



**Zonal Master Plan
For
Eco – Sensitive Zone
of
Bassi
Wild Life Sanctuary**



**Forest, Environment and Climate Change Department
Government of Rajasthan**

ZONAL MASTER PLAN
FOR
ECO-SENSITIVE ZONE
OF
BASSI WILD LIFE SANCTUARY

Foreword

The primary aim of declaring any area as an eco-sensitive zone is to establish a buffer zone or transition zone in order to safeguard the wildlife sanctuary's ecosystem and to enhance both the biotic environment of the sanctuary and the buffer zone surrounding it. The Eco-Sensitive Zone around Bassi Wild Life Sanctuary notified by Government of India notification mandates the State Government to prepare a Zonal Master Plan.

The Zonal Master Plan has been prepared with focus on the biological and environmental conservation of the Bassi ESZ. The Zonal Master Plan also places a strong emphasis on the potential expansion of ecotourism and prescribes zoning and development control standards in accordance with the Gazette Notification for sustainable tourist activities and the notification of eco-sensitive zones.

Department of Environment and Climate Change has prepared the Zonal Master Plan with technical assistance of Malaviya National Institute of Technology, Jaipur, Forest Department. and finalized the plan after seeking public comments.

I sincerely hope that Zonal Master Plan would serve as a guiding light, not only for the enhancement of the wildlife sanctuary but also for the entire eco-sensitive zone. It will promote sustainable tourism and that all stakeholders will join hands to ensure the successful implementation of the Zonal Master Plan for the Eco-Sensitive Zone in the future.

Shikhar Agrawal

Additional Chief Secretary

PREFACE

The key objectives of this study are to create a Zonal Master Plan of Eco-Sensitive Zone of Bassi, advise development regulations, and suggest proposals to mitigate negative environmental effects. The Zonal Master Plan of Eco-Sensitive Zone of Bassi addresses all the key development issues, including land-use, infrastructure, and transportation, with a primary focus on ecology, environment, and wildlife. The Zonal Master Plan includes tourism plan including studies to analyse the current conditions of various significant tourist destinations, their current situation and infrastructure availability, tourism statistics, environmental issues, and identification of potential tourism sites, as well as the creation of facilities for overall improvement of tourism footfall and tourism sites. The records will make it easier to determine the historical significance and heritage value of potential tourist destinations.

The primary aim of declaring any area as an eco-sensitive zone is to establish a buffer zone or transition zone in order to safeguard the wildlife sanctuary's ecosystem and to enhance both the biotic environment of the sanctuary and the buffer zone surrounding it. As a result, it's important to identify the numerous factors that contribute to environmental deterioration and provide solutions.

The zonal master plan focuses on the biological and environmental issues of the Bassi ESZ. In addition, it focuses on an analysis of the present situation in order to comprehend and implement the necessary action to protect and regulate the ecological environment and natural resources of the ESZ region.

The Zonal Master Plan also places a strong emphasis on the potential expansion of ecotourism and prescribes zoning and development control standards in accordance with the Gazetted Notification by government of India), for sustainable tourist activities and the notification of eco-sensitive zones.

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In Process of planned development of Bassi Eco-Sensitive Area, we would like to thank all the distinguished public representative, citizens, and departments concerned, who helped us with the formulation of the project and who dedicated their valuable time for providing information and guide in the preparation of this project report.

We express our special gratitude to Shri Shikhar Agrawal, Additional Chief Secretary (Department of Environment and Climate Change, Govt. of Rajasthan), Deputy Conservator of Forest (Wildlife), Chittorgarh and Dr. Nand Kumar, Associate Professor, Malaviya National Institute of Technology, Jaipur who supported us for preparation of Zonal Mater plan.

We thank all those officers who supported us directly or indirectly in formulation of this Zonal Master Plan report. The data received from primary surveys was gathered from citizens and we also thank them for the same. We hope that this document will act as a guide to improve the environment not only in wild life sanctuary but also of eco sensitive zone and help to promote sustainable tourism. At the end we hope that in future all the stakeholders will help in implementation of Zonal Master Plan of ESZ area.

Dr. Monali Sen

Director and Joint Secretary
Department of Environment
and Climate Change

CONTENTS

S. No.	Description	Page No.
1 INTRODUCTION		
1.1	Name, Location, Constitution and Extent of WLS	01
1.2	Approach and Access	01
1.3	Statement of Significance	01
1.4	Conservation Value	02
1.5	Boundaries	02-03
	<i>1.5.1 Legal Boundaries</i>	
1.6	Ecological Boundaries	03
1.7	GEOLOGY, ROCK & SOIL	04
1.8	Terrain	04
1.9	Climate	05-06
	<i>1.9.1 Rainfall Pattern and Distribution</i>	
	<i>1.9.2 Temperature; A Summary of Year-Round Pattern</i>	
	<i>1.9.3 Humidity; A Summary of Year-Round Pattern</i>	
	<i>1.9.4 Wind Speeds, A Summary of Year-Round Pattern</i>	
1.10	Water Sources	06-06
1.11	Ranges of Wildlife, Status, Distribution and Habitat.	06-10
	<i>1.11.1 Vegetation</i>	
	<i>1.11.2 The Bio Geographic Classification</i>	
	<i>1.11.3 The Forest Type, Cover and Food for Wild Animals.</i>	
1.12	Introduction of ESZ	11-19
2 NATURAL FEATURES		
2.1	Overview	20
2.2	Land uses and Allowed Activities in Bassi ESZ	20
	<i>2.2.1 Prohibited Activities</i>	
	<i>2.2.2 Regulated Activities</i>	
	<i>2.2.3 Promoted Activities</i>	

S. No.	Description	Page No.
2.3	Provision of Bassi ESZ Notification	21
2.4	Existing Activity/Use	21
2.5	Building Parameters for Grant of Approval	21
2.6	Environmental Clearance from State Environment Impact Assessment Committee or MOEF&CC	21-22
3 TOURISM PLAN		
3.1	Introduction	30
3.2	Background Information and Statistics	31
	<i>3.2.1 Statistics of Population of Chittorgarh</i>	
	<i>3.2.2 Statistics on Tourism Inflow in Chittorgarh</i>	
3.3	Heritage Sites	32-40
	<i>3.3.1 Natural Heritage</i>	
	<i>3.3.2 Man-made Heritage Sites</i>	
	<i>3.3.3 Conservation and Management Strategies of Heritage Sites</i>	
3.4	Ecotourism	40-44
	<i>3.4.1 Ecotourism as mentioned in the Eco Tourism Policy-2021</i>	
	<i>3.4.2 Eco-tourism Promotion Strategies</i>	
	<i>3.4.3 Eco-tourism/tourism activities to be permitted</i>	
	<i>3.4.4 Guidelines for Eco-tourism in ESZ of Bassi Wildlife sanctuary, Chittoragrh</i>	
3.5	Developing Tourist Information Centre	44-45
3.6	Heritage Trails and Nature Trails	45-45
3.7	Rural Tourism	46-47

CHAPTER - 1

1.1 Name, Location, Constitution and Extent of WLS

The Sanctuary derives its name from the historical town Bassi situated at the corner of the sanctuary; it lies between 74040' to 75056' East longitude and 25055' to 25008' North latitude.

Bassi was declared as wildlife sanctuary vide Government of Rajasthan Notification No. F-11/41/Raj. /8186 dated 29.8.88 for the purpose of protection, propagation and development of wild life & its environment.

1.2 Approach And Access

Bassi wildlife sanctuary is well connected with roads. Bassi, Vijaypur & Begun are the nearest towns. The sanctuary is situated along the Chittorgarh -Kota National highway at a distance of 25 Km. from Chittorgarh. The nearest railway station is Bassi-Berisal on Kota-Chittorgarh broad gauge line. The nearest airport is Dabok (Udaipur) 130 Km. away.

1.3 Statement of Significance

The sanctuary is one of the protected areas containing diversity and interspersion of habitats, which include area of Dhok and Khair stands, wetlands and fine grooves of mixed woodlands. The forests interspersed with numerous hills and hillocks, form the watershed for Orai and many other streams. The diverse habitat provides ideal habitat for a variety of fauna such as Panther, Chinkara, WildBoar, Chital, Fona korned antelope etc.

Two dams namely Orai and Bassi have been constructed in the past which provides excellent water facility for wild animals. These dams also provide very good place for water and terrestrial birds.

The sanctuary contains historical and religious places such as Jharia Mahadev, Tukara Mata, Modia Mahadev with which emotions of people are deeply attached. The varied biological, cultural, environmental values support the view that Bassi is important sanctuary in Rajasthan.

1.4 Conservation Value

Bassi sanctuary forms a unique system as the vindhyan range forms a typical Dhok forest, mixed with a variety of flora. Presence of rich bio-diversity provides complete food chain, which requires strengthening from the base. The Panther is apex of food chain of the tropical dry forest of the sanctuary.

This area is rich in water resources particularly south-western region of the sanctuary, where springs and river system are perennial and large water bodies are present e.g., Bassi dam, Orai dam, Ruparel dam & Bujhara dam. Many other tanks and anicuts are also present in and around the sanctuary.

The sanctuary presents numerous fields for a variety of research works. The scientific, education, aesthetic, recreational, Eco-tourism & Socio-economic values and aspects are the main subject of research and study.

The sanctuary is linked to the forest of Chittorgarh (Territorial) division, which provides important corridors for the wild life present in the sanctuary. These corridors are thus required to be protected by inducting these areas into the sanctuary and proper management practices. For this, a separate proposal is under consideration at the Government level.

1.5 Boundaries

1.5.1 Legal Boundaries

North: In the limits of village Parsoli, Bhichor, Nahargarh, Fatahpura forest Block bhichor, Badamagara, Kotha's Northern limit.

East: Village Nal, Devpuria, Muroli, Shopura, Ghanshyampura, Nandwai, Umar ka khal with Bhichor, Nandwai, Amjhariya forest block's eastern limits.

South: M.P. boundary village Fusariya, Kevariya, Surat singh ka khera, Bhungaria, Forest block Jaleshwar, Rajpuria, Bhungaria's limits. Rajpuria, compartment No. 1 & 2 boundary line Bassi, Vijaypur road's, bridge no. 8/1 below Bungaria valley

West: Bridge No. 8/1 Bassi – Vijaypur road, western limit of forest block Jaleshwar near village Keljher pillar no. 7/1 in the limits of village Siyaliya from there upto Bundi road.

Pillar no. 55 of forest block than forest block Neemghatti, Nandwas, Bhichor, Baramagra, Kotha's limits up to forest Naka Parsoli.

Area of Forest Blocks Included In Wild Life Sanctuary Bassi

Name of Forest Block	Legal Status	Area(ha.)
Jaleshwar	Reserve Forest	2305.48
Bokria Shikargah	Reserve Forest	228.6
Kala Magra	Reserve Forest	362.8
Amjharua	Reserve Forest	3986.00
Bora Magra	Reserve Forest	320.60
Nandwas A.	Reserve Forest	2145.85
Rajpuria	Reserve Forest	165.00
Bhungria	Reserve Forest	204.95
Pat	Protected forest	85.00
Nimghatti	Protected forest	434.20
Mahesara	Protected forest	642.50
Kotha	Protected forest	740.20
Bhichor	Protected forest	2097.08
Nandwas B	Protected forest	150.8
Total		13869.06

1.6 Ecological Boundaries

The present legally established boundaries are not biologically sufficient from the point of view of specific objects of management. The present boundary does not enclose a viable area of southern part of sanctuary this contains continuous belt of forest cover compressing of Rajpuria, Gorasia forest blocks which must be included in sanctuary. A proposal has been sent to the govt. by letter no 7100 dated 7-12-01 which is still pending. It is necessary to include proposed forest area in the sanctuary.

The forests of the sanctuary are interspersed with agricultural fields and many villages that create a typical honey combed situation. The agricultural activities & heavy biotic pressure has greatly influenced the management of the sanctuary. The permanent sources of water present in and around the sanctuary is a great boon to the wild life.

This also facilitates the wild animals for their survival particularly on the south-western and central zone of the sanctuary.

1.7 GEOLOGY, ROCK & SOIL

The sanctuary falls in Vindhyan hill range. It covers the older formations like phylites, sand stone rock & Limestone.

Laterite is formed at a number of places. It is generally reddish brown in color and pisolitic. In a few places it contains bauxite segregation. Lithomeric clays are also found associated with laterites in some places.

The soil is varied from clayey, clayey-loam to gravelly depending upon topography. Black or Grey cotton soil is found in patches lying upon the older formations. The soil on slopes and plateau is moormy and unfertile. The soil depth is good and varies from 30 CM. to few meters. The soil is mixed with pebbles and boulders.

THE SEASONAL VARIATION AT BASSI WILDLIFE SANCTUARY

Season	<u>Duration</u>	Peak months
Summers	Mid-March to Mid-June	April-May
Rains	Mid-June to September	July-August
Winters	October to mid-March	December – January

1.8 Terrain

The forest tract of the sanctuary is highly undulating with broken ranges of hills of different heights. Most of the hilly tracts are. The hills and hillocks forming a network leading to the bigger nallahs, entering the plains and draining into the rivers.

The topography of the area can be divided into hills, piedmonts zones and the plains. The hills with high altitudinal variation ranging from 250 Mts. to 600 Mts. The plains down the hills are mostly agricultural fields and grassing (changed) lands.

1.9 Climate

The climate of this tract is sub-tropical characterised by distinct winter, summer and monsoon season. The summers commence from middle of March and the heat becomes intense in April. Hot westerner winds called `Loo' are common in summers. The nights are pleasant.

Summer	March to June
Rainy season	July to September
Winter	November to February

1.9.1 Rainfall Pattern and Distribution

Rainfall in the area is very erratic and unevenly distributed. Rains generally start in the last week of June and intermittently continue up to September end. High intensity of rain is generally observed in the month of July. The average rainfall is 852 mm. The average number of rainy days is 30.

1.9.2 Temperature; A Summary of Year-Round Pattern

A wide variation of temperature is observed round the year. Summers are generally very hot. The temperature reaches up to 46°C. Temperature starts declining in the month of November after the withdrawal of monsoon. The minimum temperature falls at 0.2°C.

1.9.3 Humidity; A Summary of Year-Round Pattern

Humidity in the air is generally low and rarely exceeds 20-25 percent except in the rainy season when it reaches between 60-80 percent.

1.9.4 Wind Speeds, A Summary of Year-Round Pattern

Wind blow from Southwest to Northeast during summer and the direction is reversed during winter season. Winds generally blow moderate speed and rarely blow at a speed of 40-60 km. per hour. During summer, dust storms are sometimes observed.

1.9.5 Drought, And Its Periodicity

Periodic and frequent droughts are observed in the area. Generally good rains are received once in three years. Rains are quite irregular and temporary drought conditions prevail even during the rainy season.

1.10 Water Sources

The Sanctuary area mainly falls in the Vindhyan hills. Because of the shallow soil and its geomorphologic conditions, percolation of the rainwater is considerably low. Most of the nallah dry up during the pinch and water is available only at few points. The main source of water is Orai River. The natural springs originate at following places, which provide water for few months after rains.

- (i) Jharia Mahadeo (Amjharia block)
- (ii) Amba ka pani (Amjhraria block)
- (iii) Jogideh (Jhaleshwar block)
- (iv) Modia mahadeo (Bara Magara Block)

1.11 Ranges Of Wildlife, Status, Distribution and Habitat.

1.11.1 Vegetation

The health of the ecosystem is governed by the vegetation of the area. The Bassi Wildlife Sanctuary is quite rich in the biodiversity, organized into a geometric composition of ground flora to the top canopy designed naturally to harvest maximum sunlight and maximize the biodiversity. The soil formation, ground water recharge, prevention of excessive surface water evaporation, humification, soil structure and prevention of soil erosion are the attributes that depend upon the vegetal cover of the area.

1.11.2 The Bio Geographic Classification

The *Anogeissus pendula* forests are found all over the sanctuary. The main tree species are Dhok. (*Anogeissus pendula*) Khair (*Acacia catechu*), Ber (*Ziziphus mauritiana*), Kakon, Khirni (*Wrightia tinctoria*), Tendu (*Diospyrous melonoxylon*), Gurjan (*Lannea grandis*), Karaya (*Sterculia urens*), Jhinjha (*Banharia rasemosa*), Salar (*Boswellia serrata*), Kalan (*Mitragyna perviflora*), Dhawara (*Anongeissus latifolia*), Bel (*Aegle marmelos*) Anwla (*Embelica officinalis*).

The average density is 0.2 to 0.8. The average height of tree is 6 mts. In favorable localities it goes up to 20 Mts. The vegetation in Nallah beds is evergreen and provides excellent habitat for wild life.

The undergrowth consists of Kali-Scali (*Grewia flavens*) Tamat (*Nyctenthis arbotristes*) Ber (*Ziziphus muriciana*), Hungo (*Balamites olgyptica*) Karonda (*Carrissa cerandis*)

The grasses mainly found are lampla (*Aristida dipressa*), *Aristida* (*Aatrathameda valvis*), soarwal (*Hetiropogon contrortus*) etc.

In nallah the tall evergreen trees of Aam (*Mangiferra indica*) Jamun (*Syzizium cuminii*), Aonla (*Emblica officinalis*) Imli (*Tamarandus indica*) are found.

The spatial distribution of food is good, as forage is available in almost all parts of sanctuary during rainy season. During the summers the trees shed their leaves and animals come around water sources. The fallen Dhok leaves provide good forage for herbivores.

The forage is not available in the peripheral areas after rainy season where cattle pressure is high particularly in Bhichor, Kotha, Neemghatti, Nandwas, Jaleshwar.

1.11.3 The Forest Type, Cover And Food For Wild Animals.

(i) Forest Types

The forest of the sanctuary falls under "II Dry tropical forest" as per Champion and Seth's revised classification of forest types. The following sub-types and groups are recognized-

Group 5B-Sourthen tropical dry deciduous forest

5BC2-Mixed deciduous forest

E1- *Anogeissus pendula* forests

E2- *Boswellia serrata* forests

(ii) Cover And Food for Wild Animals

The vegetation density and diversity is an important factor in determining the habitat conditions for particular wild animal. Different animals prefer different type of

habitat, food and shelter. The flagship species of the area, Panther, needs wooded and shrubby groves for hiding and predation, which are available in the most part of the sanctuary area. Existence of the boundary out crops and numerous gorges in the hilly terrain form ideal cover for the big cat. Due to disruption of food chain and thin population of herbivores, fairly good population of panthers quite often invades the domestic livestock to fulfill their food requirement.

The Hyenas, Jackals, Foxes, Jungle cat are also found co-existing in the similar habitat conditions.

Chinkara, Cheetal, Blue Bulls, Wild Boars, Langoor, Hare and Porcupine form major herbivores of the sanctuary. The low population level is due to their direct competition with livestock and human disturbances.

(iii) Species And Communities of Conservation Importance; Key Areas

The biotic pressure in the sanctuary area has resulted in reduced regeneration capacity of various floral species leading to loss various floral species leading to loss of bio-diversity. The slow growing and non-coppicing species have been affected most and have slowly been localized to smaller pockets of the sanctuary.

Khair (*Acacia catechu*), Salar (*Bosewackia Sarrata*) etc. are the species, which need serious attention. Apart from these species there are certain other key areas which are of special conversation significance.

As per International Union for Conservation of Nature (IUCN) classification several plant species of global importance are found in the sanctuary which needs immediate actions to protect them against threats of extinction. A list of such species is as under —

S. No.	Scientific Name	IUCN Category
1.	<i>Sterculia urens</i>	Threatened
2.	<i>Chlorophytum tuberosum</i>	Rar
3.	<i>Desmotachya bipinnata</i>	Rare
4.	<i>Glriosa superba</i>	Intermediate

These species may not survive if timely action is not taken against threats of extinction. Due to small population and restricted distribution, they require intensive care and habitat management and may survive only with human support. The intermingling of very ancient mountain ranges in the sanctuary and resultant bio-diversity is an important factor for conservation, hence every effort should be made to make them free from human interference and restore moisture regime through drainage line treatment.

The rare threatened bird species found in the sanctuary as listed by International Union for Conservation of Nature (IUCN) and Zoological Survey of India (ZSI) are as under:

<u>S.No.</u>	<u>English Name</u>	<u>Scientific name</u>	<u>IUCN/ZSI Category</u>
1.	Common Peafowl	<i>Pavo cristatus</i>	Threatened
2.	White backed vulture	<i>bengalensis</i>	Vulnerable
3.	White scavenger vulture	<i>Nephron peronopterus</i>	Vulnerable
4.	Open billed stork	<i>Anastomus lencocephals</i>	Vulnerable
5.	Painted stork	<i>Mycturis lencocephals</i>	Vulnerable
6.	Black ibis	<i>Pseudobis papillosa</i>	Near threatened
7.	Spoon bill	<i>Platcha lencoeodia</i>	Threatened
8.	Paradise flycatcher	<i>Terpsiphone paradise</i>	Vulnerable
9.	Grey hornbill	<i>Tockus birostris</i>	Vulnerable
10.	Open billed stork	<i>Ariastomus oscitans</i>	Vulnerable

Fauna

(a) Vertebrates, Their Status, Distribution and Habitat of Major Animals

The top carnivore inhabiting the area is Panther *Panthera pardus*. Other major vertebrate species of the area include the Striped hyena. Jungle cat, Jackal, Indian fox,

Common langur, Neelgai, Indian pangolin, Chinkara, Bats, Porcupine & Muggar (Crocodile).

I. Panther.

Panther is the top carnivore of the area. It inhabits all over the sanctuary, sometimes it moves to the forest areas of territorial forest division. Sometimes it moves to agriculture fields and habitations in search of food.

II. The striped hyena.

Hyena is nocturnal in nature. They are termed as scavengers as they feed upon the dead animals and the left over portions of the kills of other animals.

III The Chinkara

Chinkara is the antelope found in Nandwas, Amjhariy, Jaleshwar blocks.

IV Blue bull

It is the largest antelope of the area. It is found all over the area. It also moves to the agricultural fields.

V Birds

The variety of birds inhabiting the sanctuary ranges from land birds to water birds. The multistoried forests provide a suitable habitat for various avifaunal species. Variety of fruit species, grasses and varied microenvironments inhabiting insects etc. form suitable habitat conditions for various frugivores and insectivorous birds. Bassi & Orai dams and other Tanks, Talais & lakes inhabit a variety of water birds Sarus crane is found in comparatively large number.

VI Reptiles and Amphibians

The reptiles include the snakes, tortoises and lizards of various types. Non poisonous snakes include Rat snake (Dhaman), Earth boa, Cat snake, Wolf snake etc. The poisonous snakes include the Cobra, Common krait, Russell's viper. lizards including monitor Lizard, are also commonly seen.

1.12 Introduction of ESZ

Extent of ESZ

a) Area of the proposed ESZ in Square Kilometres	108		
b) Extent of ESZ Boundary from Protected Area Boundary (Km)	<i>Minimum Extent (kms)</i>		<i>Maximum Extent (kms)</i>
	0 Kms		3 Kms
	If, uniformly distributed (kms)		--
c) Extent of ESZ in different directions (Km)	Direction	ESZ Boundary Points	Distance
	North	1 to 14	0 to 3 kms
	North-East	14 to 17	0.015 to 0.5 kms
	East	17 to 48	0 to 1.11 kms
	South -East	48 to 58	0 to 3 kms
	South	58 to 81	0.5 to 3 kms
	South-West	81 to 84	0.157 to 1.4 kms
	West	84 to 89	0.015 to 0.325 kms
	North-West	89 to 1	0.030 to 0.650 kms

Boundary Description of the ESZ Area

North	From Meghpura Chauraha the N.H. 76 upto the dispensary of Parsoli Village. From this point the ESZ Boundary continues along the N.H. 76 Upto Nal Chauraha.
East	Thea area in between road from Nal Chauraha to villages Nal - Muroli-Umarkakhal - Gatabav Tiraha , West Boundary of Anoppura -Fatehpura -Charcha village and up to MP Brder of the Bassi wildlife sanctuary.
South	The area of Madhya Pradesh state in a length of 2 km from the boundary of Bassi wildlife sanctuary starting from Charcha village of Rajasthan, whole area of Kunthali, Mataji ka khera and Gwalior kalan villages of Madhya Pradesh upto village Devdungari(Rajsthan).

West	The area between the boundary of Bassi wildlife sanctuary from Devdugari village along vijaypur-Bassi road upto Bridge No. 8 From Bridge No. 8 to kailjar the Boundary of Eco-sensitive Zone and Bassi wildlife sanctuary shall overlap..From kailar village to Palka Tiraha along Vijaypur- Bassi and form Palka Tiraha to Meghpura Choraha along Bassi-Meghpura link Road.
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Land use in ESZ

- (a) Forests, horticulture areas, agricultural areas, parks and open spaces earmarked for recreational purposes in the Eco-sensitive Zone shall not be used or converted into areas for commercial or major residential complex or industrial activities:
- (b) Provided that the conversion of agricultural and other lands, for the purpose other than that specified at part (a), within the Eco-sensitive Zone may be permitted on the recommendation of the Monitoring Committee, and with the prior approval of the competent authority under Regional Town Planning Act and other rules and regulations of Central/State Government as applicable and vide provisions of this Notification, to meet the residential needs of the local residents.

The Existing Situation in the Zone Of Influence

The zone of influence extends over the entire periphery of the forest. The entire landscape gives a mosaic appearance as a result of large number of revenue villages existing inside the boundary of the sanctuary, but at the same time are not part of sanctuary as per notification.

The major practices, which have an ill effect on the forest resource, are illegal grazing, lopping and firewood & NTFP collection. As per apex court’s decision, no forest produce can be taken out from protected areas.

Economically and culturally, the people are heavily dependent on the forests of the sanctuary. Agricultural economy of the local population mainly consists of raising milch

cattle, as the holding is small and fragmented. Practice of raising milch cattle has brought tremendous grazing pressure on existing forest.

Traditionally the people are religious. The worship different Gods. The major festivals of the people are Diwali, Dussehra, Holi etc. Various communities live together harmoniously and conflicts are rarely observed. Socially every community is a different entity and they do not participate in social functions of other community at large. Caste system is relatively rigid. Marriages take place with is the same community.

Economy of the people is mainly agrarian. Irrigation facilities are very limited. Generally, irrigation is done by wells and tube-wells. The major crops of the area are maize, groundnut, wheat, mustard and seasonal vegetables during monsoon and winter. The agriculture is mainly rain fed. Bassi and Orai dams constructed in the area help in recharging the ground water level and also serve as a source of irrigation for some period.

Cattle rearing is the other major occupation of the villagers. Cows, Buffaloes and Goats are the milk yielding cattle. Dairy industry is not well developed in the area. Other vocations of the people include the labour works at various sites of Government agencies.

Villages Situated Within Zone of Influence

Tehsil	Number of Villages
Chittorgarh	13
Begun	29

The Location, Extent, Boundaries and Natural Attributes Of The Z.I.

As mentioned above the zone of influence for Bassi Wild Life Sanctuary can be within 5 kms. Distance from the peripheral boundaries of sanctuary in all four directions. This area is classified as Eco-development zone. There are 42 villages situated in this zone. Local villagers depend upon sanctuary area for firewood, grazing, small timber for house construction and repair, wood for agriculture implements, fencing material & minor NTFP's. The major practices which have negative impact on the sanctuary

resources are grazing, lopping and firewood collection. On the south side there is MP state forest & in the west territorial forest.

Villages Inside And Outside The P.A. Ethnic Identities, Traditions, Customs, Relationship Between Distinct Groups Of People, Relationship With Forests:

The zone of influence (Z.I.) is defined as an area, which is affected by existence of sanctuary and the extent of area within which people having sanctuary base resource dependency. But it should also be taken into account that political and social influence of the people not necessarily dependent on the sanctuary also affects the well-being of sanctuary in many other ways.

In Bassi wild life sanctuary Z.I. is identified as an area of 5 kms. distance from eastern, western, southern and northern boundaries. There are 42 villages in the Z.I. The social & cultural structure of the society as well as their tradition and custom are almost identical. The only difference is the reduction of their dependency on the sanctuary.

Bhil, Dhakda and Gujars are the main communities living around the sanctuary in Z.I. Phytolatry and Zoolatry is common among them. Even celestial bodies are also worshipped. Their religious places are "Deora" generally situated either at outskirts of village or near some hill clade within the forests.

The State Of People's Economy, Vocations, Land Use, Use Of Forest & Non-Forest Based Natural Resources By People And Seasonal Patterns:

Agriculture, Animal husbandry & labour work are the chief occupation of people living in villages within proposed zone of influence of the sanctuary. Presence of Parsoli and Bijolia mines, nearby generate ample employment opportunities for laborers of these villages. Demand of milk in nearby towns provokes them to have good number of cattle. The economy of families residing in these villages is based upon natural resources to a great extent, supplemented with labour work on mines and development works carried out by government departments.

The average land holdings of the people in ZI are small. Maximum of the families are small and marginal farmers having land holding of 1 to 1.5 hectares with large family size. Generally, women and children look after the cattle, whereas man prefers labour intensive works. Land less communities is exclusively dependent on labour for their

livelihood. Some communities like Brahmins, Rajput & Mahajans, although small in number but are educated, hence prefers service with some government or non-government organization in the city. They are generally well off, and are also the main business class in the area.

Agriculture is a seasonal work and does not provide employment throughout the year. They do not have employment for nearly six months during the year. During these six months of unemployment, they take up variety of jobs like animal husbandry, labour, fuel wood collection, collection of timber & NWFP etc. to supplement their income. Intricacy of tribals with forests is remarkable. They fully depend on forests for housing materials, fodder and small timber for agriculture implements. Irrigation facilities are poorly developed. Villagers are having their own water pumps to irrigate their agriculture fields.

Major communities living in villages falling within the Z.I. are dependent on Animal Husbandry, having large number of cattle, to sustain their economy. Stall-feeding is least preferred. People keep their cattle in cattle ponds for the night and take them out for feeding, in the daytime. During rainy season when there is a profuse growth of green grasses and fodder in the forest areas, they drive their cattle in these areas for feeding. The main reasons for this are;

- To avoid unhygienic conditions in the houses, which are created by these cattle during wet weather like accumulation of dung, mud and insects etc.
- To make use of easily available green fodders and grasses in the forests, which they are using traditionally.
- People are free during rainy season and have little else to do.

Among the cattle population sizeable number of goats are present in the cattle herd owned by the people. The sanctuary area surrounded by these villages is worst effected in rainy season when most of the cattle are left in the area. Some plantations are done by the Forest Department on available forestland in villages within proposed limit of Z.I., which is main source of grass collection for the people of these villages.

A large section of society within Z.I. is labour class and landless. They do jobs on mines, house building and other type of labour-oriented works, which is available to them in

close vicinity of their villages. The labour works are also seasonal, and job opportunities reduce during rainy season and in summers.

Implication of The Land Use and Resources Dependency For The Conservation Of PA:

The land holding in the villages within limits of proposed zone of influence is small and the quality of cattle is poor, which results into poor economy of people in general. The economy of the area is dependent on natural resources to a considerable extent. There is no large or small industrial set up in the area the net area available for agriculture is small owing to the terrain, water availability, and soil conditions, which in turn results into poor harvesting and people are forced to take up other occupation like Animal Husbandry, Mining & labour-oriented works to support their economy.

People of the area keep a large number of cows, buffaloes, goats, sheep and other animals which can not survive alone on agriculture land resources. The land adjoining to Sanctuary and falling within limits of Z.I. are already degraded due to heavy pressure of grazing and browsing, and can not sustain the large number of animals dependent on them. Further, the recovery of adjoining areas has become very difficult because of continuous pressure of grazing.

The land holding in the Z.I. is small and the soil is poor, in most of the areas. Poorly developed irrigation facilities and less availability of cultivated land are the factors, which cannot sustain the human and cattle population throughout the year. The cropping pattern almost leaves people free for 6 months in a year. During the period of unemployment people involve themselves in labor works, grazing of cattle, collection of fuel wood, small timber and other activities which increases pressure on sanctuary resources. This biotic pressure on the sanctuary results in biotic disturbance & degradation of habitat. The small land holdings also increase the tendency of the people to encroach upon suitable lands of the forest areas, which reduces the area available for wild life.

There are several large and small temples inside the sanctuary area, to which people has right to visit. The biotic disturbance created by the people visiting these temples is detrimental to wild life. The disturbance, throwing litter and other wastes damage the habitat and pose threat to the health of wild animals in the sanctuary.

Forest/P.A. Management Practices & Their Implication For The People:

The existence of wild life sanctuary Bassi has created a resource crunch to the people living in zone of influence by way of control on grazing, on collection of fuel wood and small timber and other related natural resources. Recent order of Hona'ble Supreme Court with respect to non removal of any kind of forest produce from the sanctuary areas has resulted into feeling of antagonism among the local people towards wild life sanctuary. The major implications of the management practices for the people are listed below:

- Control over Livestock Grazing in Sanctuary area
- Control over collection of fuel wood, small timber, building material etc.
- Control over poaching and hunting in the area
- Deterring effect on construction of roads, electric lines & mining activities.
- Generation of Employment through forestry development works in the area.

The villagers living in zone of influence, who used the forests of sanctuary for grazing purpose, felt the first impact. Because of enforcement of law and legal bindings, they have to graze their cattle elsewhere or illegally. The impact is also felt by the person who enters the forest for collection of small timber and fuel wood etc.

The Developmental Programs and Conservation Issues

The living standard of the agrarian community can be improved by development of agriculture. Construction of dams and development of irrigation has helped the farmers to take more crops per year and even during droughts and non-rainy seasons, which has greatly improved their economy. Development of roads and communication network has improved the marketing and access to essential facilities like health and education available in the nearby towns. These development activities are helping in overall development of the area but the adverse impacts of such activities on the habitat are required to be suitably mitigated.

The development of protected area will be of great help in mitigating the water scarcity of the region. The carrying capacity of the area has decreased due to unregulated heavy biotic pressure leading to disturbances in hydrological cycle and other ecological

process. The soil and moisture conservation works, rehabilitation of degraded area, development of pastures and grasses are the liked activities to the integrated area development. Integrated area and eco-development works will reduce the dependence of local population on the forests. Soil and moisture conservation works will help in augmenting the ground water recharge in sanctuary area, which can act as a natural reservoir of water to mitigate the water scarcity of the area. Eco-development works will include the supply of fuel wood and fodder and will improve the income level of the villagers. The resource development will have a direct bearing on the economy of the people, thus reducing their dependence on the forests, which in turn will help in maintaining and improving the fragile ecological balance of the area.

An Evaluation of Government And Non-Government Agency Programmes For Development Implications For The Pa, People And The Zi:

RFBP –Phase II is launched in the area from 2012-13. Foundation for Ecological Security (FES) a leading NGO in the area has been involved for micro-planning, constituting and strengthen the EDCs and to improve livelihood linkages with the help of eco-tourism and other activities.

The Interplay of Forces and Their Impact on The Subsistence Economy Of The Local People:

This area is backward and mainly dependent on agriculture and animal husbandry. Few mines are also there in the area. People working in the mines are low paid and working in hazardous conditions. Vegetable is also grown by the locals but they have no proper market to sell their products.

Goat rearing is another local important activity. City based people purchase goats on low cost and earns more profit by selling their flesh in city markets.

Leaves of Phoenix sylvestris are used for broom making. Outsiders approach the farmers and locals and generally pay Rs. 5/- for leave of one tree. Thus, people sell their product on very low cost.

If some organised system is developed, locals can earn more by selling their products.

A SUMMARY OF PROBLEMS FACED BY PEOPLE THAT AFFECT THE MANAGEMENT OF THE PA AND THE ZI:

Many villages are claiming that they have grazing and other similar rights. But, Hon'ble SC has banned grazing and all other similar non-forestry activities in PAs. Due to, this conflict is seen between people and officials of the sanctuary. Cattle lifting are done by panther and crop raiding is done by Langurs, Nilgais and Wild boars. In such cases people become a pathetic.

Chapter 2

2.1 Overview

The ESZ has been demarcated up to an extent of 0(zero) to 3 kilometres around the boundary of Bassi Wildlife Sanctuary and the area of the ESZ is 108.00 sq. km. The extent of boundaries for the ESZ and Wildlife Sanctuary is presented in Figure 1.1 (see Gazette Notification of 04th November, 2019) which shows the Bassi Wildlife Sanctuary and ESZ as per Gazette Notification, 2019.

Development Promotion and Control Regulations (DPCR) are a set of guidelines and rules established by local government authorities to govern landuse and development within a specific jurisdiction. These regulations aim to promote orderly and sustainable development while ensuring that it aligns with the overall planning goals and objectives of the area.

2.2 Land uses and Allowed Activities in Bassi ESZ

As per Bassi ESZ Notification, the list of activities is categorized in three parts. All the development decisions shall be in conformity with the activities prohibited, regulated, and permitted.

2.2.1 Prohibited Activities

As per the Bassi ESZ Notification the prohibited activities are given in Annexure 1A.

2.2.2 Regulated Activities

As per the Bassi ESZ Notification the regulated activities are given in Annexure 1B.

2.2.3 Promoted Activities

As per the Bassi ESZ Notification the promoted activities are given in Annexure 1C.

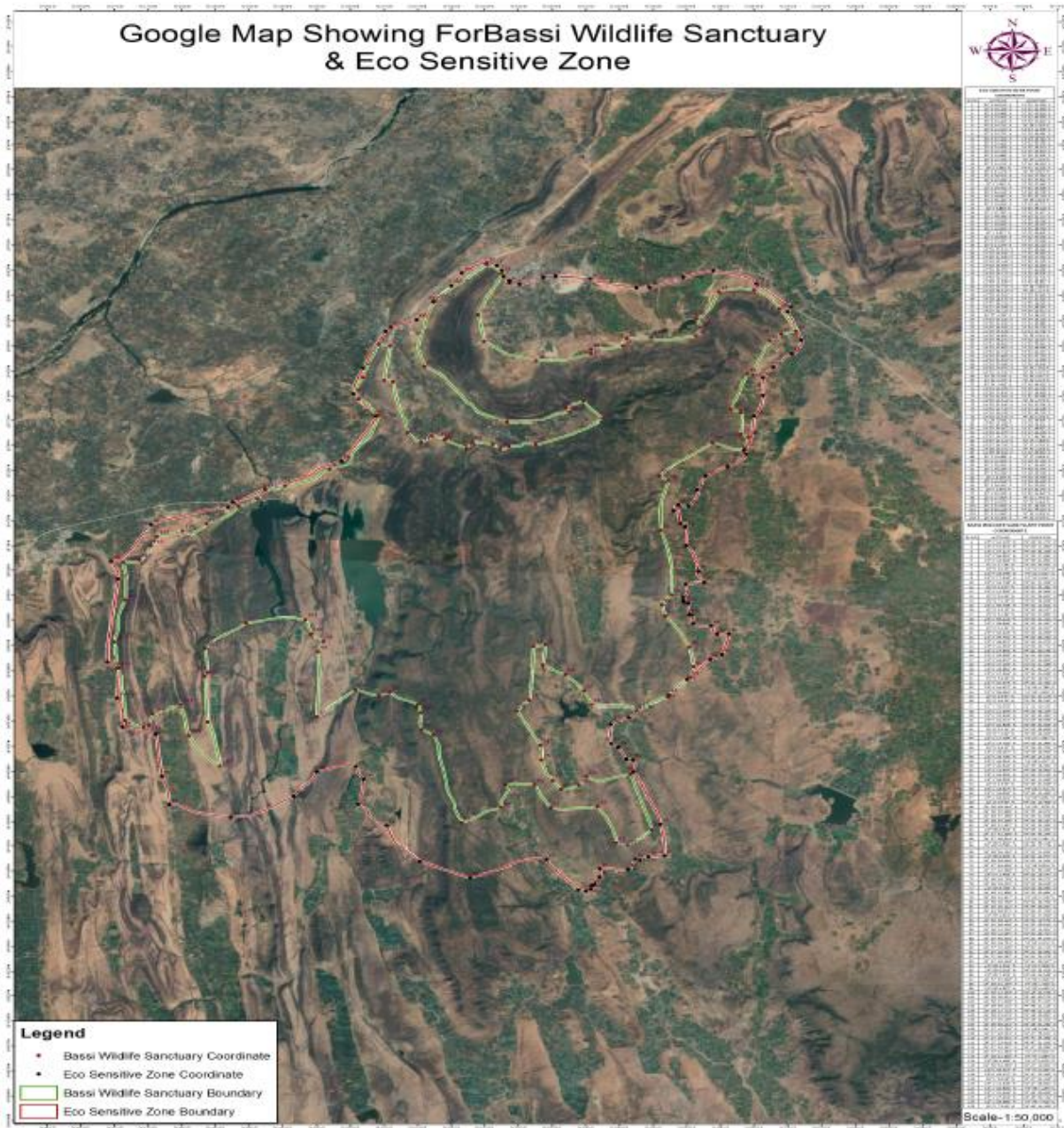


Figure No.: 1.1 Map Showing Bassi Wildlife Sanctuary and ESZ

2.3 Provision of Bassi ESZ Notification

ESZ Notification dated 04-11-2019 prescribes prohibited, promoted and regulated activities. Further, if any activity is prohibited under ESZ Notification dated 04-11-2019 and by any court orders, that prohibition would prevail over the activities allowed.

2.4 Existing Activity/Use

ESZ Notification dated 04-11-2019 prescribed regulations regarding new hotel, resort, commercial establishments, etc. This leads to the requirement of defining what is “existing.”

For purpose of ZMP for the ESZ, hotels, resorts, commercial establishments, etc. shall be considered as existing if they have any of the following issued prior to 04-11-2019 ESZ Notification of Bassi:

1. Electricity connection for non-agricultural use.
2. Approval by Tourism Department as tourism unit.
3. Conversion order/Patta for non-agricultural use.
4. Building Plan approval.
5. Order regarding change in landuse.
6. Proof of deposition of tax as hotel, resort, commercial establishment, etc.
7. CTE/CTO/Environmental Clearance.

Additionally, all the duly approved uses existing prior to issue of Bassi ESZ Notification shall be honored.

2.5 Building Parameters for Grant of Approval

The general building parameters for permissions to be granted in ESZ shall be as under:

Maximum Height – 10.5 mters.

However, if the allowed height, as per building byelaws is less than 10.5 meters. Then, the lesser height would be applicable.

Maximum Ground Coverage – 20%

However, if the plot coverage allowed as per building byelaws is less than 20% then, the lesser ground coverage would be applicable.

Other building parameters will be as per prevailing Building Byelaws wherever applicable.

2.6 Environmental Clearance from State Environment Impact Assessment Committee or MOEF&CC

As per Sub-para 3 and Sub-para 4 of point no. 6 (Terms of Reference) of Bassi Eco-Sensitive Zone Notification, the provision is as under:

The activities that are covered in the Schedule to the notification of the Government of India in the erstwhile Ministry of Environment and Forest number S.O. 1533 (E), dated the 14th September, 2006, and are falling in the Eco-Sensitive Zone, except for the prohibited activities as specified in the table under Paragraph 4 thereof, shall be scrutinised by the monitoring committee based on the actual site-specific conditions and referred to the Central Government in the Ministry of Environment, Forest and Climate Change for prior environmental clearances under the provisions of the said notification.

ANNEXURE - 1A LIST OF ACTIVITIES PROHIBITED WITHIN ECO-SENSITIVE ZONE.

S. No.	Activity	Description
(1)	(2)	(3)
A. Prohibited Activities		
1.	Commercial mining, stone quarrying and crushing units.	(a) All new and existing mining (minor and major minerals), stone quarrying and crushing units are prohibited with immediate effect except for meeting the domestic needs of bona fide residents including digging of earth for construction or repair of houses and for manufacture of country tiles or bricks for housing and for other activities. (b) The mining operations shall be carried out in accordance with the order of the Hon'ble Supreme Court dated the 4 th August, 2006, and dated 28 th April 2023 in the matter of T.N. Godavarman Thirumulpad Vs. UOI in W.P.(C) No.202 of 1995 and dated the 21 st April, 2014 in the matter of Goa Foundation Vs. UOI in W.P.(C) No.435 of 2012.
2.	Setting of industries causing pollution (Water, Air, Soil, Noise, etc.).	New industries and expansion of existing polluting industries in the Eco-Sensitive Zone shall not be permitted: Provided that non-polluting industries shall be

		allowed within Eco-Sensitive Zone as per classification of Industries in the guidelines issued by the Central Pollution Control Board in February 2016, unless otherwise specified in this notification and in addition the non-polluting cottage industries shall be promoted.
3.	Establishment of major hydro-electric project.	Prohibited (except as otherwise provided) as per the applicable laws.
4.	Use or production or processing of any hazardous substances.	Prohibited (except as otherwise provided) as per the applicable laws.
5.	Discharge of untreated effluents in natural water bodies or land area.	Prohibited (except as otherwise provided) as per the applicable laws.
6.	Setting up of new saw mills.	New or expansion of existing saw mills shall not be permitted within the Eco-Sensitive Zone.
7.	Setting up of brick kilns.	Prohibited (except as otherwise provided) as per the applicable laws.
8.	Commercial use of firewood.	Prohibited (except as otherwise provided) as per the applicable laws.
9.	New wood-based industry.	Prohibited (except as otherwise provided) as per the applicable laws.

ANNEXURE - 1B LIST OF ACTIVITIES TO BE REGULATED WITHIN ECO-SENSITIVE ZONE.

S. No.	Activity	Description
(1)	(2)	(3)
B. Regulated Activities		
10.	Commercial establishment of hotels and resorts	<p>No new commercial hotels and resorts shall be permitted within one kilometer of the boundary of the protected area or up to the extent of Eco-Sensitive Zone, whichever is nearer, except for small temporary structures for eco- tourism activities:</p> <p>Provided that, beyond one kilometer from the boundary is nearer, all new tourist activities or expansion of existing activities shall be in conformity with the Tourism Master Plan and guidelines of the protected area or up to the extent of Eco-Sensitive Zone whichever as applicable.</p>
11.	Construction activities.	<p>(a) New commercial construction of any kind shall not be permitted within one kilometer from the boundary of the protected area or up to extent of the Eco-Sensitive Zone, whichever is nearer:</p> <p>Provided that, local people shall be permitted to undertake construction in their land for their use including the activities mentioned in sub-paragraph (1) of paragraph 3 as per building bye-laws to meet the residential needs of the local residents.</p> <p>Provided further that 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</p>

		<p>regulations, if any.</p> <p>(b) Beyond one kilometer it shall be regulated as per the Zonal Master Plan.</p>
12.	Small scale non-polluting industries.	<p>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.</p>
13.	Felling of trees.	<p>(a) There shall be no felling of trees in the forest or Government or revenue or private lands without prior permission of the Competent Authority in the State Government.</p> <p>(b) The felling of trees shall be regulated in accordance with the provisions of the concerned Central or State Act and the rules made thereunder.</p>
14.	Collection of Forest produce or Non-Timber Forest produce.	<p>Regulated as per the applicable laws.</p>
15.	Erection of electrical and communication towers and laying of cables and other infrastructures.	<p>Regulated under applicable laws (underground cabling may be promoted).</p>
16.	Infrastructure including civic amenities.	<p>Taking measures of mitigation as per the applicable laws, rules and regulations available guidelines.</p>
17.	Widening and strengthening of	<p>Taking measures of mitigation as per the applicable laws, rules and regulation and available guidelines.</p>

	existing roads and construction of new roads.	
18.	Undertaking other activities related to tourism like flying over the Eco-Sensitive Zone area by hot air balloon, helicopter, drones, Microlites,etc.	Regulated as per the applicable laws.
19.	Protection of hill slopes and riverbanks.	Regulated as per the applicable laws.
20.	Movement of vehicular traffic at night.	Regulated for commercial purpose under applicable laws.
21.	Ongoing agriculture and horticulture practices by local communities along with dairies, dairy farming, aquaculture, and fisheries.	Permitted as per the applicable laws for use of locals.
22.	Establishment of large-scale commercial livestock and poultry farms by firms, corporate and companies.	Regulated (except otherwise provided) as per the applicable laws except for meeting local needs.

23.	Fishing	Regulated as per the applicable laws.
24.	Discharge of treated wastewater or effluents in natural water bodies or land area.	The discharge of treated wastewater or effluents shall be avoided to enter into the water bodies and efforts shall be made for recycle and reuse of treated wastewater. Otherwise, the discharge of treated wastewater or effluent shall be regulated as per the applicable laws.
25.	Commercial extraction of surface and ground water.	Regulated as per the applicable laws.
26.	Solid waste management.	Regulated as per the applicable laws.
27.	Introduction of exotic species.	Regulated as per the applicable laws.
28.	Eco-tourism	Regulated as per the applicable laws
29.	Use of polythene bags.	Regulated as per the applicable laws.
30.	Commercial sign boards and hoardings.	Regulated as per the applicable laws.

ANNEXURE - 1C LIST OF ACTIVITIES TO BE PROMOTED WITHIN ECO-SENSITIVE ZONE.

S. No.	Activity	Description
(1)	(2)	(3)
C. Promoted Activities		
31.	Rain water harvesting.	Shall be actively promoted.
32.	Organic farming.	Shall be actively promoted.
33.	Adoption of green technology for all activities.	Shall be actively promoted.
34.	Cottage industries including village artisans, etc.	Shall be actively promoted.
35.	Use of renewable energy and fuels.	Bio-gas, solar light etc. shall be actively promoted.
36.	Agro-Forestry.	Shall be actively promoted.
37.	Plantation of Horticulture and Herbals.	Shall be actively promoted.
38.	Use of eco-friendly transport.	Shall be actively promoted.
39.	Skill Development.	Shall be actively promoted.
40.	Restoration of degraded land/ forests/ habitat.	Shall be actively promoted.
41.	Environmental awareness.	Shall be actively promoted.

TOURISM PLAN

3.1 Introduction

Tourism master plan envisages an advance planning for the activities to be done for development of tourism sector. Tourism is an upcoming sector and Rajasthan has ample scope for tourism. The natural heritage, manmade heritage including old forts and palaces, unique buildings and havelis, dams and water reservoirs, old temples and religious places etc. are the places of importance which attract tourist to all parts of Rajasthan. Apart from all these there are beautiful forests and diverse wildlife inside the forest reserves which makes it adventurous to visit the wild life sanctuaries and National parks of Rajasthan. Chittorgarh have Bassi wildlife sanctuary which has been notified in year 1988 and being managed accordingly. Ministry of Environment and Forest & Climate Change (MoEFCC) Government of India has notified the Eco Sensitive Zone (ESZ) of Bassi wildlife sanctuary including 56 villages of district Chittorgarh & MP State. This tourism master plan is prepared with a view to highlight the importance of tourist places around Bassi wildlife sanctuary and develop more such places of tourist interest around it so that when the tourism flourishes in Bassi wildlife sanctuary, the tourist gets the best and comfortable services around the Bassi wildlife sanctuary and its ESZ.

Rajasthan has emerged as one of the popular tourist destinations in India for both domestic and foreign tourists. The number of tourist arrivals in the state has increased fourfold in the last thirty years.

The state is known for its diversity in terms of natural resources, cultural heritage, historical as well as archaeological wonders and rare wild life. The forts and palaces, heritage hotels, colourful fairs and festivals, local art and handicrafts, etc. has been a unique selling proposition for tourists coming to the state. Chittorgarh is blessed with all types of tourist destinations in the city and around the city and the district.

Of late tourism in Rajasthan was small industry and was largely confined to the elite foreign tourists and domestic pilgrim traffic. Tourist arrivals were restricted to selected places such as Jaipur, Udaipur, Jodhpur, Ajmer, Pushkar and Nathdwara.

However, over the last few decades, due to the focused efforts of Rajasthan Tourism, various State Government agencies, select entrepreneurs / individuals, tourism has grown from an elite and pilgrim phenomenon to a mass phenomenon putting Rajasthan

firmly on the foreign and domestic tourist map. Also, as compared to the past, where the tourism in the state meant desert tourism, heritage tourism (forts, palaces, etc.) and pilgrim tourism, today the tourists have a wide canvas of places, attractions and activities to choose from in the state, which enhances the overall tourism experience.

The industry today employs over one lakh people directly and over three lakh people indirectly contributing Rs 2000 Cr. to the State economy. Given the increasingly important role that the sector plays in the overall socioeconomic development of the state, the State Government of Rajasthan has accorded an industry status to tourism from the year 1989.

To promote tourism in the state, the Department of Tourism (DoT), Rajasthan has played a key role where Rajasthan Tourism Development Corporation (RTDC), was established in November, 1978 primarily to act as catalyst by developing tourism infrastructure facilities, particularly by way of basic amenities like accommodation, catering and organized tours / sight-seeing facilities.

Tourism in Kota is also emerging in the recent years due to the increasing development of tourist destinations, highlighting of heritage, forest and wildlife areas. It creates demand for new hotels, resorts, guest houses, Yatri-niwas, restaurants, wayside Dhabas, markets etc. It is, therefore, need of the time to have a plan for the development and management of the tourism in the district in the coming 15-20 years.

3.2 Background Information and Statistics

3.2.1 Statistics of Population of Chittorgarh:

1	Households	329119
2	Total population	1,544,338
3	Male population	783,171
4	Female population	761,167
5	Urban population	18.47 %
6	Rural population	81.53 %
7	Hindu	91.51 %
8	Muslim	6.34 %
9	Jain	0.08 %
10	Sikh	0.10 %
11	Others	0.02 %
12	Scheduled Tribes (ST)	16.2%
13	Scheduled caste	13.05%
14	Children between 0-6 years	212,507 (13.76%%)

15	Sex ration	972 F/1000M
16	Literacy rate	61.71
17	Population density	197 /sq.km
18	Area of Kota district	7,822 sq km

(source : census 2011)

3.2.2 Statistics on Tourism Inflow in Chittorgarh

S.no	Year	Number of Domestic tourist	Number of Foreign tourist	Number of Total tourist
1	2018	731733	4673	736406
2	2019	607177	5674	612851
3	2020	184707	2351	187058
4	2021	688370	150	688520
5	2022	796112	1071	797183
		3008099	13919	3022018

Though the numbers of tourists shown in the above table belong to Chittorgarh City mainly, but it is expected that about 10-15 % of the tourists visiting Chittorgarh City can prefer going to the new tourist destinations to be developed in the ESZ of Bassi WLS, as the ESZ villages have great potential of natural heritage sites. Particularly, the rural tourism can get a boost if given proper importance and promotion by the tourism authorities.

3.3 Heritage Sites

3.3.1 Natural Heritage

The Bassi wildlife Sanctuary is an important natural heritage site in Rajasthan, India. It is home to a diverse range of flora and fauna, including several rare and endangered species. The region's natural heritage encompasses its unique landscapes, biodiversity, and cultural significance.

The hills and valleys of the reserve offer a rugged terrain that is home to dry deciduous forests and thorny shrublands. These forests are dominated by species such as teak, sal, dhok, tendu, and amla, among others. The thorny shrublands are characterized by species such as khejri, ber, and phog, among others. The reserve is also

home to several rare and endangered species of fauna, including the Bengal tiger, Indian leopard, sloth bear, Indian wolf, and several species of deer and antelope.

The cultural significance of the region is also an important aspect of its natural heritage. The region is home to several indigenous communities, such as the Meena and Bhil tribes, who have a long history of living in harmony with the natural environment. These communities have developed traditional knowledge and practices that promote the conservation and sustainable use of natural resources in the region.

The conservation efforts in the region aim to protect and enhance this natural heritage while also promoting sustainable development and livelihoods for local communities. The state forest department has implemented several measures, such as wildlife corridors, afforestation programs, and eco-development initiatives, to protect and conserve the natural heritage of the region.

Overall, the Bassi wildlife sanctuary is an important natural heritage site that showcases the unique biodiversity and cultural significance of the region. The conservation efforts in the region aim to protect and enhance this natural heritage for future generations.

Orai River

Orai river is an important water body which supports varied avian life forms. Many migratory birds are seen in this river during winter season. Though river is rich in aquatic birds but deficient in microhabitats. Moors, swamps, reeds, marshes etc. are not available in them. Islands are also missing. *Acacia nilotica* groves are also not there. *Prosopis juliflora* is advancing everywhere and damaging habitat quality of littoral zone



Orai River

Other Natural Heritage Tourist Places:

S. No.	Name of Site	Location	Ownership	Type of site
1	Bujada Dam	ESZ of Bassi WLS	Other Dept	Wetland
2	Jhariya Mahadev waterfall	Inside the PA	Bassi WLS	Waterfall, Temple
3	Kadmali dam	At Border of PA	Other Dept	Wetland
4	Ruparel Dam	ESZ of Bassi WLS	Other Dept	Water body, wetland
5	Jhar Mahadev Banda keljhar	ESZ of Bassi WLS	Other Dept	Waterfall, Temple
6	Keljhar Mahadev	Nearby ESZ area	Forest Dpt.	Waterfall, Temple
7	Niliya Mahadev	Nearby ESZ area	Forest Dpt.	Waterfall, Temple
8	Minki Mahadev	Nearby ESZ area	Forest Dpt.	Waterfall, Temple

3.3.2 Man-made Heritage Sites

3.3.2.1 Chittorgarh Fort

The **Chittorgarh** (literally **Chittor Fort**), also known as **Chittod Fort**, is one of the largest forts in India. It is a UNESCO World Heritage Site. The fort was the capital of [Mewar](#) and is located in the present-day city of [Chittorgarh](#). It sprawls over a hill 180 m (590.6 ft) in height spread over an area of 280 ha (691.9 acres) above the plains of the valley drained by the Berach River. The fort covers 65 historic structures, which include four palaces, 19 large temples, 20 large water bodies, 4 memorials and a few victory towers.

Chittorgarh (*garh* means fort) was originally called Chitrakut. It is said to have been built by a local Mori Rajput ruler [Chitrangada Mori](#). According to one legend, the name of the fort is derived from its builder. Several small Buddhist stupas dated to 9th century based on the script were found at the edge of Jaimal Patta lake.



The Guhila ruler Bappa Rawal is said to have captured the fort in either 728 CE or 734 CE. One account states that he received the fort in dowry. According to other versions of the legend, Bappa Rawal captured the fort either from the mlechchhas or the Moris.

Historian R. C. Majumdar theorizes that the Moris were ruling at Chittor when the Arabs (mlechchhas) invaded north-western India around 725 CE. The Arabs defeated the Moris, and in turn, were defeated by a confederacy that included Bappa Rawal. R. V. Somani theorized that Bappa Rawal was a part of the army of Nagabhata I. Some historians doubt the historicity of this legend, arguing that the Guhilas did not control Chittor before the reign of the later ruler Allata. The earliest Guhila inscription discovered at Chittor is from the reign of Tejasimha (mid-13th century); it mentions "Chitrakuta-maha-durga" (the great fort of Chittor).



Chittorgarh Fort

3.3.2.2 Orai Dam

Orai dam is an important water body which supports varied avian life forms. Many migratory birds are seen in this dam during winter season. Though dam is rich in aquatic birds but deficient in microhabitats. Moors, swamps, reeds, marshes etc. are not available in them. Islands are also missing. *Acacia nilotica* groves are also not there. *Prosopis juliflora* is advancing everywhere and damaging habitat quality of littoral zone



Orai Dam

3.3.2.3 Lake Nahargarh Palace

A unique, spacious, and luxurious getaway which has never been experienced before is what jüSTa Lake Nahargarh Palace, is here to offer. A luxury resort in Chittorgarh, settled in the middle of a quaint lake with lush greenery and magnificent view. It's a traditional Rajasthani palace set in the middle of the lake, inviting authentic staying lovers from around the globe. The genuinely magnificent area is best surrounded by the Aravalli Hills, dense forest, and abundant lush greenery, making it a perfect setting for a heavenly stay. Away from the city's hustle and bustle lies the mindful tranquility at this lake palace, inviting guests to stay under the realm of authentic accommodation much similar to the time of royal personalities.

The interior dates back to ancient times and contains wooden work, Jharokas, Rajasthani-style robes, sheets, and more. Also, a perfect wedding or social get-together destination in the middle of the serene lake, along with a natural view of the mountain regions around.



3.3.2.4 Delwargarh Fort

It's a state time historical Fort. It is situated at bank of Orai river giving good scenic beauty. It is surrounded by dense forest having good movement and presence of wildlife. At present it is in devasted stage. It is good site for tourist attraction after renovation and development of tourist facilities.



Delwargarh Fort

Important Man Made Heritage Tourist Places in and near ESZ:

S. No.	Name of Place	Location	Ownership	Type of building
1	Bassi Dam	Bassi Chittorgarh	Irrigation dpt.	Water Body
2	Pangarh lake retreat Hotel	Pangarh Near Bijaipur	Private	Historical
3	Bijaipur castle Hotel	Bijaipur	Private	Historical
4	Tukda Mata Temple	Meghpura Bassi	Private/ Trust	Spiritual
5	Saga Rani Temple	MP state	Private/ Trust	Spiritual
6	Gwalior Fort	MP state	Private/ Trust	Historical
7	Hathini Odi	Near Chittorgarh	Forest	Historical
8	Charchha Fort	Charchha Village Near ESZ	Private	Historical

3.3.3 Conservation and Management Strategies of Heritage Sites

Conservation strategies for these heritage sites involve a range of measures aimed at preserving their cultural, historical, and architectural significance. Here are some common conservation strategies:

Documentation and Research: Thorough documentation of the site's history, architecture, and cultural significance is crucial for understanding its unique characteristics and informing conservation efforts. This involves conducting research, surveys, and assessments to gather comprehensive information.

Structural Stability and Restoration: Assessing the structural stability of the heritage site is vital to identify areas in need of restoration or conservation. The restoration process may involve stabilizing foundations, repairing damaged structures, and conserving original architectural features using appropriate materials and techniques.

Preservation of Art and Sculptures: Paying special attention to the preservation and restoration of intricate art, sculptures, and decorative elements is essential. This includes delicate cleaning, conservation of colors and pigments, and protecting them from environmental factors such as pollution and weathering.

Environmental Management: Implementing measures to protect the heritage site from natural and human-induced threats is crucial. This involves monitoring and controlling factors like water ingress, humidity, temperature fluctuations, vegetation growth, and pests that can adversely affect the site's integrity.

Visitor Management: Managing visitor activities and footfall is necessary to minimize potential damage and wear and tear to the heritage site. This can include implementing controlled entry systems, guided tours, and educational programs to raise awareness among visitors about the importance of responsible behaviour.

Community Engagement: Involving local communities in the conservation process fosters a sense of ownership and stewardship. Engaging with the community can include promoting awareness, providing training, and generating employment opportunities related to heritage conservation.

Legal Protection and Policies: Implementing legal frameworks, regulations, and policies that safeguard the heritage site's conservation is essential. This includes designating the site as a protected monument, enforcing heritage laws, and establishing management plans for its long-term preservation.

Sustainable Tourism: Balancing tourism activities with the preservation of the heritage site is crucial. Implementing sustainable tourism practices, such as limiting visitor numbers, creating designated pathways, and promoting responsible tourism, helps minimize the impact on the site.

These conservation strategies aim to ensure the long-term preservation and sustainable management of heritage sites, allowing future generations to appreciate and learn from their cultural and historical significance.

For all these activities necessary permissions as per final ESZ notification and relevant guidelines should be followed.

3.4 Ecotourism

3.4.1 Ecotourism as mentioned in the Eco Tourism Policy-2021

Ecotourism is a form of sustainable tourism within a natural or cultural heritage area where community participation, protection and management of natural resources, culture, indigenous knowledge and practices, environmental education and ethics, as well as economic benefits are fostered and pursued for the enrichment of host community and satisfaction of visitors. According to the United Nation's World Tour Organization (UNWTO), ecotourism refers to forms of tourism which have the following characteristics:

- a. All nature-based forms of tourism in which the main motivation of the tourists is the conservation and appreciation of nature as well as the traditional cultures prevailing in natural areas.
- b. It contains educational and interpretation features.
- c. It is generally, but not exclusively, organized by specialized tour operators for small groups. Service provider partners at the destinations tend to be small locally owned businesses.
- d. It minimizes negative impacts upon the natural and socio-cultural environment. Providing alternative employment and income opportunities for local communities;

It supports the maintenance of natural areas which are used as ecotourism attractions by:

- Generating economic benefits for host communities, organizations and authorities managing natural areas with conservation purposes;
- Increasing awareness towards the conservation of natural and cultural assets, both among locals and tourists.

The Ministry of Environment, Forest and Climate Change describes Ecotourism as:

'Responsible travel to natural areas that conserves the environment and improves the well-being of local people'.

Such tourism is low-impact, educational, and conserves the environment while directly benefiting the economic development of local communities. Therefore, the focus of ecotourism is on its educational as well as economic benefits and at the same time is compatible with fragile natural ecosystems. This policy is based on the basic

understanding that local communities are the most vital pillar of ecotourism in the state. Ecotourism is an important vehicle for reconciling conservation and economic considerations for local stakeholders and includes most of the low impact tourism in the natural heritage areas which Guidelines for ecotourism in and around protected areas, Ministry of Environment and Forest, 2 June 2011 are facilitated by the local communities as partners in the process.

3.4.2 Eco-tourism Promotion Strategies

Promoting eco-tourism involves strategies aimed at encouraging responsible travel practices, raising awareness about environmental conservation, and supporting local communities. Here are some eco-tourism promotion strategies:

- a. **Education and Awareness:** Implement educational campaigns to raise awareness among tourists about the importance of eco-tourism and the benefits of sustainable travel practices. This can be done through informative brochures, interpretive signage, visitor centers, and online platforms.
- b. **Community Involvement:** Engage local communities in eco-tourism initiatives by providing training and employment opportunities. Empowering communities to actively participate in tourism activities fosters a sense of ownership and ensures that local people benefit economically and socially from tourism.
- c. **Conservation Programs:** Collaborate with conservation organizations and local communities to develop and implement conservation programs. These programs may include habitat restoration, wildlife protection, waste management, and sustainable resource utilization to minimize the negative impact of tourism on the environment.
- d. **Partnerships and Collaboration:** Establish partnerships with tour operators, travel agencies, and accommodation providers who prioritize eco-friendly practices. Collaborate with these stakeholders to create eco-tourism packages and experiences that emphasize sustainable tourism practices.
- e. **Interpretation and Guided Tours:** Offer guided tours led by knowledgeable guides who can provide insights into the local ecology, cultural heritage, and conservation efforts. Interpretive signage and information boards can also be placed at key sites to educate visitors about the importance of the ecosystem and conservation measures.

- f. **Supporting Local Products and Services:** Encourage tourists to support local businesses and purchase locally made products, which contribute to the local economy and promote sustainable development. This may include promoting local handicrafts, organic produce, and locally sourced materials.
- g. **Infrastructure and Facilities:** Develop infrastructure and facilities that align with eco-tourism principles. This includes eco-friendly accommodation options, waste management systems, renewable energy solutions, and sustainable transportation alternatives to minimize the environmental footprint of tourism activities.
- h. **Responsible Visitor Behaviour:** Promote responsible visitor behaviour through the dissemination of guidelines and codes of conduct. Encourage tourists to respect the local culture, wildlife, and natural surroundings, minimize waste generation, and follow designated trails and paths to prevent ecological disturbance.
- i. **Monitoring and Evaluation:** Regularly monitor and evaluate the impact of eco-tourism activities on the environment, local communities, and cultural heritage. This helps identify areas for improvement and ensures that eco-tourism practices remain sustainable and effective.

3.4.3 Eco-tourism/tourism activities to be permitted:

Ecotourism is unique among commercial opportunities in rural areas because, unlike so many other activities, ecotourism works best when it builds on local knowledge and authenticity. A carefully designed ecotourism initiative shall have the potential to contribute both to ecological conservation and local community development.

Any travel focused on experiencing Rajasthan's fairs and festivals which promote eco-tourism and sustainability of local traditions; are defined as nature-based activities exclusively performed to sensitize people about the beauty, richness and fragility of the state's natural and cultural heritage, and shall not just focus on creating destinations in natural area or using natural environment for outdoor activities. Ecotourism activities have to be coordinated by a qualified nature and cultural interpreter trained to entertain

and educate the visitors. Following activities may be permitted under eco-tourism activities within the ESZ of Bassi wildlife sanctuary. if it is satisfying the provisions of the final notification of ESZ and other relevant rules and guidelines:

- i. Boating / River Cruising to view wildlife and experience wilderness;
- ii. Trekking, nature walk, bird and wildlife watching, hiking, flora and fauna observation, photography, etc.;
- iii. Star Gazing in designated sites / forts / other monuments;
- iv. Activities in specified areas of the forests such as jungle safari in vehicles or elephant / camel safari, trekking / nature walk, overnight camping in designated sites, bird watching and study of flora & fauna, etc.
- v. Ecotourism Assets both within and beyond areas administered by the Forest Department: Natural and cultural
- vi. Lodging in campsites, eco-lodges, homestays and guesthouses that are located in an area of natural and/ or cultural beauty, and involves local specificities.

3.4.4 Guidelines for Eco-tourism in ESZ of Bassi Wildlife sanctuary, Chittoragrh

The Department of Tourism (DoT), Government of Rajasthan proposes these guidelines for facilitating identification, promotion and development of lesser-known areas having ecotourism potential in addition to popular destinations. At the same time, these guidelines aim for diversification in the range of tourism activities available at destinations and facilitate involvement of the local communities living in, and dependent on peripheral and other areas for their livelihood. The provisions and directions in the final notification of the ESZ of Bassi WLS. is to be strictly followed along with the provisions of various Acts related to Forests and Environment, viz. Wildlife Protection Act 1972, Forest Conservation Act, 1980, Environment Protection Act, 1986, and the directives and guidelines issued by the Central/ State Government from time to time.

3.5 Developing Tourist Information Centre:

A Tourist Information Centre (TIC) should be developed as a dedicated space outside forest area within a building for interpretive displays, programs, services, and information. It should have support facilities like Audio-visual presentations, café; souvenir kiosks etc. for the conveniences of the tourist. A TIC may be developed by

public or private sector following the provisions and directions in the notified ESZ and other relevant guidelines and rules.

3.6 Heritage Trails And Nature Trails:

Eco Sensitive Zone (ESZ) of Bassi WLS is having water bodies of Orai river, Bassi, Orai, Ruparel and Kadmali Dam. It forms several picturesque points in the ESZ. Important roads also pass through ESZ. There are several points of ecological and natural importance where the naturalists would like to visit and interact with nature. Moreover, there are several tourist sites of natural, social, religious, historical, heritage and cultural importance lying beyond PA boundaries and forest areas which may be connected to the outer world through nature trails. Under such circumstances, it is essential to develop heritage and nature trails in selected areas giving priority to Historical, heritage and natural forest areas. The trails if any falls inside the PA or forest area should follow all the relevant guidelines and provisions of the acts and rules. Development of trails should follow the provisions and directions in the notified ESZ and other relevant guidelines and rules.

3.7 Rural Tourism

Rural Tourism has been advocated to showcase the rural life, art, culture and heritage at rural locations, to benefit the local community, economically and socially. It also enables interaction between the tourists and the locals for a more enriching & rewarding tourism experience. Rural tourism is essentially an activity which takes place in the countryside. It is multifaceted and may entail farm/agricultural tourism, cultural tourism, nature tourism, adventure tourism, and eco-tourism. Rural tourism has certain typical characteristics like; it is experience-oriented, the locations are sparsely populated, it is predominantly in natural environment, it meshes with seasonality and local events, and is based on preservation of culture, heritage and traditions. Government of Rajasthan intends to promote village/rural tourism and spread its socio-economic benefits to rural and backward areas in the state. Rural areas provide many opportunities for the development of tourism, as an alternative means of income-generation. Land is inexpensive in comparison to urban areas; the environment is green and unpolluted; and buildings which previously served other purposes can easily be refurbished. Some of the potential benefits include generation of additional/off-farm income, job creation, farm support, landscape conservation, services retention, and

support to rural arts and crafts, nature conservation, environmental improvements, and enhanced role of women.

Rajasthan Government has notified the “Rajasthan Rural Tourism Scheme 2022” to benefit the local community, economically and socially. Under this scheme following units are permitted:

- i. Rural Guest House
- ii. Agro tourism Unit
- iii. Camping Site
- iv. Caravan Park
- v. Home stay (Paying Guest house)

These rural tourism units may be permitted in the rural areas falling in the ESZ of Bassi WLS as per the provisions in the final notification of ESZ and other relevant guidelines in this regard.



For more information log on to : environment.rajasthan.gov.in
Email: env.dept@rajasthan.gov.in
Tel: +91-(0)-141-2921585