. Institutional frameworks will be strengthened to facilitate adaptive governance, monitoring, and community participation for the holistic resilience of the ESZ landscape.

1.5 Problems in achieving objectives

In recent years, there has been a growing concern amongst protected area professionals and the public that many protected areas are failing to achieve their objectives, and, in some cases, they are losing the values for which they were established. As a result, improving the effectiveness of protected area management has become a priority throughout the conservation community. Some of the major concerns are:

- Lack of awareness and administrative hurdles to implementation
- Lack of capacity building initiatives for effective policy implementation
- Operation risks within the ESZ (special area)
- Need for a common mandate/ inter agency coordination.
- Current institutional framework and limited resources.

2. THE STRATEGIES

2.1 Ecofriendly Suggestive Land Use Planning

The eco-sensitive zone (ESZ) Zonal Master Plans do not define any land use or land cover in the ESZ Master Plan.

The zoning methodology integrates ecological sensitivity and human impact intensity using a multi-criteria analytical framework incorporating key environmental parameters such as wildlife corridors, surface water bodies, land use, groundwater status, and slope characteristics. Alongside this, anthropogenic pressure indices including population density, construction footprint, vehicular traffic, agriculture intensity, and forest dependency are integrated to generate composite spatial zoning for management action (Refer to Volume 2, Annexure 2, Chapter 2, Sections 2.1 to 2.4).

The ESZ is divided into:

- **Sustainable Development Areas**, encompassing existing settlements and revenue lands with regulated sustainable development; (Refer to Volume 2, Annexure 2, Chapter 2, Sections 2.1.3, Map 21).
- **Nature Conservation areas**, prioritizing wildlife corridors, habitats, wetlands and buffer zones requiring strict conservation; (Refer to Volume 2, Annexure 2, Chapter 2, Sections 2.1.3, Map 21).
- **Eco-Restoration Zones**, targeting degraded lands for soil and vegetation restoration; (Refer to Volume 2, Annexure 2, Chapter 2, Sections 2.1.3, Map 21).

This landscape approach ensures protection of critical habitats while allowing sustainable socio-economic development in suitable areas.

2.2 Activity Classification and Pressure Management

The plan provides a detailed classification of human activities within the ESZ into three categories:

- **Prohibited activities** include commercial mining, polluting industries, hydroelectric projects, untreated waste discharge, brick kilns, commercial firewood harvesting and large-scale livestock farms. These are banned outright to prevent irreversible ecological damage. (Refer to Volume 2, Annexure 2, Chapter 2, Sections 2.5).
- **Regulated activities** include construction, small-scale non-polluting industries, eco-tourism facilities, livestock rearing, and infrastructure works. Their approval depends on location, compliance with buffer zones (particularly a 1 km no-commercial construction zone near the Protected Area boundary), and fulfilment of environmental safeguards (Refer to Volume 2, Annexure 2, Chapter 2, Sections 2.6).
- **Promoted activities** such as rainwater harvesting, organic farming, renewable energy use, skill development, agroforestry, and environment awareness campaigns are encouraged to enhance sustainability and livelihood resilience. (Refer to Volume 2, Annexure 2, Chapter 2, Sections 2.6).

This classification tied with spatial zones facilitates site-specific planning, better enforcement, and sustainable compliance.

The integration of spatial zoning with non-spatial regulatory controls is a salient outcome of the zonal master plan. This facilitates precise decision-making for granting or denying permissions by overlaying the ESZ notification activity classifications onto mapped zones. This decisive framework streamlines approvals, minimizes conflicts between development and conservation needs, and enhances enforcement efficacy.

3. THEME PLANS

3.1 Addressing Conservation-Development Issues

Promoting sustainable land management in the ESZ focuses on integrating the needs of ecological integrity with those of livelihoods and development. The plan advocates for strict regulation of activities following the zoning delineated and the regulatory directions and guidelines of the ESZ notification. Conservation buffers are strictly to be maintained: 50 meters from large rivers and lakes above 4 acres, 15 meters from smaller water bodies, and 2 meters from stormwater drains. No construction may occur in these buffers; they are reserved solely for conservation functions and ecosystem protection. Developments such as roads or industries must incorporate adequate buffer strips to limit edge effects on habitats. The plan also emphasizes alignment with the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, ensuring the rights and participation of local communities are protected. Encroachment monitoring, strong enforcement on boundaries, and strict restrictions on development within or adjoining animal corridors are mandated. Sustainable construction practices include careful site selection, minimizing habitat disturbance, managing construction waste, avoiding high-noise activities during sensitive wildlife periods, and adherence to eco-friendly architectural norms. (Refer to Volume 2, Annexure 2; Chapter 3, section 3.1)

Green infrastructure initiatives, such as open space preservation, urban tree planting, establishment of community parks and gardens, and the integration of parks and greenways into neighbourhood layouts, are strongly encouraged to boost flood resilience, promote physical and mental health, and reinforce the environmental and social fabric of rural and peri-urban communities. The plan integrates “green building” norms locally-by using indigenous materials and promoting compact, low-rise developments. There is an explicit push to limit the expansion of major settlements within the ESZ and favour infrastructure that supports walkability and community identity. (Refer to Volume 2, Annexure 2; Chapter 3, section 3.1.1)

3.2 Restoration of Soil Moisture Regime

Landscape-level interventions are required to restore degraded lands, improve soil moisture, and reduce susceptibility to erosion. The plan prescribes the adoption of conservation agriculture including integrated nutrient management, use of green manures, continuous vegetative cover, and regulated grazing to enhance soil structure and moisture retention. Plantation projects using native, drought-tolerant, and nitrogen-fixing species are prioritized, particularly on slopes, riverbanks, and areas experiencing high runoff. The project components, as piloted in areas such as Khokra and Thani Pathak, unite afforestation, soil conservation structures, and sustainable harvesting practices, often using labor from MGNREGS and linking with self-help group nurseries. Comprehensive monitoring of soil health and productivity is mandated, with village participation in site-specific planning and in the ongoing maintenance of restored areas (Refer to Volume 2, Annexure 2; Chapter 3, section 3.2)

3.3 Restoration of Corridors and Connectivity

Restoring and maintaining wildlife corridors is crucial for maintaining ecological connectivity and reducing conflicts between humans and wildlife. The plan prescribes native tree plantations and biotic pressure reduction along corridors, creation of perennial water points, and local weed eradication to enhance corridor viability. Technology such as seismic E-alert systems for elephant movement is recommended, with proactive dissemination of alerts to residents along migratory routes. Collaborative land management discussions with corridor landowners, including revenue and private land integration for corridor-wide green cover, are required, with further attention to infrastructure such as underpasses for busy roads or

railways. The restoration strategy is comprehensive, extending to behavioral change campaigns regarding crop decisions and awareness programs for handling wildlife encounters (Refer to Volume 2, Annexure 2; Chapter 3, section 3.3)

3.4 Rainwater Harvesting

The plan mandates rainwater harvesting for all institutional, governmental, and large private structures, extending this best-practice model to households and farm-level systems. Priority techniques include construction of farm ponds, networking of contour-aligned catchments, and rooftop systems for non-agricultural buildings. Village and cluster-level "Pani Panchayats" are to drive collective resource management, ensuring equitable access and maintenance of water infrastructure. Model case studies, such as Nashik's farm-based tank network and Bhungroo rainwater injection modules in Gujarat, are referenced as templates for implementation. The plan further requires all public and private entities to maintain on-site storage and recharge capacity, linking property tax rebates to compliance as an incentive mechanism (Refer to Volume 2, Annexure 2; Chapter 3, section 3.4)

3.5 Municipal Waste Management

While current municipal waste volumes are limited, the plan recognizes increasing risks due to tourism and market growth. It advocates for the conversion of biodegradable waste to compost for agricultural use, with cluster-level collection and segregation sites established outside sensitive ESZ boundaries. All waste management operations must comply with Solid Waste Management Rules, 2016, and involve social groups such as SHGs in collection, processing, and awareness activities (Refer to Volume 2, Annexure 2; Chapter 3, section 3.5)

3.6 Wastewater Treatment

Preventing the discharge of untreated effluent into water bodies or land is strictly enforced under the plan, aligning with the Water (Prevention and Control of Pollution) Act, 1974, and subsequent MoEFCC and State Pollution Control Board guidelines. All dwellings, hotels, and community facilities must have appropriate, decentralized or centralized wastewater treatment. Alternatives such as kitchen garden reuse for greywater are encouraged at the household level. Successful models like Dhamner village's greywater management system are cited (Refer to Volume 2, Annexure 2; Chapter 3, section 3.6)

3.7 Solid Waste Management

Solid waste management practices shall follow a decentralized, cluster-based model—segregation at source, local composting of organic material, and cluster-based safe landfill for non-biodegradable waste beyond ESZ limits. Dedicated workers for waste collection are to be supported under schemes such as MGNREGS. Hotels, markets, and tourist facilities must be self-sufficient in separating and storing waste, with plastic and e-waste requiring specialized disposal. The plan strongly encourages "plastic-free" zones, particularly around key tourism areas, and strictly prohibits the burning or open dumping of waste. (Refer to Volume 2, Annexure 2; Chapter 3, section 3.7)

3.8 Bio-medical Waste Management

All healthcare providers, including clinics, blood banks, and veterinary facilities, must practice Bio-Medical Waste Management as per the 2016 Rules, ensuring segregation, collection, and treatment are strictly in accordance with notified State and national protocols. Coordination with district health services and use of community handling points are required to prevent contamination of soil, water, and air (Refer to Volume 2, Annexure 2; Chapter 3, section 3.8)

3.9 Management of Storm Water

With widespread ground permeability, the ESZ's rural areas benefit from natural infiltration, but the plan recommends further propagation of rainwater harvesting methods to direct excessive runoff into ponds or recharge wells, particularly with future increases in built-up area (Refer to Volume 2, Annexure 2; Chapter 3, section 3.9)

3.10 Vehicular Traffic Control

Strict regulation of road use and vehicle speed is proposed to minimize animal-vehicle collisions and barrier effects to wildlife. Speed is limited to a maximum of 30 km/h near sensitive stretches, with mandatory speed-breakers at wildlife crossing zones and frequent installation of wildlife warning signage. Night traffic bans, except for bona-fide local use, are enforceable in key corridors, and vehicular movement is to be monitored via checkpoints. Road design and maintenance must prioritize minimal habitat fragmentation, integrating prescribed green buffer widths and wildlife crossing structures such as culverts and canopy bridges where necessary. All new road and rail alignments are to avoid high conservation value land and fencing or use of natural features for bio-barriers should be designed to maintain animal movement wherever possible. The plan insists on realignment and restoration of existing disused infrastructure to promote ecological connectivity (Refer to Annexure 2; Chapter 3, section 3.10)

3.11 Management of Resource Extraction and Hazardous Waste

All new and existing mining operations, including minor and major mineral extraction, stone quarrying, and crushing units, are prohibited throughout the Bagdara ESZ, except for domestic needs of bona fide villagers such as earth digging for personal housing or tile manufacturing. This prohibition aligns with conserving ecological integrity and mitigating habitat degradation. Similarly, the use or production of any hazardous substances is strictly forbidden within the ESZ to prevent environmental contamination and harmful impacts on biodiversity and human health (Refer to Annexure 2; Chapter 3, section 3.11 to 3.12)

3.12 Surface and Ground Water Withdrawal

The plan emphasizes sustainable water resource management by reducing dependency on groundwater through enhanced water conservation efforts and piped supply schemes like the Jal Jeevan Mission. Groundwater extraction is regulated with monitoring provisions, prioritizing domestic and agricultural needs while prohibiting commercial sales. Natural springs, rivers, lakes, and their catchments are given special protection status to preserve source water quality and quantity. Development activities in proximity to these water bodies are regulated to maintain ecological functions and prevent pollution. Efforts include rejuvenation of water bodies through desilting and catchment management, supporting perennial water availability critical for wildlife and human use alike (Refer to Volume 2, Annexure 2; Chapter 3, section 3.13 to 3.14)

3.13 Development of Resilience to Climate Change

Climate change resilience is a cross-cutting theme implemented through afforestation and forest conservation, soil and water conservation practices, sustainable agriculture adaptation, and pollution abatement efforts. The plan prioritizes promoting renewable energy adoption and reducing forest-based biomass dependency. Specific forestry working plans will address climate risks, emphasizing adaptive management in species and habitat conservation. Water sector initiatives focus on integrated watershed management and groundwater recharge. Likewise, agricultural practices encouraging drought-resistant cropping and reducing chemical inputs are supported. Capacity building and climate-relevant research underpin these

strategies to prepare the ESZ communities and ecosystems for changing environmental conditions (Refer to Volume 2, Annexure 2; Chapter 3, section 3.15)

3.14 Tourism and Heritage Conservation

Tourism development is carefully planned as a tool for local economic upliftment while ensuring environmental safeguards. Priority is given to identifying new tourism assets and circuits that enhance visitor engagement without compromising ecological or cultural values. Heritage sites, both natural and man-made, are delineated for conservation. Regulations restrict tourism infrastructure and activities to designated tourism promotion areas outside a 1 km buffer from the protected area boundary, with architectural guidelines promoting low-impact, vernacular designs. The plan includes provision for interpretation centres emphasizing environmental education, visitor management through carrying capacity restrictions, and initiatives encouraging local community participation in guiding and hospitality roles. Waste management and visitor behaviour regulation such as zero-plastic zones—are integral to minimizing tourism impacts (Refer to Volume 2, Annexure 2; Chapter 3, section 3.16)

3.15 Agriculture and Livestock Management

The ESZ promotes sustainable agricultural practices aligned with the National Mission on Sustainable Agriculture (NMSA), endorsing water-saving irrigation techniques like drip irrigation and organic methods to minimize soil and water degradation. Crop diversification and encouragement of traditional crop varieties enhance resilience and biodiversity. Livestock management is structured through rotational grazing plans, improved breed promotion, fodder development, and community animal health services to mitigate pressures on forest ecosystems and reduce crop damage from wildlife. Stall feeding and night penning practices are encouraged to reduce human-wildlife conflict. Compensation mechanisms for livestock loss and crop raiding form an essential component of this strategy. Capacity building and veterinary camp implementation are prescribed to improve overall livestock health and productivity (Refer to Volume 2, Annexure 2; Chapter 3, section 3.17)

3.16 Cottage Industries Promotion

Facilitating cottage industries within the ESZ is intended as an alternative livelihood strategy that reduces direct pressure on forest and land while creating new sources of income and social empowerment, especially for women and marginalized communities. Local resources and traditional skills are harnessed—this includes the promotion of handicrafts such as bamboo work, non-timber forest product (NTFP) value addition, pottery, weaving, and honey production. Establishing clusters of such industries, supported by skill training and basic infrastructure, not only preserves artisanal knowledge but also improves market access and income stability. The convergence of these activities with self-help groups (SHGs) and rural development programs is crucial for upscaling, while branding and certification (“Bagdara Artisans,” “Eco-Label”) can provide competitive advantage in regional and national artisan markets. The plan also encourages linkage with tourism facilities for direct sale and engagement with tourists, further diversifying income streams and promoting rural entrepreneurship (Refer to Volume 2, Annexure 2; Chapter 3, section 3.18)

3.17 Abatement of Pollution

Pollution control within the ESZ is a foundational component of the ZMP’s strategy for long-term ecological preservation and improved public health. The plan outlines the phased elimination of noise, air, water, and solid waste pollution sources. Adhering to the National Green Tribunal and Central Pollution Control Board (CPCB) guidelines, noise levels are to be regularly monitored and enforced so that sensitive areas remain below 50 dB during the day and 40 dB at night, with display boards showing ambient noise and pollution levels in public

spaces and tourism zones. There is a strict ban on open burning of plastics and e-waste, and on the indiscriminate use of loud speakers, particularly during festivals, public gatherings, and near critical habitats. Initiatives include “silent zones” in core wildlife and tourism areas and awareness campaigns targeting both residents and visitors. Compliance will be ensured through periodic audits by the regulatory committees and through the empowerment of local institutions, which are to receive ongoing pollution-monitoring equipment and training (Refer to Volume 2, Annexure 2; Chapter 3, section 3.19)

3.18 Human-Wildlife Conflict (HWC) Management

Reducing human-wildlife conflict requires both preventative and adaptive measures implemented at village and cluster scales. The action plan includes the development and maintenance of physical deterrents—such as biofencing, night-penning for livestock, and early-warning systems for elephants—as well as rapid response teams for emergency interventions during acute incidents. Community crop guards, integration of compensation schemes for loss events, and educational campaigns are crucial components. Additionally, the ZMP recommends participatory mapping of historical conflict hotspots and the establishment of a grievance redressal system at the village level. Special attention is given to promoting coexistence through stall feeding, alternative cropping patterns less attractive to wildlife, and engagement of EDCs and JFMCs in mediating conflicts and claims. Annual reviews and timely compensation payouts serve to maintain public trust and continued cooperation in conservation efforts (Refer to Volume 2, Annexure 2; Chapter 3, section 3.20)

4. LIVELIHOOD ISSUES

4.1 Stakeholder Consultation

Comprehensive, inclusive stakeholder engagement is central to the planning and successful implementation of ESZ strategies. Regular consultation processes involving EDCs, JFMCs, SHGs, local Panchayats, government line departments (agriculture, horticulture, animal husbandry, tourism, rural development), NGOs, women, and youth groups are formalized at the micro-level. These collaborations ensure that all interventions reflect both ecological priorities and the livelihood aspirations of local people. Documentation of these consultations and decisions, as well as feedback mechanisms, help refine project implementation, foster community ownership, and facilitate rapid response to evolving needs. Such convergence is supported through scheduled meetings, shared allocation of development and conservation budgets, and cross-sectoral project design, as exemplified by the integrated plans for eco-tourism, micro-enterprises, and restoration projects within the Bagdara ESZ (Refer to Volume 2, Annexure 2; Chapter 4, section 4.1 & Annexure 3; for detailed consultation notes and outcomes)

4.2 Promotion of Eco-Development Activities

Eco-development initiatives are structured to generate sustainable income for residents while promoting ecosystem health. This involves landscape restoration projects, formation of pasture lands and goshala facilities for improved livestock management, establishment of fish ponds for aquaculture, and the creation of homestays for community-based tourism. Support for bamboo handicraft clusters, area-based micro-enterprises (bee keeping, herbal value addition), and training in “Ranimachi” painting for women provide further income diversification. Each intervention is guided by capacity-building frameworks tailored to the specific skill requirements of participants and is designed to leverage resources from various government schemes as well as private and NGO partners. Success is tracked through participatory rural appraisal and ongoing monitoring against social and ecological indicators documented in project micro plans (Refer to Volume 2, Annexure 2; Chapter 4, section 4.2)

4.3 Micro-Plan Preparation

Development of micro-plans with the community is essential for tailoring interventions to real, on-the-ground needs and ensuring efficient resource use. Each micro-plan is to be participatory and site-specific, reflecting seasonal agricultural calendars, village-level issues, and socio-ecological constraints. Plans must include a prioritized list of activities, phasing of interventions, assignment of responsibilities, cross-referencing of available funds and technical resources, and a monitoring and evaluation framework. The micro-planning process is strengthened by widespread stakeholder training and active facilitation by the Forest Department and collaborating NGOs (Refer to Volume 2, Annexure 2; Chapter 4, section 4.3)

4.4 Implementation of Micro-Plan

Rigorous implementation of micro-plans requires institutional commitment, transparent allocation of funds, community monitoring, and real-time feedback. Outcomes are measured through indicators such as forest health (regeneration rates, species diversity, canopy cover), improvements in agricultural yield, household income, diversification of livelihoods, rates of migration, and enhanced social cohesion. Regular reviews ensure continuous learning, program improvement, and scaling of successful pilots to new clusters or thematic areas. Institutional memory is strengthened via case study documentation and periodic workshops to update methods and address challenges (Refer to Volume 2, Annexure 2; Chapter 4, section 4.4)

5. SUB ZONAL TOURISM PLAN

5.1 Promotion of Sustainable Tourism

The Bagdara ESZ sub-zonal tourism plan envisions sustainable tourism as an integrated development mechanism balancing ecological preservation, local livelihoods, and visitor experience. The vision and objectives are to leverage the sanctuary's scenic beauty, rich biodiversity, unique cultural practices, and heritage sites to generate employment for local communities, raise conservation awareness, and minimize negative impacts on the natural and social environment. Special focus is given to developing tourism as a supplementary livelihood, improving infrastructure sensitively, and adopting best management practices based on national and state ecotourism guidelines, as articulated in Section 5.1.1 of Volume 2, Annexure 2; Chapter 5. To achieve this, the plan delineates specific tourism zones, identifies eco-friendly circuits and clusters, and proposes the upgrading of amenities and tourist services primarily through participatory, community-led models (Refer to Volume 2, Annexure 2; Chapter 5, section 5.1)

Identification and mapping of key tourism assets such as blackbuck safari locations, rock art sites, interpretation centers, and scenic village circuits help diversify attractions and distribute tourist pressure evenly across the ESZ. The plan emphasizes adherence to site carrying capacity norms, adopting strict protocols for waste management, noise control, and conservation education for both tourists and service providers to ensure the sanctity of natural and cultural assets is not compromised (Refer to Volume 2, Annexure 2; Chapter 5, section 5.1.2 & 5.1.2.3 for existing tourism infrastructure)

5.2 Conservation Education

Conservation education is treated as an ongoing process in the Bagdara ESZ, aiming to instill environmental responsibility in both residents and visitors. The plan supports interpretive activities—guided nature walks, wildlife observation, school field trips—alongside permanent educational materials at interpretation centers, eco-trails, and heritage sites. Curricula integration at local schools and outreach via interactive signage, workshops, and multimedia campaigns ensure constant knowledge sharing on regional wildlife, biodiversity, and cultural traditions (Refer to Volume 2, Annexure 2; Chapter 5, section 5.2)

NGOs, youth clubs, forest department staff, and local teachers are actively involved in the rolling out of these education efforts, targeting behavioral changes in waste management, wildlife protection, and respectful tourism conduct. The goal is to foster stewardship, pride, and direct involvement in the protection of eco-sensitive resources among all community segments.

5.3 Management Guidelines for Tourism

Management guidelines for tourism emphasize harmonizing development needs with ecological imperatives. All new tourism accommodation, including hotels, resorts, and homestays, must be located outside a 1 km buffer from the sanctuary boundary—unless specifically established as temporary eco-tourism activity under strict guidelines. Low-rise, locally compatible architectural styles are mandated (Refer to Volume 2, Annexure 2; Chapter 5, Section 5.3; Exhibit 10; Table 4).

Control measures include the use of permits and quotas for guided safaris and sensitive locations, encouragement of village-based hospitality training, and enforcement of zero-plastic and silence policies throughout all tourist circuits. Waste management protocols entail "carry in – carry out" policies for visitors, and infrastructure must include provision for segregated waste disposal at all activity nodes. Participation by EDCs and SHGs in the management and daily operations of guide services, visitor amenities, and cultural experiences is prioritized to maximize local economic retention (Refer to Volume 2, Annexure 2; Chapter 5, Section 5.3; Exhibit 9; Table 4).

6. RESEARCH, MONITORING, AND TRAINING

6.1 Prioritization of Research and Monitoring

Systematic research and ongoing monitoring are core principles of Bagdara ESZ management, supporting adaptive planning and evidence-based decision making. Themes prioritized for research include monitoring wildlife populations and corridors, assessment of forest regeneration, study of anthropogenic pressures, climate change vulnerabilities, water quality and hydrology, and social attitudes toward conservation (Refer to Volume 2, Annexure 2; Chapter 6, Section 6.1)

Research projects are to be implemented in partnership with academic institutions, research agencies, forest and wildlife departments, and NGOs. All findings feed into annual reviews of the ZMP, influencing updates to management strategies and regulatory frameworks.

6.2 Development of Human Resource for Implementation

Sustainable implementation of the ZMP depends on strengthening institutional human resource capacity. The plan stipulates the appointment and continual training of dedicated staff at all operational levels—forest guards, eco-tourism guides, environmental educators, and local monitors—supplemented by recruitment and engagement of local youth, especially women and marginalized groups. There is a concerted effort to amalgamate capacity building programs with ongoing employment guarantee and livelihood schemes, thereby ensuring both skill development and economic benefit locally (Refer to Volume 2, Annexure 2; Chapter 6, Section 6.2)

6.3 Skill Development and On-the-Job Training

Skill development programs are scheduled for periodic delivery, addressing both technical topics such as conservation agriculture, tourism hospitality, solid waste management, eco-friendly construction, and participatory monitoring, as well as softer skills such as leadership, bookkeeping, and environmental communication. Village learning sessions and hands-on demonstration pilots are established in training centers and at ongoing project locations, fostering active peer-to-peer knowledge transfer and capacity retention (Refer to Volume 2, Annexure 2; Chapter 6, Section 6.3)

6.4 Establishment of a Learning Centre

A central learning and resource center will be established within the ESZ, serving as a hub for training, demonstration, and information exchange. The center includes facilities for classroom instruction, resource libraries, living labs for sustainable agriculture and construction technologies, and field demonstration sites in agroforestry, nursery management, and waste management operations. This learning hub will support ongoing training initiatives and be a focal point for stakeholder convergence in project monitoring, research, and extension services (Refer to Volume 2, Annexure 2; Chapter 6, Section 6.4)

6.5 Capacity Building and Convergence

Capacity building and convergence across state agencies, local institutions, NGOs, and private sector actors are at the heart of implementation success. Regular workshops, project review meetings, and experience-sharing sessions at district and cluster levels help ensure that best practices are effectively disseminated and challenges are collectively addressed. This collaborative approach enhances resource pooling, avoids overlap of efforts, and amplifies the impact of individual interventions across the ESZ (Refer to Volume 2, Annexure 2; Chapter 6, Section 6.5)

7. THE BUDGET

7.1 The Plan Budget

The multi-year plan budget is based on a detailed estimation of capital and recurring expenditures for conservation initiatives, restoration projects, livelihood interventions, micro-enterprise start-ups, capacity building, and infrastructure upgrades. The components are structured cluster-wise and by intervention, allowing for adaptive reallocation in light of implementation feedback. Annual workload and cost schedules are recommended for each activity, supported by monitoring indicators, making financial planning a dynamic and responsive process (Refer to Volume 2, Annexure 2; Chapter 7; Section 7.1-Table)

7.2 Source of Funding

Funding sources are diverse, including allocations from central and state government flagship programs (MGNREGS, NRLM, PMGSY, Jal Jeevan Mission), district line departments, private sector investments, and non-governmental organizations (NGOs). The implementation committee is responsible for advocating timely release of funds, includes provisions for leveraging convergence among schemes, augments budgets with CSR and philanthropic grants, and ensures local cost-sharing where feasible (Refer to Volume 2, Annexure 2; Chapter 7; Section 7.2)

7.3 Drawing and Distribution Mechanism

Financial flows are streamlined through a dedicated ESZ fund with clear disbursement protocols. Funds are released in tranches on the achievement of predefined milestones and documented utilization, reducing delays and leakages. Simple digital management tools are recommended for transparency and timely reporting. The plan also encourages participatory budgeting, with community committees involved in resource allocation and subsequent monitoring (Refer to Volume 2, Annexure 2; Chapter 7; Section 7.3)

8. REGULATIONS IN THE ESZ

Protected areas have been identified through the Wildlife protection act, 1972. The purpose of declaring ESZs is to create some kind of "shock absorbers" to the protected areas by regulating and managing the activities around them. Guidelines for declaring Eco-sensitive Zones (ESZs) were notified by MoEF&CC under Environment Protection Act, 1986 with an aim to regulate certain activities around National Parks and Wildlife Sanctuaries so as to minimize the negative impacts of such activities on the fragile ecosystem encompassing the protected areas.

The MoEF&CC through a Gazette notification notified ESZ for Son Gharial Wildlife Sanctuary. The Son Gharial Wildlife Sanctuary is located in Sidhi, Singrauli, Satna and Shahdol Districts of Madhya Pradesh and it is spread over 209 Km of length and 200 meters width on both riverbanks of Son Gopad and Banas Rivers. The extent of Eco-Sensitive Zone is one Km from the boundary of the Son Gharial Wildlife Sanctuary. The area of Eco-sensitive Zone is 424 square Km.

As per the recommendations of the ESZ Notification and consecutive Departmental Meetings, the ZMP comprise of following key sections:

A. Spatial Zones for Development (Recommended) (Refer to Volume 2, Annexure-2, Chapter 2)
B. Non-spatial (Restricted, Regulated and Promoted Activities)
C. Management Guidelines and Policy (Refer to Volume 2, Annexure-2, Chapter 5, Section 5.3)
D. Pilot projects and interventions (Refer to Volume 2, Annexure-2, Chapter 3)
E. Regulatory zones (Refer to Volume 2, Annexure-2, Chapter 8)

8.1 Issuance of Permission in ESZ Area

For the purpose of issuance of permission in the ESZ area following process should be considered. (Refer to Volume 2, Annexure-2, Chapter 8, Section 8.1)

1. The eco-sensitive zone (ESZ) Zonal Master Plans do not define any land use or land cover in the ESZ Master Plan. (Refer Chapter 2 of volume 2, Annexure-2 for suggestive land use zoning)
2. The permission will be issued as per provisions laid down in the ESZ Notification, only for the activities which are not Prohibited. (Refer sections 2.6 & 2.7 of volume 2, Annexure-2)
3. The Permission for Regulated and Promoted activities has to be provide by Regulatory Authorities after recommendation of Monitoring Committee as per the provisions laid down in this ESZ Master Plan. (Refer sections 8.3 of volume 2, Annexure-2)
4. For Activities which are not mentioned in the ESZ Notification or in this ESZ Master Plan, the permission will be provided by Regulatory Authority after recommendation by the Monitoring Committee. (Refer sections 8.3 of volume 2, Annexure-2)
5. As per provision of this ESZ Master Plan, the Regulated and Promoted activities, are Spatially Permitted in the Sensitive Zone defined in Chapter 2 of Volume 2, Annexure 2- Chapters.
6. The per Permission within the Sensitive Zone are to be provided on the basis of:
    a. Activity Classification for ESZ in Section 8.2, Table no. 6 of Volume 2, Annexure 2- Chapters.
    b. Sensitive Zones of ESZ. Refer Map no.24 of Volume 2, Annexure 2- Chapters.
7. For area outside Sensitive Zone, Suggestive Zones has been identified in Chapter 2 of this ESZ Master Plan, the Permission shall be allowed by Regulatory Authorities after recommendation of Monitoring Committee. Due consideration shall be given to the Theme

Plans (Chapter 3 of Volume 2, Annexure-2) of this ESZ Master Plan before permission from concerned department.

8. For details of building regulation Bhumi Vikas Rule 2012 or subsequent regulation to be followed.
9. List of Regulatory Authority is mentioned in Section 8.3 of Volume 2, Annexure 2- Chapters.

8.2 Sensitive Zone

Based on the suggestions received from all the stakeholders and as per the Minutes of the Meeting from 1st, 2nd, 3rd and 4th inter-state departmental meeting dated 10.10.2024, 08.11.2024, 14.05.2025, and 16.09.2025, the Sensitive Zones are defined as follows: (Refer to Volume 2, Annexure-2, Chapter 8, Section 8.2)

(i) 1 km distance from the Protected Area: As per the Supreme Court Order dated June 2022 and subsequent modification in April 2023, this is a protective ring extending 1 kilometer from the core Tiger Reserve or the Eco-Sensitive Zone (ESZ) boundary, whichever is closer. Its primary purpose is to minimize immediate human impact, hence the restriction on new construction. In the case of Bagdara ESZ, the whole ESZ falls within the 1 kilometre buffer from the protected area. (Refer to Volume 2, Annexure-2, Chapter 8, Section 8.1)

(ii) Steep Hill Slopes (≥ 20°): These zones encompass areas with significant inclines, vulnerable to erosion and landslides. They require special protection to maintain soil stability and prevent environmental degradation. In these zones, only Local people shall be permitted to undertake construction on their land for their residential use, widening and strengthening of existing roads and construction of new roads and Construction and renovation of infrastructure and civic amenities. (Refer to Volume 2, Annexure-2, Chapter 8, Section 8.1-Steep Hill Slopes)

(iii) Water Body Conservation Areas (Green Buffer): These areas surround water bodies (lakes, rivers, etc.) and are critical for maintaining aquatic ecosystems and water quality. They aim to prevent pollution and protect riparian habitats. (Refer to Volume 2, Annexure-2, Chapter 8, Section 8.1)

The green buffers or recreational zones are proposed to large water Bodies/wetlands, major streams and water flow channels and no building activity should be proposed in the buffer area. The following are the buffer proposed [1]:

- 50 m from the river edge for large rivers.
- 50 m from the boundary of lakes of area 4 acre and above,
- 15 m from the boundary of lakes of area less than 4 acre / ponds/tank bed lands,
- 15 m from the boundaries of major canal, stream, nallahs and storm-water drains

(iv) Denuded Areas: These are regions where vegetation cover has been significantly depleted, leading to soil erosion and reduced biodiversity. Restoration and reforestation efforts are prioritized in these zones. (Refer to Volume 2, Annexure-2, Chapter 8, Section 8.1)

(v) Locations of Religious Importance: These are areas that hold cultural and religious significance. They are required to be handled with care, balancing the religious needs, and the environmental needs. (Refer to Volume 2, Annexure-2, Chapter 8, Section 8.1)

(vi) Silent Zone: The silent zone should be clearly defined and should be enforced within 1 km of the PA (Protected Area) boundary, where the permissible noise level should be 50 dB(A) in daytime and 40 dB(A) in night-time. For the entire ESZ beyond one km from PA, the

[1] Please refer 'Urban Wetland/Water Bodies Management Guidelines' issues by National Mission for Clean Ganga with School of Architecture and Planning, New Delhi.

permissible noise level should be limit of 65 dB(A) in day-time and 55 dB(A) in night-time as per the Noise Pollution (Regulation and Control) Rules, 2000. Noise pollution should be prevented and controlled in accordance with the Gazette notification. (Refer to Volume 2, Annexure-2, Chapter 8, Section 8.1)

(vii) Tiger Corridors: As per the National Tiger Conservation Authority published guidelines for development in the Tiger Corridor. (Refer to Volume 2, Annexure-2, Chapter 8, Section 8.1) Following regulations are:

a. Residential Construction shall be allowed in all abadi land and till 100 meters distance from the Abadi Land.
b. In non-Abadi land, residential construction is allowed with FAR restriction of 0.1
c. Widening and strengthening of roads shall be allowed only after obtaining approval from the Forest Department. (Wildlife board)
d. Construction and renovation of infrastructure and civic amenities are allowed.
e. No new commercial construction allowed in Tiger corridor area.

In the case of Bagdara ESZ, no tiger corridors are present.

8.3 Regulations as per the zones

Refer to Volume 2, Annexure-2, Chapter 8, Section 8.3.

Sr. No.	Activities	1 km distance from the Protected Area	Hill slopes >= 20°	Denuded areas	Conservation areas around water bodies (Green buffer)	Locations of Religious importance
Regulated Activities (as per extracts of the ESZ Notification)						
1	Commercial establishment of hotels and resorts					
	(i) No new commercial hotels and resorts establishments	✗	✗	✓	✗	✗
	(ii) Renovation and reconstruction of already existing commercial construction are allowed within the existing built-up area.[2]	✓[3]	✗	✓	✗	✓
	(iii) Small temporary structures for eco-tourism activities	✓	✗	✓	✗	✓
	Provided that, beyond one kilometre from the boundary of the Protected Area or up to the extent of Eco-sensitive Zone, whichever is nearer, all new tourist activities or expansion of existing activities shall be in conformity with the Tourism Master Plan and guidelines as applicable.[4]	NA	✗	✓	✗	✗
2.	Construction activities: (a) No new commercial construction of any kind shall be permitted within one kilometre from the boundary of the Protected Area or up to extent of the Eco-sensitive Zone, whichever is nearer:	✗	✗	✗	✗	✗
	(b) Provided that, local people shall be permitted to undertake construction in their land for their use including the activities listed in					

[2] To prevent development creep, commercial establishments shall be required to declare their existing service capacities at the evaluation stage. The regulatory authority shall ensure that these capacities are maintained during renovation or reconstruction, both at the approval stage and upon post-completion verification.
[3] As per the safeguards mentioned in Section 5.3.2 of Volume 2. **If Management committee wants to allow camping in any specific area it has to be identified as camping zone and changes have to be made in the ESZ Zoning Maps accordingly.**
[4] Refer Chapter 5 of Sub-Zonal Tourism Plan for additional details.

Sr. No.	Activities	1 km distance from the Protected Area	Hill slopes >= 20°	Denuded areas	Conservation areas around water bodies (Green buffer)	Locations of Religious importance
	sub- paragraph (1) of paragraph 3 as per building byelaws to meet their residential needs of the local residents such as:					
	(i) Widening and strengthening of existing roads and construction of new roads;	✓	✓	✓	✗	✓[5]
	(ii) Construction and renovation of infrastructure and civic amenities;	✓	✓	✓	✗	✓
	(iii) Small scale industries not causing pollution termed as per Classification done by Central Pollution Control Board of February 2016;	•	✗	•	✗	•
	(iv) Cottage industries including village industries; convenience stores and local amenities supporting eco-tourism including home stays[6]; and	✓	✓	✓	✗	✓
	(v) Promoted activities listed in this Notification.	✓	✓	✓	✓	✓
	(c) The construction activity related to small scale industries not causing pollution shall be regulated and kept at the minimum, with the prior permission from the competent authority as per applicable rules and regulations, if any.	✓	✓	✓	✗	✓
	(d) Beyond one kilometre it shall be regulated as per the Zonal Master Plan.	Applicable same as 2 (b) and (c)				
3	Small scale non-polluting industries Non-polluting industries as per classification of industries issued by the Central Pollution Control Board in February 2016 and non-hazardous, small-scale and service industry, agriculture, floriculture, horticulture or agro-based industry producing products from indigenous materials from the Eco-sensitive Zone shall be permitted by the competent Authority.	•	✗	•	✗	•

[5] Only temple related activities permitted.
[6] Refer section 3.18 of Volume 2.

Sr. No.	Activities	1 km distance from the Protected Area	Hill slopes >= 20°	Denuded areas	Conservation areas around water bodies (Green buffer)	Locations of Religious importance
4	Commercial goat and sheep farming Regulated under applicable laws.[7]	•	•	•	•	•
5	Felling of trees. (a) There shall be no felling of trees on the forest or Government or revenue or private lands without prior permission of the competent authority in the State Government.	•	•	•	•	•
	(b) The felling of trees shall be regulated in accordance with the provisions of the concerned Central or State Acts and the rules made thereunder.	•	•	•	•	•
6	Collection of Forest Produce or Non-Timber Forest Produce (NTFP). Regulated under applicable laws.	•	•	•	•	•
7	Migratory graziers. Regulated under applicable laws.	•	•	•	•	•
8	Erection of electrical and communication towers and laying of cables and other infrastructures. Regulated under applicable law [8].	•	•	•	•	•
9	Infrastructure including civic amenities. Shall be done with mitigation measures, as per applicable laws, rules and regulations and available guidelines.	✓	✓	✓	✗	✓
10	Widening and strengthening of existing roads and construction of new roads[9].	✓	✓	✓	✗	✓[10]
11	Undertaking other activities related to tourism like over flying the Eco-sensitive Zone by regulated under applicable law.					
	a) hot air balloon	✗	✓	✓	✓	✓
	b) helicopter	✗	✓	✓	✓	✓

[7] Subject to the approval of monitoring committee and Management guidelines
[8] Underground cabling may be promoted as per specific guidelines. Specific linear intrusions to be avoided as per management guidelines.
[9] Shall be done with mitigation measures, as per applicable laws, rules and regulations and available guidelines
[10] Only temple related activities permitted.

Sr. No.	Activities	1 km distance from the Protected Area	Hill slopes >= 20°	Denuded areas	Conservation areas around water bodies (Green buffer)	Locations of Religious importance
	c) drones[11]	✓	✓	✓	✓	✓
	d) Microlites	✗	✓	✓	✓	✓
12	Protection of hill slopes and river banks. Regulated under applicable law.	✓	✓	✓	✓	✓
13	Movement of vehicular traffic at night. (Regulated for commercial purpose under applicable laws).	✓	✓	✓	✓	✓
14	On-going agriculture and horticulture practices by local communities along with dairies, dairy farming, and aquaculture. Permitted under applicable laws for use of locals.	✓	✓	✓	✓	✓
15	Discharge of treated wastewater/effluents in natural water bodies or land area.	✓	✓	✓	✓	✓
16	Commercial extraction of surface and ground water. Regulated under applicable law.	•	•	•	•	•
17	Open well; bore well, etc. for agriculture or other usage.	✓	✓	✓	✓	✓
18	Solid waste management/bio-medical waste management.	•	•	•	•	•
19	Introduction of exotic species.	•	•	•	•	•
20	Eco-tourism.	•	•	•	•	•
21	Commercial sign boards and hoardings.	✓	✓	✓	•	✓
Promoted Activities						
1	Rainwater harvesting.Shall be actively promoted.	✓	✓	✓	✓	✓
2	Organic farming.Shall be actively promoted.	✓	✓	✓	✓	✓
3	Adoption of green technology for all activities.Shall be actively promoted.	✓	✓	✓	✓	✓

[11] Based on clearances from Forest Department. Can be extensively used for monitoring and policing purposes by law enforcement agencies.

Sr. No.	Activities	1 km distance from the Protected Area	Hill slopes >= 20°	Denuded areas	Conservation areas around water bodies (Green buffer)	Locations of Religious importance
4	Cottage industries including village artisans, etc.Shall be actively promoted.	✓	✓	✓	✓	✓
5	Use of renewable energy and fuels.Biogas, solar light, etc. to be actively promoted.	✓	✓	✓	✓	✓
6	Agro-forestry. Shall be actively promoted.	✓	✓	✓	✓	✓
7	Use of eco-friendly transport. Shall be actively promoted.	✓	✓	✓	✓	✓
8	Skill development. Shall be actively promoted.	✓	✓	✓	✓	✓
9	Restoration of degraded land/ forests/ habitat. Shall be actively promoted.	✓	✓	✓	✓	✓
10	Environmental awareness. Shall be actively promoted.	✓	✓	✓	✓	✓

**Note: On the basis of the comments received during 1st and 2nd inter-state departmental meeting dated 10.10.2024 and 08.11.2024*

LEGEND

✓ Listed activity permitted in the zone defined

× Listed activity not permitted in the zone defined

• Subject to permission from regulatory authority

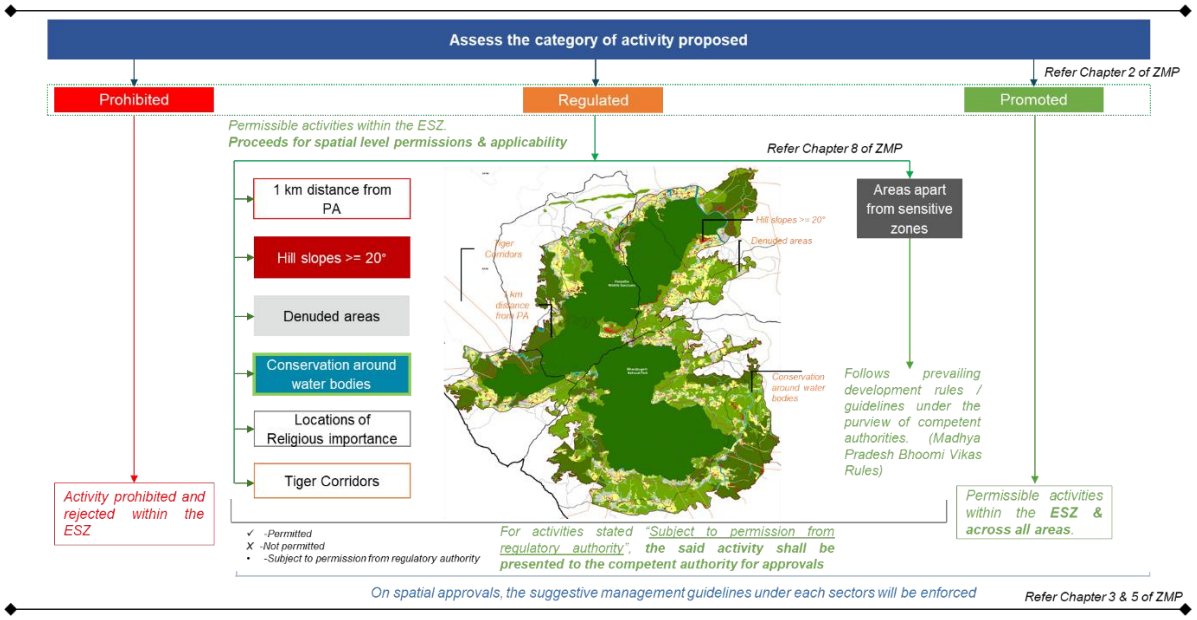
8.4 Regulatory Authority

Refer to Volume 2, Annexure-2, Chapter 8, Section 8.3.

S.N.	Regulated Activities	Regulatory Authority
1	Commercial establishment of hotels and resorts.	Revenue & Forest Dept., Local body
2	Construction activities	Revenue & Forest Dept., Local body
3	Small scale non-polluting industries.	Revenue & Local Body
4	Commercial Goat and sheep farming	Revenue & Local Body
5	Felling of Trees	Revenue & Forest Dept., Local body
6	Goat Farming	Local Body
7	Collection of Forest produce or Non- Timber Forest Produce (NTFP).	Local Body
8	Migratory graziers	Local Body, Forest Department
9	Erection of electrical and communication towers and laying of cables and other infrastructures	Revenue Dept., Local Body, DISCOM
10	Infrastructure including civic amenities	Revenue & Forest Dept., Local body
11	Widening and strengthening of existing roads and construction of new roads.	Revenue & Forest Dept., Local body
12	Under taking other activities related to tourism like over flying the ESZ area by hot air balloon, helicopter, drones, Microlites, etc.	Revenue & Forest Dept., Local body
13	Protection of Hill Slopes and river banks	Local body, Collector
14	Movement of vehicular traffic at night.	Local body, Forest Department
15	Ongoing agriculture and horticulture practices by local communities along with dairies, dairy farming, and aquaculture.	Local body
16	Discharge of treated waste water/effluents in natural water bodies or land area.	Local Body, MPPCB
17	Commercial extraction of surface and ground water	Local Body, WRD, CGWA, Collector
18	Open Well, Bore Well etc. for agriculture or other usage	Local Body, Collector
19	Solid Waste Management/Biomedical Waste Management	Local Body, CMHO, MPPCB, Health Department
20	Introduction of Exotic species.	Local Body, Collector, Forest Department
21	Eco-tourism	Local Body, Tourism Department, Forest Department
22	Noise Pollution	Local Body, MPPCB, District administration.
23	Commercial Sign boards and hoardings.	Local Body, Transport Department, Forest Department
24	Any other activity not listed above	Regulated as per the recommendation of the Monitoring Committee

**Note: On the basis of the comments received during 1st and 2nd inter-state departmental meeting dated 10.10.2024 and 08.11.2024*

8.5 Implementation and process flow



Procedure for Reading and Applying the Zonal Master Plan (ZMP)

Step 1: Activity Categorization

Identify the proposed activity and classify it under the ESZ Act categories of **Prohibited**, **Regulated**, or **Promoted**. (Refer *Volume 2, Chapter 2* for the complete list of categorized activities.)

Step 2: Decision Pathway Based on Categorization

- **Prohibited Activities:** Automatically rejected; no further consideration.
- **Promoted Activities:** Permissible across all areas within the ESZ. Forwarded for approval to the designated Regulatory Authority. (Refer *Volume 2, Chapter 8, Section 8.3.*)
- **Regulated Activities:** Require **spatial and contextual assessment**. For the same, verification of the proposed khasra location against sensitive zones, including:

    a. 1 km distance from the Protected Areas (PA)
    b. Hill slopes >=20°
    c. Denuded areas
    d. Conservation around water bodies
    e. Locations of Religious importance
    f. Tiger corridors

    If located within sensitive zones, the activity must be screened against compliance with *Volume 2, Chapter 8, Section 8.2: "Regulations as per the Zones"*. Upon compliance, the proposal may proceed to the designated Regulatory Authority for approval (*Volume 2, Chapter 8, Section 8.3*).

Step 3: Post-Approval Management

Approved activities shall adhere to the **management guidelines** provided in *Volume 2, Chapters 3 & 5*. These guidelines ensure that development remains sustainable and consistent with the ecological and regulatory framework of the ESZ.

9. CONCLUSION

The Zonal Master Plan for the Bagdara Eco-Sensitive Zone (ESZ) presents an integrated strategy to balance ecological conservation with sustainable community development in a vital landscape of Madhya Pradesh. It prioritizes the protection of critical biodiversity assets such as forests, wildlife corridors, wetlands, and freshwater systems while promoting eco-friendly livelihoods that reduce pressure on these fragile ecosystems.

Central to the plan is a detailed spatial zoning framework, informed by environmental sensitivity analysis and human activity mapping. This enables precise regulations that distinguish between high-conservation areas (where activities are restricted or prohibited) and zones that permit regulated, low-impact development. By offering clarity, this approach reduces conflicts and enhances local acceptance.

To support sustainable economic growth, the plan encourages organic farming, agroforestry, livestock enhancement, eco-tourism, and cottage industries. These alternatives provide viable income sources while protecting natural resources.

Strong governance mechanisms underpin the plan, with institutional bodies such as Monitoring Committees and coordination units across key sectors, supported by community-led structures like Eco-Development Committees (EDCs) and Joint Forest Management Committees (JFMCs). Emphasis on training, capacity building, and digital monitoring further ensures adaptive and participatory management.

Environmental challenges—including deforestation, soil erosion, water stress, and pollution—are addressed through targeted measures like forest regeneration, water conservation, waste management, and pollution control, all aligned with state and national standards. Climate resilience is built through diversified agriculture, habitat connectivity, and clean energy initiatives.

The plan also integrates regulated, culturally sensitive tourism to promote local heritage while safeguarding the environment. Provisions for mitigating human-wildlife conflict—such as compensation schemes, preventive infrastructure, and early warning systems—highlight the focus on coexistence.

Overall, the Bagdara ZMP offers a scientifically informed, socially inclusive, and institutionally robust framework for managing eco-sensitive regions. Its phased, cluster-based implementation, grounded in ecological realities and community participation, serves as a replicable model for other ESZs across India. Long-term success will hinge on coordinated execution, continuous monitoring, and sustained engagement with local communities.