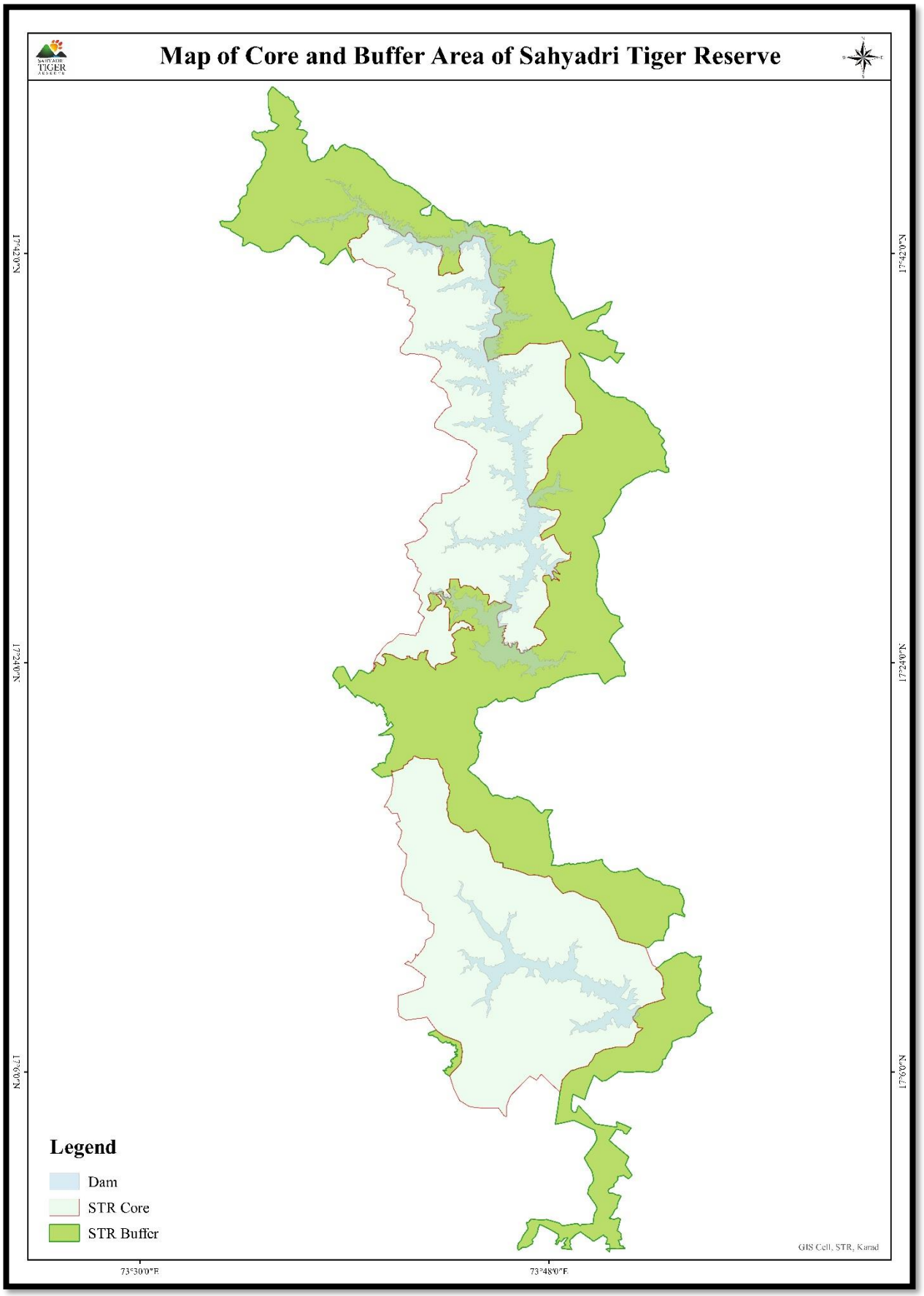
Description of the Tiger Conservation Unit/Landscape and the significance of the area for tiger conservation.

a. Description of the Tiger Conservation Unit/Landscape:

- The Sahyadri tiger Reserve is located in Maharashtra state and takes its name due to the geographical position in the Sahyadri range of the Western Ghats. It is the first Tiger Reserve of Western Maharashtra and 4th Tiger Reserve of Maharashtra State It is constituted by combining Chandoli Wildlife Division (henceforth Chandoli). and Koyna Wildlife Division (henceforth Koyna). In terms of political administration boundary, it is situated at the juncture of four districts Satara (Mahabaleshwar, Jawali, Satara and Patan tehsils), Sangli (Shirala tehsil), Kolhapur (Shahuwadi tehsil) and Ratnagiri (Sangmeshwar and Khed tehsils).
- In the initial phase, the Maharashtra State Government, through notification No.WLP-1008/ Pra.Kra.232/ F-1, dated 5/1/2010, designated a total area of 741.22 sq.km., comprising Chandoli National Park (317.67 sq.km.) and Koyna Wildlife Sanctuary (423.55 sq.km.), as the Sahyadri Tiger Reserve. Subsequently, on 21st August 2012, the Government of Maharashtra, through Resolution no. WLP-2012/C.R. no.240/ F-1, officially declared and notified 600.12 sq.km. area as the Core or CTH and 565.45 sq.km. area as Buffer areas of the Sahyadri Tiger Reserve with its total area of 1165.57 sq.km. The reserve consists of two divisions, Chandoli and Koyna and eight ranges, including Kandat, Bamnoli, Koyna, Patan, Helwak, Dhebewadi, Chandoli and Amba.

Table 1: following are the area details of core and buffer zone of Sahyadri Tiger Reserve:

Details of area of STR	Core Zone (Sq.km.)	Buffer Zone (Sq.km.)	Total area (Sq.km.)
Chandoli NP	313.84	3.83	317.67
Koyna WLS	286.28	123.23	423.55
Area outside Protected Area	-	424.34	424.34
Total Area	**600.12**	**564.44**	**1165.57**



Map 1. Map of Core and Buffer area of STR

- The reserve experiences distinct temperature variations throughout the year. Maximum summer temperatures, typically observed in April and May, range between 20°C to 24°C. Conversely, during the winter months, from December to February, minimum temperatures range from 18°C to 24°C. The area receives an average annual rainfall between 3000 to 5000 milli meters, contributing to its diverse ecosystems and water resources. In the year 2019, between June to September Patharpunj village in Sahyadri Tiger Reserve has recorded highest rainfall (7359mm) in India. Sahyadri Tiger Reserve features a rugged and undulating terrain, characterized by an altitudinal gradient ranging from 343 meters to 1236 meters. This unique topography significantly influences the flow of small water bodies, runoffs, and stream lines, enhancing the reserve's stream network and water availability. The diverse landscape, including undulating terrain, high mountain peaks, steep valleys, ridges, laterite plateaus, grasslands, and dense forests, provides an ideal habitat for tigers and various wildlife species.
- Sahyadri boasts a long and glorious history of the reign of Emperor Shivaji and his successors. The history of empires also parallels with the history of wild tigers. Tigers were known to be common in the Sahyadri mountains; the hunting records of Emperor Shahu (1894-1922) of Kolhapur prove that tigers were fairly common in this area. With the onset of 21st century, tiger populations declined in the entire nation. The region is renowned for its water resources and holds historical importance. Sahyadri Tiger Reserve is intersected by the Koyna and Warana rivers, with major dams like Shivsagar situated in Koyna Wildlife Sanctuary and Vasantsagar in the Chandoli National Park.
- Stretching along the crest of the Sahyadri Range of the Northern Western Ghats, this area constitutes the catchment of the Warana and Koyna reservoirs. The Western Ghats region of India holds significance as an essential biodiversity hotspot, harbouring numerous endemics, rare, and endangered floral and faunal species within its bounds. The Sahyadri Tiger Reserve is located within Biogeographic Zone 5B of the Western Ghats, nestled in the heart of the Central Sahyadri Range. Characterized by its mountainous terrain, the reserve boasts steep, precipitous slopes, deep valleys, and extensive lateritic plateaus that stretch across its expanse.

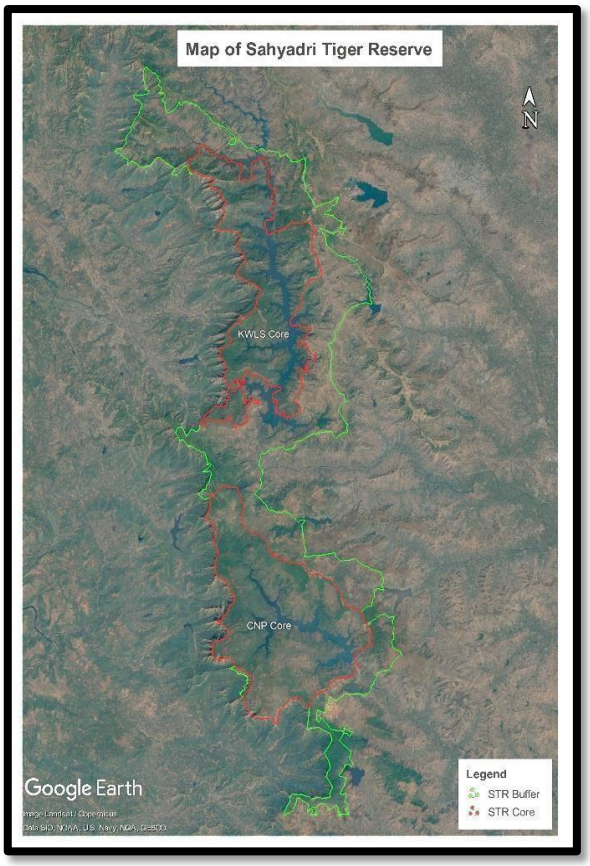
b. The significance of the area for tiger conservation:

- This tiger reserve is renowned for its rich biodiversity, serving as a habitat for a wide array of flora and fauna typical of Northern Western Ghat. From iconic tiger populations to diverse plant species and other key wildlife, the Sahyadri Tiger Reserve stands as a vital stronghold for conservation efforts in the region. Its significance extends beyond local boundaries, contributing to the broader conservation goals of protecting India's natural heritage and maintaining the ecological balance of the Northern Western Ghat landscape.
- The Western Ghats is a world's biodiversity hotspot. Sahyadri Tiger Reserve plays crucial role for the conservation of endangered and endemic species in the northern Western Ghats. In 2012, UNESCO's World Heritage Committee recognized Koyna Wildlife Sanctuary and Chandoli National Park within Sahyadri Tiger Reserve as a World Natural Heritage Site.

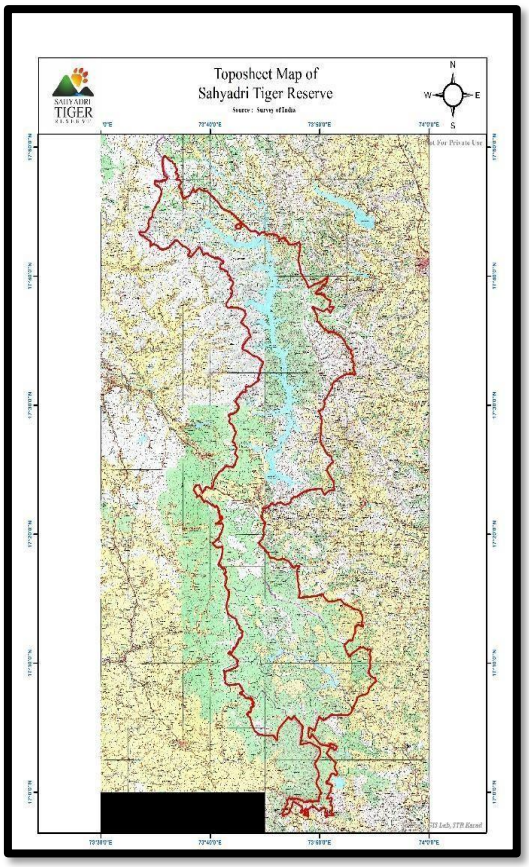
- The reserve highlights its significance as the northernmost tiger habitat in the Western Ghats. Koyna Wildlife Sanctuary and Chandoli National Park are Key Biodiversity Areas declared by KBA Partnership. Additionally, Birdlife International has declared Koyna Wildlife Sanctuary, an "Importan Bird Area," and a portion near Navja village is designated as a "Medicinal Plant Conservation Area by Foundation for Revitalisation of Local Health Traditions (FRLHT).
- It is ecologically connected to Kali Tiger Reserve and Bhimgad WLS in Karnataka and Mhadei WLS in Goa through corridor area of Kolhapur Forest Division and Sawantwadi Forest Division. The diverse landscape, including undulating terrain, high mountain peaks, steep valleys, ridges, laterite plateaus, grasslands, and dense forests, provides an ideal habitat for tigers and various wildlife species.
- Sahyadri Tiger Reserve falls in Biogeographic Zone 5B of Western Ghats. The entire Sahyadri Tiger Reserve is mountainous, with very steep precipitous slopes, deep valleys and long stretching lateritic plateaus. The central portion of Sahyadri Tiger Reserve is occupied by "Shivsagar" reservoir of Koyana River and "Vasant Sagar" reservoir of Warana River. Floristic compositions of the Sahyadri Tiger Reserve represent the following Forest types.
- 2.A / C.2 - West coast Semi evergreen Forests
- 8.A. / C.2 - Western (Montane) Subtropical Hill Forests
- B / C.2 - Southern Moist Mixed Deciduous Forests.
- Most of the area prevails dense Semi-evergreen forests having remarkably wide range of flora and great variety of fauna. The most common floral species found here in this Protected Area are Anjani (Memecylon umbellatum), Jambhul (Syzigium cumini) Pisa (Actinodaphaone angustifolia) etc. The revenue wasteland and Malki lands included in the Tiger Reserve have scattered bushy tree growth in between and along nullah banks. The cultivated areas of rehabilitated villages turned to grassy meadows/Grasslands.
- The Lateritic plateaus are at an elevation of 1200 MSL. The rainfall received is between 2000 to 2500 mm annually. The plateau changes the colours after every 15-20 days as the monsoon progresses since June to October. The progress is in terms of yellow colours of Senecios and Smithias, blue colours of Utricularias, pink rosy colours of Impatiens, white colours of Eriocaulons and Habanerias and purple colours of Strobilanthes species. Many rare endemic endangered plants like Ceropegias, Seshagiria, Arisaemas, Decaschistia, Trithuria, Dipcadi etc., grow on these plateaus.
- The areas are home to the endangered species of top carnivores such as Tigers, Wild dogs, Leopards, Mega Herbivores: Gaur, Sambar, Barking Deer, Four Horned Antelope, Mouse Deer, Giant Squirrel, Porcupines and so on. Total 33 species of mammals have been recorded. In addition to this the Vasant Sagar reservoir is home to crocodiles, which are on the verge of extinction. It is home for 4 Hornbills and many other endemic Birds. The breeding grounds of Indian River Tern are found in Chandoli NP and Koyna WLS. Crocodile breeding is also noticed recently in Chandoli NP.
- From the previous research records on a various wildlife species, STR is having 244 Species of Birds, 120 Species of Butterflies, 22 Species of Amphibians, 44 Species of Reptiles, 50 Species of

Fresh water fishes, 1452 Trees and 400 Medicinal Plants. It is also important to that several new species have been discovered from the landscape and includes *Indotyphlus maharashtraenis, Cyrtodactylus deccanensis, Hemidactylus satarensis, Cnemaspis kolhapurensis, Indirana chiravasi, Cnemaspis girii, Sarada darwinin etc.*

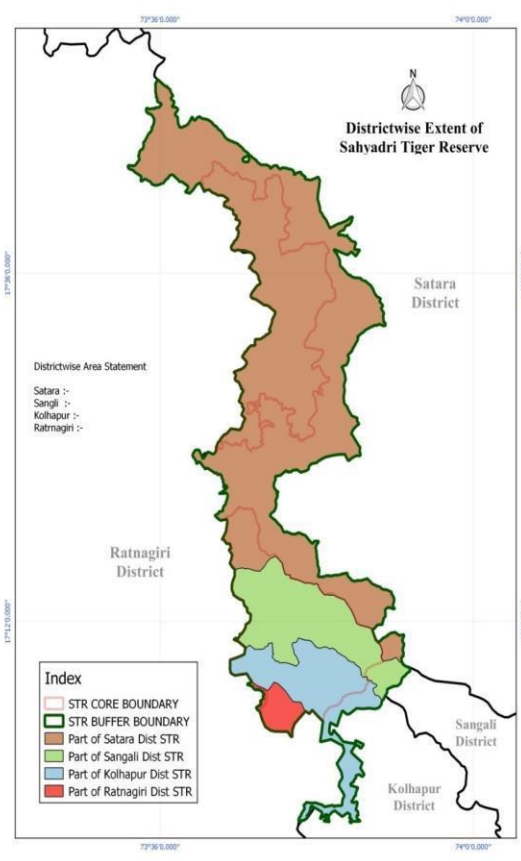
- 39 species of flowering plants find mention in the RED DATA book of the total 624, which make it approximately 6% of the Red data species. The orchids, lichens, ferns, mosses are indicators of purity of environment. The genus Ceropegia is represented in the region by about 24 species of, which about 10 are endemic to the sanctuaries. Vigna khandalensis, Atylosia lineata, A. scabrioides, Cucumis setosus and number of other such wild relatives of cultivated plants are endemic to the protected area.



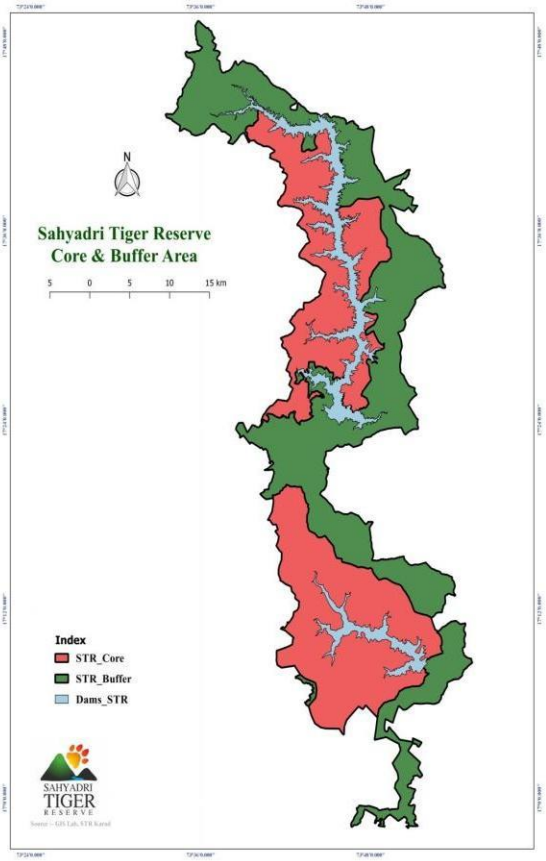
Map 2. Google Map of STR



Map 3. Toposheet Map of STR



Map.4. Districtwise Map of STR



Map.5. Core & Buffer Map of STR

Legal provisions contained in the Wildlife (Protection) Act regarding the Tiger Conservation Plan and a brief description of their relevance in the Tiger Conservation Unit/ Landscape.

- The Wildlife (Protection) Act, 1972 was amended in 2006, and a separate Chapter (IVB) has been added on the "National Tiger Conservation Authority", which has replaced Project Tiger. This Chapter, inter alia, has enabling provisions (Section 38V) for preparing a "Tiger Conservation Plan" for the proper management of a Tiger Reserve, which will also include staff development and deployment plan.
- The Core or Critical Tiger Habitat must remain inviolate to support tiger conservation efforts. Surrounding this habitat is the Buffer Zone, which serves to safeguard the integrity of the Critical Tiger Habitat while providing ample dispersal opportunities for tiger species. It also facilitates coexistence between wildlife and human activities, respecting the livelihoods, developmental needs, and cultural rights of local communities. Additionally, the adjoining landscape functions as a corridor, enabling the movement of wild animals between core areas.
- The guidelines of Project Tiger mandated that each Tiger Reserve adhere to a site-specific Management Plan, serving as the blueprint for reserve management. Consequently, Project Tiger emerged as a model for scientifically managing Protected Areas across India. It introduced the Core-Buffer zonation concept and outlined interventions for protection, habitat enhancement, and field data collection concerning changes in flora and fauna composition due to protection measures, as well as animal estimation and other relevant aspects.

Delineation of Area into Core, Buffer and Adjoining Landscape:

A. Core Zone:

- In accordance with section 38 (V) (4) explanation (i) & (ii), the Principal Chief Conservator of Forests (Wildlife), M.S. Nagpur, via letter No. Desk 23(2) /Survey/pra.kra.50 (1)/4205 dated 12-03- 2012, formed an expert committee to identify and establish the Critical Tiger Habitat area of the Sahyadri Tiger Reserve (STR). Subsequently, on 21st August 2012, the Government of Maharashtra, through Resolution no. WLP-2012/C.R. no.240/ F-1, officially declared and notified 600.12 sq.km. area as the Core Zone.

- There are many challenges before the STR administration since its creation. The core zone is divided into two parts and both parts are 7-8 km away from each other. Both units have a large edge to area ratio as the outer boundary is extremely irregular. More than 82 villages are adjoining to the core zone create enormous biotic pressure on the core area an no buffer zone on western side. Therefore, protection of this landscape is becoming challenging tasks for administration.
- The Core Zone, also known as the Core Tiger Habitat (CTH), within the Sahyadri Tiger Reserve spans across 62 villages. However, certain areas within both the Chandoli National Park (NP) and Koyna Wildlife Sanctuary (WLS) are excluded from the CTH, accounting for a total of 82 villages. Among these, 27 villages have been rehabilitated by the irrigation department through projects such as the Koyna and Warna Irrigation Project. Additionally, rights have been reserved for 18 villages within the Koyna WLS, as indicated by an enquiry report. Of the remaining 37 villages, the Forest Department has successfully relocated 29 villages, with ongoing efforts to address pending benefits for affected persons (PAPs). Rehabilitation processes for the remaining 8 villages are underway, with Forest Conservation Act (FCA) permissions secured for land in 2 villages, while proposals for the remaining villages are currently in progress.

Table 2: following are the area details of core zone of Sahyadri Tiger Reserve:

Details of Core Zone of STR	Forest Area (Sq.km.)	Non-Forest Araea (Sq.km.)	Total area of Core Zone (Sq.km.)	No. of Villages yet to relocate
Chandoli Wildlife Division	198.06	115.78	313.84	6
Koyna Wildlife Division	196.42	89.86	286.28	2
Total Area	**394.48**	**205.64**	**600.12**	**8**

- **Note**: Of the 8 villages, *Amboli* Village in Kolhapur district is currently inhabited, with only land acquisition pending. However, the village's inquiry status is still pending with the Sub-Divisional Officer (SDO) and the inquiry officer in Shahuwadi. Notably, this village area was notified after Chandoli was declared a National Park in 2004.
- As per AITE 2022 report, Sahyadri Tiger Reserve has no tigers based on scat DNA analysis. However, the tiger population is transient and does not stay in tiger reserve for an entire duration of the

year. A major finding came through in May, 2018 as a lone male tiger was recorded from four locations in Chandoli National Park, part of the tiger reserve. This was a confirmed record within the tiger reserve boundary after eight years. Later in early 2019 during Phase-I monitoring, a tiger scat was found in Waghane beat of Helwak range. Then again, after 4 years indirect evidence of tiger presence was found in Sonarli beat of Chandoli range on 12 December, 2023 and the same tiger captured in camera trap during Phase-IV, 2024. We named it as STR-T1 and he is still roaming in tiger reserve. We got recent CT photograph of STR-T1 on 30th May, 2024. STR-T1 so far covering 5 ranges out of 8 ranges of tiger reserve. This includes all four ranges of Chandoli Wildlife Divisions and One Koyna range of Koyna Wildlife Division. Recently, STR-T1 entered first time in Koyna range in Torane Beat after crossing heavy trafficked Karad- Chiplun National Highway at Ghatmatha. This is first photographic record of tiger in Koyna Wildlife Sanctuary.

- **B. Buffer Zone:**

- Buffer Zone of STR was declared to ensure that the CTH or core has adequate area for the dispersal of tigers and other species, and to promote co-existence between wildlife and humans. Buffer area serves as a 'shock-absorber' by meeting the demands of small timber, fuel wood, fodder and thatch grass of the local human and cattle populations. Hence, there is need of well-designed strategies for management of buffer zone. The Principal Chief Conservator of Forests (Wildlife), M.S. Nagpur, through letter No. D-22(8)/ TCP/ 1653/12-13, dated 26.7.2012, expert committee was constituted to identify and establish the Buffer area of the Sahyadri Tiger Reserve (STR). Subsequently, on 21st August, 2012, the Government of Maharashtra, through Resolution no. WLP-2012/C.R. no.240/ F-1, officially declared and notified 565.45 sq.km. area as Buffer Zone of the Sahyadri Tiger Reserve.

- The declaration of the Buffer Zone within the Sahyadri Tiger Reserve (STR) serves the purpose of providing ample space for the dispersal of tigers and other wildlife species from the Core Tiger Habitat (CTH). Additionally, it aims to foster harmonious coexistence between wildlife and human activities, while duly acknowledging the livelihoods, developmental needs, and social and cultural rights of the local communities. There are 82 habited villages included within this buffer zone having a human population of 52.3 thousand, 11.3 thousand households and Cattle Population of 23.5 thousand approximately. The details of this area are given in the Buffer Zone Plan. The major communities in Buffer area are *Maratha, Nomadic tribe, Baudh Community and Muslim community.* Buffer villages are inhabited by *Maratha* community with highest percentage i.e.87.04%. People of these villages are mostly depending on agriculture and forest products etc. Locals used to enter in forest area for collection of fuelwood, livestock grazing, fruit collection etc. The largest village in buffer zone is *Rasati* with a population of 2050 in Koyna range and the smallest village is *Kemase* with a population of 15 people.

Table 3: following are the area details of buffer zone of Sahyadri Tiger Reserve:

Details of buffer Zone of STR	Forest Area (Sq.km.)	Non-Forest Araea (Sq.km.)	Total area of Buffer Zone (Sq.km.)	No. of Villages

Chandoli Wildlife Division	119.84	81.59	201.43	31
Koyna Wildlife Division	102.44	261.57	364.02	54
Total Area	**222.28**	**343.17**	**565.45**	**85**

C. Corridor/ Adjoining Landscape:

- Sahyadri Tiger Reserve is ecologically connected to Kali Tiger Reserve and Bhimgad WLS in Karnataka and Mhadei WLS in Goa through corridor area of Kolhapur Forest Division and Sawantwadi Forest Division. In recent times, the declaration of new conservation reserves (CR) made the Sahyadri-Konkan corridor (Sahyadri Tiger reserve to Kali Tiger Reserve) a protected landscape of around 870 km2. This corridor or the landscape starts from Sahyadri Tiger Reserve (STR) and Jor-Jhambli Conservation Reserve further north and continues till Tillari Conservation Reserve-Mhadei Wildlife Sanctuary and further south. The importance of the southern corridor from Sahyadri to Radhanagri till Mhadei and Kali Tiger Reserve has been reaffirmed in the larger landscape context through the assessment of all habitat parameters. There are around seven Conservation Reserves situated in between the Sahyadri Tiger reserve-Radhanagri Wildlife Sanctuary-Mahdei Wildlife Sanctuary. North to the STR is Jor-Jhambli Conservation Reserve, in between STR and Radhanagri Wildlife Sanctuary, Vishalgad, Panhalgad, and Gaganbawda Conservation Reserve are situated. Further south to the Radhanagri, Ajara-Bhudargarh, Dondamarg-Amboli, Chandgad, and Tillari Conservation Reserve are situated and well connected further south to different protected areas in Goa and Karnataka.
- The Sahyadri-Konkan corridor, which is part of the north-central Western Ghats, is a linear forested habitat that connects the Sahyadri Tiger Reserve (STR) in Maharashtra to the Kali Tiger Reserve (KTR) in Karnataka. The Western Ghats is one of the most biodiverse areas in India; this part of the Western Ghats supports the northernmost limits of three of the four large carnivores that are found in Western Ghats - the tiger, dhole, and sloth bear.
- South of the Sahyadri Tiger Reserve, the corridor is viable with the adjacent PA; Radhanagri Wildlife Sanctuary, and with newly declared CRs it connects to the Mahadei Wildlife Sanctuary in Goa and the Kali Tiger Reserve in Karnataka, which works as a source population for tigers for Sahyadri-Konkan landscape. The viability of this corridor is crucial for the growth of the tiger population in this region and specially for STR. There are some points in the corridor where forested areas are small in size and fragmented as well, which serves as a bottleneck in the corridor. Crucial bottleneck points are situated in Gaganbawada, Vishalgarh CR and Tillari CR, focusing on these points can strengthen the corridor connectivity and can ensure a healthy tiger population and safe movement of tiger in the future.
- The southern corridor can still provide potential movement corridor for larger mammal species such as tigers, leopards and sloth bears. We found seven land use classes within Sahyadri. Of these, two dominant land-use types are dense forest and barren lands (which include rocky land or plateaus). A major component is water body, hence Sahyadri has a rich stream network. We further found

that the western part of Sahyadri has good connectivity of dense forests. In the larger landscape context, the significance of the southern corridor from Sahyadri to Radhanagri till Dandeli and Mahdei has been again reiterated through the study of all habitat factors. Keeping this in view, a larger landscape level study is deemed important to understand the habitat status throughout the landscape.

- This corridor is fragmented at many sites which are human habitat and is also threatened at many places due to bauxite mining. Unless all these threats and impediments to habitat connectivity and recovery are identified, understood, and connected areas are secured, overall tiger recovery is challenging.
- The NTCA estimates that a tiger population of 80-100 tigers (with 20 females of breeding age) is required to be genetically viable on its own. It can be seen that not a single tiger population in the western ghat landscape is genetically viable in the long run by itself. Hence, the Adjoining Landscape/Corridor plan for each tiger reserve is a must to ensure the long-term viability of tiger populations in the Western Ghat Landscape. Sahyadri Tiger Reserve without any resident population of tigers is highly dependent on immigration and emigration of adult tigers from other sub-populations. Hence, the tiger conservation plan is very important to ensure connectivity of STR with other adjoining tiger reserves, protected areas and tiger bearing areas. Details of these areas are given in the adjoining landscape/Corridor plan.

D. Eco-sensitive Zone:

- On February 9, 2011, the Ministry of Environment, Forests, and Climate Change (MoEFCC) introduced new guidelines aimed at establishing eco-sensitive zones (ESZs) around Protected Areas. These zones are designed to mitigate the ecological damage caused by developmental activities in the vicinity of National Parks and Wildlife Sanctuaries. Acting as buffers, ESZs help regulate and manage activities surrounding these protected areas. The primary objective is to minimize adverse impacts on the delicate ecosystems encompassing these areas. While the width

of the ESZ and the nature of regulations may vary depending on the specific protected area, a general principle suggests a width of up to 10 km around the perimeter of the protected area.

- It is necessary to conserve and protect the area the extent and boundaries of which is specified in proposal submitted to central government adjoining the Sahyadri Tiger Reserve (Koyna WLS and Chandoli NP) as Eco-sensitive Zone (ESZ) from ecological and environmental point of view and to prohibit industries or class of industries and their operations and processes in the Eco-sensitive zones. It is necessitating the requirement of proper safeguards and control over ongoing destructive activities in ESZ.
- The proposed Eco-sensitive Zone is spread over an area of 772.77 sq.km. and certain villages in Tahsil-Mahabaleshwar-8, Jawali- 7, Satara-6, Patan-44 in Satara district, Tahsil-Shirala-1 in Sangli district, Tahsil-Shahuwadi-9 in Kolhapur district, Tahsil-Sangameshwar-19, Khed-10, Chiplun-16 in Ratnagiri district, total-120 villages fall in the Eco-sensitive Zone of STR (Chandoli NP and Koyna WLS). The Eco-sensitive Zone of Sahyadri Tiger Reserve is the area to an extent of 1.23 km to 13.68 km from boundaries of Koyna WLS and Chandoli NP. The buffer zone of STR shall form part of the

proposed Eco-sensitive Zone. All activities in the Eco-sensitive Zone shall be governed by the provisions of the Environment (Protection) Act, 1986 and rules made thereunder. The guidelines outline a comprehensive range of activities that may be permitted, regulated, or prohibited within the ESZs.

CHAPTER – 1
INTRODUCTION OF THE AREA

The Sahyadri Tiger Reserve (STR), located in the Western Ghats across four Maharashtra districts (Satara, Sangali, Kolhapur, and Ratnagiri), was officially notified on February 5, 2010. It spans two protected areas: Koyna Wildlife Sanctuary (423.55 sq.km) and Chandoli Wildlife Sanctuary (308.97 sq.km), the latter expanded to 317.67 sq.km in 2004 as a National Park. The reserve was established in two phases: On January 5, 2010, 741.22 sq.km was designated as the STR, and on August 21, 2012, it was further delineated with 600.12 sq.km as the core tiger habitat and 565.45 sq.km as the buffer zone, bringing the total area to 1165.57 sq.km.

The buffer zone plays a critical role in protecting the core area, allowing for controlled human activities while minimizing conflicts. STR is a biodiversity hotspot and a vital water source, feeding the Koyna and Chandoli reservoirs. It was added to the UNESCO World Natural Heritage list on July 1, 2012. The Sahyadri Tiger Reserve is recognized as an important biodiversity hotspot, hosting a diverse range of flora and fauna, many of which are endemic to the Western Ghats. It also serves as a crucial catchment area for two dams in Western Maharashtra: the Koyna (Shivsagar) and Chandoli (Vasantsagar) reservoirs.

Moreover, on July 1, 2012, the Sahyadri Tiger Reserve was included as part of the UNESCO World Natural Heritage site. This designation highlights the area's significance in terms of biodiversity conservation and ecological importance.

Table No.1.1: Total area of Sahyadri Tiger Reserve

Sr No	Name of Protected area	Area (sq.km)	CTH Area (sq.km)
1	Chandoli National Park	317.67	313.84
2	Koyana Wildlife Sanctuary	423.55	286.28
Total eara		741.22	600.12
Total Buffer		565.45	
Total Tiger Reserve Area		1165.57	

The buffer zone of the Sahyadri Tiger Reserve was officially notified on August 21, 2012, covering an area of 565.45 square kilometers. This buffer zone encompasses 85 villages. Currently, the buffer zone is under unified control, likely implying centralized management and coordination for conservation and development activities. Within the Sahyadri Tiger Reserve, there are eight ranges responsible for the management and protection of the wildlife and habitats

Table 1.2: The abstract of the forest and non-forest areas of the buffer zone

Sr. no.	Division	Name of Range	Round	Beat	Forest area	Non-forest Area	Total area	Village
1.	Koyna Wildlife Division	Kandat	3	7	5510.02	6661.19	12171.21	14
		Koyna	1	5	318.99	4180.66	4499.65	12
		Bamnoli	1	3	2413.54	2531.46	4945.00	5
		Patan	2	5	2001.53	12784.18	14785.71	23
		Total	7	20	10244.08	26158.49	36402.57	54
2.	Chandoli Wildlife Division	Helwak	3	6	4065.23	3768.51	7833.74	13
		Dhebewadi	1	4	3124.91	2544.09	5669.00	6
		Chandoli	1	1	520.42	1185.43	1705.85	2
		Amba	3	6	4273.67	661.19	4934.86	10
		Total	8	17	11984.23	8159.22	20143.45	31
		Grand total	15	37	22228.31	34316.71	56545.02	85

1. Name, Location, Constitution & Extent:

1.1.1:Name:

The Sahyadri Tiger Reserve, established by the Indian government in 2010, is located in the state of Maharashtra. It is situated within the Sahyadri Ranges of the Western Ghats, known for their rich biodiversity. The reserve spans across multiple districts, including Satara, Sangli, Kolhapur, and Ratnagiri. Notably, it falls within the eco regions of the North Western Ghats moist deciduous forests and North Western Ghats montane rain forests.

1.1.2:Location:

The buffer area, as per the notification dated August 21, 2012, covers approximately 565.45 square kilometers. It extends across the geographic territories of the four aforementioned districts of Maharashtra. Specifically, it includes 1 village in Sangli district, 9 villages in Kolhapur district, 66 villages in Satara district, and 4 villages in Ratnagiri district. Within this buffer area, 424.34 square kilometers lie outside the protected area, while 141.11 square kilometers are part of the protected areas.

Geographical Coordinates: The buffer area of the Sahyadri Tiger Reserve spans between 7°31'33" to 73°55'12" East Longitude and 16°58'05" to 17°49'14" North Latitude. The terrain ranges in elevation from 500 to 1200 meters above mean sea level (MSL), with the Western Ghats running north-south for approximately 100 kilometers and averaging a width of 20 kilometers. The pristine forests within the Kolhapur, Satara, Sangli, and Ratnagiri districts constitute the buffer area of the Sahyadri Tiger Reserve.

Location by Biogeographic Zonation: The Sahyadri Tiger Reserve falls within the Oriental Biogeographic Region, specifically categorized under the Indo-himalayan sub-kingdom within the Paleotropical biogeographical kingdom. It is situated in Biogeographic Zone 5-B of the Western Ghats, within the Western Ghat Mountains biotic province. This classification is based on factors such as faunal assemblage, vegetation, altitude, latitude, and geographic location.

1.1.3:Constitution: The establishment of the Sahyadri Tiger Reserve (STR) follows the guidelines outlined in Section 38 (V) of the Wildlife (Protection) Act, 1972. This section mandates that the State Government, upon recommendation by the National Tiger Conservation Authority (NTCA), notify an area as a Tiger Reserve. The Tiger Reserve comprises two essential parts: the Core or Critical Tiger Habitat (CTH) and the Buffer or peripheral area. These areas are identified and established based on scientific and objective criteria to ensure effective tiger conservation.

The Maharashtra State Government, through a notification dated January 5, 2010, designated an area of 741.22 sq.km., encompassing the Chandoli National Park (317.67 sq.km.) and the Koyna Wildlife Sanctuary (423.55 sq.km.), as the Sahyadri Tiger Reserve. The Buffer area is delineated to promote coexistence between wildlife and human activities while safeguarding the integrity of the critical tiger habitat.

The Principal Chief Conservator of Forests (Wildlife), M.S. Nagpur, through letter No. D-22(8)/ TCP/ 1653/12-13, dated 26.7.2012, an expert committee was constituted to identify and establish the Buffer area of the Sahyadri Tiger Reserve (STR). Subsequently, on 21st August, 2012, the Government of Maharashtra, through Resolution no. WLP- 2012/C.R. no.240/ F-1, officially declared and notified 565.45 sq.km. area as the Buffer Zone of the Sahyadri Tiger Reserve.

1.1.4:Extent:

The Buffer area, as per the notification dated August 21, 2012, encompasses 565.45 sq.km. The historical forts and religious sites within the reserve area contribute to its uniqueness and attract visitors interested in trekking and experiencing the natural beauty of the region.

Table 1.3: Division-wise area details of the Buffer zone of STR:

Sr. No.	Division	Range	Round	Beat	Village	Forest Area	Non-Forest Area	Total Area
1	Koyna Wildlife Division	4	7	20	54	10244.08	26157.49	36402.57
2	Chandoli Wildlife Division	4	8	17	31	11984.23	8159.22	20143.45
	total	8	15	37	85	22228.31	34316.71	56545.02

1.2: Approach and Access:

Access to the Sahyadri Tiger Reserve is facilitated through well-connected headquarters in Kolhapur and Karad, which are accessible via National Highway 4 (NH4). These headquarters serve as administrative centers for forest conservators, field directors, deputy directors, and sub-divisional officers, providing logistical support and coordination for conservation efforts within the reserve.

Table 1.4: Distance of Tiger Reserve from nearest cities of our as well as neighboring states is as follows-

Sr. No.	State	Destination	Distance (kms)
Nearest Airports			
1	Maharashtra	Pune	210
		Kolhapur	140
		Mumbai	360
Nearest Railway Stations			
2	Maharashtra	Karad	65
		Chiplun to Koyana	52
State Transport Buses			
3	Maharashtra	Koyananagar	
		Kolhapur	140
		Satara	90
		Karad	60
		Patan	20
		Chiplun	40
		Satara Bamnoli	40
		Karad to Chandoli (Mandur)	50
		Islampur - Chandoli (Mandur)	65
		Kolhapur to Chandoli (Mandur)	90

1.3: Statement of Significance:

Despite being densely populated with numerous villages, the Sahyadri Tiger Reserve (STR) boasts exceptional biodiversity. Situated within the Western Ghats, one of India's ecologically richest regions, the reserve harbours a multitude of threatened species and unique ecosystems. The Western Ghats, second only to the Himalayas in terms of biological diversity, are home to a variety of flora and fauna, including endangered species like Garambi, Ranjaiphal, Dhup, and Rosewood (Shisham).

The climate and rainfall patterns in the region have fostered the evolution of diverse plant and animal species. The Western Ghats boast a significant forest cover, accounting for one-third of their total area. Within these forests thrive approximately 4000 species of flowering plants, with 1500 species being endemic. Additionally, the Western Ghats support 28 genera of mammals, 275 genera of birds, and 58 species of reptiles. Moreover, the region serves as the origin of several cultivated plants, including pepper, cardamom, ginger, turmeric, mangoes, jackfruit, ragi, and various millets. Orchids and medicinal plants also flourish in this biodiversity hotspot.

Furthermore, the Western Ghats are rich in mineral resources such as iron, manganese, and bauxite ores. The biological diversity of the region is crucial not only for its intrinsic value and the livelihoods of local communities but also for maintaining the ecological balance of the entire peninsular region.

The Sahyadri Tiger Reserve stands out as a sanctuary for climax and near-climax vegetation, with minimal risk of adverse human impact in the future. It holds several biogeographical peculiarities and is of both global and national significance.

The reserve is inhabited by a diverse array of wildlife, including iconic species like tigers Panthera tigris, leopards Panthera pardus, sloth bears Melursus ursinus, Indian giant squirrels (Shekaru) Ratufa indica, Indian Gaurs, Bos gaurus , sambar deer, Rusa unicolor, barking deer Muntiacus muntjak, wild boars Sus scrofa cristatus, porcupines Hystrix indica, wild dogs Cuon alpinus, mouse deer Moschiola indica, and four-horned antelopes Tetracerus quadricornis. (Ref.: Developing Conservation Strategies for Rare, Endangered & Threatened Species of Sahyadri Tiger Reserve, Northern Western Ghats, Maharashtra. Technical report by IUCN India in collaboration with A. V. C. College (Autonomous). February 2018., Tiger Recovery Strategy and Long-term Monitoring in Sahyadri Tiger Reserve, Maharashtra. Wildlife Institute of India, Sahyadri Tiger Reserve. Ramesh, K et al. (2022), Status of Tigers, Co-predators and Prey in Sahyadri Tiger Reserve, Maharashtra (AITE, 2022) Report)

Biological Value:

The biodiversity of the Sahyadri Tiger Reserve is immense, encompassing a wide variety of vertebrates. Documented species include about 4000 species of Flowering Plants, of which 1500 Species are endemic, 28 genera of mammals, over 275 genera of birds, more than 275 species of butterflies, 58 species of reptiles, as well as numerous amphibians and fishes. The reserve serves

as a haven for these animals, contributing significantly to regional and national conservation efforts.

AVIFAUNA:

No Systematic study of the avifauna of STR has been done, though the area is rich in avifauna and other biodiversity. A decade ago, BNHS had undertaken an EIA project in the area, and one bird species was reported from a small part of the sanctuary. Indian Blue Robin Luscinia brunnea, a Himalayan bird, was seen in this IBA site (A Akhtar, pera, comm. 2003). This is a Biome 7 (Himalayan Temperate Forest) species. During winter, it is seen in Sri Lanka, the hills of the Northeast, and the southern Western Ghats (Ali & Ripley 1987, Grimmett et al. 2011). This IBA once had undisturbed forests typical of Western Ghats (ERA 123), but now forest fires and encroachments have become common on the northern periphery, Especially Near tapola and Bamnoli Villages. Two Restricted-range species have been seen, but more research is needed to know the full extent of the avian diversity of this IBA

OTHER KEY FAUNA:

Large mammals found in the Koyna Sanctuary are Tiger *Panthera tigris*, Leopard *P. pardus*, Gaur *Bos frontalis*, Indian Wild Dog *Cuon alpinus*, Sloth Bear *Melursus ursinus*, Sambar *Cervus unicolor*, Barking Deer *Muntiacus muntjak*, Mouse Deer *Moschiola meminna*, Indian Giant Squirrel *Ratufa indica*, Common Otter *Lutra lutra* (doubtful record), and Common Langur *Semnopithecus entellus*. Reptiles such as the Indian Python *Python molurus*, Beddome's Keelback *Amphiesma beddamei*, Indian Chamaeleon *Chamaeleon Zeylanicus*, Banded Gecko *Geckoella Deccanensis*, and Dwarf Gecko *Cnemaspis sp.* are also found.

A unique endemic species of amphibian, the Koyna Toad *Bufo koynensis*, is reported from the sanctuary, which is the type locality of this species. Other endemic amphibians, such as the caecilian *Indotyphlus sp.*, Wrinkled Frog *Nyctibatrachus sp*., and the Bombay Bush Frog *Philautus bambavensis,* are also reported (Varad Giri, pers. comm. 2012).

This IBA is a honeycomb of privately-owned forests and patches of agricultural land. The windmills that dotted the landscape are at present away from the boundary of the sanctuary, but are likely to come up inside also. The area is rich in medicinal plants that were sustainably used by the local community. However, pharmaceutical companies are now increasingly exploiting this limited resource.

Chandoli National Park lies in the catchment area of Warna Dam, straddling Vasant Sagar Reservoir. The backwaters of the dam stretch across 30 km in an east-west direction. The dam and the water body have created a Boundary for the park on the eastern side, while the steep hills of the Western Ghats protect the western, northern, and southern sides, making it remote and fairly inaccessible. Flat-topped mountains, rocky, lateritic plateaus called sadas, with hardly any vegetation, and large boulders and caves are typical of the terrain of Chandoli NP.

The forest types seen here are a mix of Western Tropical Hill Forest, West Coast Semi-evergreen Forest, and Southern Moist Mixed Deciduous Forest. In the dwarf evergreen forest, tree species commonly seen are Anjani or Ironwood *Memecylon umbellatum*, Jamun *Syzygium cumini* Pisa *Actinodaphne angustifolia*. Fig *Firns glomerato*, Roar Sandalwood *Olea doira*. Spinmia Kine or Katak *Bridelin retuss*, Nana *Lagerstroemia lanceolata*, Kinjal *Terminalua paniculata*, Kokum *Garcinia indica*, and Freshwater Mangrove or *Phanasi Carallia bruchiata*. Other trees dominating the landscape include Indian Laurel or Ain *Terminalia tomentosa*, Indian Gooseberry, Amla *Emblica officinalis*, Devil's Fig or Umbar *Ficus hispida*, and *Chetrulie Myrobalan* or Harra *Terminalia chebula*.

The common grasses of Chandoli NP include Bangala *Andropogon sp*., Golden Beard Grass or *Dongari Chrympooл fuleus*, Black Spear Grass, Tanglehead Grass *Heteropopoв contortus* locally known as Kali Kuali, Buffel or Anjan Grass *Cenchrus ciliaris*, Grader Grass or Kangaroo Grass or Karad *Themeda quadruahas*, and Saphet Kuali *Aristida fusculata*. Insectivorous plants like *Drosera sp*, and *Utricularia sp.* are also found in this protected area. A single Red-headed Vulture was recorded in 2007 (Rohan Bhate, pers comm. 2012)

OTHER KEY FAUNA

The mammals reported from this new IBA are Tiger, *Panthera tigris*, and the leopard, *P. paridus.* Gaur *Bos gaurus* Indian Wild Dog *Cuon alpinas*, Sloth Bear *Melursus ursinus*, Sambar *Rusa unicolor*, Barking Deer *Muntiacus munjuk*, Indian Mouse Deer *Moschiola indica*, Indian Giant Squirrel *Ratufa indica*, Common Otter *Lutra lutra*. Indian Pangolin *Manis croancaudata*, and Peninsular Grey Langur *Semnopithecus hector ochates*.

Reptiles such as the Indian Rock Python *Python molurus*, Beddome's Keelback *Amphiesma beddomii*, Indian Chameleon *Chamaeleon acylanirus* Indian Monitor *Varanus bengalensis*, Deccan Banded Gecko *Gechuella decranenas* and Dwarf Gecko *Cremaspis sp* are also found. Even crocodiles seem to have a healthy population in Chandoli reservoir. In a recent study, Koparde et al. (2014) found 53 species of dragonflies, including 43 species in the buffer zone and 33 species in the Core area.

Catchment Values:

In addition to its rich floral and faunal diversity, the Sahyadri Tiger Reserve (STR) area serves as a vital catchment for numerous dams and lakes. The core and buffer zones of the STR encompass the Chandoli and Koyana regions, depicted in the map showcasing the distribution of river basins within the landscape. The forested areas within the STR act as catchments for several lakes scattered throughout the region. Major rivers flowing through the buffer area include Koyana, Kandat, Solashi, Urmodi, Tarli, Jagabodi, Vashiti, Morna, Wang Warna, Kandavan, Bav, Shashri, and Gad. The extensive forest cover in the STR enhances the infiltration rate of rainfall and contributes to the maintenance and augmentation of groundwater levels in the area. Consequently, there are no water- scarce regions within the landscape of the STR. This favorable hydrological situation not only supports the diverse ecosystem

within the reserve but also provides essential food and water security for the residents inhabiting the STR landscape.

Recreational Values:

The Sahyadri Tiger Reserve (STR) holds significant recreational value, offering diverse wildlife experiences despite infrequent sightings of its flagship species, the tiger. Certain areas within the buffer zone of the STR boast abundant populations of predators such as panthers and wild dogs, drawing in a large number of eco-tourists from across the country eager for sightings and photography opportunities.

Sloth bears are commonly sighted within the buffer zone of the STR, adding to the attraction for wildlife enthusiasts. The presence of large groups of Indian gaurs, or Indian bison, also serves as a major draw for eco-tourists. Additionally, herbivores like sambar deer, wild pigs, and the iconic peacocks are regularly spotted, enhancing the overall wildlife viewing experience. The diverse array of forest birds and water birds in the lakes within the buffer zone further adds to the appeal, attracting birdwatchers from all corners of the country. Overall, the STR offers a rich and varied wildlife experience, making it a popular destination for nature lovers and wildlife enthusiasts alike.

Aesthetic Values:

The Sahyadri Tiger Reserve (STR) is not only a sanctuary for wildlife but also a haven for natural beauty and artistic appreciation. The aesthetic values inherent in this landscape transcend mere quantification and contribute significantly to conservation efforts.

Natural Beauty:

The STR is characterized by breathtaking landscapes, including lush forests, meandering rivers, cascading waterfalls, and serene lakes. These natural features captivate visitors and evoke a sense of awe and wonder, fostering a deep appreciation for the beauty of the wilderness.

Wildlife Encounters:

The reserve is home to a diverse array of wildlife, each possessing its own unique charm and aesthetic appeal. From the majestic tiger and elusive panther to the graceful sloth bear and elegant Indian gaur, encountering these magnificent creatures in their natural habitat is a truly awe-inspiring experience.

Birdwatching:

The reserve boasts a rich avian diversity, with numerous species of forest birds and water birds inhabiting its forests and lakes. The sight of colorful birds flitting among the trees or gracefully gliding over the water's surface adds to the aesthetic allure of the reserve.

Sensory Experience:

The sights, sounds, and smells of the wilderness contribute to the aesthetic experience in the STR. The chorus of birdcalls, the rustle of leaves in the wind, and the earthy fragrance of the forest all combine to create a multisensory immersion in nature's beauty.

In essence, the aesthetic values inherent in the Sahyadri Tiger Reserve are priceless and serve as a powerful motivator for conservation efforts, reminding us of the intrinsic beauty and value of our natural heritage

Scientific and Educational Values:

The Sahyadri Tiger Reserve (STR) holds immense scientific and educational value, serving as a living laboratory for research and a platform for learning about biodiversity and ecological processes.

Diversity of Flora and Fauna: The rich diversity of flora and fauna within the STR landscape provides an invaluable resource for scientific study and educational exploration. Students visiting from surrounding schools and colleges have the opportunity to observe and learn about a wide range of plant and animal species, enhancing their understanding of ecological principles and biodiversity conservation.

Learning About Wildlife: Students and members of the general public are attracted to the wild animals inhabiting the reserve, providing opportunities to learn about their habits, behavior, and other attributes. Observing wildlife in their natural habitat offers valuable insights into animal ecology and adaptation, fostering a deeper appreciation for the natural world.

Scientific Principles: The diverse array of large mammal species, reptiles, amphibians, insects, and birds found in the STR can serve as models for illustrating various basic scientific principles. Studying the behavior, interactions, and ecological roles of these species contributes to our understanding of fundamental scientific concepts and ecological processes.

Research Opportunities: The Sahyadri Tiger Reserve offers a unique opportunity for students and researchers to engage in scientific research in wildlife biology, ecology, and conservation. There is immense scope for documenting the habits and behavior of various wildlife species, including invertebrates and flora, which remain poorly understood. Conducting research within the reserve contributes to the body of scientific knowledge and informs conservation management strategies.

In conclusion, the Sahyadri Tiger Reserve serves as a valuable resource for scientific inquiry and educational exploration, offering opportunities for students, researchers, and the general public to learn about and contribute to the conservation of biodiversity in the Western Ghats region

Economic Value:

In the context of a tiger reserve like the one mentioned in your excerpt, the economic value can be multifaceted:

Tourism Revenue: Tiger reserves attract a significant number of tourists interested in wildlife safaris and

ecotourism activities. This influx of visitors generates revenue through entry fees, accommodation, guide services, and related expenditures on food and souvenirs. This revenue contributes directly to the local economy through job creation and business opportunities.

Ecosystem Services: Forests within tiger reserves provide essential ecosystem services such as clean air, clean water, and carbon sequestration. These services have economic value in terms of the costs avoided by not having to invest in alternative infrastructure or technologies to provide similar services.

Biodiversity Conservation: Tiger reserves are critical for preserving biodiversity, including not only the iconic tiger species but also numerous other flora and fauna. Preserving biodiversity has long-term economic benefits, including potential discoveries of new medicines, sustainable use of natural resources, and maintaining ecosystem resilience.

Carbon Sequestration: Forests within tiger reserves act as carbon sinks, absorbing carbon dioxide from the atmosphere and storing it in biomass and soil. This helps mitigate climate change by reducing greenhouse gas emissions. The economic value of carbon sequestration can be significant, especially in the context of international efforts to combat climate change through mechanisms like carbon offsetting and trading.

Water Resource Management: Forests play a crucial role in regulating water cycles, including rainfall patterns, groundwater recharge, and flood control. Healthy forests in tiger reserves contribute to water security for local communities downstream, reducing the risk of droughts, floods, and associated economic losses.

Cultural and Spiritual Value: Forests hold cultural and spiritual significance for many indigenous communities and local populations. Protecting these areas preserves traditional knowledge, cultural practices, and spiritual connections to the land, enriching the cultural heritage of society as a whole.

Insurance against Risks: Healthy ecosystems within tiger reserves provide a buffer against various risks and disasters, including natural hazards like storms, landslides, and wildfires. Maintaining these ecosystems reduces the vulnerability of nearby communities to such events, thus preventing economic losses associated with damage to infrastructure, property, and livelihoods.

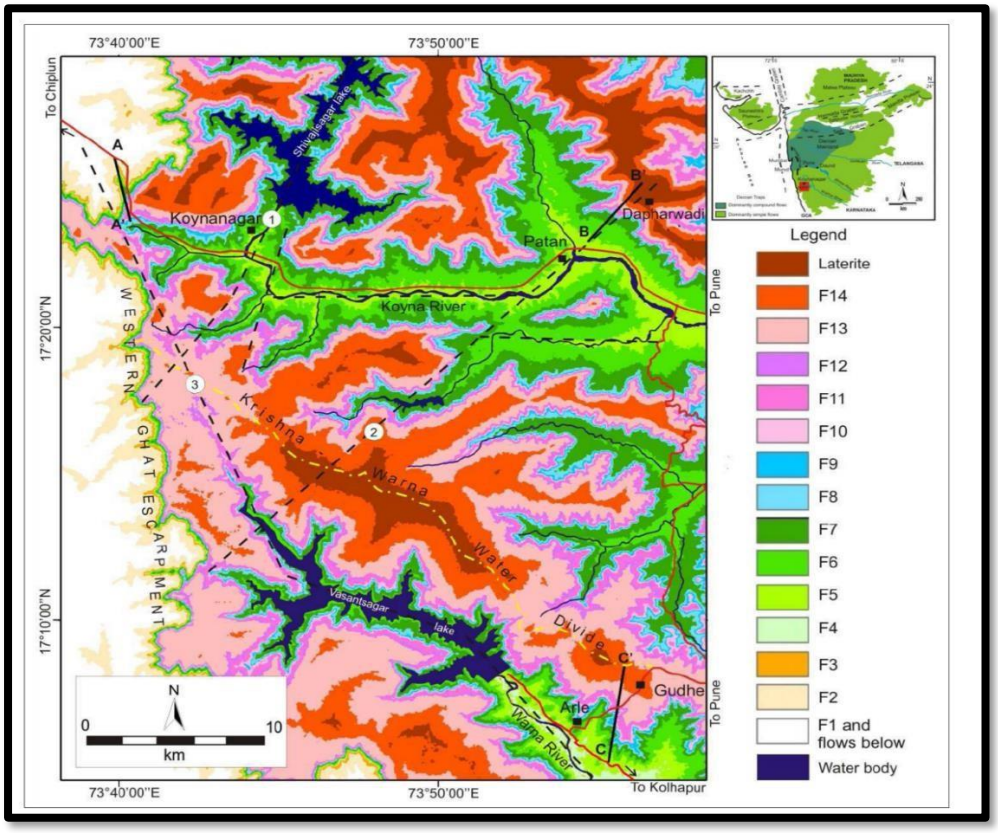
Overall, the economic value of a tiger reserve extends far beyond direct monetary gains from tourism and resource extraction. It encompasses a wide range of ecosystem services, cultural benefits, and long-term sustainability considerations that contribute to the well-being of society as a whole

1.4: GEOLOGY, ROCK AND SOIL:

1.4.1: Geology: The entire area of the STR is characterized by basaltic lava flows, approximately 65 million years old, near the Cretaceous-Tertiary boundary. These basaltic formations are overlain by laterite of a younger age, predominantly found in plateaus above 900 meters above mean sea level. Alluvium deposits are present in patches along the banks of rivers such as Krishna, Venna, Kandati, Koyana, and Warna, with an average thickness of around 10 meters, containing pebbles, boulders of trap, and beds of sand.

1.4.2: Rock: The predominant rock formation in the STR is the Deccan trap, classified as plateau basalt, characterized by its uniform chemical composition over large areas. These basaltic rocks are typically

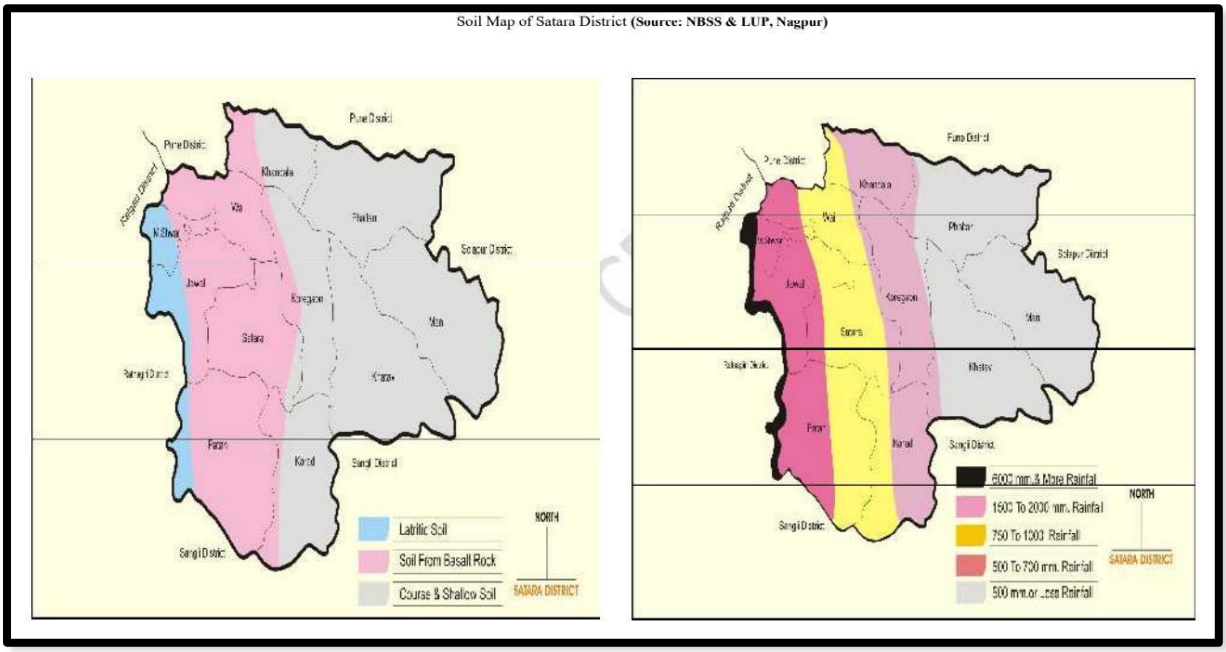
dark greenish-grey, occasionally exhibiting brownish to purple tints. Geological mapping has identified at least 15 lava flows within the area, mostly comprising compound rubbly pahoehoe flows, with some displaying pahoehoe and aa types. These lava flows belong to the Wai Sub-group and vary in thickness from approximately 30 to 90 meters. Laterite formations cap the Deccan trap at elevations around 900 meters, featuring a thickness of 30-40 meters and exhibiting a coriaceous and variegated clayey texture with characteristic red and brown colors.



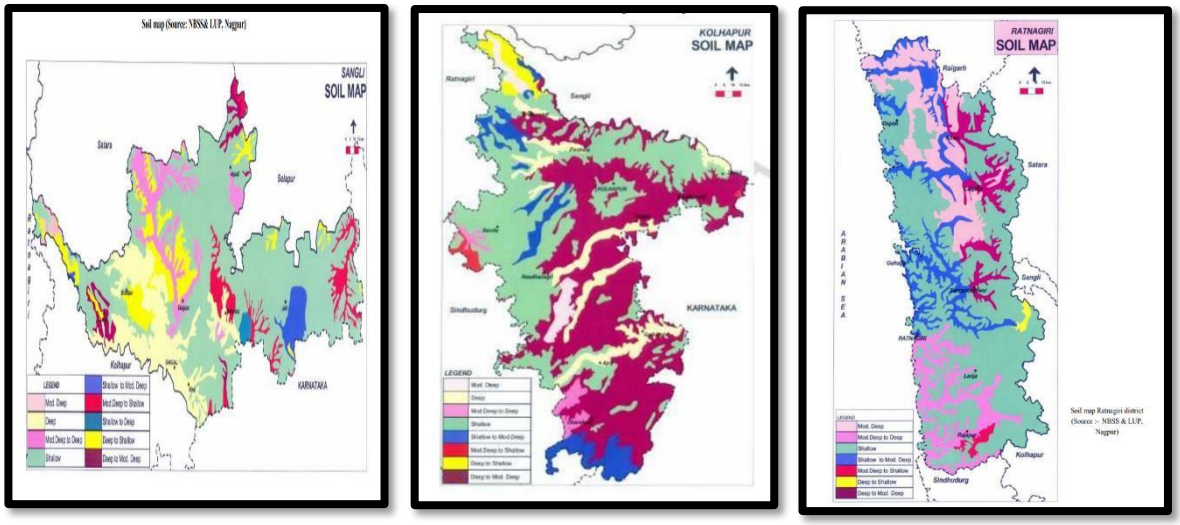
Map.1.1 Geological map of the Koyana-Warna Region (Duraiswami et al., JOURNAL GEOLOGICAL SOCIETY OF INDIA, Vol.90, December 2017). F1 to F14 are basaltic flows. The dashed lines 1, 2 and 3 indicate Koyana, Patan and Chiplun lineaments respectively.

1.4.3: Soil: The soil composition within the STR is predominantly lateritic and black cotton soil, developed on the basaltic rock formations. Alluvial soils are also present along the rivers flowing into the Koyana reservoir. Lateritic soil is commonly found in the western part of the area, forming red clayey soil in the Sahyadri hill ranges. This soil type is thin and poor on upper hill slopes but rich on lower gentle slopes, neutralized by humus in dense forest areas. Black cotton soil, on the other hand, is prevalent in the open areas, forming hard strata. Bauxite, copper, manganese ore, and other building materials are important minerals and rocks found in the area, with bauxite occurrences associated with laterite capping and originating from the Deccan trap.

1.4.4: Seismicity: The area of the STR is suggested to exhibit reservoir-induced seismicity, with shallow earthquakes of varying magnitudes believed to be related to the Koyana reservoir since 1962. This seismic activity is an important aspect to consider for the conservation and management of the tiger reserve area.



Map.1.2.Soil Map of Satara District



Map.1.3. Soil Map and Soil Profile of Sahyadri Tiger Reserve

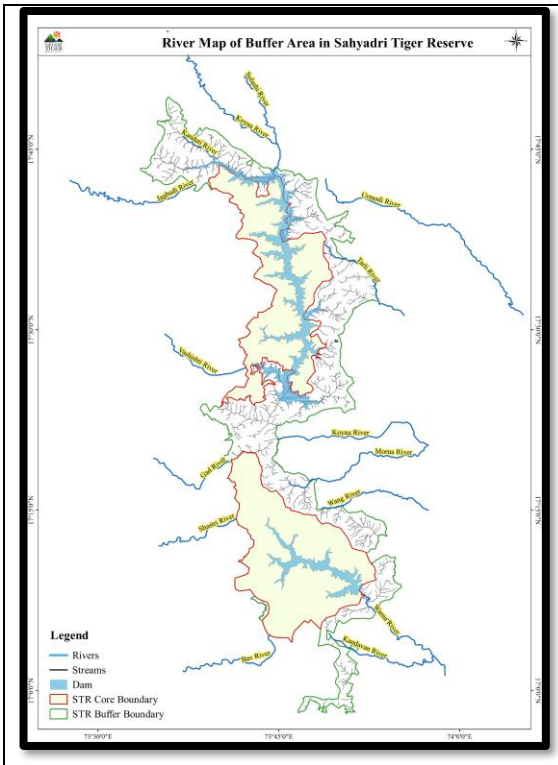
1.5: Hydrology of Water Sources Sahyadri Tiger reserve

The area is well drained by many rivers. The tract has four major draining systems Viz. Koyana, Kandat, Solashi, Urmodi, Tarli, Jagabodi, Vashiti, Morna, Wang Warna, Kandavan, Bav, Shashri, Gad. There are a few springs which are of perennial nature. The area has 2 major irrigation projects, Koyna and Chandoli Dam. Water scarcity in summer is a major impediment that affects the distribution of wildlife and thereby habitat utilization. The rivers and numerous Nala flowing through the buffer area of the TR are seasonal and have beds strewn with boulders and sand. The rainwater is quickly drained out through these rivers & nallahs. There are very few pools in these nalas where water is available almost throughout the year, and these are utilized by human beings as well as animals. There are a few springs where water continues to trickle in small quantities even in severe summer. In summer, water is available in dohs in the nullahs and the river.

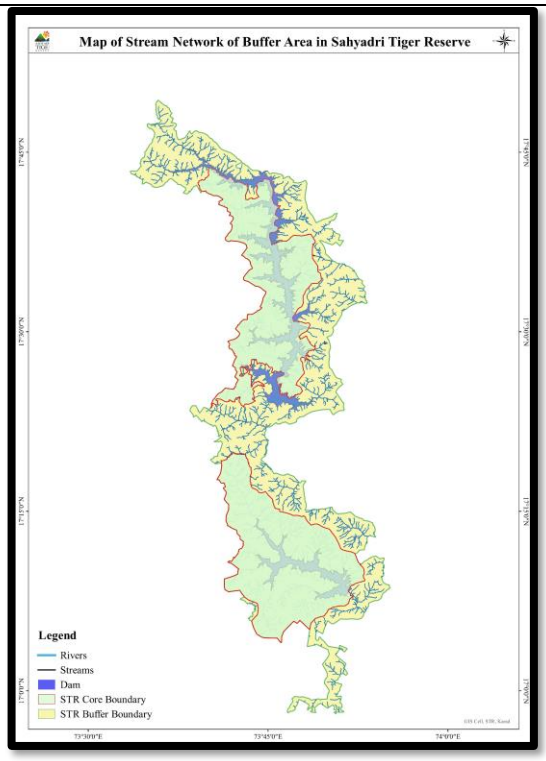
The wild animals, therefore, descend into the valleys, plain and lower slopes in search of water,

leaving their habitat at higher reaches unutilized. There are natural perennial water holes that can recoup their potential and storage capacity, but these are very few. In order to augment water resources, artificial waterhole, have been created by constructing bunds, forest ponds, cement bandharas, anicuts, & underground bunds, etc., which are overburdened with domestic cattle.

Many water holes are tapped for fish, and by the end of winter, the water scarcity attains a pinching situation. Augmenting water on compensatory ground le. making available alternative waterholes for the cattle and the wild fauna needs to be taken up on priority. Desilting of water holes, protection from poisoning, restricting use by domestic cattle, and cleaning of water holes may also improve the situation.



Map 1.4 Hydrology and Water Source



Map 1.5. Stream Network

The drainage system of the Krishna includes, the drainage of four tributaries from north to south side, the Kandati, Koyana, Warna and Kadavi. The Krishna is one of the most important and sacred rivers of southern India. It rises on the northern part of STR at Mahabaleshwar. Today Koyana and Warna the chief feeder of Krishna has become an important river in Maharashtra due to its hydro- electric and irrigation projects.

1.5.2.1: Physiographic Characteristics in Buffer Zone area of STR:

Physiographic Characteristics like elevation, slope and aspects altitude influences vegetation through it is also influence on local weather and climate.

1.5.2.2: Watershed:

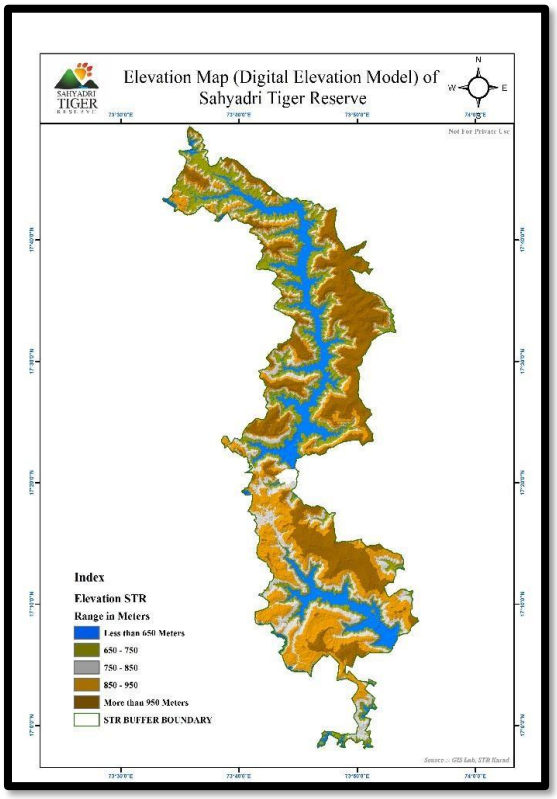
For the TCP purpose, we have divided the area of tiger reserve (Core and Buffer) into the large and small watersheds i e Koyna and Chandoli Dam and divided into each seven Watersheds Respectively

Table No.1.5 Water Shed (Core and Buffer) In STR:

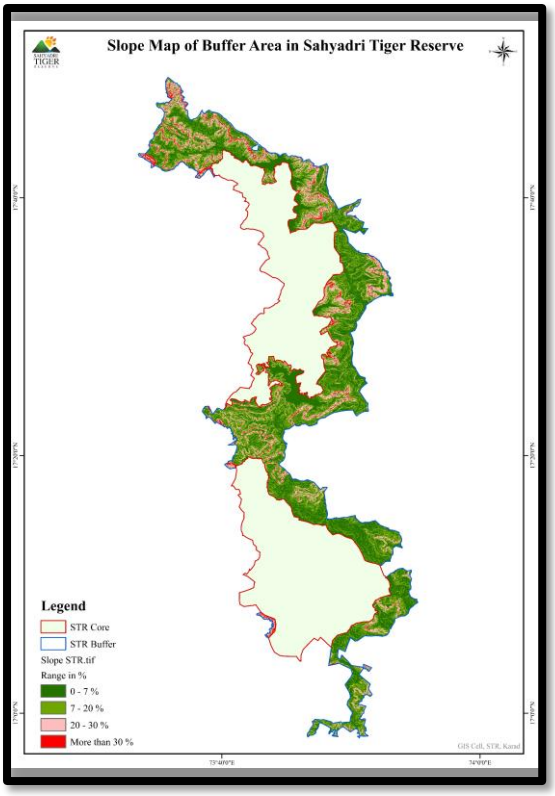
Watershed	Sub-Watersheds
Koyana	Koyana, Kandat, Solashi, Urmodi, Tarli, Jagabodi, Vashiti
Chandoli	Morna, Wang Warna, Kandavan, Bav, Shashri, Gad

1.5.2.1: Elevation: The elevation or altitude of the tiger reserve area plays a crucial role in influencing vegetation distribution. Different species of flora have specific temperature requirements for optimal growth, and the elevation directly affects local temperature and rainfall patterns. Species tend to grow within certain temperature ranges, and variations in elevation can lead to the replacement of one species by another. Higher elevations generally experience cooler temperatures, while lower elevations may be warmer, leading to distinct vegetation zones.

1.5.2.2: Slope: The slope of the terrain within the tiger reserve impacts various environmental factors, particularly runoff, drainage, and moisture levels in the soil. Steeper slopes often result in increased runoff and better drainage, affecting soil moisture regimes. Additionally, slope steepness influences erosion rates and the depth of the soil. The angle of the slope also modifies the intensity of solar radiation received, thereby influencing surface soil temperature and moisture levels. Consequently, slope characteristics, by influencing drainage patterns, soil depth, and humus content, play a significant role in shaping the vegetation composition within the reserve.



Map.1.6: Digital Elevation Map of STR



Map.1.7: Slope in STR

1.5.2.3: Aspect: Aspect refers to the direction in which a slope faces relative to the cardinal directions. The aspect of a slope determines the amount of solar radiation it receives, thereby affecting local temperatures. In regions like India, southern aspects typically receive more direct sunlight and are consequently warmer compared to northern aspects. This variation in temperature between different aspects can result in distinct vegetation patterns at various elevations within the tiger reserve.



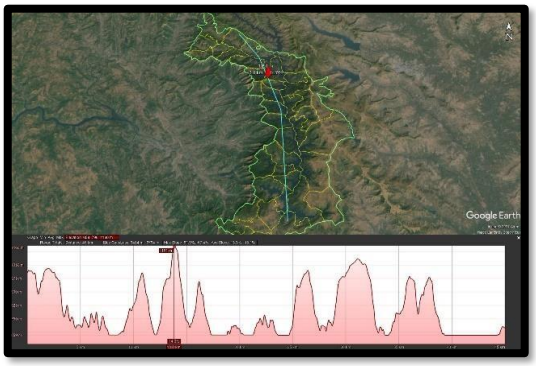
Map.1.8: Aspect East – West of CNP



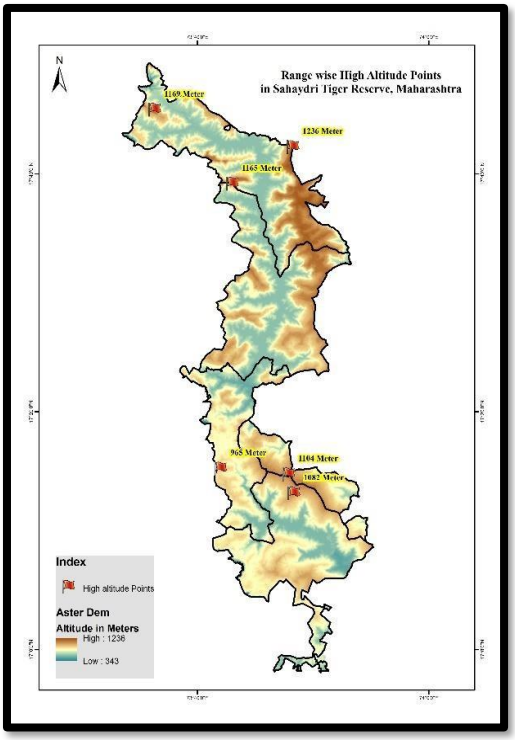
Map.1.9: Aspect North – South CNP



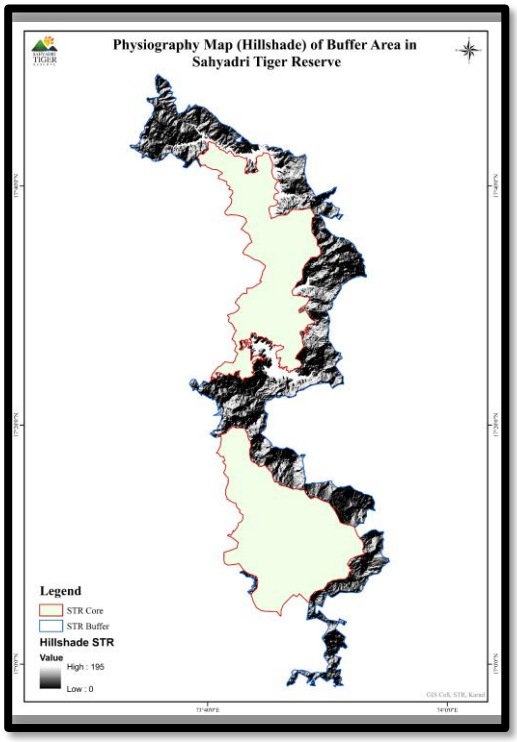
ıp.1.10: Aspect East – West of Koyna WLS



Map.1.11: Aspect North – South Koyna WLS



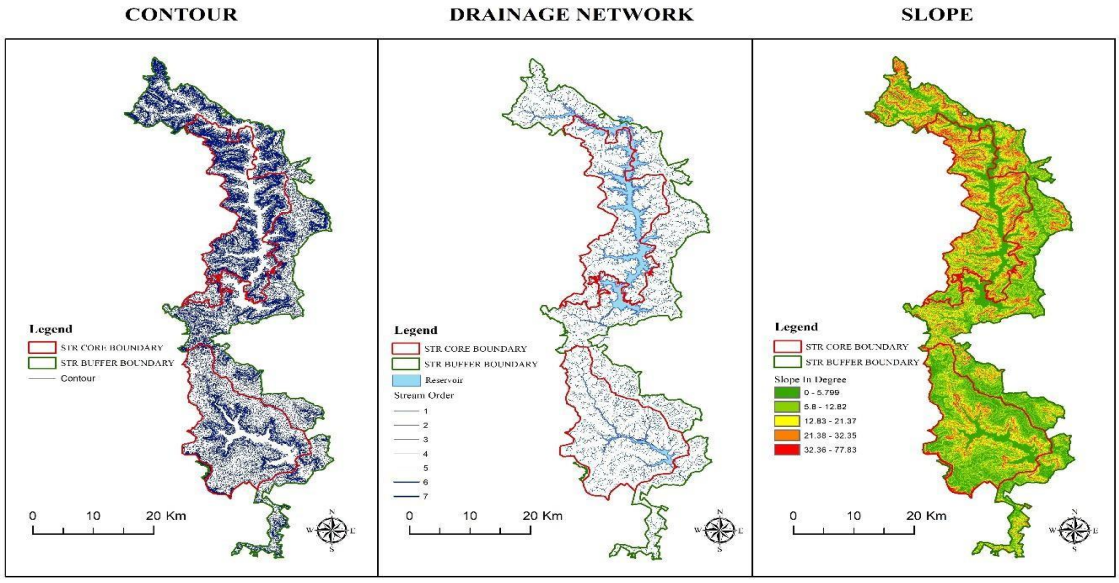
Map.1.12.: High Altitude in STR



Map.1.13: Hill Shade in STR

1.2: Vegetation Types:

This report presents an assessment of vegetation types within specific areas of the Sahyadri Tiger Reserve, focusing on the Western subtropical hill forest type (A/C) and West coast semi-evergreen forest type ($2A/C_2$) as per Champion and Seth's classification. The analysis includes site quality, species composition, ecological characteristics, and management considerations.



Map 1.14: Physiography of STR

Evergreen and Semi-Evergreen Forests:

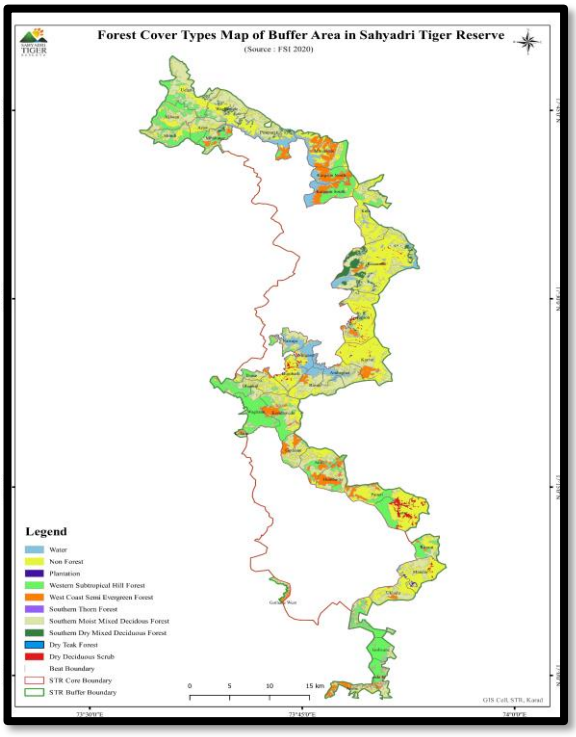
- Description: Characterized by Western subtropical hill forest type (A/C) and West coast semi- evergreen forest type ($2A/C_2$) according to Champion and Seth's classification.
- Site Quality: Ranges from IVb to Iva, occasionally observed as III on gentle slopes or in valleys.
- Species Composition: Dominated by *Actinodaphne angustifolia*, *Terminalia chebula*, *Terminalia tomentosa, Catunaregam spinosa, Syzigium cumini, Mangifera indica, Phyllanthus emblica, Memecylon umbellatum*, and others.
- Ecological Characteristics: Stunted growth of evergreen species (5-8 meters tall), with middle- aged to mature crop. Susceptible to soil erosion, with light to medium grazing pressure and poor natural regeneration.
- Spatial Distribution: Blank areas on steep slopes due to absence of soil cover, denser growth in sheltered valleys with species like Amba (*Mangifera indica*), Jambhul, Hirda (*Terminalia chebula*), Kalamb (*Mitragyna parviflora*), Gela (*Randia dumatorum*), Anjani (*Memecylon edule*), etc.
- Density Variation: Poor density or blank areas on upper hill slopes, while density in lower slopes and valleys ranges from 0.5 to 0.8.

- **Vegetation Characteristics:**

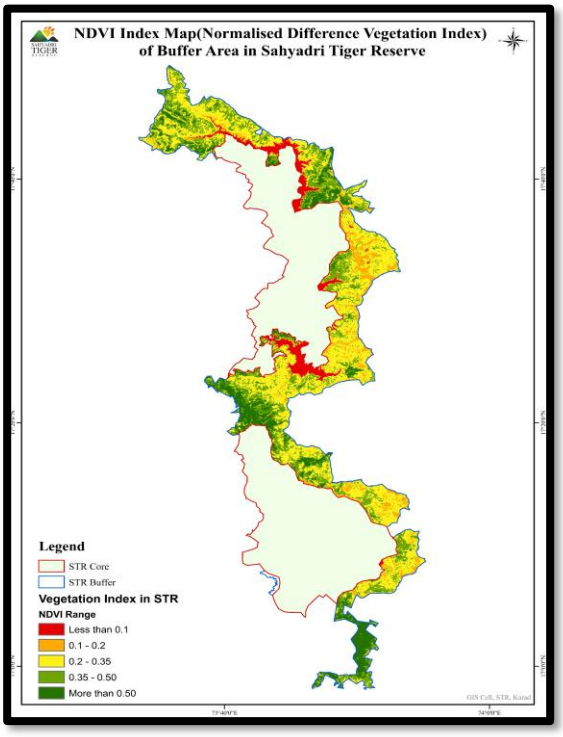
- Description: The assessed areas predominantly consist of evergreen and semi-evergreen vegetation types, characterized by stunted growth of species like *Actinodaphne angustifolia, Terminalia chebula, Terminalia tomentosa, Catunaregam spinosa, Syzigium cumini, Mangifera indica, Phyllanthus emblica,* and *Memecylon umbellatum.*
- Site Quality: Ranges from IVb to Iva, occasionally observed as III in patches on gentle slopes or in

valleys. Sheltered patches and valleys exhibit better quality compared to areas exposed to high winds, mist, and fog during the monsoon.

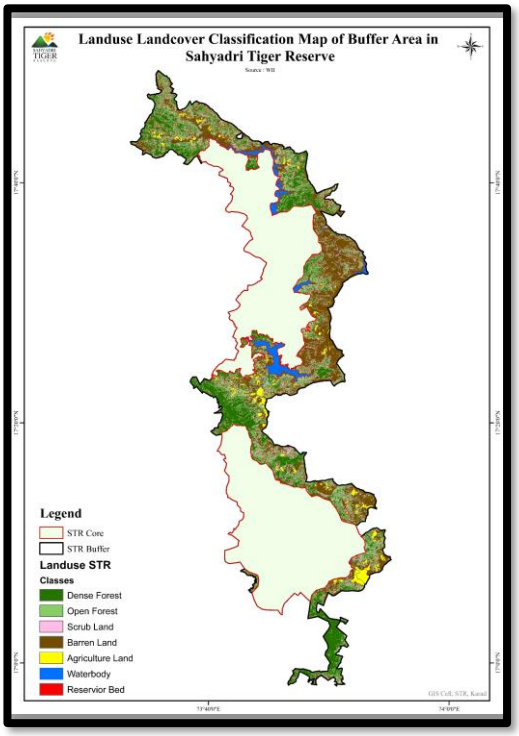
- Terrain Variation: Very steep and precipitous slopes are nearly devoid of tree growth due to lack of soil on exposed rocks, while lower slopes have dense vegetation patches. Vast stretches of exposed rocks have little to no tree growth.
- Growth Characteristics: Evergreen species typically exhibit stunted growth, reaching heights of 5-8 meters. The crop is middle-aged to mature.
- Species Composition: Principal species include *Actinodaphne angustifolia, Terminalia chebula, Terminalia tomentosa, Catunaregam spinosa, Syzigium cumini, Mangifera indica, Phyllanthus emblica, Memecylon umbellatum*, Amba (*Mangifera indica*), Jambhul, Hirda (*Terminalia chebula*), Kalamb (*Mitragyna parviflora*), Gela (*Randia dumatorum*), Anjani (*Memecylon edule*), etc.



Map.1.15. Map of Forest Cover Types STR



Map.1.16. NDVI Map of STR



Map.1.16. LULC Map of STR

1.7: Wild Fauna and Habitat

1.7.1: Wild fauna:

The Sahyadri Tiger Reserve's buffer zone exhibits a diverse range of habitats, albeit with disparities in wildlife distribution. This report aims to assess the habitat characteristics and wildlife presence in the buffer area, highlighting the importance of wildlife management for ecosystem balance. The buffer zone comprises miscellaneous forests with variations in vegetation density and structure. However, vast natural grasslands, crucial for herbivore populations, are notably absent. This deficiency poses a challenge to the increase in herbivore numbers within the reserve.

Some Wildlife Species:

- Tiger (Panthera tigris): Occasional visits from core areas indicate tiger presence in the buffer zone.
- Gaur (Bos gaurus): Large herbivore species known to inhabit adjacent areas.
- Spotted Deer (Axis axis): Common deer species found in the buffer zone.
- Leopard (Panthera pardus): A significant predator species alongside the wild dog.
- Wild Pig (Sus scrofa): Omnivorous mammals likely present due to habitat suitability.
- Sambar (Rusa unicolor): Large deer species preferring dense forest habitats.
- Barking Deer (Muntiacus muntjak): Small deer species adapted to various forested environments.
- Sloth Bear (Melursus ursinus): Shy bear species potentially inhabiting forested areas near water sources.
- Avifauna: The buffer area supports a diverse bird population, enriching the region's biodiversity.

1.7.2 Habitat

The Sahyadri Tiger Reserve is characterized by a rich diversity of habitats, each playing a crucial role in supporting the region's flora and fauna. Effective habitat management is essential for promoting biodiversity and ensuring the survival of key species, including the tiger and its prey.

Habitat Types:

Grasslands:

- Description: Open areas dominated by grass species, providing grazing grounds for herbivores.
- Significance: Vital for herbivores' food sources and serve as breeding grounds for ground-nesting birds.

Riparian Zones:

- Description: Vegetation along the banks of rivers and streams, characterized by lush greenery and diverse plant species.
- Significance: Provide habitat for aquatic and semi-aquatic species, act as corridors for wildlife movement, and help maintain water quality.

Aquatic Habitat:

- Description: Water bodies within and around the tiger reserve, including lakes, ponds, and wetlands.
- Significance: Support a variety of aquatic species, including fish, amphibians, and waterfowl, and contribute to overall ecosystem health.

Unique Habitats:

- Description: Specialized environments such as cliffs, talus slopes, caves, and nala beds.
- Significance: Provide unique niches for specialized species adapted to these habitats, contributing to overall biodiversity.

Species-Specific Habitats:

- Description: Habitats tailored to the specific needs of certain wildlife species, such as dense forests for tigers and grasslands for ungulates.
- Significance: Essential for the survival and reproduction of target species, influencing their distribution and abundance.

Agricultural Land:

- Description: Areas under cultivation within the buffer zone of the tiger reserve.
- Significance: Interface between human activities and wildlife habitats, requiring sustainable management practices to minimize negative impacts on biodiversity.

Fallow Land:

- Description: Uncultivated or abandoned agricultural land undergoing natural succession.
- Significance: Provide opportunities for habitat restoration and regeneration, potentially serving as wildlife corridors or supplementary feeding areas.

Management Considerations:

- The Sahyadri Tiger Reserve adopts the "Hasir principle" of interspersion of habitat types to promote biodiversity.
- Emphasis on maintaining the spatial distribution and quantity of food sources for herbivores.

- Preservation of key habitats in their original state to ensure the survival of ungulate species and their predators.
- Recognition of vegetation as a major component of wildlife habitat, forming the basis of food and cover for animals.
- Implementation of habitat management strategies to enhance the presence and distribution of welfare factors, including food, cover, water, and space.

The diverse habitats within the Sahyadri Tiger Reserve are integral to the region's ecological integrity and support a wide range of plant and animal species. Effective management practices are essential for conserving these habitats and ensuring the long-term viability of the reserve's wildlife populations.

The Hasir principle will be to have interspersion of various habitat types rather than a uniform habitat to foster floral and faunal bio-diversity in Sahyadri Tiger Reserve. Herbivores are primary consumers and their food largely comprise of grass, leaves, flower, fruit and stem. The Cervids (deer family) are graminivores (grass eaters) or browsers or may adapt to both grazing as well as browsing. The quantity and the spatial distribution of food are very important in a habitat

1.8: Major Conspicuous Changes since Inception:

As the work of buffer zone formation is being started, it is difficult to speak about the major changes in the habitat so early. A detailed study shall be carried out to establish baseline data for the existing area included in the buffer. These changes reflect ongoing efforts to protect and restore tiger populations and their habitats, but significant challenges remain, including habitat fragmentation, poaching, human-wildlife conflict, and climate change. Continued commitment and collaboration are essential to ensuring the long-term survival of these magnificent animals.

CHAPTER 2

STATUS OF TIGER AND CO-PREDATOR

The buffer zone of the Sahyadri Tiger Reserve (STR), which includes Chandoli National Park and Koyna Wildlife Sanctuary, provides crucial habitats for a variety of wildlife, although its role in tiger conservation remains complex. Despite the reserve being officially designated as a tiger reserve in 2010, tigers are sparsely recorded within the reserve, with only limited sightings over the past decades. However, the buffer zone is critical for both large and small carnivores, contributing significantly to the broader ecological landscape.

The region, despite challenges in monitoring due to its remoteness and difficult terrain, plays a key role in the tiger recovery project initiated by the Sahyadri Tiger Reserve Conservation Foundation, in collaboration with the Wildlife Institute of India (WII) and the National Tiger Conservation Authority (NTCA). Field efforts such as camera trapping, sign surveys, and prey density estimation have been ongoing since 2017, leading to some key findings. In 2018, a lone male tiger was recorded in the Chandoli National Park, marking the first confirmed tiger presence in the reserve since 2011. The reserve's habitat suitability modeling identified 451 km² of the area, roughly 38% of the reserve, as suitable tiger habitat. Based on prey density and habitat suitability, the tiger carrying capacity of the area was estimated at approximately 27 tigers, assuming successful tiger translocation and controlled factors for recovery.

In addition to tigers, the buffer zone supports a significant population of other carnivores such as leopards (Panthera pardus) and wild dogs (Dholes, Cuon alpinus). These species coexist in a complex ecological dynamic where spatial, temporal, and dietary segregation help to reduce competition. Leopards and dholes, alongside tigers, form a sympatric guild, each species occupying different ecological niches to minimize direct conflict and promote coexistence. This dynamic is crucial for maintaining a balanced predator-prey system in the region.

The role of the buffer zone is vital in providing the necessary habitat and prey resources that support these species, and its conservation is critical to the broader health of the Sahyadri Tiger Reserve ecosystem. While tigers remain elusive within the reserve, the presence of leopards and dholes suggests a thriving carnivore community that supports ecological balance and potentially aids in the eventual recovery of tigers in the area.

2.1 Distribution:

2.1.1Current Status of Tiger:

Direct and indirect signs of tiger presence have primarily been recorded in the core zone of the Sahyadri Tiger Reserve (STR), with only rare instances in the buffer zone. Recent observations provide key insights into the tiger's activities within the core zone. On December 12, 2023, a tiger pugmark was found near the Sonarli Backwater of Chandoli, located in the core zone, followed by a camera trap image of a young male tiger on December 17, 2023, at Kolhapur Nivale in the Amba range, also in the core zone. This marked the first sighting of a tiger in the core zone in five years, with the last photographic record in 2018, and the previous one in 2011.

Throughout this period, the male tiger was continuously monitored by field staff and the Tiger Cell from December 12, 2023, to May 30, 2024 (a span of six months). During this time, the tiger was photographed at 56 distinct locations, and indirect signs such as pugmarks, scat, kills, and scrapes were recorded at 61 locations within the core zone. These signs were mostly concentrated in the core zone, indicating the tiger's primary activity area.

Although the tiger was observed in the buffer zone on a few occasions, its presence and movement in the buffer zone are not as frequent. The majority of tiger signs, both direct and indirect, continue to be predominantly observed within the core zone.

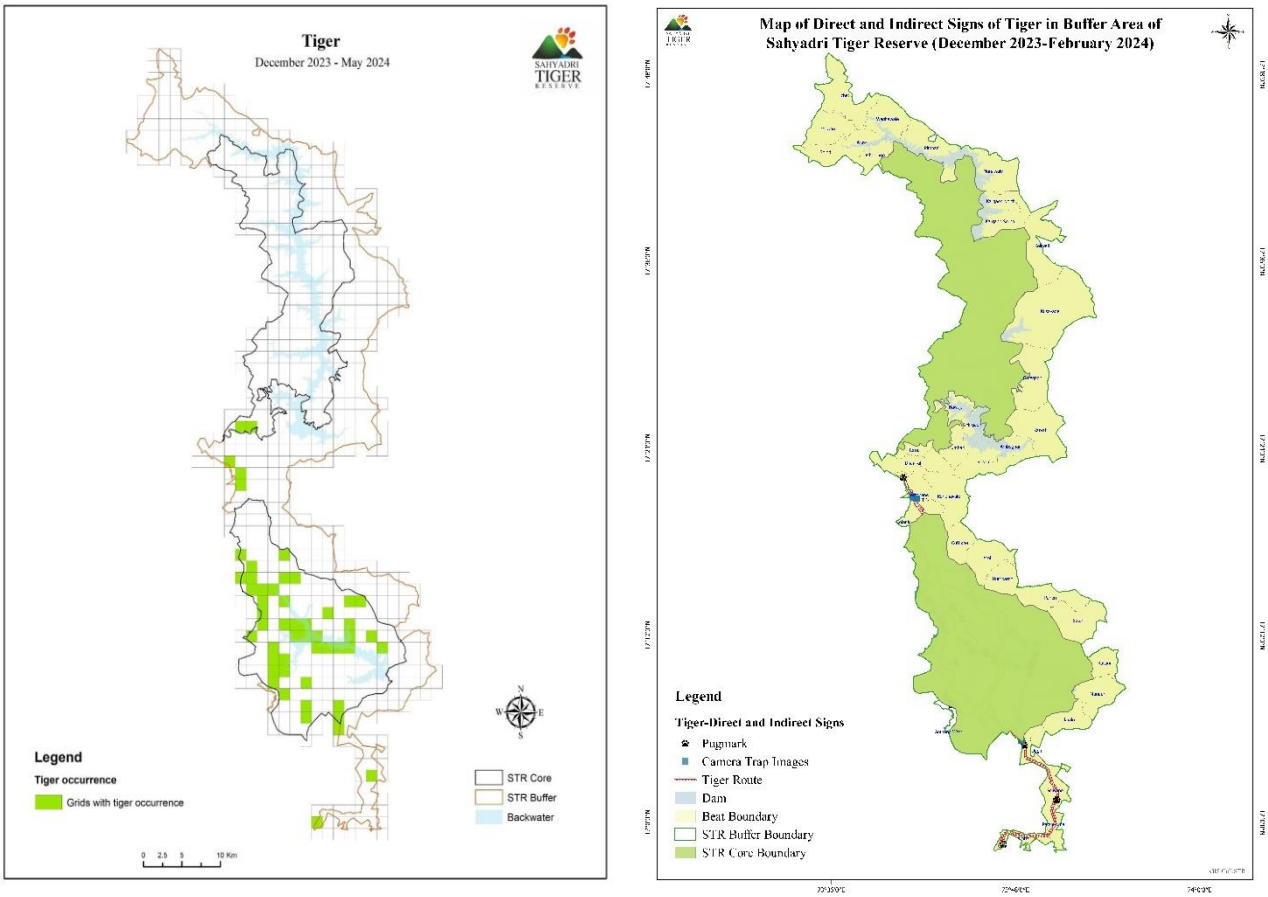
The tiger identified in December 2023 was confirmed to be a new individual, as it did not match any known tiger records from the STR database or other tiger populations across the southern Western Ghats, Central India, or the Eastern Ghats. The individual was assigned the unique identification code STR-T1 for future monitoring and management, further emphasizing the importance of monitoring tiger activity within the core zone, where signs of tiger presence are most abundant.



Map.2.1 Tiger indirect signs and estimated track in STR.

Tiger Signs: An adult male Tiger photographed on 17th Dec 2023, at Kolhapur Nivale beat of Amba range. The same individual has stayed back in Sahyadri Tiger Reserve for more than 6 months. Tiger Cell and field staff continuously monitored the movement pattern, tracks, and signs of the Tiger by implementing 407 camera traps, developing PIPs, and collecting data related to scat, pugmark, kill, etc. The individual has recorded at 59 camera trap locations and found its indirect signs on 61 locations in the past 6 months as follows.

1) **Tiger Distribution Map:** Tiger has been recorded in 52 grids based on camera trap captures and indirect signs (scat, pugmark, and kill). Occupancy of tiger in STR is 6.8% out of total 763 grids based on camera trap photos.



Map.2.2 Tiger distribution based on camera trap captures and Direct and indirect sings in STR 2023-24.

2.1.2: Previous Record of Tigers in Sahyadri Tiger Reserve:

Tiger Recorded in 2011: After the Sahyadri Tiger Reserve was established in 2010, the first confirmed sighting of a tiger occurred in 2011 at Chandoli National Park. This adult male tiger was initially recorded at Kalavantini Well and Kokan Kada Point on the main patrolling road in the Sidheshwar Beat

of Chandoli National Park. The tiger moved from Rundiv to Chandel within the Sidheshwar Beat and was captured by two camera traps (refer to Map.2.6).

Tiger Recorded in 2018: The second recorded sighting occurred in May 2018, with camera trap photos taken at four nearby locations within Chandoli National Park. Six images of the tiger were captured by cameras positioned in these locations: two images from the Chandel (East) beat, one from the Gothane beat in the Chandoli range, and one from the Rundiv (South) beat in the Helwak range.

- **Historical status of tigers in the landscape:** All records of tiger occurrence in the Sahyadri landscape were searched from forest department records**.** Tiger records found in the old documents were similarly scarce and only occasionally recorded. This further proves that tigers, although they have been frequenting this landscape, have not settled within the Sahyadri Tiger Reserve.

2.2Abundance:

2.2.1 Co-Predator Status:

Large carnivores and co-predators of the tiger recorded within the Sahyadri Tiger Reserve are the leopard, sloth bear, and the dhole (Wild dog). Leopards, sloth bears, and dholes play significant roles as co-predators in ecosystems where tigers are present. Among large carnivores reported in the Phase IV 2023 survey, the sloth bear had the highest camera trap captures, 669, followed by leopard, 508, and dhole, 171.

Table No:2.1: Status of Co-predators in Year 2022 and 2023

Sr. No.	Common Name	Phase IV 2022 Independent Captures	Phase IV 2023 Independent Captures
1	Leopard	430	508
2	Sloth bear	330	669
3	Dhole	104	171

2.2.2 Abundance of Leopard, Dhole, and Sloth bear:

The relative abundance index of leopard in Phase-IV 2022 was 34.10 and increased up to 43.60 in Phase- IV 2023 survey.

Table 2.2.: Relative abundance index of Leopard (RAI = ((independent photographs/trap nights) × 1000). Total camera trap nights in 2023 were 11650 & in 2022 were 12609.

Sr.No.	Species	Year of Phase IV Assessment	Independent Captures	Relative Abundance Index (1000 TN)
1	Leopard	2022	430	34.10
		2023	508	43.60
2	Dhole	2022	104	8.24
		2023	171	14.67
3	Sloth Bear	2022	330	26.17
		2023	669	57.42

(The Relative Abundance Index (RAI) is a metric used to estimate the population size or density of a species within a specific area, based on indirect signs of presence such as tracks, scat, camera trap photos, or vocalizations. It provides a relative measure of species abundance, useful in ecological and wildlife studies.)

Phase I 2022 Sign Survey Results: Co-predators were recorded during the Phase I sign survey of 2022, Sloth bear recorded for 357 times, Leopard for 242 and Wild Dogs for 82 times.

Table 2.3: Co-predators recorded during the sign survey of Phase I sampling 2022.

Sr. No.	Species	No. of Observations	Encounter Rate
1	Sloth Bear	357	0.5179
2	Indian Leopard	242	0.3511
3	Wild Dog	82	0.1189

2.2.3 Leopard (*Panthera paradus*):

The presence of leopards in the Sahyadri Tiger Reserve is integral to the biodiversity and ecological health of the area. The Sahyadri Tiger Reserve, located in the Western Ghats of Maharashtra, India, encompasses several protected areas and serves as a critical habitat for a diverse array of wildlife. Here is an overview of the importance and role of leopards in this specific reserve.

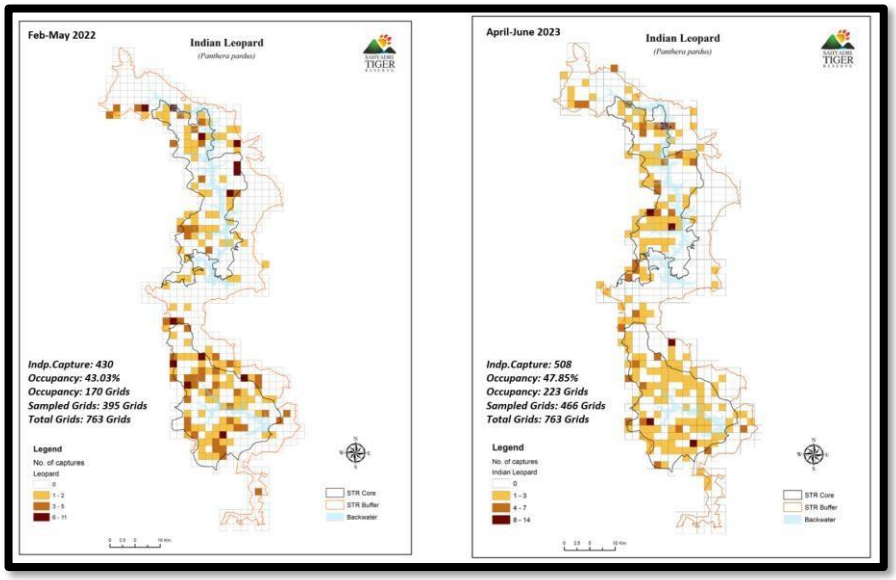
Distribution and Abundance of leopard in Sahyadri Tiger Reserve:

Phase IV 2022: The independent captures of leopard in Phase IV 2022 survey were 430 with 43.03% occupancy of sampled 395 total sampled grids out of 763 total grids (refer to table 2.8, fig.2.17).

Phase IV 2023: The independent captures of leopard in Phase IV 2023 survey were 508 with 47.85% occupancy of sampled 466 total sampled grids out of 763 total grids (refer to table 2.8, fig.2.17).

Table 2.4 Leopard captures recorded in Phase IV 2022 and 2023 survey.

Sr. No	Year of Phase IV Assessment	Independent Captures	Sampled Grids	Occupied Grids	Occupancy out of sampled grids	Relative Abundance Index (1000 TN)
1	Phase IV 2022	430	395	170	43.03%	34.10
2	Phase IV 2023	508	466	223	47.85%	43.60

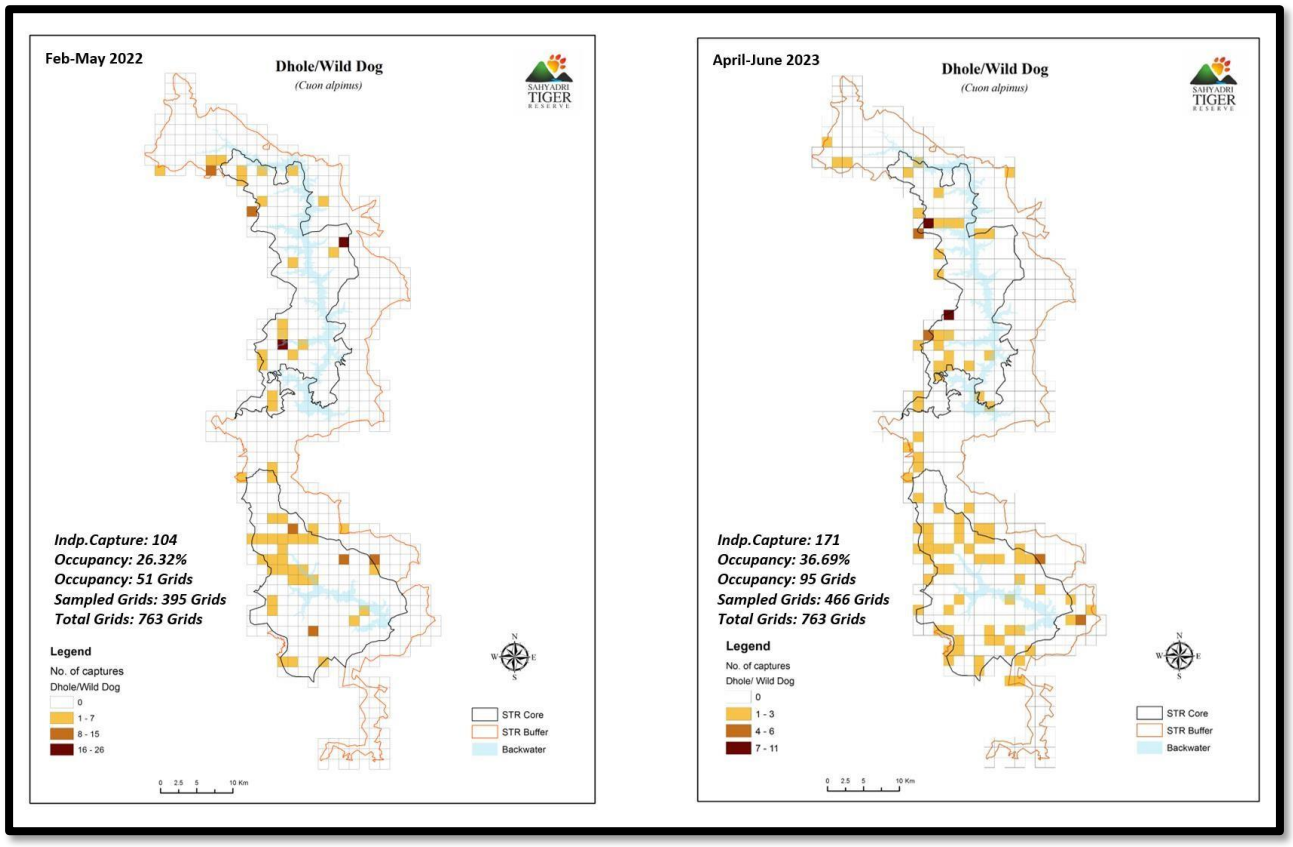


Map.2.3: Leopard distribution & abundance, Phase IV 2022 & Phase IV 2023

2.2.4.Dhole (*Cuon alpinus*):

Also known as the Asiatic wild dog, dhole (*Cuon alpinus*) and locally called as Kolsundha, plays a crucial role in the Sahyadri Tiger Reserve for several reasons:

Distribution and Abundance of Dhole in Sahyadri Tiger Reserve:



Map.2.4: Dhole distribution & abundance Phase IV 2022 & Phase IV 2023

Phase IV 2022: The independent captures of Dhole in Phase IV 2022 survey were 104 with 12.91% occupancy of sampled 395 total sampled grids out of 763 total grids (refer to table 2.9, fig.6).

Phase IV 2023: The independent captures of Dhole in Phase IV 2023 survey were 171 with 20.38% occupancy of sampled 466 total sampled grids out of 763 total grids (refer to table 6, fig.5).

Table 2.5: Leopard captures recorded in Phase IV 2022 and 2023 survey.

Sr.No	Year of Phase IV Assessment	Independent Captures	Sampled Grids	Occupied Grids	Occupancy out of sampled grids	Relative Abundance Index (1000 CI)
1	Phase IV 2022	104	395	51	12.91%	8.24
2	Phase IV 2023	171	466	95	20.38%	14.67

2.2.5 Sloth Bear (*Melursus ursinus*):

The Sloth Bear (Melursus ursinus) holds a unique position as a co-predator alongside the tiger in the Sahyadri Tiger Reserve, contributing to the ecosystem in various important ways:

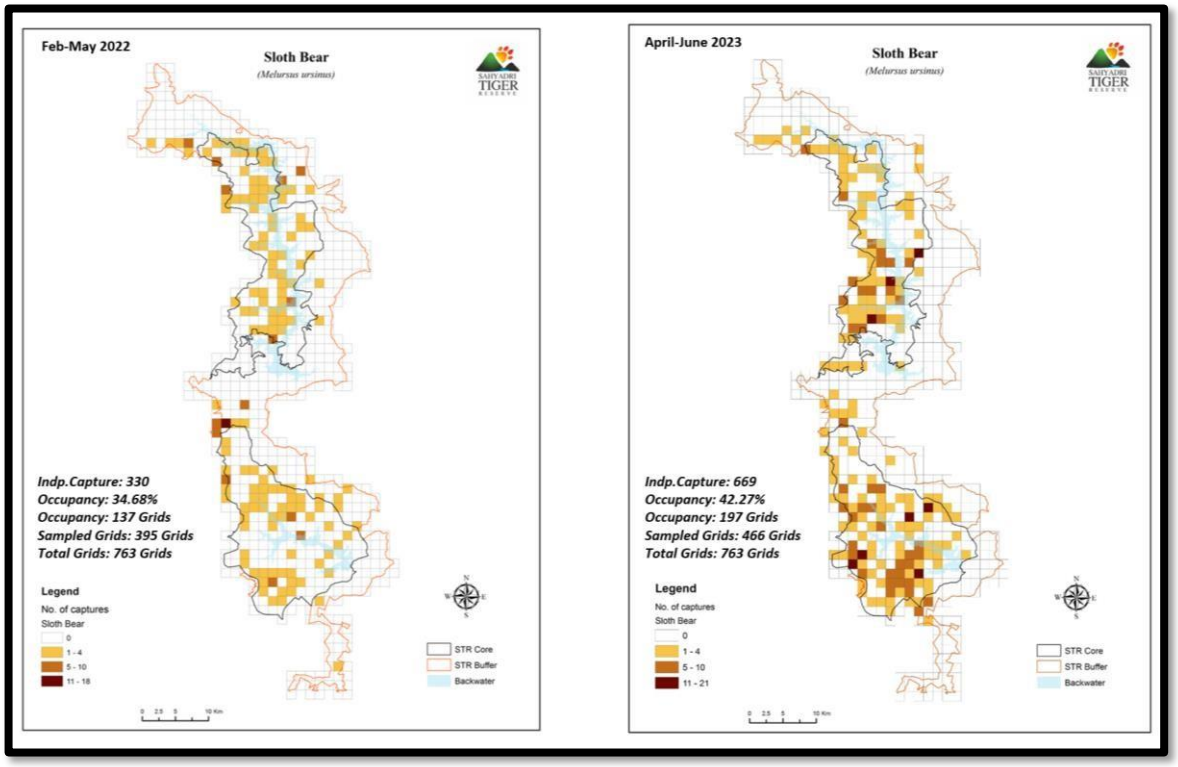
Distribution and Abundance of Sloth bear in Sahyadri Tiger Reserve:

Phase IV 2022: The independent captures of Sloth bear in Phase IV 2022 survey were 137 with 34.68% occupancy of sampled 395 total sampled grids out of 763 total grids (refer to table 6, fig.6).

Phase IV 2023: The independent captures of Sloth bear in Phase IV 2023 survey were 197 with 42.27% occupancy of sampled 466 total sampled grids out of 763 total grids.

Table 2.6: Sloth bear captures recorded in Phase IV 2022 and 2023 survey

Sr. No.	Year of Phase IV Assessment	Independent Captures	Sampled Grids	Occupied Grids	Occupancy out of sampled grids	Relative Abundance Index (1000 CI)
1	Phase IV 2022	330	395	137	34.68%	26.17
2	Phase IV 2023	669	466	197	42.27%	57.42



Map 2.5: Sloth bear distribution & abundance Phase IV 2022 & Phase IV 2023

2.2.6 Prey species density :

Table N0 2.7:Ungulate Species Density & Occupancy (REM): AITE, 2022

Sr. No.	Ungulate Species	Mean Individual Density	Total Captures	Presence in grid (395)	Occupancy in sampled area (790sq.km)
1	Indian Gaur	7.064	2026	284	71.8987 %
2	Wild Pig	7.164	1425	270	68.3544 %
3	Barking Deer	2.648	652	178	45.0633 %
4	Sambar Deer	1.979	594	180	45.5696 %
5	Mouse Deer	0.706	209	95	24.0506 %
6	FHA-Four-horned Antelope	0.059	11	5	1.26582 %

Table no:2.8 Ungulate Species Density & Occupancy (REM): Phase IV, 2023

Sr. No	Ungulate Species	Estimated Ungulates Density (REM)	Independent Captures-Phase-IV 2023	Occupied Grid (Out of 466)	Occupancy
1	Indian Gaur	9.11	2401	333	71.45%
2	Wild Pig	18.40	2608	364	78.11%
3	Sambar	4.55	695	195	41.84%
4	Barking Deer	3.73	730	228	48.92%
5	Mouse Deer	2.10	266	108	23.17%
6	Four-horned Antelope	0.40	29	13	2.78%

2.2.7. Discussion: After the completion of four years, we have confirmed tiger presence within Sahyadri Tiger Reserve twice. It is now clear that tigers have been frequenting the reserve, although have not settled within the reserve boundary. Furthermore, Sahyadri hosts a rich assemblage of large and small carnivores. We identified 43 individual leopards; this is however the lowest density estimate as large number of camera trap images remain unidentified. We expect that actual density estimate will be much higher than 43. Other than leopard, dhole and sloth bears are seen as large carnivores in this landscape. Sloth bears are quite common, but dhole detections are low. Dholes are constrained to pockets especially in Chandoli part of the tiger reserve.

2.3 Prey-Predator Relationship:

The ecological niche of an animal encompasses patterns of activity on both spatial and temporal scales (Halle and Stenseth, 2000). Temporal activity patterns are strongly influenced by the 24-hour oscillation between day and night. Temporal partitioning of activity facilitates the coexistence of competing species (Schoener 1974). Camera traps offer a unique advantage to assess activity patterns through photographic captures, as all images are time-stamped. Researchers have recently focused attention on the finer-scaled temporal data provided by time-stamped camera trap images (e. g. Ridout and Linkie 2009; Rowcliffe et al. 2014), which detail the timing of wildlife occurrences across points in space. Further, temporal camera trap data offer the opportunity to address unresolved questions regarding species ecology and community interactions, such as variation in activity patterns and partitioning along the temporal axis. Within the Sahyadri as well, it is important to understand how species partition or overlap in time to coexist. Activity patterns also offer insights into predator-prey interactions in time, and how prey can avoid predators by partitioning time

2.3.1 Dial activity patterns: We estimated kernel density estimates (Ridout and Linkie 2009) to assess activity patterns. We converted the time of photographic event to radians and then used the overlap package (Meredith and Ridout, 2014) in R (R Core Team 2020) to fit the data to a circular kernel density and estimated the activity level of each species. We then used the overlap Est function to test for the degree of overlap (Δ) in activity patterns among species pairs. We then calculated 95 % confidence intervals by bootstrapping 9999 estimates of activity for each species, and then estimated overlap between each species pair using the boot Est and boot CI functions. In addition to testing for species overlap, we also visualized species activity pattern by administrative ranges within Sahyadri. This has direct management implication as this shows the activity pattern of species in different ranges

and also which are the peak hours in which species are most active. Activity and overlap for species which had fewer captures was not done, as this leads to either null or erroneous results.

2.3.2 Results: Among predator-prey pairs, we found high overlap between leopard and gaur (0.85), leopard and wild pig (0.85) and leopard and sambar (0.74). Dhole had low activity overlap with ungulates. Sloth bear had high overlap with gaur (0.86), wild pig (0.86) and sambar (0.78) (Table 1). Leopard also had high overlap with sloth bear (0.76). Dhole had low overlap with the other two large carnivores (Table 2). Among ungulates, gaur had high overlap with wild pig (0.83), and sambar (0.76). Wild pig also had high overlap with sambar (0.82) (Table 2.11). Other species pairs had moderate to low activity overlap.

Table 2.9: Temporal overlap estimates among predators and prey

Species	Gaur	Wild pig	Sambar	Barking deer	Mouse deer
Leopard	0.85 (0.79–.89)	0.85 (0.76–0.86)	0.74 (0.65–.77)	0.57 (0.49–.61)	0.51 (0.37–.52)
Dhole	0.60 (0.46–.63)	0.50 (0.37–0.54)	0.43 (0.28–.44)	0.57 (0.46–.64)	0.23 (0.11–.25)
Sloth bear	0.86 (0.76–.87)	0.86 (0.75–0.86)	0.78 (0.69–.83)	0.54 (0.44–.57)	0.57 (0.47–0.62)

Table 2.10: Matrix of temporal overlap estimate among large carnivores

Species	Leopard	Dhole	Sloth bear
Leopard	—	0.54 (0.41–0.59)	0.76 (0.70–0.82)
Dhole		—	0.49 (0.41–0.59)
Sloth bear			—

Table 2.11: Matrix of temporal overlap estimate among ungulates

Species	Gaur	Wild pig	Sambar	Barking deer	Mouse deer
Gaur	—	0.83 (0.80–0.87)	0.76 (0.67–0.77)	0.56 (0.49–0.58)	0.52 (0.42–0.54)
Wild pig		—	0.82 (0.76–0.86)	0.52 (0.45–0.54)	0.59 (0.49–0.62)
Sambar			—	0.38 (0.30–0.40)	0.73 (0.63–0.76)
Barking deer				—	0.17 (0.08–0.17)
Mouse deer					—

2.3.3: Species activity patterns by range: Disentangling species activity patterns by administrative ranges in Sahyadri is important to understand peak activity hours in different ranges.

All ranges vary in human pressure and temporal activity patterns are helpful in understanding how species are using time in varied human pressure regimes (Frey et al. 2017). We found that in Koyna and Chandoli ranges, the primary core areas in the reserve, most mammals show a uniform activity pattern throughout the day (24-hour period). Leopard, gaur, sambar, common palm civet and small Indian civet all show nocturnal peaks in Bamnoli range, as this range includes much of the buffer area. Wild pig uses this range similar to other core ranges given that it is a common species and less vulnerable to human pressure.

2.3.4: Discussion: Temporal camera-trap data offer the opportunity to address unresolved questions regarding species ecology and community interactions, such as variation in activity patterns and partitioning along the temporal axis. These temporal insights are not only valuable from an ecological perspective, but they also provide insight into human-driven changes to species behaviors and interactions, and the resulting impacts on niche partitioning and community structure. There is mounting evidence that human- driven landscape and community impacts including land-use change (Ramesh and Downs 2013), human activity (Wang et al. 2015), hunting (Di Bitetti et al. 2008) may alter species' activity patterns and competitive or predatory interactions through altered temporal niche partitioning. To understand this affect, we visualized species diel activity by different ranges in Sahyadri. Koyna, Helwak and Chandoli form the bulk of core area of the reserve. Bamnoli comprises a substantial buffer area where human activity is high. This was clearly visible in the activity graphs which showed peak activity in night hours (1800–0600 hours).

Further, the activity overlap showed high correlation between activity of predators and prey. This information is valuable to understand prey-predator dynamics in a temporal axis. Leopard and sloth bears had high overlap with gaur, wild pig and sambar. Looking at activity overlap among carnivores, it was found that leopard and sloth bear had high activity overlap. This is perhaps that both these are widely spread species in the landscape, and hence activity overlap is high. Among ungulates, gaur, sambar and wild pig had high overlap. This is also because of similar reason that these species are common in this landscape and have adapted well to the landscape and are active throughout the day.

2.3.5: Tiger Prey Preference:

From Dec 2023, Tiger activities had been continuously monitored through camera trap and daily patrolling and PIPs. In five months, field observations by staff, tiger had been recorded hunting 2 Indian

Gaur, 2 Feral Cattle and 1 wild pig.

2.3.6: Leopard Prey Preference:

Leopard has been recorded on camera trap while hunting and feeding on various prey species as shown in following table. Total 9 camera trap images observed that leopard hunting prey capture were recorded. Leopard has been found hunting mouse deer 3 times, giant squirrel 3 times, and langur, wild pig and Indian hare once.

Table 2.12: Leopard hunting and feeding on various prey species captured in camera traps from 2018 to 2024.

Sr. No	Prey Species	Camera Trap Date	Time	Observation By
1	Mouse Deer	02/02/2018	2:38pm	Camera Trap
2	Giant squirrel	12/02/2019	12:30pm	Camera Trap
3	Wild Pig	17/02/2022	10:02pm	Camera Trap
4	Giant squirrel	14/03/2022	05:32am	Camera Trap
5	Langur	26/04/2022	07:56am	Camera Trap
6	Giant squirrel	16/05/2022	16:10pm	Camera Trap
7	Mouse Deer	23/05/2023	13:58pm	Camera Trap
8	Mouse Deer	29/08/2023	18:01pm	Camera Trap
9	Indian Hare	12/02/2024	11:23pm	Camera Trap

2.3.7: Wild Dog Prey Preference:

Wild Dogs have been recorded on camera trap while hunting, feeding, and scavenging on various prey species as shown in following table. Total 15 observations were recorded through camera trap and field surveys where wild dogs hunting, feeding, and scavenging on various prey species. Through analysis Wild Dogs has been found hunting and feeding on feral cattle 5 times and twice on livestock, 3 times hunting sambar, and four times cornering and scavenging on dead gaurs, and only once scavenging on dead wild pig. Details as follows:

Table 2.13: Wild dog hunting, feeding, and scavenging on various prey species, captured in camera traps and field observation by staff on patrolling from 2018 to 2024.

Sr. No	Prey Species	Age	Status	bservation Date	Time	bserved By	Beat	Range
1	Feral Cattle	Calf	Hunt	/ /2021	-	Field Staff	Takle	Dhebewadi
2	Feral Cattle	Calf	Hunt	12/08/2021	08:02 am	Camera Trap	Dhakale	Chandoli
3	Feral Cattle	Male	Corner	03/03/2022	7:18 am	Camera Trap	Dhakale	Chandoli
4	Sambar	Male	Hunt	11/04/2022	-	Field Staff	Kasni	Dhebewadi
5	Sambar	Female	Hunt	15/05/2023	06:52 am	Camera Trap	Sidheshwar	Chandoli
6	Indian Gaur	Females	Corner	12/06/2023	09:13 am	Camera Trap	Chandel	Chandoli
7	Livestock	Calf	Hunt	22/08/2023	-	Field Staff		Dhebewadi
8	Indian Gaur	Male	Scavenging	18/12/2023	-	Camera Trap	Rundiv	Helwak
9	Indian Gaur	Females	Corner	28/12/2023	22:47 pm	Camera Trap	Gothane	Amba
10	Wild Pig	Male	Scavenging	14/01/2024	-	Camera Trap	Chandoli Khurd	Helwak
11	Sambar	Male	Hunt	16/01/2024	07:15 pm	Camera Trap	Kolhapur Nivale	Amba
12	Feral Cattle	Female	Scavenging	29/01/2024	-	Camera Trap	Sonarli	Chandoli
13	Indian gaur	Female	Scavenging	02/03/2024	-	Camera Trap	Rundiv	Helwak
14	Feral Cattle	Female	Scavenging	14/03/2024	-	Camera Trap	Nandoli	Dhebewadi
15	Livestock	Calf	Hunt	24/05/2024	-	Field Staff	Nandoli	Dhebewadi

2.4 Assessment Of Threats:

The Sahyadri Tiger Reserve, nestled in the Western Ghats of India, faces a range of threats that jeopardize its biodiversity and the survival of its iconic tiger, co-predators and prey species population. These threats arise from both natural and anthropogenic factors, posing significant challenges to conservation efforts. Threats to the Sahyadri Tiger Reserve encompass a spectrum of human-induced pressures that endanger its ecological integrity and biodiversity. These threats include:

- **Habitat Fragmentation and Degradation:** The fragmentation of habitat due to human activities such as agricultural expansion, dams, hydro-electric projects, highways, windmills infrastructure development, human settlement and mining disrupt the continuity of compact wildlife habitat and corridors, limiting the movement of tigers and other wildlife species. Deforestation in private area in buffer and corridor and habitat degradation further exacerbate this issue, reducing suitable habitats for tigers and prey species.
- **Human-Wildlife Conflict**: Increasing human interference into tiger habitats leads to conflicts between local communities and wildlife, particularly when tigers or other predators' prey on livestock or pose a threat to human safety. Retaliatory killings, habitat destruction, and depletion of prey base are common consequences of such conflicts, posing a serious threat to tiger and other predators' populations. Crop raiding due to wild pig and gaur is increased. Gaur and sloth bear attack also increased.
- **Illegal Grazing -** STR has over 80 villages within its buffer zone, with 7 villages containing human habitation and 1 village uninhabited within the core zone. There are more than 500 feral cattle inside the core zone (though a systematic study has not yet been conducted), and there is significant pressure from domestic cattle in the buffer zone villages on the buffer zone forest, as well as on the adjoining forest area of the core zone. Moreover, there is also considerable pressure from domestic cattle in core villages on the surrounding core zone forest.
- **Poaching and Illegal Wildlife Trade**: Though the incidences are very less, the poaching on smaller scale can take place at anytime and anywhere. Most of villages has been relocated but yet 07 villages with human habitation and 01 village without any habitation still are inside the core zone. There are always a possibility of poaching from villagers of these villages. Illegal hunting activities such as trapping, snaring, and the use of licensed or unlicensed guns pose a significant threat to wildlife populations, particularly prey and endangered species. Poaching for local consumption and for illegal wildlife trade remain persistent threats to tiger populations in the Sahyadri Tiger Reserve. Lack of effective law enforcement and inadequate monitoring exacerbate the problem.
- **Illegal Resource Collection:** Gathering resources such as fuelwood and medicinal plants (e.g., Narkya, Hirda, Tamalpatra, Shikakai) without proper authorization can lead to habitat degradation and loss of biodiversity.

- **Forest Fire**: Deliberate or accidental fires set for various purposes, such as clearing land for agriculture or hunting, can result in habitat destruction and loss of vegetation cover, affecting wildlife populations.
- **Human Disturbance and Infrastructure Development**: Rapid urbanization, tourism, and infrastructure development in and around the reserve lead to habitat disturbance, noise pollution, and habitat fragmentation. Roads, canals, and other linear infrastructure pose barriers to wildlife movement and increase the risk of accident,
- **Public roads crossing tiger reserve:** Public roads crossing tiger reserve, disrupt wildlife corridors and heighten human-wildlife conflict. To address these challenges, it is essential to establish wildlife corridors, construct underpasses and overpasses, enforce speed limits with clear signage, install fencing in critical areas, and conduct regular monitoring. These actions are crucial in ensuring safe animal movement across roads while maintaining a balance between conservation and human access.
- **Religious tourism along a passing route:** The Eco-Tourism Zones (ETZ) of Sahyadri Tiger Reserve (STR) feature several temples, attracting regular pilgrims and tourists. These include Chowkeshwar and Mallikarjun in the Kandat ETZ, Nageshwar and Shembadi Datta Math in the Bamnoli-Munavale ETZ, Padmavati Devi, Dhareshwar, and Injai Devi in the Karvat-Kusavade ETZ, Shiva, Amba Devi, Ramban, Mahadev, Manai Devi, Waghjai Devi, and Shri Datta Dham in the Koyana-Helwak ETZ, Valmiki in the Paneri-Bhosgaon ETZ, Vitthalai and Shevtai in the Mandur ETZ, and Shri Kalammadevi and Marleshwar in the Amba ETZ. Effective waste management in these temple areas is essential to preserve the ecological balance of the tiger reserve.
- **Threat to Grasslands:** There are threat to grasslands due to encroachment of woody vegetation and ferns, results in shrinkage of grasslands area. This reduces the availability of open grassland habitats for herbivores.
- **Unregulated tourism/tourism structures/pilgrimage tourism**: this poses a significant threat to the wildlife habitat and on wildlife as they can lead to habitat destruction, disturbance of wildlife, and degradation of natural resources. Unplanned construction of tourism infrastructure such as resorts, lodges, and roads can fragment habitats, disrupt wildlife corridors, and degrade sensitive ecosystems. Unregulated tourism activities such as loud noise, bright lights, and excessive human presence candisturb wildlife, disrupt breeding and feeding patterns, and increase stress levels among animals. Uncontrolled tourism can lead to overuse of natural resources such as water, fuelwood, and wildlife products, resulting in habitat degradation and loss of biodiversity. Unregulated tourism can inadvertently introduce invasive species through the transportation of goods, vehicles, and visitors from outside the reserve.
- **Threats to Unique Habitat like Sadas/Lateritic plateau:** Ecological assessment of representative sites

shows high species richness and diversity on this lateritic plateau. Removal of boulders, filling of shallow ponds, or altering the drainage pattern can have severe impacts on biodiversity of lateritic plateau (Sada) which may be visible only after some years. Tourism, wind farms, infrastructure development and mining are serious threats to the rocky lateritic plateaus.

Addressing these multifaceted threats requires comprehensive conservation strategies, collaborative efforts among stakeholders, and sustainable management practices to safeguard the Sahyadri Tiger Reserve's biodiversity and ensure its ecological resilience for future generations. Collaboration between government agencies, local communities, NGOs, and other stakeholders is crucial for the effective conservation of the Sahyadri Tiger Reserve and the protection of its biodiversity.

- **Major developments in the adjoin areas, that have bearing on STR:**

Bauxite mining in the corridor/ proposed buffer area and windmills in the neighboring/ adjoining plateaus are the major causes of concern.

Table. 2.14 The following developments occurred in some places CNP and KWLS affecting as under:

Name of the Area	Type of development	How does it affect the PA
Nivale (Kolhapur) beat area	Bauxite mining at Udgiri.	A large number of vehicles are moving throughout the day. The mining area is adjoining the park boundary. The blasting at mining site has been disturbing the wild animals in the Nivale (Kolhapur) beat.
Vele, Kusavade beats of Koyana WLS	Wind mills at Chalkevadi, Gojegaon, Aral and Kusavade.	The large no. of windmills erected on Chalakevadi plateau has adversely affected free movement of wild animals during monsoon and winter.
Northern part of PA	Outside the northern part of the PA, the villagers have cut trees in private areas up to the boundary of NP.	No hiding place, tree shelter on the northern part of the P.A. for the wild animals, particularly big mammals.

Koyana Wildlife Sanctuary	Windmills, resorts, construction of road, Minor irrigation Tank, activities of Koyana Hydro Electric Project	Destruction of habitat due to construction of Road, Resorts, Minor irrigation tank, Wind mills and various activities of Koyana Hydro Electric Project. These disturbances are mainly in eastern part of KWLS .

Chapter 3

THE HISTORY OF PAST MANAGEMENT & PRACTICES

3.1.: Conservation History:

Chronological sequence of events in the history of STR:

Sahyadri Tiger Reserve (STR) was notified as 39 th tiger reserve of India on 05/01/2010. Its 4th Tiger reserve of Maharashtra. It is situated in Satara, Sangli, Kolhapur and Ratnagiri Districts in the western Maharashtra. Present Koyna division forest was part of Satara division whereas Present Chandoli division forest was part of Satara, Sangli, Kolhapur & Ratnagiri divisions. STR comprised of the notified area of Chandoli National Park and Koyna Wildlife Sanctuary. Landmark events and chronological sequence of events in the history of the tiger reserve is as under :

Year	Events
1985	Area of Koyna was declared as Wildlife Sanctuary vide Government Notification No.WLP 1085/CR-588/ (II) F-5, dated 16/09/1985.
1985	Area of Chandoli was declared as Wildlife Sanctuary vide Government Notification No.WLP 1085/CR-588/ (II) F-5, dated 16/09/1985.
2004	Area of Chandoli was declared as National Park vide Government Notification No. WLP 1099/CR-117/F-1, dated 14/05/2004
2010	STR constituted as per Government Notification No. WLP 1008/CR-232/F-1, dated 05/01/2010
2010	Second cycle of MEE evaluation was carried out in which STR secure in **Fair** category. (59.00%)
2011	Sahyadri Tiger Reserve Conservation Foundation constituted as per section 38 (X) of WLPA,1972 as per government resolution dated 8.11.20211
2012	Core and Buffer zones of STR notified as per Government Notification No. WLP- 2012/CR-240/F-1, dated 21/08/2012
2013	Tiger Conservation Plan for management of STR for period 2013-2023 sanctioned on 25.10.2013.
2014	Third cycle of MEE evaluation of STR carried out, in which STR Secure in **Good** category. (67.19%)
2014	Office of DFO, Sahyadri Tiger Reserve, Karad created at Karad.
2018	Fourth cycle of MEE evaluation of STR carried out, in which STR Secure **Good** category. (60.16%)
2019	Separate division for CNP carved out under DFO WL Chandoli as per government resolution dated 1.3.2019, While KWLS is under control of DD, STR, at Karad.
2021	Internal MEE i.e. third-party evaluation of STR carried out before fifth cycle of MEE in which STR secure Fair category (56.25 %)
2022	Fifth cycle of MEE evaluation of STR carried out, in which STR Secure "**Very Good** "category for first time. (78.79%). It is first time, STR secure Very Good category in his last four MEE.
2023	Reorganization of Ranges, Rounds and beats done for effective management, new ranges created viz Kandat, Patan in KWLS whereas Amba in CNP. (3/5/2023)
2024	Period of TCP for period 2013-14 to 2022-23 is completed.

3.1.1 History of Management and Administration of Area which is under STR:

The present area of Sahyadri Tiger Reserve (STR) which is spread in Satara, Sangli, Kolhapur and Ratnagiri Districts was previously the part of territorial divisions (Satara, Sangli, Kolhapur and Chiplun) under Kolhapur territorial Circle. Hence, it has long history of management before it comes under wildlife management. Present forest composition and wildlife status is the cumulative result of various management works performed in these areas and various events happened time to time in the past with this forest. All these historical events are important to mention in this tiger conservation plan for better understanding of ecological changes done over the period in the management history of this area and its impact on present forest and wildlife condition prevailed today in this landscape.

Brief History of Area:

Forests of the Ex-Bombay State: The present forest area of the Sahyadri Tiger Reserve was originally a part of the forests of the former Bombay States, managed under the Satara and Kolhapur forests division. The present STR is part of forests of Western Ghat in the western part of Satara, Sangali and Kolhapur districts. This forest was then part of Mahabaleshwar, Satara, Patan, Dhebewadi, Shirala and Malkapur range. A brief overview of the historical background of these forests is given below:

Prior to 1818 the Satara territory was ruled by the Marathas. During their rule the forests were specially preserved in the west of the district to make the approach to hill forts more difficult and, in some cases, to protect villages from the full force of the monsoon, elsewhere the system was to reserve all teak, sandal and blackwood. i.e., the only species which had a market value as "royal" trees. In most villages an area was set apart as common land known as ‘gairan’ where free grazing was allowed for tenants who held their lands on hereditary tenure, a privilege which casual tenants did not possess.

The acquisition of the territory by the British started in 1818 with the overthrow of Bajirav Peshva-II it and continued till 1848 when the whole of the Satara State lapsed to the British on the death of Shahaji, *Raja* of Satara. After acquisition of the territory some Sheri lands were let out for cultivation and some were retained as forest or grazing lands. Fixed tax known as *Gavat katai* or grass cess was levied from certain villages in lieu of the supply of grass free of charge to the Raja.

Dr. Gibson, Superintendent of the Botanical Gardens, was appointed as the first Conservator of Forests under the Bombay Presidency from 19th December, 1846 and Satara was added to his charge in 1848. In his reports, he remarked that the previous destruction of the forests especially on the

Ghats was so great that same it would take many years to build up anything like wood-preserves. In 1859 /60 he suggested levying a tax on *hirda* from the forests around Mahabaleshwar but it was not until 1879 that the system of purchasing *hirda* at Government depots was introduced. Forest reserves were set apart in the evergreen forests along the Ghats at the time of the revenue survey settlements during 1860-62.

After a few years, therefore, when they had improvidently exhausted the lands given for cultivation and they found that all the forest reserves were not to be made available for a similar purpose, there was considerable distress, to mitigate which some lands from the reserves were given out in 1868 by Mr. Spence and in 1872 by Mr. Wilson. In the latter year Satara was separated from Poona and formed into a separate forest charge. In 1875, a joint demarcation was carried out by Messrs. Shuttleworth and Winter to fix the minimum essential forest reserves. In 1879, after the introduction of the Indian Forest Act of 1878, a total area of 594,606 acres was proclaimed to be reserved forest. Even this, however, was by no means final and it was not until 1883 that the final settlement was fixed for Wai, Satara and Javli talukas. The rights acknowledged were limited to those of way and of access to temples, springs and water courses. Privileges sanctioned were grazing and gathering dead wood, thorns, and certain minor forest produce.It was not until 1892- 93 that organized exploitation was introduced. In that year the first working plan written by Fagan was introduced.

The Past systems of Management and their results: The past management of the forests in Satara Forest division was a part of the erstwhile Ex-Bombay state and which is now part of STR is discussed in in detail in the Core zone plan- part I.

Cultural history: This area had been full of virgin forests, high cliffs, wildlife and sites suitable for forts, which served to monitor and control important trade routes between Konkan and Deccan plateau region, namely Mahimandangad, Vasota, Pali, Jungli jaigad, Bhairavgad and Prachitgad. Though these forts constructed mainly by Shilahar kings, and had reigned by More of Jaoli, (Prominent of them was Chandrarao More.) They come into main focus during Chh. Shivaji Maharaj reign, as their Swarajya constituted in western parts of Maharashtra, making full use of hilly and treacherous terrain, dense forests and nearly inaccessible forts to control and monitor the region, to have a retreating place during war as well as prison also, i.e. Vasota. And to have a natural protection or barrier to forts, they intentionally preserve and protect forests around them. Later, during late seventeenth and early eighteen century period, these forts taken over and destroyed by British, this area remain difficult to access.

Local practices: From historical times, this area is inhabited by *Maratha/Kunbi*, *Dhangar*, *Gavali* population among which Maratha/Kunbi primarily doing agriculture, in forms of shifting cultivation i.e. *kumri* growing Rice, *Nachani*, *Vari*, *Rajgira* by clearing tracts of forests. *Dhangar* & *Gavali* community being cattle herder community, had sizeable population of cattle, sell milk and its products in nearby markets, also collect various N.T.F. Ps from forests like honey, shikekai, vavding and many other

medicinal and edible plants also. Later, after construction of dams viz. Koyna and Chandoli, villages rehabilitated outside, but many villagers returned and settled above HFL of dam backwater, in this period practice of coal making by burning of wood in these forests is in vogue, and large forest is cut and burnt down for making coal and for construction of roads for transport of coal by lorries. Hence, much forest near villages as seen today is stunted whereas tall, natural forest is there in deep, inaccessible valleys.

Plantation history: Eucalyptus plantations: Eucalyptus plantations were raised in then Koyna sub-division under the schemes of raising plantations of fast-growing species and plantations of pulpwood species. These plantations were raised over 1600 hectares at a total cost of Rs. 7, 07,000 during the years from 1963/64 to 1968/69. The results of the plantations are not promising. Eucalyptus was planted over 72 hectares during the years 1966/67 and 1967/68 under the Scheme of raising fuel wood species at a total cost of Rs. 30,369.

Bamboo plantations: In view of keen commercial demand for bamboos, bamboo plantations were raised over 241.8 hectares in Koyna Sub division at a total cost of Rs. 85,591 during the years from 1962/63 to 1968/69. The plantations are not successful.

Facts about forests of Satara District from *Satara District Gazetteer*: In 1872, the Satara forests were separated from Poona forests and made distinct charge. The chief species of these were Jambhul *(Eugenia jambolanum),* Anjan *(Memecylon tinctorium),* Ain *(Terminalia glabra),* Umbar *(Ficus glomerta),* Kenjal *(Terminalia paniculata),* Hirda *(Terminalia chebula),* Phanas *(Artocarpu integrifolia),* Nana *(Lagerstromia parviflora)*, and bamboos.

Since 1877-88 much tree seed had been sown broadcast in all the ranges, the result in the west is fair. Shortly before the annexation of Satara (1847) it was brought to the notice of government that theSatara Mountain ranges were particularly bare of trees. The conservator Dr. Gibson remarked that this barrenness was in measure particular to Satara territory, and that it was due to carelessness of Satara chiefs. The peshwas had been strict in preserving trees and in British districts the Peshwa's policy had, to some extent, been followed. In the Sahyadris certain parts were reserved for thick forests by order of Maratha government, occasionally near forts apparently to make them less accessible and sometimes for the shelter of villages from the storms of southwest monsoon. Almost every Sahyadri village had its sacred grove and often thick bits of forest reserved by the villagers themselves usually in inaccessible situations where wood ash tillage was unprofitable.

In 1878 a change was made in the forest policy of government. It was decided that the need for increased forest conservancy was urgent to protect soil from being washed away; for the storage of water at

the sources of rivers; and on general considerations of climate and rainfall. After the introduction of Forest act all waste land in the Sahyadris was proclaimed reserved forest.

Wild-Life: In the west near the Sahyadris chiefly in the Koyna Valley and the Hills of the Mala pass are found the Tiger, Leopard, Bear, Sambar, spotted deer, Barking deer, Hog deer, Gaur, Indian hare,Porcupine, Wild cat. Neither Tigers nor leopards are so numerous as to do much damage, though occasionally man-eating tigers appear and owing to their exceeding cunning and the large forests of the Koyna valley, are very difficult to destroy.

Wild dogs kill many spotted and small deer, and the people say that they'll hunt down and kill Tigers. But no case of a Tiger being killed by wild dogs is known to have occurred in Satara. During 1874 to 1882, 294 persons killed by wild animals, of whom, 23 were killed by tigers, 28 by other animals and 243 by snakes. Out of 661 cattle killed, 589 were killed by tigers and leopards. During the same 8 years, of the wild animals killed for government rewards, 34 tigers were killed for Rs. 736, and 93 leopards for Rs. 825. As per Satara Working plan 1975-76 records, The Gaur or Indian Bison or gawa (*Bos gaurus)* is rarely found in south of Helwak near Mala-Kolna and at Kirsule in the forests of Koyna valley.

3.1.2. General History of Management of Forest Area of STR when it was part of Territorial Forest Divisions in Kolhapur Circle:

Earlier both Satara & Sangli Forest areas were part of Satara Division right upto 1970. Sangli sub division was carved out in 1970 for the forests in Sangli district. Initially Koyna wildlife Sanctuary area falls within Koyna Forest Sub-Division comprising 1683.860 Sq. kms. All the forest area gone through the various stages of management interventions as per working plans (in case of territorial divisions) and management plans (WLS and NP). Details are given in Core zone plan- volume-I.

Past management of Game and its Results:

I. Before Notification:

Before the enactment of the Wildlife (Protection) Act 1972, there was no uniform legislation to control and regulate wildlife activities.

II.After Notification:

The State Government declared sq.km areas as Koyna Wildlife Sanctuary and Chandoli Wildlife Sanctuary respectively vide notification no. WLP 1085/CR-588/ (II) F-5, dated 16/09/1985. After the notification the area has been getting strict protection. All kinds of extraction, grazing, exploitation and removal of wildlife and any damage to the wildlife habitat are strictly prohibited. The recent amendments of 2006 to the Wildlife (Protection) Act 1972 have also strengthened the wildlife

protection activities.

Past systems of Management: During the British rule, steps although sporadic were initiated to preserve the wildlife. In 1887, the first Act for preservation of wild animals and wild birds came into force followed by the Wild Birds and Animals Protection Act in 1912. The Provisions under section 26 (l) (i), 32 (j) and 76 (d) of the Indian Forest Act in 1927 afforded protection to wild life in reserved and protected forests. In 1953, the Bombay Wild Animals and Wild Birds Protection Act, 1951 came into force. The State has protected the rare and vanishing species of wildlife by declaring them as "Protected". Satara Working plan 1975 prescribed development of roads viz. Zolambi to Nandoli, Petlond to Siddheshwar, Petlond to Rundiv, Valvan to Bamnoli, Mala to Goware, Navja to Shirshinge.

Timber operations including Bamboo and Firewood Harvest: -

Bamboo working system was not practiced in the past. Even today no bamboo is removed from the PA. Timber working system was practiced in the old plantations raised especially of Eucalyptus species under the clear-felling system. Fuel wood from the submerged area was collected in the past and was sold in the depots at Mahabaleshwar. Collection of fuel wood was totally stopped in the PA from 1996.

3.1.3 Collection of Non timber Forest Produce: -

Hirda, Shikekai, Pisa fruits, Kadipatta, Apta leaves, Tamalpatra, Rameta bark, Spagnum mosses, Honey, Vavding, Chiva, cane etc. are some of the important non timber forests produce available in PA. Of these Hirda, Shikekai, Tamalpatra, Kadipatta were auctioned every year prior to the notification of the PA. Chiva and Cane (Vet) were being auctioned occasionally. From 1985, no non timber forest produce is auctioned. At present the collection of NTFP has been totally stopped.

3.1.4: Leases: - No forest area of the PA is given on lease base for any purposes like mining, quarrying, fishing etc.

3.1.5: Other programs and activities: -

Most of the Tiger Reserve area is a reserved forest. No grazing settlements were situated in this area. But, the large population of livestock (mostly unproductive) in and around the PA leads to a challenge for the management of PA owing to the competition for the fodder & water. Three Wind mill projects are there on eastern side of STR viz. Sahyadrinagar, Chalakewadi in Jaoli taluka of Satara district and Gudhe panchgani in Shirala taluka of Sangli district,

The various important measures undertaken to safeguard and protect the existing wildlife are briefly discussed below.

- All the required enquiry proceedings were completed and final notification has been issued.
- Effective forest protection measures to check illicit cutting, encroachment, poaching, fishing, N.T.F.P. collection etc. are adopted.
- Wireless network has been established and is in the process of up gradation.
- Vaccination of cattle from surrounding villages is carried out every year.
- Management plan for feral dogs has been prepared and incorporated in tiger conservation plan (core).
- Measures are being taken to control grazing by exhaustive patrolling and monitoring by field staff.
- Various government programs for the welfare of the villages are being implemented through EDCs.
- Eco development projects are being carried out through EDCs.
- Regular census operation is carried out.
- Villages Eco-development Project was implemented in peripheral villages to reduce their dependency on the
  PA's resources.
- Various research activities are undertaken.
- Local People are involved in wildlife conservation activities.

The net result of this is that the STR buffer area has received strict protection to wildlife and its habitat.

3.2: Habitat Management:

Then, after notification of Sahyadri Tiger Reserve, habitat management work has done as per approved Tiger Conservation Plan for the period of 2013-14 to 2022-23. Habitat management works like grassland management, weed eradication, waterhole creation and management, soil and water conservation works has been taken as per approved management plan in both protected area before declaration of STR. After notification of tiger reserve, habitat management works has been carried out as per approved tiger conservation plan.

3.2.1:Tiger Conservation Plan of STR for the period of 2013-14 to 2022-23: This plan was first TCP for STR and its period is completed on 31.3.2024. This plan has been adopted in different zone and theme approaches for management strategies for STR. The following four major zones have been considered for the core zone of STR in this TCP.

Table 3.1: Statement Showing Management Zones:

Sr.No.	Name of the Zone	Area Ha.	Percentage to the core area
1.	Eco-restoration Zone	4000.00	6.67%
	A. Meadow Maintenance zone	3000.00	5.0%
	B. Meadow Development	1000.00	1.67%

	Zone		
2	Eco - Tourism Zone	3613.62	6.02 %
3	Administrative Zone	12.00	0.02 %
4	Protected Core Zone	50896.74	84.81 %
5	Village relocation Zone	1489.86	2.48%
	Total	**60012.22**	**100 %**

Eco-restoration zone: Habitat development works has been carried out mainly in the eco-restoration zone. These areas are the ones excluding the Eco-tourism zone and the administrative zone but include all such inviolate areas of the current notified area. Major zone suggested for habitat development in the TCP was eco-restoration zone in which zone is divided into meadow maintenance and meadow development sub-zone. Prescription given for this zone is reiterating below:

A. Meadow Maintenance zone: The operations suggested to carry out in these meadows are -

- Eradication of weeds and cleaning for edible species,
- Strengthening of existing water holes by deepening and desilting,
- Creation of new water holes at suitable sites,
- Removal of feral and unproductive cattle,
- Nala bunding and other Soil moisture conservation activities,
- Controlled fire burning and lopping of palatable species.

B. Meadow Development Zone: The following prescriptions are suggested for the agricultural areas of the recently shifted and yet to be shifted villages

- Eradication of weeds and cleaning for edible species,
- Ploughing can be done wherever possible.
- Suitable grass tussocks plantation, by fencing the areas in early rains
- Strengthening of existing water holes by deepening and desilting,
- Creation of new water holes at suitable sites,
- Removal of feral and unproductive cattle,
- Nala bunding and other Soil moisture conservation activities,
- Controlled fire burning and lopping of palatable species.

During the period of this TCP, many grassland development works, eradication of weed and new regeneration have been done, as well as cleaning of natural waterholes and creation of new waterhole has done. The current habitat within the Sahyadri Tiger Reserve (STR) reflects a series of changes and interventions spanning back to the 19th century. Historically, the forest underwent various treatments

outlined in different working plans of the Satara Forest Division and Koyna Sub-division.

3.2.2: Insect attack and pathological problems: No large-scale insect attacks like leaf defoliators, root borers, or stem borers are recorded in the buffer zone. No pathological problems are recorded in wild animals, but very few incidences of foot and mouth disease in domestic cattle in the buffer zone are recorded. Immunization has been carried out regularly for cattle in the villages of the buffer zone.

3.2.3 Wildlife Health: Wild animals found in the buffer are of good health. No diseases in the wild animals were recorded in the past. Rarely have they been noticed to have spread of diseases in the cattle from villages of the buffer zone. When there is any incidence of disease to the livestock, people are taking the medical expertise of the Livestock Development Officer. A vaccination program is being carried out to prevent any major outbreak of contagious diseases.

3.3 : Protection and Intelligence Gathering:

3.3.1 Protection/ Illegal Activities:

3.3.1.1 Poaching:

From 2010 to 2023, Sahyadri Tiger Reserve (STR) has a documented history of poaching incidents targeting various wildlife species. Historically, poaching went unchecked due to insufficient control measures. However, recent efforts have been made to curb this illicit activity. Night patrols conducted regularly by field staff aim to deter poachers and prevent illegal fishing. Villagers are encouraged to report any suspicious activities to facilitate prompt intervention. Special focus is placed on sensitive locations and buffer zone areas of the tiger reserve. In the Sahyadri region, where certain villages have long-standing traditions of hunting wild animals for festivals like Holi and Makarsankranti, heightened vigilance is maintained, coupled with local awareness campaigns on wildlife conservation. Presently, poaching is not a prevalent issue. Encroachment:

Encroachment incidents within the Sahyadri Tiger Reserve have been rarely observed, particularly in the buffer zone area near villages. Approximately 2.14 hectares of land have been encroached upon for agricultural and residential purposes. Legal action has been initiated against the offenders, although the matter is currently under litigation, as the encroachers have taken the matter to court. Additionally, following the Koyna earthquake of 1967, several local villages and settlements were established within forest areas. Moreover, with the declaration of the tiger reserve area's expansion into Satara district as a buffer zone, some older settlements remain within these buffer reserve forests.

3.3.1.2 Illegal cutting of trees:

The history of illicit felling within the Sahyadri Tiger Reserve (STR) indicates no large-scale

incidents, yet there has been a total of 26 offenses recorded from 2010 to 2023. These illegal activities primarily involve cutting trees for agricultural purposes or shifting cultivation. Typically, the illicit felling is targeted at obtaining small timber or crafting agricultural implements. These activities tend to concentrate in

the fringe areas neighboring human habitation, particularly in the densely populated northern and southern parts of the reserve. Notably, there is no evidence of illicit felling for commercial timber or firewood trading with neighboring communities. Regular field patrols and cross-verification by forest officials aim to detect and address any instances of illegal tree cutting promptly.

3.3.1.3 :Illegal removal of MFP

The Sahyadri Tiger Reserve (STR) has a relatively unremarkable history regarding the illegal removal of Minor Forest Produce (MFP). There have been no significant incidents recorded in this regard. It's suspected that small quantities of MFP have been traditionally utilized by local villagers for medicinal purposes over the years. However, there were a few notable instances of illegal removal of medicinal plants like Narkya and Saptrangi reported in the protected area from 2005 to 2008. Since then, due to the stringent actions taken by the department against offenders, no new major incidents of MFP removal have been reported.

3.3.1.4 Grazing by the domestic livestock

The Sahyadri Tiger Reserve (STR) has a history of illegal grazing incidents, primarily due to a high dependency of domestic livestock on forest. The practice of stall feeding is not prevalent, leading to domestic cattle developing feral tendencies, posing challenges for STR management. Moreover, feral cattle may act as carriers of diseases like Rinderpest and Foot and Mouth Disease, necessitating urgent action to prevent potential outbreaks among wild bovines.

The Dangar community, known for its livestock rearing, primarily resides in the buffer zone, exerting significant grazing pressure in forest areas. Up to 27 offenses of illegal grazing have been reported in STR from 2010 to 2023. Efforts to provide alternative livelihoods for locals and raise awareness about forest laws and wildlife importance are crucial in curbing illegal grazing.

3.3.1.5 Wild fires

Forest fires pose a significant threat to the Sahyadri Tiger Reserve (STR), with a total of 210 recorded fire incidents since 2010. These fires primarily manifest as ground or surface fires, often attributed to human activities. Most fires in the PA are of anthropogenic origin, often sparked by the negligence of villagers during activities such as slash-and-burn agriculture.

In the buffer zone of STR, traditional practices among villagers, such as the belief that fires lead to the growth of better grass, exacerbate the fire threat. Therefore, there is a pressing need for awareness and

publicity campaigns aimed at neighboring villagers. Such initiatives can foster an eco-friendly mindset, creating a social fence around the protected area and mitigating the risk of forest fires.

No. of Forest/ Wildlife offences in the last three years and stages:

The data of offences is given below. No major cases are reported. However, one major Narkya (*Nothopodytes nimmoniana*) illicit felling case was registered in Chandoli in 2005, wherein 490 people were prosecuted. Given the strict prosecution and publicity, no such serious offences have taken place in and around the PA.

Table 3.2: Offence Registered in Koyna Wildlife Division, including buffer (2014-2025)

Sr. No.	Period	No. of offences	Illicit	Fire	Encroachment	Poaching	Misc.	Compensation received (Rs.)	Cases disposed off
1.	2014-15	01	01	00	00	00	00	00	01
2.	2015-16	02	00	02	00	00	00	00	02
3.	2016-17	08	00	04	00	00	04	00	06
4.	2017-18	05	00	02	00	00	03	6000	05
5.	2018-19	09	00	00	00	06	03	00	07
6.	2019-20	09	00	04	00	03	02	60000	02
7.	2020-21	21	00	12	00	07	02	15500	19
8.	2021-22	10	00	05	01	04	00	00	09
9.	2022-23	04	00	00	01	03	00	00	03
10.	2023-24	04	00	02	01	01	00	00	02
11.	2024-25	04	00	00	00	04	00	00	04
Total		77	1	31	3	28	14	81500	60

Table 3.3: Offence Registered in Chandoli Wildlife Division, including buffer (2014-2025)

Sr. No.	Period	No. of offences	Illicit	Fire	Encroachment	Poaching	Misc.	Compensation received (Rs.)	Cases disposed off
1.	2014-15	00	00	00	00	00	00	00	00
2.	2015-16	00	00	00	00	00	00	00	00
3.	2016-17	00	00	00	00	00	00	00	00
4.	2017-18	00	00	00	00	00	00	00	00
5.	2018-19	00	00	00	00	00	00	00	00
6.	2019-20	21	01	17	00	00	03	32000	20
7.	2020-21	23	02	19	00	01	01	8000	21
8.	2021-22	12	02	06	00	00	04	00	21
9.	2022-23	13	00	11	00	00	02	00	11
10.	2023-24	08	01	05	00	01	01	3000	08
11.	2024-25	31	2	18	1	00	11	00	24
Total		108	8	76	1	2	22	43000	105

3.3.2: Intelligence Gathering:

The Sahyadri Tiger Reserve (STR) has a well-established history of intelligence gathering, involving various personnel ranging from daily wage laborers to forest guards and officers. In some beats, villagers from adjacent areas provide information via phone or in person, which is promptly verified and acted upon.

To enhance intelligence gathering, field staff members have undergone training at the Maharashtra Intelligence Academy in Pune, focusing on techniques for establishing informant networks and gathering valuable information. Additionally, regular communication with other village departments has been initiated through various programs, facilitating interactions between officers working in the field to obtain information from diverse sources. Recognizing the crucial role of Police Patils as key informers, they are honored during wildlife day programs with certificates and cash rewards. Furthermore, joint meetings between local police stations and forest officers occur regularly, as recommended by tiger cell meetings. These initiatives contribute to the development of a robust intelligence network, essential for effective conservation efforts, and must be sustained for the foreseeable future.

3.4: Tourism and Interpretation:

Before the notifying STR, there were very few tourist facilities available in both Koyna WLS and Chandoli NP. Tourists were also visiting in very small numbers. After the notification of the tiger reserve, STR started to attract more tourists slowly. Tourist number is increased from 12000 in 2007-08 to 58000 in 2023-24.

The PA has many attractions for facilitating informed wildlife tourism. Tourists are very much fascinated by the scenic beauty of the region, apart from the historical forts like Vasota, Mahimagad, Bhairavgadh, Jangli Jayagad, etc. But there is very limited development of eco-tourism facilities in the buffer zone, although there is greater scope for the development of ecotourism facilities to create livelihood for locals.

. Though most of the tourists are especially interested in wildlife observation, they are unable to do so due to the undulating terrain, low visibility, as the vegetation is very dense, and a lack of basic tourism infrastructure facilities. No camping facilities are available to the tourists from the wildlife division; it was a dormitory in Chandoli NP at Mandur.

Sahyadri Tiger Reserve has great potential as an eco-tourism destination in the state of Maharashtra. In 2023-24 more than fifty-eight thousand tourists explored the area. After the establishment, the STR visitors from various regions are continuously exploring the area. At present, the tourist accommodation needs are fulfilled by private homestays, hotels & resorts. The Tourism complex is planned to be developed at each Gate. Presently tourist resorts at Amba, Mandur-Chandoli, Kathi-Awasari, and Koynanagar are well furnished

with all the amenities for the tourists, and a good number of homestays and tents are available at Bamnoli. Government PWD rest house is available only in Koynanagar and Mandur, besides this, government stay is not available at other places. Available Govt. rest house, private resorts, home stays from buffer & adjoining region. Presently local community mainly benefited in eco-tourism activities through engagement as eco-guides, safari vehicle/boat drivers, homestay & by catering; doing work as unskilled laborers in the resorts, and some are also deployed for protection work in the core zone of STR.

3.4.1:Facilities available to the visitors in CNP:

- Interpretation Centre **–** One small interpretation center established at Mandur, and Amba provides basic information to the visitors regarding the local mammals, avifauna, flora, map, sightseeing places, etc. On many occasions, presentations are also arranged in the interpretation center for the visiting school children, students and tourist groups.
- Dormitory - There is one dormitory at Mandur of 10 - beds capacity. Rs. 20 per person is being charged for a day's stay. After providing the dormitory facility and improving the roads inside the PA, it was observed that the number of visitors to CNP had almost doubled in numbers in a span of two years. But now the dormitory is not available to tourists, as it has been converted into a ticket counter.
- Informative signages have been provided along the road in the tourism zone. Nature trails are also being maintained to provide informed and interactive wildlife tourism.
- Drinking water and Toilet facilities have been made available.
- Watch towers at three places in the tourism zone are the attraction points for the tourists.
- Facility of state transport buses up to Khundlapur, twice a day up to Mandur at an interval of one hour has been made available by discussing with the local State Transport authorities.

3.4.2: Facilities available to the visitors in Koyna WLS:

- Interpretation Centre**:** Small but a quality interpretation centre, created at Metindoli near the foothills of Vasota fort accessible from Bamnoli, provides information to the visitors regarding the local mammals, birds, butterflies, insects, flora, maps, sightseeing places etc. There is no electricity hence there are limitation to show presentations and films at interpretation. Now, there is one tourist facility at Bamnoli which is gate way to Vasota and Kandat for those tourists coming from Satara city. In this facility, one meeting hall for lectures, presentations, and screening wildlife films. Posters on the biodiversity of STR are displayed in the same hall to educate tourists. One souvenir shop, reception, and toilet facility for both gents and ladies available in the same building.
  - Informative signages have been provided along the nature trails in the tourism zone.
  - Nature trails are maintained properly for the visiting tourists.
- Though there is no separate staff earmarked for tourism, the big tourist groups are provided with staff members / daily wager laborers as eco - guides.

- Drinking water and Toilet facilities have been made available.

3.4.3 Visitation data of the last five years:

The following data shows the number of visitors to the protected areas. The tourist zone needs to be developed near the Koyna dam site; the entire tourist inflow is yet to be tapped in the KWLS. Around 10,000 tourists visit Ozarde waterfall in the monsoon season, which is yet to be tapped for informed wildlife tourism. The tourist inflow considered for the data includes only the visitors entering from the Bamnoli side of the Koyna WLS.

Table.3.4: The following data shows the number of visitors and revenue generated in STR during past 5 years:

Revenue genrated through Tourisum in STR				
Sr. No.	Years	No of Tourist	No. of Vehicle	Revenue (Rs.)
1	2020-21	48511	2434	5553155
2	2021-22	38590	2421	1921505
3	2022-23	37621	4339	5177255
4	2023-24	58012	6155	7013910
5	2024-25* (Upto January 2025)	35619	2826	3956635

3.5: Research and Monitoring:

3.5.1 Research

Research plays a pivotal role in wildlife management, serving as a cornerstone for informed decision-making and effective conservation efforts. Moreover, research fosters collaboration and knowledge-sharing among scientists, conservationists, policymakers, and local communities.

In the Sahyadri Tiger Reserve (STR), a total of 40 research topics have been permitted, resulting in numerous research papers covering various aspects of biodiversity and the landscape within the reserve. However, the final reports of many of these research works have not been submitted to the STR office. Historically, the reserve authorities did not conduct any research programs. However, since 2016, several research projects have been initiated by the STR in collaboration with organizations such as the Wildlife Institute of India (WII), Wildlife Conservation Trust (WCT), and other research institutes and universities. To streamline research efforts, the STR has established its own Tiger Cell within the DD Koyna office since 2020, conducting regular Phase-I and Phase-IV exercises.

Since 2022, the STR Conservation Foundation has introduced the 'Natural History Fellowship,' offering Rs. 50,000 annually to students willing to research topics identified by the STR authority. More than 50 research topics have been identified by the authorities, primarily focusing on issues and challenges related to STR management. This fellowship aims to encourage local students to engage in research, providing valuable data for

wildlife management decision-making. Additionally, the foundation supports students through a hands-on 'Internship Program' initiated in 2023, with a maximum duration of 3 months. Initially, an honorarium of Rs. 3000 was provided, which has now been increased to Rs. 10,000 per month. The Internship Program aids the tiger cell and management by facilitating the collection and analysis of field and research data, assisting in research work, and contributing as an additional workforce during large-scale exercises like Phase-IV and Phase-I.

The STR extends support to all researchers and surveyors conducting studies within its premises. Recently, the establishment of the Sahyadri Wildlife Research Facility (SWRF) was approved during the Governing Body meeting in January 2024. This facility will serve as a resource hub for young wildlife researchers, offering basic amenities such as laboratory facilities, a natural history library, presentation facilities, access to basic data, training, essential research equipment, accommodation, expert guidance, and more.

The Research Wing of the Maharashtra Forest Department, known as Silva, operates a research center located in Koynanagar. The Research Forest Officer (RFO) oversees activities at this headquarters. Their responsibilities include maintaining various research plots and ensuring the collection of mandatory observations from these plots. Some of these plots are situated within the core zone, while others are located in the buffer zone. Further details regarding the research plots managed by the Research Wing are provided in the table below:

Table.3.5: Details of research plots under Koynanagar Research Centre, Research Wing (Silva), MFD in STR, which are as follows:

Sr. No.	Location of plot	Establishment	Area (ha)	Survey no.	Compt. No./zone	Remarks
1	Koynanagar (Research Center)	1965	45.00	95, 96, 97, 112, 113	434 (Buffer)	-
2	Chirambe (Research sub-center)	1984-85	44.00	3 to 5 & 8, 9, 17, 19, 20, 21	- (Core)	-
3	Mirgaon (Conservation Plot)	1993-94	5.00	-	431 (Buffer)	Mixed Species
4	Mirgaon (Seed Plot)	1993-94	5.00	-	431 (Buffer)	-
5	Karanjawade (Conservation Plot)	1994-95	5.00	-	395 (Core)	Mixed Species
6	Navja (Conservation Plot)	2001-02	5.00	-	418 (Core)	Mixed Species
7	Nechal (Biodiversity Plot)	2007-08	5.00	28, 33	478 (Buffer)	-
8	Koynanagar (Research Center)	1965	45.00	95, 96, 97, 112, 113	434 (Buffer)	-

Numerous research papers found online lacked formal permission records from our office, with some utilizing the names of protected areas or tiger reserves without authorization. Despite this, there has been funding granted

for more than 40 research projects. While some projects cover intriguing and management- relevant topics, a significant portion of researchers have failed to submit their final reports, which are not on record at our office. Detailed lists of research projects and research papers are provided in Annexures 8.1 and 8.2, respectively.

3.5.2 Monitoring:

Monitoring of research projects is crucial for ensuring their progress, adherence to guidelines, and timely completion. Here's a structured approach to monitoring such projects:

- Establish Clear Objectives: Clearly define the objectives and expected outcomes of the research project at its outset. These objectives should align with the goals of wildlife management and conservation.
- 2. Regular Progress Updates: Require researchers to provide regular updates on their progress, including milestones achieved, challenges faced, and any deviations from the initial plan.
- Scheduled Meetings: Conduct periodic meetings or reviews with researchers to discuss their progress, address any issues or concerns, and provide guidance or support as needed.
- Compliance Check: Ensure that researchers are complying with all relevant regulations, permissions, and ethical guidelines throughout the duration of the project.
- Data Collection and Analysis: Monitor the collection, analysis, and interpretation of data to ensure accuracy, reliability, and relevance to the research objectives.
- Field Visits: Conduct field visits to observe research activities firsthand, verify data collection methods, and assess the condition of research sites.
- Final Report Submission: Set clear deadlines for the submission of final research reports and require researchers to adhere to these deadlines. Review the reports for completeness, accuracy, and compliance with project objectives.
- Feedback and Evaluation: Provide constructive feedback to researchers based on the quality and completeness of their work. Evaluate the overall effectiveness and impact of the research project in meeting its objectives.
- Dissemination of Findings: Facilitate the dissemination of research findings through publications, presentations, or other appropriate channels to ensure that the knowledge generated contributes to wildlife management and conservation efforts.
- Documentation and Records: Maintain comprehensive documentation and records of all aspects of the research project, including permissions, correspondence, data, reports, and evaluations.

By implementing these monitoring measures, wildlife management authorities can ensure that research projects are conducted effectively, ethically, and in accordance with established guidelines, ultimately contributing to informed decision-making and conservation outcomes.

3.6: Present Status of Rehabilitation:

The existing policy of rehabilitation does not promote the rehabilitation of the villages from the buffer zone, but a few villages from the buffer zone in both divisions have a demand for rehabilitation, and one village has gone to the high court for this reason.

3.7: Administration and Organization:

3.7.1 Staff Status -The administration and management of this reserve is directly under the control of the Conservator of Forests (Wildlife), Kolhapur, based at Kolhapur. This post was upgraded in the past to CCF and an FD, STR for a few years. This division is under the supervision of the Additional Principal Chief Conservator of Forests (Wildlife), West, Mumbai. There are 2 posts of Assistant Conservator of Forests, one for CNP & another for KWLS. There are three territorial ranges, i.e., one at Chandoli for CNP, and the other 2 are Koyna and Bamnoli at KWLS. The ranges are divided into 4 rounds and 38 beats. The details of range, round, and beat. Average area per beat is 19.51 sq. km., which is three times the norm of 750 ha. Per beat and too heavy considering the steep valleys and remoteness of the area.

Table.3.6: The following table shows how the administrative structure of STR changed over the period:

Period	Divisions	DD/DFO	Sub divisions	ACF	Ranges	RFOs	ROs	FGs
2010 to 2015	1	1	2	2	3	3		36
2015 to 2019	1	1	2	2	5	5		
2019 to 2023	2	2	4	4	5	7	17	56
2023 to till date	2	2	4	4	8	9	30	75

Following the reorganization of STR in 2023, three new ranges were established: Amba in the Chandoli Wildlife Division, and Kandat and Patan in the Koyna Wildlife Division. Additionally, 19 new beats were designated, 7 in the Chandoli Wildlife Division, and 12 in the Koyna Wildlife Division.

This reorganization was prompted by administrative inconveniences and challenges stemming from large areas per beat and range, especially when compared to other tiger reserves in the state, to managers for their fieldwork for the convenience of field management. As a result of this proposal, which was subsequently approved, the STR has gained additional posts, alleviating some of the workload pressure on the administration.

Trainings to the staff: Regular training programs are organized for staff members, particularly forest guards and foresters. These sessions, overseen by the Range Forest Officer (RFO) and Sub-Divisional Forest Officer (Sub-DFO), cover a range of topics including information on wild animals, relevant activities, legal acts, and guidelines for behavior.

While some forest guards may have missed out on in-service compulsory Field General Duty training in the past, efforts have been made to ensure that training is now regularly arranged, with nearly all staff having completed mandatory courses. Newly recruited forest guards are the only exception, but they are slated to undergo training within one year of recruitment, subject to the availability of seats at the training school. Currently, the RFOs, though directly recruited and trained, except one RFO, lack specialized training in wildlife management.

Training for the field staff of tiger reserves is essential for ensuring the successful protection and management of these critical habitats and the iconic species they support. It not only enhances the effectiveness of conservation efforts but also fosters a culture of professionalism, dedication, and stewardship among those entrusted with the responsibility of safeguarding our natural heritage. Many of them- based training for field staff and officers are regularly arranged to enhance their capacity and effective delivery of their duties.

For carrying out the wildlife monitoring exercises like phase-iv camera trapping, phase-I, Law enforcement, NTCA SoP, overall beat management, stress management, MSTrIPES, PIP preparation, Protection issues, grassland management, and grass identification, use of drone, etc., trainings were arranged periodically by the senior officers and by inviting the outside resource persons. Though the field staff is not trained in wildlife management, short-duration training courses have been conducted at the PA level by the division by Tiger Reserve officers and outside resource persons for capacity building of the front-line staff. List of various trainings arranged for field staff in the last three years. Every year, a training program on the techniques of monitoring the wild animals is repeated before the annual monitoring operation for all field staff members and training on waterhole census, as '*Nisarganubhav'* is given to volunteers.

Organization – Besides the departmental control over the area, other organizations are supporting the management objective of STR

- **The Tiger Cells** in each district under the chairmanship of each S.P. (Satara, Sangli, Kolhapur, and Ratnagiri) are functioning regularly.
- **The Sahyadri Tiger Reserve Conservation Foundation (STRCF), Kolhapur**: STRCF is formed in March 2012 and is headed by CF and FD as Executive Director, and both Deputy Directors are Member Secretary. In accordance with Section 38X of the Wildlife (Protection) Act, 1972, the state government is mandated to establish a Tiger Conservation Foundation for each tiger reserve. This foundation aims to facilitate and support the management of tiger reserves for the conservation of tigers and biodiversity, and to promote eco-development initiatives by involving local communities in the development process.

Chapter – 4

Production Sectors in the Landscape

4.1 Forestry:

The buffer zone of STR extends across four forest divisions: Satara Territorial Division, Sangli Territorial Division, Kolhapur, and Ratnagiri Territorial Division. Each division currently operates under its respective working plan. However, the working plans for Satara Forest Division (2010-11 to 2019-20), Sangli Forest Division (2012-13 to 2021-22), Kolhapur Forest Division (2008-09 to 2017-18), and Ratnagiri Forest Division (2013-14 to 2022-23) have expired. New working plans are currently being prepared to replace them.

The buffer area covers 56,545 hectares, equivalent to 565.45 square kilometers, with 424.34 square kilometers lying beyond the boundaries of Koyana Wildlife Sanctuary and Chandoli National Park. It consists of hilly and undulating terrain, falling within the Protection Working Circle of the divisions. The region yields minor forest produce like hela, hirada, shikekai, and tamalpatra. Local communities heavily rely on it for grazing purposes. Forest fires frequently cause substantial damage. Additionally, substantial portions of the area are occupied by private forest lands, many of which remain fallow. Tree cutting for firewood, particularly in private areas, serves as a significant source of employment in the Patan tahasil.

4.2 Agriculture

The buffer zone of Sahyadri is situated within two Agro-Ecological Sub Regions: 6.4 (ICAR), encompassing the North Sahyadris and the western Karnataka Plateau, falling under the Hot Subhumid (Dry) Eco-Region. This region spans across Satara, Sangli, Kolhapur, and Ratnagiri districts of Maharashtra. Agricultural land in these areas is primarily divided into two regions: hills and plateaus, with the latter comprising the majority of the area. Consequently, only a small portion of land, approximately 500 hectares, is available for irrigation. Major crops include paddy and groundnut, with patches dedicated to Nachani (Ragi), Wari, and Kumari cultivation. However, the productivity of the area remains notably low.

4.3 Integrated Development:

The key to achieving the goals of any management plan lies in the integrated development of the region. In the buffer zone surrounding the core area of STR, there are 84 human-populated villages. To alleviate the biotic and other pressures on the core area originating from these villages, 59 Eco - Development Committees (EDCs) have been established to date (Atlas.Map.178).

The majority of people in the buffer zone rely on agriculture and related sectors, including animal husbandry, for their livelihoods. In response to the unemployment challenges faced by the region's youth, STR offers training in hospitality, organic farming, spice and medicinal plant cultivation, guide training, sericulture, poultry farming, and other livelihood schemes. To date, 957 beneficiaries have benefited from various training programs.

Farmers in the buffer zone face significant challenges due to crop loss caused by wild animals. To address this issue, STR offers solar fencing to farmers at subsidized rates through the Dr. Shyama Prasad Mukherjee Jan Van Yojana. Additionally, illegal entry into the core area for firewood collection near village boundaries exacerbates human-wildlife conflicts. To mitigate this, STR has initiated an LPG distribution program under the Shyama Prasad Mukherjee Jan Van Scheme. Strengthening these initiatives in the future will require aggressive inter-sectoral cooperation and collaboration with agencies possessing domain expertise to develop the region and alleviate biotic pressures on the forest.

4.4 Tourism

Currently, no organized tourism activities are operational in the buffer zone of STR. Nevertheless, there exists potential to develop various tourism activities in this area. For further details regarding the scope and plan of tourism activities in the buffer zone, please refer to Chapter 14.

4.5 Fisheries

The main source of fishing are Vasantsagar of Warna and Shivsagar of Koyna Dam. The area being a part of the protected areas does not allow fishing except for the bonafide uses of the local people. Fishing in the river of Koyana and Warna outside P.A. is allowed.

4.6 Tea, Coffee estates

There are no such estates within the buffer area of Sahyadri Tiger Reserve.

4.7 Road/Rail transport

There is no rail transport in the area. State Highway no.166E Vijapur to Guhagar passes right in between buffer of CNP and KWLS for about 15 kms length. Another

state highway no. 72 connecting Mahabaleshwar to Poladpur passes through KWLS.

4.8 Industry

At present, no major industry is located within the buffer zone. But there are a few minor forest industries like beekeeping, charcoal manufacturing, collection of shikekai and hirda and walking-stick making followed at Mahabaleshwar, out of which the first two are important. Beekeeping can be pursued in spare time without much labour at a place where there is ample vegetation. Perennial flora from which honey can be sucked is available in abundance in the Mahabaleshwar forests in which bees fly about two furlongs from their hives and collect honey.

The other forest industry located at Mahabaleshwar is charcoal making. Forest coupes are purchased by forest labourers' societies which cut unwanted wood, and manufacture charcoal. In 1956-57 there were six such societies, one each at Dhebewadi, Helwak, Kumbharoshi, Mahabaleshwar, Ural and Wai. In addition to charcoal manufacturing the societies at Helwak and Kumbharosh collected hirda, shikekai, and apta leaves. The unwanted trees from the coupe are cut in small sizes and are arranged in a parabolic type of furnace closed from all sides with mud and its top with hay and mud. The furnaces are of two different sizes, viz., 40' X 40' and 20' X 20'. It is set on fire from the bottom where arrangement is made for such purpose.

The industry functions in winter and summer and yields about 200 tons of charcoal annually.

Making of walking-sticks is another cottage industry found at Mahabaleshwar. There were ten such establishments making sticks and employing about 40 persons in 1960. The sticks are made of lokhandi or chimath or apti wood which is available in abundance in the Mahabaleshwar forests. They are dried for about a week and baked and are given shape as required. Many a time designs are carved on their handles. The industry is seasonal and works for about three months in a year.

Basket Making.

Basket making is a hereditary industry of Buruds who number about 800. They make supas, topalis, duradis, rovlis and karandis for stocking fruits and eggs. The industry is located in Mahabaleshwar, Patan and Satara talukas. In Satara town there are about 35 Burud families who make these articles. Besides them Kaikadis make kangolis and tattis from ghaneri bush.

Bamboo strips are taken out with a koyata and baskets are made with the help of knife. No other tools are used in the industry. Men take out bamboo strips and women make the bamboo articles.

4.9 Mining

No major mines take place within the landscape of STR buffer.

4.10 Thermal Power Plants

Throughout the buffer landscape, there is no thermal power plant has been established.

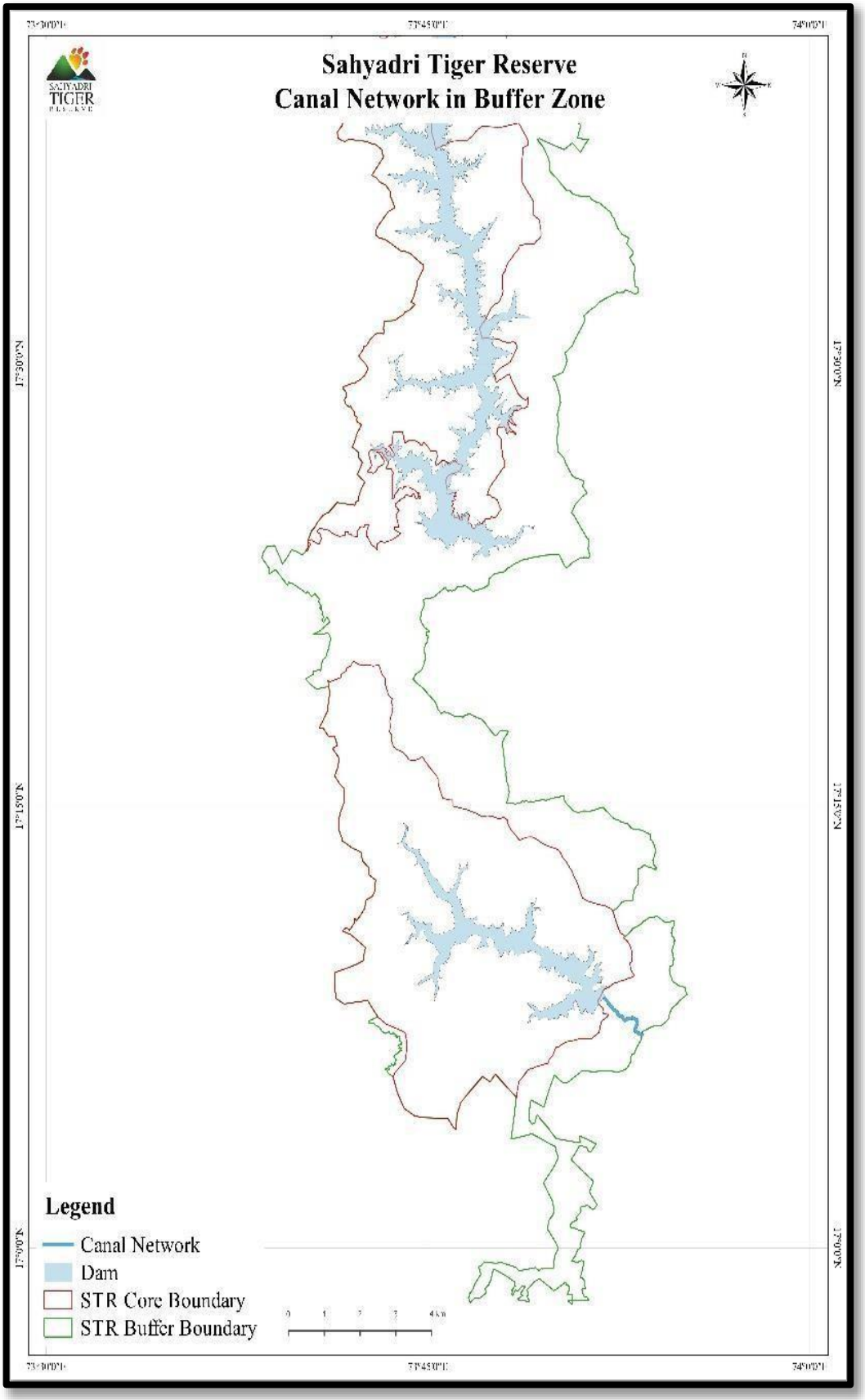
4.11 Irrigation projects

Koyna Dam plays a significant role in preventing flooding during the monsoon season. By damming the Koyna River, the catchment area creates the 50 km long Shivsagar Lake.

The project is composed of four dams with the major contributors being the Koyna Dam and Kolkewadi Dam. The water from Shivsagar reservoir was formed by the Koyna Dam and is used in the 1st, 2nd and 4th stages. This water is drawn from head race tunnels situated below the reservoir. Then it travels through vertical pressure shafts to the underground powerhouses. The discharged water from these stages is collected and stored in KKolkewadi Dam situated near village of Alore. The water is drawn from the penstocks of Kolkewadi Dam to an underground power station in the 3rd stage and then discharged to the Arabian Sea. The electricity generated in all the stages is delivered to the main electrical grid. The project is run by the Maharashtra State Power Generation Co. (MAHAGENCO) while Water Resources department has authority over irrigation and other matters.

Warna dam is also called Chandoli dam or vasant Sagar. Chandoli dam has been built across the Warna river on the exact border of the Sangli and Kolhapur districts. Chandoli dam is the second largest dam in the western ghats after Koyna dam. The total water storing capacity of this dam is 34.40 TMC. This is an earthen dam, built using soil, mud and rocks. The Warana river originates near Prachitgad in the Patharpunj plateau of Satara district. And flowing through the dense forest of Chandoli, it reaches Chandoli dam. Warana river flows out of Chandoli dam and meets Krishna river near Haripur near Sangli city. Warana river is the lifeline for irrigation of the Sangli and Kolhapur districts.

Total 18 rivers originates in Sahyadri Tiger Reserve ie Kandat, Solashi, Urmodi, Venna, Tarali, Koyna, Morna, Wang, Warna above the crestline while, Kandvan-Kansa, Kadvi, Shali (Amba), Baav, Gadgadi, Shastri, Jaygad, Vashishti, Jagbudi; towards Kokan area.



Map.4.1: Canal Distribution with Source of Water Bodies in Buffer Zone of STR:

. The Warna Dam's canal network depicted in the map spans considerable distances, with the total length of canals stretching over several hundred kilometers.

The Warna Main Canal itself is the primary canal for water distribution and runs through the STR to reach agricultural zones. The length of the canal that passes through the buffer zones of STR is approximately 4.23 km from the village Chandoli Bk to Mandur in buffer area, though this varies depending on specific distribution channels and branches.

To mitigate the Warna Dam canal's impact on the Sahyadri Tiger Reserve, canals should be designed to minimize disruption to water flows and include pollution-reducing measures. Wildlife corridors and buffer zones can prevent habitat fragmentation and reduce human-wildlife conflict. Regular wildlife monitoring, community involvement, and promoting sustainable water use will help balance conservation and agriculture. Strengthening anti-poaching efforts and ensuring tigers have adequate resources is crucial, while future infrastructure should be eco-friendly. These strategies can protect both wildlife and local development.

4.12 Temple Tourism

Kalimata temple at Udgiri village adjacent to Protected Area is locally famous for Prachiti Goddess. Lord Shiva temple of Marleshwar in Ratnagiri district nearby Amba Ghat is famous pilgrimage site. Another ancient Valmiki Temple at Paneri village and Naikba temple near Dhebewadi town are also important places of Pilgrimage.

4.13 Communication/Electricity projects:

No communication projects.

Koyna hydro-electric project which is of 105 TMC water storage and 1960 MW hydroelectric capacity and Warna irrigation project 34.4 TMC and 40 MW generation are the two main projects which directly influence the economy not only of the area but also of the western Maharashtra. The Koyna Dam is one of the largest dams located in Maharashtra, India. It is a dam made of concrete and rubble built across the Koyna River. It is situated on the state route between Chiplun and Karad in Koyna Nagar, Satara district, in the Western Ghats. The Koyna Hydroelectric Project is India's largest hydroelectric power plant, just after Tehri Dam Project. The Koyna dam provides hydroelectric power to nearby communities and water to western, Maharashtra

Chapter – 5

Land use Patterns and Conservation-Management issues

The STR landscape represents a typical rural setting interspersed with forest patches. The common land use is marginal agriculture of paddy crop cultivation and the villagers own considerable livestock. In the context of conservation, forestry happens to be an important land use.

5.1 Land use Classification:

The broad categorization of land in STR is as shown below:

Sr.No.	Land use class	Area (Km^2)
1	Dense forest	408.72
2	Open forest	220.94
3	Scrub land	134.29
4	Barren land	305.64
5	Agricultural land	20.76
6	Water body	75.86
7	Reservoir bed	11.79

(Table.5.1 Source: Tiger Recovery Strategy and Long-term Monitoring in Sahyadri Tiger Reserve, Maharashtra: Feasibility Assessment and Strategic Action Plan, STR with WII 2018)

5.1 Land Use Classification of buffer – (As per 2001 census) (in Ha)

Buffer outside P.A.	Forest	Irrigated	Un irrigated	Cultivable Waste	Non-cultivable	Other Uses Gaonthan, roads, submergence etc.
42434.43	19316.99	433.61	13410.52	3762.31	5327.73	183.27
14110.60	2911.32	47	1025.06	2134.71	2756.23	5236.28

Table.5.2 **:** LULC in Buffer Zone of STR

5.2 Socio-economic Profile of villages:

As stated in earlier chapters, the overall socio-economic status of the people is comparatively low, mostly falling below the poverty line. The major source of income is marginal agriculture. Major crop is paddy, Nachani and wari. They also earn income from livestock rearing and wages earned through ongoing forestry and other department related works. Following table shows the socio-economic profile of tahsils in the buffer zone of STR (Annexure No 12 and 13):

Sl. No.	Name of Tahsil	Total Population	SC %	ST %	Main workers %	Marginal worker %	Literacy %	Cultivators %	Agriculture labors %	Household industry workers %
1	2	3	5	6	7	8	9	10	11	12
1	Satara	502049	11.08	0.97	34.86	5.43	88.72	29.17	11.90	4.27
2	Mahabaleshwar	72830	11.28	5.06	34.67	6.23	83.91	37.49	9.39	3.04
3	Jawali	106506	7.06	1.90	36.38	11.75	81.96	56.61	15.43	3.06
4	Patan	299509	8.69	0.73	39.61	8.37	77.40	54.26	24.65	2.36
5	Shirala	162911	10.53	0.32	39.89	9.27	78.88	51.66	22.23	4.13
6	Shahuwadi	185661	11.35	0.27	43.15	8.51	72.68	61.53	16.83	2.37
7	Sangameshwar	198343	4.90	0.21	39.01	11.23	79.26	54.52	20.55	2.53
8	Khed	181615	5.41	1.38	34.27	6.33	82.19	42.00	23.23	2.42

Table.5.3 Human Population of Sahyadri Tiger Reserve (Source: CENSUS OF INDIA, 2011)

84 villages in buffer zone spread over 8 tehsils in Satara, Sangli, Kolhapur and Ratnagiri districts. As mos of the inhabitants are marginal cultivators, agriculture laborers and household industrial labors, economic condition of the people is very low as compared to the national level.

The major sources of income are marginal agriculture (paddy), income from livestock rearing, collection of NTFP and wages earned through ongoing forestry and other department related works. Major area of the buffer area of STR is situated in Satara District and that too in PatanTehsil.

As per scenario available out of 424.34 Sq.Km. Out of this, 193.17 Sq.Km. comprises of the forest area in the possession of the forest department. So, it forms 45.52% of the total geographic area of Sahyadri Tiger Reserve buffer area outside the PA. The total human population in 20 buffer villages inside protected areas is **7914**. The total human population in 48 buffer villages (out of 60) outside protected areas is **28203**. Rest 8 villages only Forests area is included in Buffer of STR. Majority of the people are young or old . Middle aged people generally leave the area for occupation and reside at Mumbai. No industries are developing here. KOYANA and WARNA irrigation projects have provided employment to the local people. On the Eastern side of Buffer, from 2001 onwards, at Chalakevadi, Kusavade, Aral and Gojegaon windmills have also provided employment to the local villagers. At Gokul, Humbarli, Deshmukhwadi, Helvak, Paneri, Manadur and Udagiri tourism is a supplementary source to the people. At Deshmukhvadi- Humbarali 9 resorts and 2 Rest Houses exists which cares to tourism needs at present. In Manadur 2 Rest Houses exists for night halt.

Population and Live Stock Number Of Buffer Villages by Forest Division (2023)

Sr.No.	Range	Total Villages	Population	Total Families	Live Stock (Cow,Buffalo& Goat)
1	Kandat	13	2905	667	1998
2	Bamnoli	09	2339	557	621
3	Patan	18	10668	2348	5958
4	Koyna	11	8766	1938	1509
5	Helwak	24	8725	1597	3085
6	Dhebewadi	10	9625	1787	4926
7	Chandoli	0	0	0	0
8	Amba	09	9220	2359	5439
	Total	**94**	**52318**	**11253**	**23536**

Table.5.4 Population and Live Stock Distribution in Buffer Zone of STR

5.3 Resource Dependency of Villages:

The villages within the Buffer zone heavily rely on forest resources for their daily needs, and the livelihoods of many households are directly linked to these resources, including firewood, non-timber forest products (NTFPs), and grass. This dependency on forests is significant, encompassing fuel, fodder, grazing areas, water sources, and small timber. There is considerable potential for providing ecologically sustainable livelihood options to reduce this dependency.

The reliance on forests for firewood is particularly high, with wood being essential for heating and lighting during the winter months. Domestic wood consumption doubles in winter compared to summer. Fodder is another critical resource, with almost complete dependence on forests, vital for rural livelihoods. Income from minor forest products is seasonal, and in private areas, tree cutting becomes a prominent activity during lean periods, especially in Patan Tehsil.

NTFP collection, such as Hirda, Shikekai, and Tamalpatra, is carried out seasonally in all villages within these areas, highlighting the continued dependence of local communities on forests for grazing and firewood.

5.4 Human-Wildlife Conflicts:

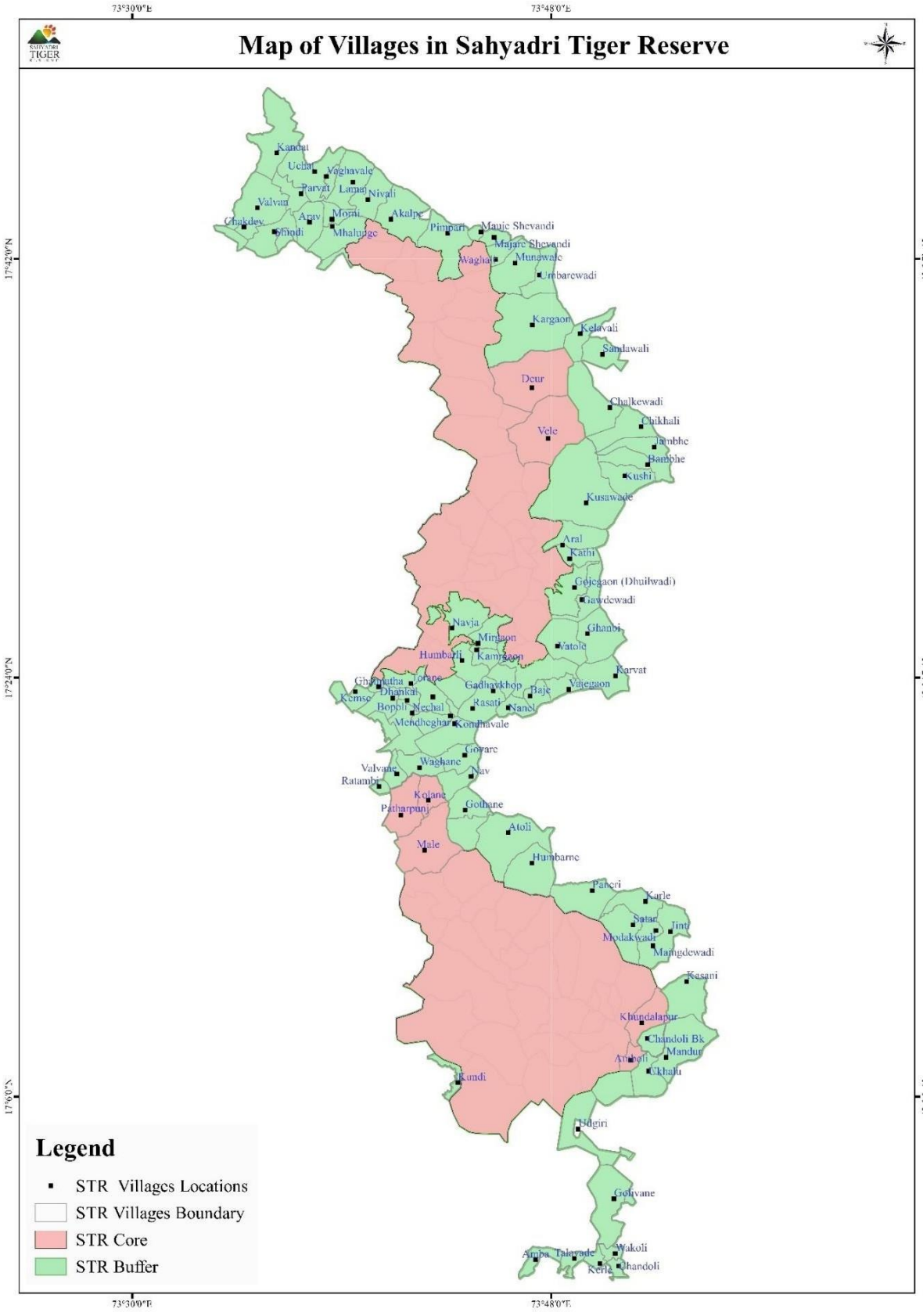
Human-wildlife conflicts have reached critical levels in the buffer zone. Crop raids by wild boar, gaur, and sambar are widespread in numerous villages. Additionally, leopard attacks on cattle are common due to unrestricted grazing across the forest area. Although instances of human fatalities caused by tigers and leopards are not frequent in the buffer zone, the threat remains present. In cases of human-wildlife conflicts, strict adherence to NTCA guidelines and standard operating protocols is ensured. However, frustrations arise among the people when state government compensation fails to reach them promptly. The human-wildlife interface in the buffer

zone is highly sensitive due to the presence and movement of wild animals. These interactions often involve crop and livestock depredation, as well as injuries or loss of life to both wildlife and humans. Cattle and goat rearing for sustenance are the supplementary activity adopted along with the agriculture. Heavy grazing and other resources used by livestock created competition among wild animal and livestock for their survival.

People who are residing close to wild animal habitat face following problems.

1. Crop raiding
2. Cattle depredation
3. Attack on human being

Also wild life is adversely affected by activities of villagers in different ways- loss of habitat due to non forest activities, disturbance due to grazing and fuelwood, MFP collection, loss of prey species due to hunting, etc.



Map 5.1: Village Distribution in Buffer Zone of STR (Enlarged map)

Human Wildlife Conflict - Occasional issues of conflict are seen in this area.

- Attacks on human beings: Attacks on human beings by Indian Gaur and Leopard during last three years have been noticed.
- Attacks on the cattle/ crop raiding cases: The details of the attacks on cattle and cases of crop raiding by wild animals during last three years are as follows.

Table.5.5 Cattle kills and Crop raiding cases compensation Year 2017-18 to 2023-24 in Buffer area and outside PAs

Sr.No	Range	Crop Depredation		Livestock Depredation		Human Attack		Total	
		No. of Incidents	Compensation	No. of Incidents	Compensation	No. of Incidents	Compensation	No. of Incidents	Compensation
2017-2018									
1	Koyna	3	18711	2	6763	1	100000	6	125474
2	Bamnoli	26	79122	4	58500	2	113580	32	251202
3	Chandoli	3	2110	0	0	0	0	3	2110
4	Helwak	26	132806	7	56250	0	0	33	189056
5	Dhebewadi	29	87994	9	46500	0	0	38	134494
Total		**87**	**320743**	**22**	**168013**	**3**	**213580**	**112**	**702336**
2018-19									
1	Koyna	7	54110	5	43645	0	0	12	97755
2	Bamnoli	27	40311	0	0	0	0	27	40311
3	Chandoli	9	19105	7	104150	0	0	16	123255
4	Helwak	17	109296	6	75750	0	0	23	185046
5	Dhebewadi	33	134432	15	112750	1	1500000	49	1747182
Total		**93**	**357254**	**33**	**336295**	**1**	**1500000**	**127**	**2193549**
2019-20									
1	Koyna	22	78194	8	78750	1	20000	31	176944
2	Bamnoli	31	43632	9	63000	1	125000	41	231632
3	Chandoli	16	53036	3	30750	0	0	19	83786
4	Helwak	27	139327	5	49500	1	11023	33	199850
5	Dhebewadi	4	7675	15	129000	0	0	19	136675
Total		**100**	**321864**	**40**	**351000**	**3**	**156023**	**143**	**828887**
2020-21									
1	Koyna	37	78263	2	41625	0	0	39	119888
2	Bamnoli	31	49762	12	103000	1	1784	44	154546
3	Chandoli	11	33653	8	88125	2	125000	21	246778
4	Helwak	41	159721	7	85750	1	18934	49	264405
5	Dhebewadi	14	21961	8	87000	0	0	22	108961
Total		**134**	**343360**	**37**	**405500**	**4**	**145718**	**175**	**894578**

Sr.No	Range	Crop Depredation		Livestock Depredation		Human Attack		Total	
		No. of Incidents	Compensation	No. of Incidents	Compensation	No. of Incidents	Compensation	No. of Incidents	Compensation
2021-22									
1	Koyna	17	48103	15	294600	0	0	32	342703
2	Bamnoli	104	198733	22	267000	2	13881	128	479614
3	Chandoli	49	129335	6	60875	0	0	55	190210
4	Helwak	40	122994	18	341925	0	0	58	464919
5	Dhebewadi	17	53914	20	125625	0	0	37	179539
Total		**227**	**553079**	**81**	**1090025**	**2**	**13881**	**310**	**1656985**
2022-23									
1	Koyna	12	33251	28	567000	1	17115	41	617366
2	Bamnoli	9	39234	19	303000	3	625000	31	967234
3	Chandoli	88	148459	12	112875	0	0	100	261334
4	Helwak	85	321425	15	156278	0	0	100	477703
5	Dhebewadi	79	298052	20	247250	1	125000	100	670302
Total		**273**	**840421**	**94**	**1386403**	**5**	**767115**	**372**	**2993939**
2023-24									
1	Koyna	82	417593	81	1443900	1	125000	164	1986493
2	Bamnoli	89	523293	39	682875	1	12638	129	1218806
3	Chandoli	15	20944	10	89250	2	625000	27	735194
4	Helwak	113	414650	32	509562	2	625000	147	1549212
5	Dhebewadi	91	187897	36	409500	2	3000000	129	3597397
Total		**390**	**1564377**	**198**	**3135087**	**8**	**4387638**	**596**	**9087102**

Table.5.6:Human injury and death in STR from year 2017-18 to 2023-24

Sr.No.	Range	Human Attack	
		Injury	Death
1.	Koyna	4	0
2	Bamnoli	10	0
3.	Chandoli	4	0
4.	Helwak	4	0
5.	Dhebewadi	2	2
	Total	24	2

Forest and Wildlife offences:-

Due to effective protection, no poaching of tiger was noticed in the area during the last three years. There is no large scale illicit felling in the area. However, the local people indulge in poaching of small animals like hare, deer etc. and illicit felling in the forest area adjoining to village to meet their domestic needs of fuel, fodder and other forest produce. Offences are registered against such offenders. The details of offence cases registered during last three years are as follows.

Table.5.7. Offence Details in Sahyadri Tiger Reserve (2011-12 to 2023-24)

Offence Details									
Sr.No.	**Year**	**Illegal Felling**	**Encroachment**	**Illegal grazing**	**Poaching**	**Forest Fire**	**Trespass**	**Misc.**	**Total**
1	2011-12	4	0	0	1	8	5	6	24
2	2012-13	13	0	1	1	20	0	6	41
3	2013-14	1	9	0	1	17	0	0	28
4	2014-15	1	0	2	1	11	0	1	16
5	2015-16	1	0	0	1	11	0	6	19
6	2016-17	0	0	0	2	20	4	1	27
7	2017-18	0	0	0	0	13	5	0	18
8	2018-19	0	0	0	8	17	4	0	29
9	2019-20	1	0	0	2	21	2	3	29
10	2020-21	2	0	1	6	30	5	2	46
11	2021-22	2	1	0	9	11	0	1	24
12	2022-23	0	1	0	4	11	0	1	17
13	2023-24	1	1	0	2	7	0	1	12
Total		**26**	**12**	**4**	**38**	**197**	**25**	**28**	**330**

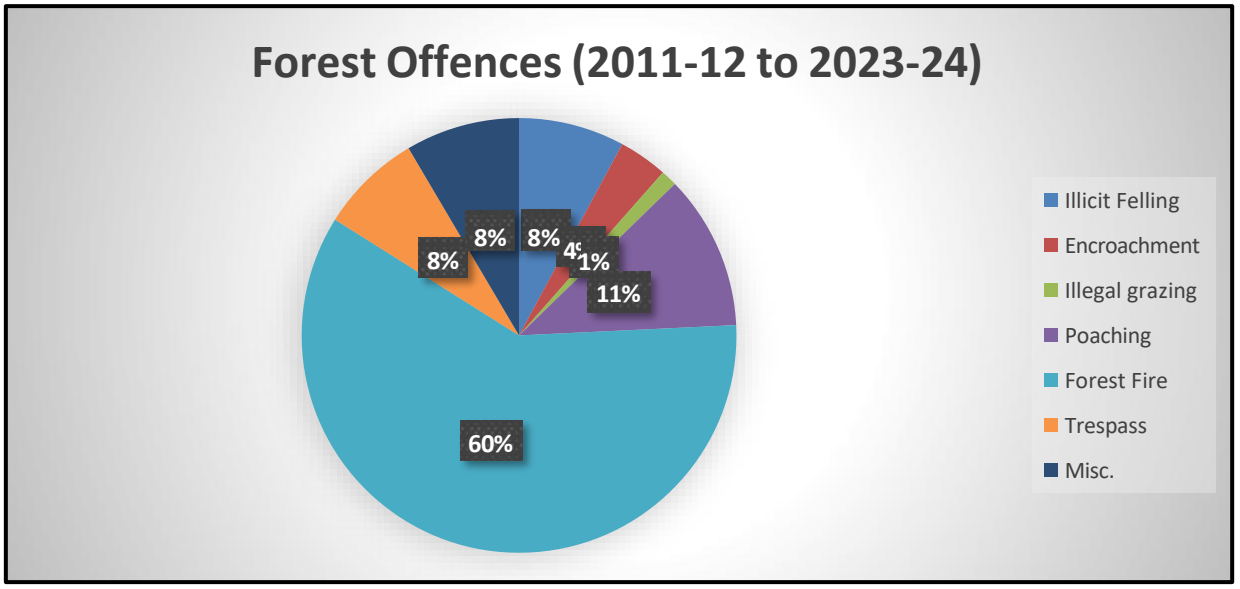


Fig.5.1: Percentage of Forest Offences (2011-12 to 2023-24)

Sr. No.	Offence	Percentage of offence
1.	Illicit felling	8%
2.	Encroachment	4%
3.	Illegal grazing	1%
4.	Poaching	11%
5.	Forest fire	60%
6.	Trespass	8%
7.	Miscellaneous	8%

5.5 Assessments of Inputs of Line Agencies/Other Departments:

The buffer area hosts numerous sectors and agencies, both governmental and non-governmental, engaged in diverse activities such as soil moisture conservation, district-level welfare schemes, irrigation, and surface transport, among others. It is essential to incorporate these activities into village-level micro plans, ensuring their implementation under the supervision of an eco-development committee.

We've identified several social development programs that directly target individuals, and these initiatives are implemented by the Zilla Parishad, Social Welfare Department, Tribal Welfare Department, and Agriculture Department.

Though line agencies/other department are having many schemes for livelihood provisions, natural resource dependency reduction schemes but they are not integrated and so the effects of such schemes are not visible. Government of Maharashtra vides Circular No. FDM-2011/C.N.100/F- 2, dated 22.12.2011 has instructed line agencies/ other department to implement their rural development schemes in the villages situated around wildlife Protected Area.

Chapter – 6

Vision, Goals, Objectives and Problems

6.1 Vision

The long-term, ecologically sustainable management of the buffer zone of the Sahyadri Tiger Reserve (STR) aims to preserve the integrity of the landscape surrounding the core or critical tiger habitat. This will ensure genetic diversity for tigers, co-predators, and prey species by conserving crucial habitats. Achieving this goal will require active involvement and support from local communities, fostering a collaborative approach to conservation.

6.2 Management Goals

- Promote Co-occurrence: Foster a collaborative approach that benefits both local communities and wildlife, ensuring that human activities and wildlife conservation can coexist harmoniously.
- Long-Term Conservation of STR: Ensure the sustainable conservation of the STR landscape as the northernmost tiger habitat in the Western Ghats, preserving its ecological significance and role in tiger conservation.
- Ecosystem Services for Society: Safeguard ecosystem services from the buffer zone to benefit local communities, while integrating biodiversity and tiger conservation concerns into various land-use planning and practices.
- Participatory Eco-Development: Provide site-specific, need-based eco-development support to local stakeholders to reduce their dependence on the resources of the Tiger Reserve, while strengthening their livelihoods and garnering their active support for conservation efforts.
- Conservation Awareness: Increase public awareness through education and sensitization initiatives, helping local communities understand the importance of nature conservation, with a special focus on tiger protection.
- Wildlife-Human Conflict Management: Implement effective management strategies to address and mitigate human-wildlife conflicts, ensuring the safety and well-being of both people and animals.
- Mainstreaming Wildlife Concerns: Integrate wildlife conservation priorities into various production sectors within the buffer zone, ensuring that sustainable practices are adopted across land-use and economic activities.

6.3 Management Objectives:

In alignment with the vision and goals outlined for the buffer zone of Sahyadri Tiger Reserve (STR), the following managerial objectives have been set:

- To enhance the infrastructure necessary for effective protection and management within the buffer zone to ensure maximum conservation benefits for the Tiger Reserve.
- To develop a strategy for micro-watershed management, sustainable forestry, wildlife protection, and sustainable livelihood with active involvement from local communities. This will include village-level micro-plans that offer livelihood benefits to locals on a quid-pro-quo basis, coordinated through eco-development committees.
- To provide special incentives to local communities through the Eco-Development Committees (EDCs) for wildlife protection efforts, including the maintenance of village-level wildlife monitoring registers.
- To refine ongoing forestry operations to achieve dual goals: conserving critical habitat patches within the buffer zone and establishing mechanisms for accessing carbon funds to reward local conservation efforts.

- To focus on initiatives that address local community dependency on forest resources, with special attention to areas such as Zudupi Jungle.
- To create an ecologically sustainable and community-benefiting ecotourism strategy that enhances local livelihoods while promoting conservation awareness.
- To implement retrofitting measures for heavily used infrastructure, such as roads, railways, and canals, to reduce their impact on the natural environment and wildlife movement.
- To take proactive measures to address human-wildlife conflict, prevent disease (zoonotic) transmission, and support staff development through ongoing training and capacity-building.
- To safeguard and protect the unique habitats within the buffer zone that are crucial for maintaining biodiversity.
- To maintain essential ecological processes and life support systems in the buffer zone to preserve the natural environment of the STR landscape in its pristine state.
- To foster eco-tourism, wildlife research, and encourage the active involvement of stakeholders in conservation activities within the buffer zone.
- To safeguard key watershed areas, including lakes, reservoirs, and streams located within the STR landscape, to ensure water security for both wildlife and local communities.
- To improve the technical skills and motivation of field staff through continuous training, exposure visits, and knowledge-sharing activities.
- To initiate and promote active participation of local communities in conservation efforts, nature interpretation, and eco-development initiatives to ensure sustainable management of the buffer zone.

6.4 Problems in Achieving Objectives:

- The buffer zone experiences high wildlife movement due to its proximity to the productive core critical habitat, leading to an increased risk of human-wildlife conflict, particularly in areas where wild animals move into human-dominated spaces.
- Local communities in the buffer zone have a low socio-economic status and are heavily dependent on forest resources for their daily needs. This reliance on the forest, combined with limited livelihood options, creates challenges for balancing conservation goals with community welfare.
- During the dry season, water becomes a limiting factor in the buffer zone. Shared water sources, such as tanks, dams, and natural water points, are used by both livestock and wild animals, exacerbating competition for water resources and increasing the likelihood of human-wildlife conflicts.
- The frequent movement of wild animals (mainly Gaur, Sloth Bear, and Leopard) into human-inhabited areas makes them vulnerable to targeted or revenge killings, further escalating tensions between people and wildlife.
- The large number of villages within the buffer zone contributes to unavoidable man-animal conflicts, as human settlements are often located near or within wildlife corridors.
- The buffer zone is fragmented by roads, human habitation, canals, and infrastructure such as National Highways, State Highways, district roads, and village roads. This fragmentation disrupts the smooth movement of wildlife, hindering connectivity between core zones and forest patches in the buffer zone and increasing risks of wildlife accidents.
- Poaching of prey species and the occasional electrocution of wild animals near power lines and fences pose significant threats to wildlife in both the core and buffer zones, especially at the boundaries of the protected areas.
- The presence of both legal and illegal firearms in the buffer zone represents a significant threat to wildlife, facilitating poaching activities and increasing the potential for human-wildlife conflict.

6.5 Strengths-Weaknesses-Opportunities-Limitations (SWOT) Analyses:

SWOT analysis offers a structured approach for understanding the internal and external factors affecting conservation efforts in the buffer zone of the Sahyadri Tiger Reserve (STR). By systematically assessing the strengths, weaknesses, opportunities, and threats specific to the buffer zone,

conservationists can design targeted, evidence-based management strategies that optimize resource allocation and increase the effectiveness of conservation actions. This framework helps ensure the successful protection of tigers and their habitats in the buffer zone. Management strengths and weaknesses of STR as observed in the Monitoring and Evaluation (MEE) reports from the years 2014, 2018, 2022, and the Internal MEE-2021.

Strength:

- Rich Biodiversity: The STR buffer area is part of the Western Ghats Tiger Landscape and a UNESCO World Heritage Site, boasting rich biodiversity, including rare and endemic species. The reserve boasts high biodiversity and is home to many endemic species, contributing to its ecological significance and conservation value.
- Youth Outmigration: Outmigration of youths can reduce human pressures on the reserve and minimize negative impacts on wildlife and habitats.
- Diverse Habitat: The reserve encompasses diverse habitats, supporting a wide range of flora and fauna and enhancing ecosystem resilience. Unique habitats, like lateritic plateaus, are more in the buffer zone.
- Financially Strong Conservation Foundation: The Tiger Conservation Foundation's financial strength enables effective conservation management and implementation of conservation initiatives.
- Protection Infrastructure: Adequate protection infrastructure ensures effective monitoring and enforcement of conservation regulations.
- Protected Corridors: Corridors are well-protected, with conservation reserves declared over most reserve forests, facilitating wildlife movement and genetic exchange.
- Unified Control with STR: Unified control with the STR streamlines management and coordination efforts, enhancing conservation outcomes.
- Eco-Development Committees (EDC): The presence of EDCs in most villages promotes community participation in conservation and sustainable development initiatives.
- Eco-Sensitive Area Notification: Draft notification of the corridor area as an Eco-Sensitive Area provides additional protection, safeguarding vital wildlife habitats and corridors.

  These strengths provide a strong foundation for effective conservation management and highlight the potential for further successes in biodiversity conservation within the Sahyadri Tiger Reserve.

Weaknesses:

- Small Buffer Zone: Ideally, the buffer zone should be approximately double the size of the core zone and should completely surround the core area on all sides. However, in the case of STR, the buffer zone is smaller than the core zone in terms of area. Additionally, there is no buffer zone on the western side, and the existing buffer is very narrow, with forest area being less than the non-forest area.
- Accessibility and Infrastructure: The terrain and water bodies make the reserve inaccessible, with few internal roads.
- Staff and local communities Awareness: Frontline staff and local communities may not be adequately aware of the Outstanding Universal Values (OUVs) of Sahyadri's World Heritage Site status, as well as the significance of the buffer zone.
- Connectivity and Corridors: Forested buffers and corridors connecting critical tiger habitats are at risk due to incompatible land use, such as highway expansion and mining activities.
- Habitat Improvement: Measures for habitat improvement are being implemented, but their impact is not yet visible. The area of the buffer zone is highly susceptible for invasion of weeds.
- Water availability: Most of the buffer zone area is above high altitude, hence there is water scarcity in summer.
- Plantation Practices: Large-scale plantation of exotic species like Eucalyptus spp and Acacia

auriculiformis has occurred in edge habitats, potentially affecting biodiversity.

- Human-Wildlife Conflict: Gaur and sloth-bear attacks on humans, crop raiding, cattle depredation by Leopards and wild dogs are increasing day by day. Measures to mitigate human-wildlife conflict primarily focus on compensation, which may not effectively reduce conflicts.
- Funding and Administration: Insufficient and irregular funding, along with administrative challenges across multiple districts, hinder effective conservation efforts.
- Human Habitation and Commercial Development: Human habitation within critical tiger habitat, commercial development in sensitive areas, and the presence of windmills on ecologically unique plateaus further threaten the reserve's integrity.
- Staff Shortage: Insufficient field staff exacerbates the challenges of monitoring and protecting the reserve's wildlife and habitats.
- Outmigration from Buffer Villages: Low livelihood opportunities lead to outmigration, impacting local involvement and support for conservation efforts.
- Low Prey Base: Compared to the core zone of STR has a lower prey base, potentially impacting predator populations.
- Buffer Zone Sensitivity: Buffer zones experience high biotic pressure, exacerbating conflicts and habitat degradation.
- Fragmentation due to Reservoirs: The presence of large reservoirs fragments wildlife habitat, impacting connectivity and species movement.
- Commercial Development in Corridors: Corridor bottlenecks between the core zone of Chandoli and Koyna face pressure from commercial development, mainly tourism infrastructure, mining, farm house constructions, and land purchasing by outsiders for commercial use in the future, further limiting wildlife movement.
- Unemployment in Buffer Zones: High unemployment in buffer zones can lead to various socio-economic challenges, including increased engagement in illegal activities. When people lack viable livelihood options, they may resort to activities such as poaching, illegal logging, or encroachment on protected areas for resources. Moreover, unemployment can also reduce local support for conservation efforts. When communities feel economically marginalized and disconnected from conservation initiatives, they may not see the value in protecting wildlife and habitats. Instead, they may view conservation regulations as barriers to their economic well-being.
- Lack of STPF Sanction: Non-sanctioning of the Special Tiger Protection Force (STPF) hampers anti-poaching efforts and wildlife protection.
- Administrative Challenges: The reserve spanning four districts complicates coordination with line departments.
- Windmills in Sensitive Areas: Windmills on ecologically unique plateaus threaten sensitive habitats and wildlife in the region.

Addressing these issues will require coordinated efforts from various stakeholders, including government agencies, local communities, and conservation organizations, along with timely and adequate funding to ensure the long-term survival of the Sahyadri Tiger Reserve and its wildlife.

Opportunities:

The buffer zone of the Sahyadri Tiger Reserve plays a crucial role in achieving the core objective of wildlife conservation while ensuring harmonious coexistence between humans and wildlife. Conceived as a transition landscape between the inviolate core area and human-dominated regions, the buffer zone offers significant opportunities to integrate conservation goals with sustainable local development.

One of the foremost opportunities in the buffer zone lies in promoting coexistence between human communities and wildlife. Through participatory management, awareness programs, and mitigation measures for human-wildlife conflict, the buffer zone can function as a shared space where traditional livelihoods and ecological processes continue side by side. Strengthening community stewardship,

promoting tolerance towards wildlife, and ensuring timely compensation and support mechanisms are central to this approach. The buffer zone also presents immense potential for generating local livelihoods through ecotourism. When planned and regulated responsibly, ecotourism not only reduces pressure on forest resources but also creates incentives for local communities to participate in conservation efforts actively.

Overall, the buffer zone of Sahyadri Tiger Reserve serves as a dynamic landscape where conservation and development are not conflicting goals but complementary processes. By fostering coexistence, strengthening ecotourism-based livelihoods, and integrating multiple activities through participatory governance, the buffer zone can emerge as a model of sustainable development rooted in conservation ethics.

- Increasing the scale of camera trap deployments to improve monitoring efforts, allowing for more comprehensive wildlife population assessments and better tracking.
- Focusing on habitat preservation and improving connectivity with core areas and forest patches in buffer areas neighboring reserves, which would help maintain ecological integrity and facilitate wildlife movement across landscapes.
- Developing a comprehensive management plan that addresses the reduction of human impacts, enforcement of anti-poaching measures, and the exploration of alternative livelihoods for local communities, leading to more sustainable conservation practices.
- Prioritizing actions aimed at reducing human impacts, controlling poaching, and restoring habitats, which is helpful for the accommodation of the transient population of prey and predators.
- Implementing systematic management plans to address the invasion of various invasive species, with a focus on areas where invasion is at an early stage, could help prevent further spread and protect native habitats.
- Strengthening collaborations with forest departments of neighboring divisions, law enforcement agencies, and relevant authorities could enhance wildlife protection efforts through joint operations and knowledge sharing.
- Investing in continuous monitoring and research initiatives to assess the impact of existing threats and track the effectiveness of implemented mitigation measures would provide valuable insights for adaptive management.
- Encouraging the active involvement of local communities in conservation efforts could foster a sense of ownership and stewardship towards wildlife and their habitats, leading to more sustainable conservation practices.
- It is crucial to implement sustainable development initiatives in buffer zones that provide alternative livelihood opportunities for local communities. These initiatives could include ecotourism, sustainable agriculture, handicraft production, NTFP processing or skill development programs. By engaging residents in conservation-compatible livelihoods, we can reduce dependence on illegal activities, alleviate poverty, and foster a sense of ownership and support for conservation efforts. Additionally, involving communities in decision-making processes and ensuring equitable sharing of benefits from conservation initiatives can further strengthen their commitment to protecting biodiversity.
- Raising awareness about the importance of tiger reserves among the students and locals from the buffer area and exploring community-based conservation models could help garner support and participation from local communities in conservation initiatives.
- Enhancing infrastructure for the protection network, staff housing, monitoring, and communication could improve operational efficiency and effectiveness in wildlife conservation efforts.
- Addressing challenges related to inaccessible terrain, lack of tracks, and loss of local terrain knowledge through strategic planning and capacity building initiatives could improve conservation outcomes in challenging environments.
- Recognizing the potential for ecotourism in the UNESCO-recognized Western Ghats complex and

exploring avenues for sustainable ecotourism development could provide alternative livelihood options for local communities while promoting conservation.

- Eco-tourism-based livelihood opportunities: Leveraging eco-tourism can not only provide sustainable livelihoods for local communities but also contribute to conservation efforts. By promoting responsible tourism practices, communities can benefit economically while fostering a sense of stewardship for their natural surroundings.
- Research and biodiversity documentation: Investing in research initiatives and biodiversity documentation can provide valuable insights into the ecological dynamics of the reserve, aiding in informed decision-making and conservation planning.
- Payment for Ecosystem Services (PES): Implementing PES schemes for forests like Malki Forest can incentivize conservation efforts by compensating communities for preserving ecosystem services such as carbon sequestration, water regulation, and biodiversity conservation. Since Sahyadri Tiger Reserve protects the watershed of two major dams that generate over 2000 MW of electricity and provide water for irrigation to thousands of acres, these costs may be borne by the relevant departments.
- Capacity building and institutionalization: Strengthening the capacity of reserve staff, institutions, and local stakeholders through training and institutionalization of participatory management approaches can improve the effectiveness of conservation efforts.
- Reduction of resource dependency: Implementing sustainable resource management practices and alternative livelihood options can reduce dependency on buffer forest resources, alleviating pressure on natural habitats.
- Use of technology: Embracing innovative technologies such as remote sensing, GPS tracking, AI, CCTV, drones, and camera traps can enhance monitoring and protection efforts, improving efficiency in conservation management. Besides, the implementation of mobile-based M-STrIPES for core, buffer, and surrounding areas for better protection and ecological status has a great scope.
- Restoration of mining sites: restoring degraded areas, including former mining sites, can help in creating habitat expansion for wildlife and restoring habitat connectivity.

By considering weaknesses, capitalizing on these opportunities, and implementing integrated conservation strategies, the Sahyadri tiger reserve can strengthen its protection and management efforts, while increasing local participation in planning and implementation, ensuring the long-term survival of its biodiversity and the ecological health of the region.

Threats:

The Sahyadri Tiger Reserve, nestled in the Western Ghats of India, faces a range of threats that jeopardize its biodiversity and the survival of its wild animal population. These threats arise from both natural and anthropogenic factors, posing significant challenges to conservation efforts. Some of the key threats include:

- Habitat Fragmentation and Degradation: The fragmentation of habitat due to human activities such as agricultural expansion, dams, hydro-electric projects, highways, windmills, infrastructure development, human settlement, and mining disrupts the continuity of compact wildlife habitat and corridors, limiting the movement of wild animals. Deforestation in private areas in buffer and corridor and habitat degradation further exacerbate this issue, reducing suitable habitats and corridors for tigers and other wild animals.
- Human-Wildlife Conflict: Increasing human interference into forest patches of buffer leads to conflicts between local communities and wildlife, particularly when predators prey on livestock or pose a threat to human safety. Retaliatory killings, habitat destruction, and depletion of prey base are common consequences of such conflicts, posing a serious threat to tiger populations. Crop raiding due to wild pigs and gaur has increased. Gaur and sloth bear attacks also increased.
- Poaching and Illegal Wildlife Trade: Illegal hunting activities such as trapping, snaring, and the use of licensed or unlicensed guns pose a significant threat to wildlife populations, particularly prey and

endangered species. Poaching for local consumption and for illegal wildlife trade remain persistent threat to tiger populations in the Sahyadri Tiger Reserve.

- Illegal Resource Collection: Gathering resources such as fuelwood and medicinal plants (e.g., Narkya, Hirda, Tamalpatra, Shikakai), rare orchids, sphagnum moss etc. without proper authorization can lead to habitat degradation and loss of biodiversity.
- Grazing Pressure: Uncontrolled grazing by feral cattle or illegal grazing of domesticated livestock can degrade habitats, compete with native herbivores for resources, and spread diseases.
- Forest Fire: Deliberate or accidental fires set for various purposes, such as clearing land for agriculture or hunting, can result in habitat destruction and loss of vegetation cover, affecting wildlife populations.
- Human Disturbance and Infrastructure Development: Rapid urbanization, tourism, and infrastructure development in and around the reserve lead to habitat disturbance, noise pollution, and habitat fragmentation. Roads, canals, and other linear infrastructure pose barriers to wildlife movement and increase the risk of roadkill and human-tiger conflicts.
- Climate Change: Climate change poses a long-term threat to the Sahyadri Tiger Reserve, altering habitats, disrupting ecosystems, and affecting prey populations. Changes in temperature and precipitation patterns, increased frequency of extreme weather events, and habitat loss are among the climate-related challenges faced by the reserve.
- Unregulated tourism, tourism structures, and pilgrimage tourism pose a significant threat to the wildlife habitat as they can lead to habitat destruction, disturbance of wildlife, and degradation of natural resources. Unplanned construction of tourism infrastructure such as resorts, lodges, and roads can fragment habitats, disrupt wildlife corridors and bottlenecks in corridors, and degrade sensitive ecosystems. Unregulated tourism activities such as loud noise, plastic trash, bright lights, and excessive human presence can disturb wildlife, disrupt breeding and feeding patterns, and increase stress levels among animals. Uncontrolled tourism can lead to overuse of natural resources such as water, fuelwood, and wildlife products, resulting in habitat degradation and loss of biodiversity. Unregulated tourism can have negative effects on local communities, including cultural erosion, social conflict, and economic inequality. Unregulated tourism can inadvertently introduce invasive species through the transportation of goods, vehicles, and visitors from outside the reserve.

- Religious tourism along a passing route: The Eco-Tourism Zones (ETZ) of Sahyadri Tiger Reserve (STR) feature several temples, attracting regular pilgrims and tourists. These include Chowkeshwar and Mallikarjun in the Kandat ETZ, Nageshwar and Shembadi Datta Math in the Bamnoli-Munavale ETZ, Padmavati Devi, Dhareshwar, and Injai Devi in the Karvat-Kusavade ETZ, Shiva, Amba Devi, Ramban, Mahadev, Manai Devi, Waghjai Devi, and Shri Datta Dham in the Koyana-Helwak ETZ, Valmiki in the Paneri-Bhosgaon ETZ, Vitthalai and Shevtai in the Mandur ETZ, and Shri Kalammadevi and Marleshwar in the Amba ETZ. With coordination with the temple committee, effective waste management in these temple areas is essential.

- Threats to Unique Habitat like Sadas/Lateritic plateau: Rocky plateaus in the northern Western Ghats are specialized habitats belonging to the general habitat category of lateritic plateau and rock outcrops. Ecological assessment of representative sites shows high species richness and diversity. Removal of boulders, filling of shallow ponds, or altering the drainage pattern can have severe impacts on the biodiversity of the lateritic plateau (Sada), which may be visible only after some years. Tourism, wind farms, infrastructure development, and mining are serious threats to the rocky lateritic plateaus.
- Proposed additional structures in and around Koyna dams, i.e., Phase 5 & 6 project: any proposed structures that undergo rigorous ecological assessments are needed to minimize their impact on the tiger reserve and the surrounding environment.

Addressing these threats requires a multifaceted approach, including habitat restoration, community-based conservation initiatives, strengthened law enforcement, and sustainable land-use

planning. Collaboration between government agencies, local communities, NGOs, and other stakeholders is crucial for the effective conservation of the Sahyadri Tiger Reserve and the protection of its biodiversity.

CHAPTER - 7

MANAGEMENT STRATEGIES

Appropriate zoning for management, consisting of Zone Plans and overlapping Theme Plans, should be proposed based on generic principles for buffer establishment, data appraisal at both macro and micro spatial levels, and prior knowledge. It is crucial to bear in mind that the management of the buffer should prioritize the co-occurrence agenda, facilitating the peaceful coexistence of wild animals and people, while avoiding the overemphasis on wildlife productivity to mitigate human-wildlife conflicts. In cases where the core area is smaller, intensive management of the buffer is necessary, while a larger core area with a patchy buffer requires efforts to disperse wild animals effectively. The buffer zone of the Sahyadri Tiger Reserve (STR) is twice the size of the core area and comprises approximately 40%-60% forest and non-forest areas, encompassing 85 villages. The buffer zone can primarily be divided into forest and non-forest areas.

Table.7.1**:** Area statement of Buffer zones is given in table below:

Name of Zone	Koyna WLS	Chandoli NP	Grand Total in Ha.	No. of Villages
Forest area	10244.08	11984.23	22228.31	
*Non-Forest area	26157.49	8159.22	34316.71	85
Total-	36401.57	20143.45	56545.02	

*Non forest area includes Gaothan, Agriculture land, Other govt. land and private land.

The details of zone and theme wise prescriptions are given as under.

7.1 Zone Plans:

Creation of distinct zones within a protected area (PA) is essential due to varying management objectives that may not always align. For instance, objectives such as maintaining catchment capability conflict with accommodating the grazing of domestic livestock. Similarly, grazing activities may be incompatible with providing a nature experience to visitors. Therefore, each zone should be established based on specific objectives, necessitating the development of self-contained sub-plans tailored to these objectives. Management interventions must align with these objectives, particularly considering the significant decline in natural areas, which now require intensive management. This approach may deviate from the traditional "leave it to nature" philosophy, which was feasible in extensive wilderness areas with minimal human populations and needs. Drawing upon generic management principles, data appraisal, and field knowledge, it is imperative to propose appropriate zoning for management through Zone Plans and overlapping Theme Plans. In light of this, the following Zone plans are proposed for the Sahyadri Tiger Reserve.

7.1.1 Zone Plan for Forestry:

7.1.2 Zone Plan for Agriculture

7.1.3. Zone Plan for Tiger Management

7.1.4 Zone Plan for Eco-development

7.1.5 Zone Plan for mainstreaming wildlife concerns and retrofitting measures

7.1.6 Zone Plan for Ecotourism

7.1.7 Zone Plan for Removal of Exotic Species

Table No.7.2 : Land use Pattern in Buffer of STR

Buffer outside P.A.	Forest	Irrigated	Un irrigated	Cultivable Waste	Non-cultivable	Other Uses Gaothan, roads, submergence etc.
42434.43	19316.99	433.61	13410.52	3762.31	5327.73	183.27
14110.60	2911.32	47	1025.06	2134.71	2756.23	5236.28
56545.03	22,228.31	480.61	14435.58	5,897.02	8083.96	5419.55

7.1.1 Zone Plan for Forestry:-

The forest area of Buffer zone (22228.31 ha.) of STR was previously worked under management plan and protection working circle of divisions. The details of working plans and management plans of adjoining divisions of buffer zone according to which it was worked is given in following table:

Table No.7.3 : Working Plans and Management Plans of Adjoining Divisions of buffer zone

Sr. No.	Name of Division	Working Plan/ Management Plan written by	Period	Remarks
1	Forest Division, Satara	Shri. Vikas Gupta N.Mohan karnat	2010-11 to 2019-20	New W.P. for the period of 2023-24 to 2032-33 is approved
2	Forest Division, Sangli	Shri. N. Mohan Karnat, IFS	2012-13 to 2021-22	PWPR is approved for new W.P.
3	Forest Division, Kolhapur	Shri. Vikas Gupta, IFS Shri. Nitin Kakodkar, IFS Shri. Devendra Kumar, IFS	2008-09 to 2017-18	New WP work is in progress
4	Forest Division, Ratnagiri (Chiplun)	Dr. H.N.Patil & Shri. S.S. Dole	2013-14 to 2022-23	New WP work is in progress

Currently, forest area proposed as forestry zone is under unified control of wildlife working circle since 2015.

The prescriptions for forestry works in buffer need to ensure mainstreaming wildlife concerns in order to safeguard wildlife interests by ensuring habitat supplements in outer areas beyond the core for tiger's spatial land tenure dynamics.

To address the challenges faced by local communities and wildlife in the region, several key objectives have been identified:

i) **Reducing Dependency on Forests:**

- Implement measures to reduce the dependency of local communities on forest resources, thereby alleviating pressure on the ecosystem and promoting sustainable livelihood alternatives.

ii) **Habitat Conversion and Conservation:**

- Focus on converting degraded areas into viable habitats through habitat restoration efforts, while ensuring effective protection and conservation measures are in place to safeguard biodiversity.

iii) **Balancing Wildlife Management with Community Needs:**

- Strive to maintain a judicious balance between the needs of local communities and wildlife conservation, ensuring that wildlife management practices are relevant and beneficial for both stakeholders.

iv) **Community Participation in Biodiversity Conservation:**

- Foster active participation of local communities in protecting and conserving biodiversity within the forests, engaging them in conservation initiatives and promoting a sense of ownership and stewardship over their natural resources.

Incorporating these objectives into conservation strategies will not only benefit local communities by providing alternative livelihood options and reducing dependency on forests but also contribute to the preservation and sustainability of biodiversity in the region.

Issues :

i) **Grazing Pressure:** The region experiences significant grazing pressure due to a large number of cattle, with limited adoption of stall feeding practices. Additionally, the presence of stray cattle exacerbates the issue.

ii) **Firewood Dependency:** There is a prevalent dependency on forests for free firewood, which contributes to resource depletion and habitat degradation.

iii) **Non-Timber Forest Product (NTFP) Collection:** Collection of NTFPs such as Hirada, Shikekai, honey, and tamalpatra from forests outside Protected Areas (PAs) is common practice, leading to resource exploitation and habitat disturbance.

iv) **Forest Fires:** Uncontrolled fires ignited by individuals in search of grass, firewood, and NTFPs, as well as for poaching purposes, pose a significant threat. These surface fires can escalate into crown fires, causing extensive damage to forest ecosystems and wildlife habitats. Effective fire management strategies are necessary to mitigate this risk.

Strategy:

- **Livestock Management:**

  Reduction of unproductive cattle is prioritized to alleviate grazing pressure on forest ecosystems. Measures are implemented to reduce the population of unproductive cattle, including initiatives for controlled breeding, promoting livestock insurance schemes, and facilitating the adoption of alternative livelihood options for pastoral communities.

- **Promotion of Stall Feeding:**
  Adoption of stall feeding practices among local communities is encouraged and incentivized to reduce dependence on forest resources for grazing.
- **Alternative Energy Sources:**
  Adoption of alternative energy sources for cooking and heating purposes, such as LPG, solar energy, smokeless chulha, and biogas, is promoted to minimize reliance on firewood collection and mitigate environmental impacts.
- **Enhanced Protection Measures:**
  The role of Village Eco-Development Committees (VEDCs) in wildlife protection efforts is strengthened and promoted, encouraging community participation and vigilance to prevent forest fires, illegal logging, and poaching activities.
- **Forest Restoration and Rehabilitation:**
  Reforestation and habitat restoration projects are implemented in degraded areas within the forest landscape, utilizing native tree species and employing techniques such as assisted natural regeneration and soil conservation measures.
- **Economic Incentives and Alternative Livelihoods:**
  Economic incentives and livelihood support are provided to forest-dependent communities through eco-tourism initiatives, value-added forest products, and skill development programs, reducing reliance on unsustainable forest exploitation for livelihoods.
- **7. Research and Monitoring:**
  Research and monitoring activities are conducted to assess the ecological health of forest ecosystems, monitor wildlife populations, and evaluate the effectiveness of conservation interventions, utilizing scientific data to inform adaptive management strategies.

Prescriptions:

- Clear felling and all silvi-cultural systems resulting in concentrated regeneration should be prohibited to mitigate wild ungulate concentration and human-wildlife interface issues. Instead, systems like high forest with diffused regeneration or accessory systems should be allowed.
- The status of regeneration should determine permission for tree felling. Areas lacking established regeneration should not be permitted for felling activities.
- Maintain canopy cover above 40% in winter months to deter wild ungulates, ensuring minimal canopy opening during timber removal or thinning operations.
- Stagger timber exploitation and plantation activities to minimize edge effects and prevent induced edge effects near human settlements.
- Plant only indigenous species in plantation works and ensure sustainable harvesting of Non-Timber Forest Produce (NTFP) to maintain ecosystem integrity.
- Regulate grazing and fuel wood collection on a rotational basis to prevent overexploitation and habitat degradation.
- Establish unified control for buffer areas under the wildlife wing to enhance wildlife management effectiveness, mitigate conflicts, and ensure timely compensation for human-wildlife conflicts.
- Impose penalties for unauthorized felling or wood collection. Burn fire lines in January or at suitable times to prevent wildfires.
- Conduct detailed surveys of fauna and flora, identifying endemic and endangered species and formulating conservation strategies. Establish a database for periodic review and correlation with the IUCN Red List.
- Unified control under the wildlife wing is vital for effective buffer area management, promoting interaction with local communities, mainstreaming wildlife management, and timely compensation for human-animal conflicts. This approach reduces conflicts in wildlife management.
- Only bonafide use permits felling or wood collection, prohibiting unauthorized activities.
- Eco-Development Committees (EDCs) can compound petty offenses, with proceeds divided between their non-government accounts and the Sahyadri Tiger Reserve (STR) foundation.
- Burning fire lines in January or appropriate months is advisable where feasible.
- Conducting periodic comprehensive surveys of district fauna and flora, focusing on endemic and endangered species, ensures a database, periodic reviews, and correlation with the IUCN Red List.

- Forming an expert committee to develop wildlife corridors and explore conservation reserves or ecologically sensitive areas is essential.
- Developing water sources, such as gully-plugging and check-dams, mitigates water scarcity during summers, reducing human-wildlife conflicts.
- Enhancing fodder availability areas prevents wild animal straying into agricultural lands, with afforestation schemes including favoured fodder and fruit tree species.
- Periodic cattle immunization camps in surrounding villages of the Protected Area (P.A.) are recommended.
- Strengthening infrastructural facilities for wildlife emergencies, including provision of tranquilizing and trapping equipment, is necessary, along with establishing a Rescue Centre at a strategic location.
- Mitigating man-animal conflict situations requires assessing different measures and their financial projections.
- Comprehensive training and equipping of forest staff and officers to handle wildlife emergencies, including tranquilizing and trapping equipment, are necessary, along with establishing well-trained "Rescue Teams" under Assistant Conservator of Forests (ACFs).
- Conducting mass awareness campaigns educates the public on man-animal conflict situations and forest management practices through personal contact, written materials, and engagement with the local press.
- Veterinarians from government departments should receive basic and advanced training in wildlife medication, with outstanding veterinarians empaneled by the forest department to handle wildlife emergencies.
- Prohibiting felling near water holes and frequently used animal paths preserves wildlife habitats.
- Manning important entry and exit points from forests 24/7, with enhancements to the wireless communication system, ensures effective monitoring and management.
- Conduct regular population estimation and monitoring of flora and fauna using improved techniques in Buffer Zone areas to ensure effective protection and conservation efforts.

- **Special prescriptions for sustainable harvesting of NTFP**

The forest areas in Satara district harbour various species yielding Non-Timber Forest Produce (NTFP), including medicinal plants like Hirda fruits, Shikekai, Apta, Honey, and Kadi patta. These NTFPs not only contribute significantly to the state's revenue but also provide employment opportunities to local communities during agricultural off-seasons. However, among the listed NTFPs, only Shikekai, Hirda, and Honey are auctioned, generating substantial annual revenue. The stocking levels of other NTFPs are insufficient for sustainable harvesting.

Therefore, following are the recommendations for systematic and sustainable harvesting of these NTFPs include prioritizing adequate stocking levels and implementing measures to ensure sustainable extraction practices.

- Conduct a comprehensive resource inventory of all Non-Timber Forest Produce (NTFP) in each Range within the Division, identifying areas abundant in NTFP including Medicinal Plants, and compile a database detailing the potential and production of various NTFPs across units (Beats, Ranges, Divisions).
- Identify areas with promising regeneration of NTFP species, spanning at least half a hectare in a compact block, within the annual coupes each year. Ensure proper spacing and tending to alleviate congestion and foster growth.
- Plant important NTFP species, comprising 10 to 15% of various afforestation schemes, with a focus on species like Hirda, Narkya, Jamun, Karanj, Tamal patra, Kokum, and Shikakai among trees, and Adulsa, Shatawari, Gulvel, etc., among herbs/shrubs.
- Implement sustainable harvesting methods for NTFPs and provide training to villagers on non-destructive harvesting techniques. Collection and disposal of NTFPs must adhere to Joint Forest Management provisions outlined in the Government Resolution no. MSC/2000/case no. 143/F-2 dated 25.04.2003 of Maharashtra state, with strict measures against lopping of branches or felling of trees/shrubs.
- Allow removal of Karvi (*Strobilanthes callosus*) outside the Mahabaleshwar-Panchgani eco-sensitive zone to mitigate forest fire risks, particularly after gregarious flowering.
- Identify and demarcate areas rich in medicinal plants, preferably with an area of 200 hectares or more, as 'Medicinal Plant Conservation Areas' (MPCA) to ensure long-term in situ protection of rare and endemic medicinal plants.
- Organize training programs in collaboration with the Research and Education wing of the department to impart skills in non-destructive and sustainable methods of NTFP harvesting, value addition, and marketing.
- Consult the Research Circle, which has conducted field trials on medicinal plants, to promote the use of such plants in various plantation programs.

Table No.7.4 : Indicators to avoid over exploitation of NTFP

NTFP Part Harvested	Indicators
Fuel-wood	• Regeneration status • Intensity of girdling/cutting of young trees (number of stumps per unit area) • Change in the rate of extraction • Quantum of dead/fallen twig branches on forest floor

Leaves	• Reduction in canopy cover • Reduction in leaf litter • Regeneration status • Weed invasion • Change in species composition
Fruit/flower/seed	• Regeneration status • Annual productivity per sample tree vis-à-vis the productivity in core/critical tiger habitat • Method of harvesting Season of harvesting vis-à-vis requirements of wild animals (fruit/flower/seeds act as 'qualifiers' in a habitat, and their total harvesting would reduce such welfare factors)
Bark	• Girdling • Tree mortality • Regeneration status • Number of dead stems per
Rhizome	• Regeneration status

7.1.2 Zone Plan for Agriculture :

The development area, encompassing both irrigated and un-irrigated agricultural lands, is estimated to cover approximately 1100 hectares (1072.06 hectares), representing merely 2% of the total buffer zone area.

Objectives :

- Promoting coexistence with wildlife.
- Enhancing productivity levels.
- Expanding crop rotation cycles.
- Augmenting agricultural land area and overall landscape productivity.
- Monitoring changes in cover values resulting from agricultural activities and assessing potential wildlife-human interface issues arising from such changes.

Strategy:

- Collaboration with Agriculture and Animal Husbandry departments.
- Ensuring prompt assessment and payment of compensation.
- Enhancing irrigation infrastructure.
- Monitoring the use of inorganic fertilizers and pesticides.
- Advocating for the adoption of indigenous high-yielding crop varieties.
- Promoting organic cultivation practices.
- Implementing suitable cropping patterns to minimize crop damage.
- Promoting solar fencing to prevent crop depredation.

Prescriptions:

- Appropriate varieties suited to the area's conditions should be selected.
- A strategic cropping pattern, with perennial crops like trees or sugarcane planted towards the forest boundary, and seasonal crops such as paddy, wheat, or vegetables grown closer to villages to minimize crop damage and encounters between wild animals and humans or cattle, should be implemented. Consideration should be given to cultivating repellent crops like turmeric or ginger near forest boundaries to deter wildlife damage.
- Efforts should be made to enhance irrigation infrastructure, particularly post-rainy season, to support additional crops like wheat after paddy cultivation, which requires less water.
- The use of solar fencing and other protective measures for crop defense along areas adjacent to forests and clustered farms should be explored.
- Soil and moisture conservation activities should be implemented wherever feasible.
- Parapet walls, at least 1 meter high above ground level, should be installed around deep water holes and open wells to prevent wildlife accidents.
- Regular training sessions and timely provision of seeds and manures should be ensured, monitored through Eco-Development Committees (EDCs).

7.1.3 Zone Plan for Tiger Management:-

The peripheral regions of the Sahyadri Tiger Reserve (STR) are characterized by the presence of transient tigers, prompting ongoing efforts towards a tiger recovery program. This initiative involves the relocation of tigers from the Vidarbha and western ghat landscape to the STR. In the 4th technical committee meeting of NTCA; translocation of 8 tiger individuals has been approved. Consequently, there arises a necessity for a dedicated zone plan specifically targeting tiger conservation, distinct from a generalized approach to wildlife management. This specialized zone should primarily concentrate on key aspects such as denning areas, habitats with significant cover value for ungulates, regions susceptible to crop depredation by wild ungulates, and forested areas frequently visited by villagers' livestock. While no specific habitat interventions are envisaged within this zone, the primary objective is to actively monitor both resident and transient tigers on a daily basis to ensure their protection. Therefore, this specialized zone plan can be perceived as a combination of monitoring and protection initiatives, akin to those outlined in the Annual Security Plan.

7.1.4 Zone Plan for Eco-development:-

The buffer zone of the Sahyadri Tiger Reserve (STR) encompasses significant non-forest areas across 85 villages, necessitating a comprehensive approach to integrate ongoing district-level

welfare schemes. An eco-development strategy should be formulated, considering participative village-level micro-planning facilitated by Eco Development Committees (EDCs) to address income generation, resource substitution, and community cooperation, aligning with Project Tiger/NTCA guidelines. These micro-plans will collectively contribute to the eco-development zone plan.

A Memorandum of Understanding (MoU) with local communities is essential to ensure reciprocal commitments, wherein benefits from eco-development initiatives are exchanged for forest and wildlife conservation efforts, as outlined in Chapter 8 of the Buffer Plan. Monitoring of intensive agricultural practices, including cropping patterns and pesticide sales in local outlets, is imperative to prevent wildlife poisoning and environmental degradation.

Given the significant livelihood dependency on forests, district-level welfare schemes should be incorporated into the eco-development zone, following the guidelines provided by the Revenue and Forest Department, Government of Maharashtra, dated 22/12/2011. Additionally, special programs supported by funding from sources like the Finance Commission, State Plan, District Plan, and Sahyadri Tiger Reserve Conservation Foundation should be fostered to enhance eco-development initiatives.

Currently, EDCs have been formed in 59 out of 147 villages, each receiving a fund allocation of Rs. 25.00 lakh for village development and reducing forest dependency. These committees play a crucial role in implementing eco-development activities and fostering sustainable coexistence between communities and wildlife.

7.1.5 Zone Plan for Mainstreaming Wildlife Concerns and Retrofitting Measures:

In addition to forestry, the buffer area encompasses various sectors of development, including district-level welfare schemes related to infrastructure, fisheries, road and surface transport, proximity to mined or mining areas, canals, water bodies, medium irrigation projects, ponds, and wells. It is essential to implement appropriate retrofitting measures to address wildlife concerns across these diverse sectors.

- **Road**:

State Highway and ZP roads traverse both the Core and Buffer Zones of STR. Specifically, State Highway no. 166E, spanning from Vijapur to Guhagar, intersects the buffer zone between CNP and KWLS for approximately 15 kilometres. Additionally, State Highway no. 72, linking Mahabaleshwar to Poladpur, cuts through KWLS. Wildlife frequently traverses these national and state highways, leading to documented instances of animal fatalities. To mitigate the risk of road-related wildlife mortality and curb trafficking of wild animal body parts, the following general safeguards are recommended:

Strategies to Control road traffic and road Hit:

- Speed limits to be prominently displayed and strictly enforced on roads passing through the reserve. During day time the limit will be 30 Km/hr and during night time it will be 20 km/hr.

- Regulating speed limits of vehicles at crossing point used by wild animals (use of speed breakers and signage's)
- Speed breakers to be built on all public roads so as to hinder the high speed of the vehicles.
- Installing 24x7 e-Surveillance at such crossing points to monitor/record wild animal movement
- Creating manned barriers (as required) at sensitive points close to habitations
- Deployment of interceptor tools to keep track of the speed limit of vehicles plying on highways, complemented by the mobile highway patrol for necessary prosecution
- Closure of public road during night time from 9.00 pm to 6.00 am for general traffic except for locals from adjoining villages. If its not possible, vehicles may be allowed to cross the road passing through core area after every 3 hours during night time.
- Encouraging shrubs and grasses alongside the roads/railway tracks to an extent of at least 15 m on each side so as to improve the visibility of animal presence and to avoid a sudden hit.
- Rolling barriers with glow sign shall be kept on entry point in the core zone.

- **Open well/Canal:**

There are several open wells (used/ unused) in villages within and around the tiger reserve, which should be catalogued and covered or construct a parapet wall or fenced to prevent accidents involving wild animals. It should be taken on priority through eco-development program.

- **High Tension Wires:**

Given the buffer area's history of subsistence poaching of wild animals like wild pig, gaur, sambar, spotted deer, leopard, sloth bear, etc., particularly through electrocution, it becomes imperative to take measures to insulate transmission lines in the vicinity of villages. This effort can be a collaborative initiative with the state electricity department. Joint patrolling and information sharing with the electricity department are crucial for preventing poaching incidents.

- **Large Lakes/Water bodies:**

Koyna Wildlife Sanctuary and Chandoli National Park boast numerous lakes and water bodies that are vital for supporting diverse flora and fauna. Among them, the Koyna Reservoir, Chandoli Lake, and Kalbhairavnath Lake stand out for their scenic beauty and significance as habitats for aquatic species and migratory birds. Other notable water bodies include Kumbhi Lake, Bharna Lake, and Vishalgaon Lake, each contributing to the ecological balance of the sanctuaries. These water resources not only provide habitats for wildlife but also offer recreational opportunities. Conservation efforts are crucial to ensure the sustainability of these ecosystems.

The proposed retrofitting measures guidelines for dams and water bodies in Koyna Wildlife Sanctuary and Chandoli National Park aim to address wildlife concerns and promote biodiversity conservation. Key measures include implementing fish passage facilities, ecological flow releases, vegetation restoration, and fish habitat enhancement. Additionally, water quality management, avian protection measures, and wildlife-friendly infrastructure design are emphasized. Community engagement, monitoring, and adaptive management strategies are also highlighted for effective implementation. These guidelines aim to mitigate negative impacts on wildlife habitats and promote conservation efforts in the sanctuaries.

Others :

- Improved farming techniques like using improved seed, manure/ fertilizer regimes
- All the private wells without parapet in the Buffer zone should be provided with parapet wall with the financial help from Rural Department/ Zilla Parishad/ EDC
- Solar fencing around agricultural farms/ villages sensitive for crop damage
- All the existing and new big canals passing through forested patches shall be provided with suitable underpass/ overpass for wild animals
- Signages of wild life crossing on roads (PWD)
- Construction of under passages for wildlife on major highways whenever widening/ expansion takes place (PWD/NH)
- Construction of speed breakers on highways passing through wildlife rich area
- All the electric transmission lines (11 KV voltage and above) passing through forested area of Buffer should be insulated by electricity department in a phased manner.

7.1.6 Zone Plan for Eco-tourism:-

In accordance with the NTCA guideline dated 15th October 2012, a comprehensive Eco-tourism Plan has been meticulously crafted and annexed to this Tiger Conservation Plan as Volume - IV. The crux of this Ecotourism Zone Plan pertaining to the Buffer zone is outlined below:

The designated area earmarked for the development of eco-tourism activities within the buffer zone and its adjacent areas of Sahyadri Tiger Reserve holds immense potential to allure tourists, while simultaneously mitigating pressure on the core areas. In light of the available routes, entry points, tourist attractions, and geographical proximity, local circuits within the buffer area or its vicinity have been meticulously identified.

7.1.6.1 Identification of Tourist Sites:-

Following few tourist sites have been listed. As the list is not exhaustive, there are more sites can be further identified and added to the list by Deputy Director, Sahyadri Tiger Reserve, after getting the area surveyed by a team of experts/consultants in ecotourism. The potential tourism sites in buffer zone are Bamnoli, Vasota, Jangli Jaigad, Bhairavgad,Ozarde waterfall Navaja, Kondhavale, Ramban , Ghatmatha, Kemase, Koyna Dam, Shivsagar, Chandoli Dam Vasantsagar, Paneri- Bhosgaon, Valmik plateaue, Zolambi, Mahimandangad, Kandat, Chakdev, Munavale, Tapola, karwat etc.

7.1.6.2 Proposed tourist activities in buffer of STR:-

There is a lot of scope for developing various tourism activities in buffer zone which is proved as good income generating activities for locals in many wildlife areas. These tourism activities mainly include Jungle safari, cycling routes, boating, nature trails, bird and butterfly watching, machan observations, various adventure activities, nature education and sensitization centers, home stays, camping sites, full moon machan observation experience, star gazing, etc.

The tourism zones have been meticulously designed to minimize disruption to the ecological environment of the Tiger Reserve. Encompassing various tourist activities, amenities, and attractions, each zone may feature anything from modest interpretive centers to expansive nature parks, tailored to its specific location. Within these zones, services such as tourist accommodations, souvenir shops, restaurants, and entertainment venues may also be situated.

A comprehensive planning scheme outlines the utilization of land within these zones to support the local economy and meet the needs of current and future residents and workers. It delineates permissible activities, architectural guidelines, and environmental safeguards to ensure compatibility with the surrounding landscape and prevent adverse impacts on the natural environment.

Following meticulous planning, the Sahyadri Tiger Reserve has been divided into seven distinct zones, each equipped with its own ecotourism complex and entry gate to accommodate visitors. This new zoning policy is poised to invigorate tourism in the region, facilitating a range of activities aimed at enhancing visitor experiences and promoting sustainable development. Following are the proposed Zones with their entry gate location :

- KANDAT ECOTOURISM ZONE, AARAV Tal-Mahabaleshwar, Dist-Satara (Zone Number 1)
- BAMNOLI-MUNAWALE ECOTOURISM ZONE, Bamnoli,Tal- Jawali, Dist-Satara (Zone Number 2)
- KARVAT-KUSAVDE ECOTOURISM ZONE, Karvat Tal-Patan, Dist-Satara (Zone Number
- KOYNA-HELWAK ECOTOURISM ZONE, Koyna, Tal-Patan, Dist-Satara (Zone Number 4)
- BHOSGAON-PANERI ECOTOURISM ZONE, Paneri, Tal -Patan, Dist- Satara (Zone Number
- CHANDOLI ECOTOURISM ZONE, Mandur, Tal-Shirala, Dist - Sangli (Zone Number 6)
- AMBA ECOTOURISM ZONE, Amba Tal-Malkapur, Dist - Kolhapur (Zone Number 7)

These zones will cover following ecotourism activities:

- Amphitheatre with a small museum
- Wayside exhibits/Signage's/literature
- Nature shop / Souvenir Shop
- Interpretation centers
- Orchidarium
- Bamboosetum
- Bird/Butterfly watching trails
- Cycle trails
- Nature pedestrian trails
- Fort treks
- Landscape safari
- Viewing from watch/observation tower
- Exposure to ethnic culture (a conducted tour to a village with local food and other community level interactions)
- Machans and Hides for wild animal observation and Bird watching
- Butterfly garden
- Yoga center/Eco-meditation points
- Nature games
- Mobile Nature Exhibition
- Painting on walls on the theme of Nature & wildlife conservation

7.1.6.3 Community Participation and Employment Generation through Eco Tourism in Buffer:-

In the NTCA Guidelines dated 15.10.2012 submitted to Hon'ble Supreme Court of India, it is mentioned in the para 2.2.4 (vi) that the Eco Tourism Plan should provide for "development of participatory community based tourism strategy, in collaboration with local communities, to ensure long-term local-community benefit-sharing and promotion of activities run by local communities". So following provisions are being made to achieve this target.

There are 85 villages in the buffer area with population of more than 1.5 lakh. One of the main consideration in buffer area is to create employment opportunities for local villagers so that they actively participate in conservation of forest and wildlife. To address this issue, it is essential to involve villagers in eco-tourism activities through their respective EDCs or JFMCs. The Women Self Help Groups of these

villages can also be involved in some of the tourist activities. The EDCs/ JFMCs should be actively involved in the decision making process related to development of sites, infrastructure, fee structure etc. Some of the activities to be carried out in buffer area are enlisted below:

- **Stakeholder Engagement and Capacity Building:**

Extensive consultations are conducted with local communities, indigenous groups, NGOs, and government agencies to ensure a thorough understanding of their needs, aspirations, and concerns regarding eco-tourism.

Workshops, training sessions, and skill development programs are organized to provide community members with the necessary knowledge and expertise required to actively participate in eco-tourism initiatives. i.e Guide Training: Villagers, particularly youth, can undergo training to become guides for tourists. They can offer guided tours for activities such as vehicle safari, cycle safari, nature trails, boating, bird watching, and machan tourism, charging a prescribed fee for their services.

A sense of ownership and responsibility among stakeholders is fostered by involving them in decision-making processes related to eco-tourism development and management.

- **Skill Development and Training:**

Provide training opportunities for community members to acquire certifications in guiding, first aid, hospitality, and sustainable tourism practices.

Collaborate with vocational training institutes and tourism organizations to offer specialized courses tailored to the needs of the eco-tourism sector.

Empower local youth and women by prioritizing their participation in training programs and offering scholarships or stipends for skill development.

- **Product Development and Infrastructure Enhancement:**

Ecologically sensitive tourism products and experiences can be identified and developed to showcase the unique biodiversity and cultural heritage of the Sahyadri Tiger Reserve.

Infrastructure facilities, including visitor centers, trails, accommodation, and interpretation centers should be improved to enhance the overall visitor experience while minimizing ecological footprint.

It should be ensured that tourism infrastructure is designed and constructed using sustainable practices and materials, with careful consideration of the principles of eco-friendly architecture and conservation.

- **Community-Based Enterprises and Entrepreneurship:**

The establishment of community-based enterprises such as homestays, eco-lodges, guided tours, and handicrafts cooperatives should be facilitated, enabling local residents to directly benefit from tourism activities. eg. Home Stay Opportunities: Villagers in buffer villages with high tourism potential can be identified. Those with spare rooms in their homes can convert them into home stay facilities with improvements financed through bank loans and subsidies under tribal plan schemes. The Tiger Reserve authority can promote these home stays to tourists through online booking portals.

Community Stay Options: In buffer villages with tourism potential, community stay options can be promoted. Operated by the Gram Panchayat or Eco-development Committee, these facilities offer tourists a communal lodging experience

Financial and technical support should be provided to budding entrepreneurs from the local community, including access to microcredit, business training, and marketing assistance.

The branding and marketing of community-owned tourism products and services should be promoted through online platforms, social media, and collaboration with tour operators and travel agencies.

- **Enterprise Development and Support:**

Support the establishment of community-owned eco-lodges, homestays, and nature-based enterprises through grants, low-interest loans, or technical assistance.

Assist local artisans in showcasing their traditional crafts and products to eco-tourists through cooperative marketing efforts and handicraft fairs.

Foster partnerships with tour operators and travel agencies to promote community-based tourism packages and experiences.

- **Revenue Sharing and Incentives:**

Revenue-sharing mechanisms can be established whereby a portion of eco-tourism proceeds is reinvested in community development projects, infrastructure improvements, and conservation initiatives. Incentives such as tax breaks, recognition awards, or eco-certifications should be offered to businesses and individuals that demonstrate a commitment to sustainable practices and community engagement.

Eco-tourism operators should be encouraged to prioritize hiring local residents and sourcing goods and services from nearby communities, thereby maximizing the economic benefits for the region. Artisans from all buffer villages should be identified and their handicrafts should be made marketable by value addition. Souvenir shop should be run by local Eco-Development Committee at Safari gate should be established. In these shops, handicrafts of local villagers should be kept for sale.

Villagers from villages relocated out of core of Tiger Reserve should be given preference in recruitment of guide, registration of Gypsy or canter and any other income generating activity including skilled/ unskilled/ semiskilled employment in private resorts irrespective of their residing in buffer or not.

- **Cultural Exchange and Experiential Learning:**

Cultural exchange programs and immersive experiences should be encouraged to allow visitors to interact with local communities and learn about their traditions, cuisines, and livelihood practices. Cultural events, storytelling sessions, and traditional performances can be organized to showcase the rich cultural heritage of local communities to visitors.

Community members should be trained to serve as cultural interpreters and ambassadors, sharing their knowledge and stories about the region's history, customs, and traditions. Interpretive trails and signage should be developed to highlight the cultural significance of landmarks, heritage sites, and indigenous practices within the reserve.

Eco-tourism packages can be developed so that combine adventure activities, wildlife safaris, nature walks, and cultural immersion opportunities, catering to diverse interests and preferences of travelers.

Collaboration with educational institutions, research organizations, and ecotourism associations can be undertaken to offer experiential learning programs, field courses, and volunteer opportunities focused on conservation and sustainable development.

- **Monitoring and Evaluation:**

Robust monitoring and evaluation mechanisms should be established to assess the socio-economic impacts of eco-tourism initiatives on local communities, including indicators such as income generation, employment creation, and social empowerment.

Feedback should be continuously solicited from stakeholders, visitors, and partners to identify areas for improvement and innovation, ensuring that eco-tourism development remains inclusive, equitable, and environmentally responsible.

The eco-tourism strategy and action plan should be regularly reviewed and updated based on changing socio-economic dynamics, environmental conditions, and emerging trends in the tourism industry.

7.1.6.4 Regulations of Tourism Infrastructure in Buffer:-

Regulations regarding tourism infrastructure within the buffer zones will be governed by the guidelines outlined in the Ecotourism plan (Volume-IV of Core Zone).

1. Restrictions on New Infrastructure in Ecologically Sensitive Areas:

- No new tourism infrastructure shall be permitted within the village boundaries of villages listed as ecological sensitive areas.
- Existing infrastructure must conform to stringent environmental standards, including solar energy utilization, waste recycling, rainwater harvesting, and proper sewage disposal.
- Home stays within the buffer must be operated by local villagers, community groups, or village committees, and strict regulations shall govern their operation to prevent exploitation and maintain authenticity.

2. Environmentally Friendly Infrastructure Standards:

- Tourist facilities in areas other than ecological sensitive zones must adhere to low-impact, environmentally friendly design principles.
- Energy consumption should be met at least 50% from renewable sources, such as solar and biogas.
- Measures such as waste recycling, rainwater harvesting, and natural ventilation should be incorporated into the design to minimize environmental impact.
- Pollution norms, including noise, solid waste, air, and water pollution, must be strictly adhered to, with appropriate measures taken to mitigate any violations.

3. Waste Management and Material Restrictions:

- Strict regulations prohibit the burial, burning, or disposal of non-biodegradable or toxic waste within the buffer zone.
- Asbestos and barbed wire fencing are banned from use in tourism facilities, with suitable alternatives mandated for existing infrastructure.

4. Wood Usage and Review Mechanisms:

- Wood usage is restricted to small campfires, and any wood procurement must be from authorized sources with proper documentation.
- Regular reviews of tourism facilities by the Local Advisory Committee (LAC) ensure compliance with environmental regulations and provide recommendations for improvement.

5. Renewal and Refurbishment of Existing Infrastructure:

- Existing tourism facilities run by the Forest Department will undergo renewal, landscaping, and refurbishment to meet updated environmental standards.
- Funding for such improvements will be sourced from various government schemes and tourism development funds.

6. Employment and Wildlife Protection Measures:

- Efforts will be made to maximize employment opportunities for local villagers, with a focus on skill development and local hiring practices.

- Tourism activities must not disturb wildlife in core or buffer zones, and strict measures will be enforced to prevent such disturbances.

7. Moratorium on New Infrastructure Development:

- No new tourism infrastructure development will be permitted in the buffer zone of Sahyadri Tiger Reserve until the plan is approved under the Wildlife (Protection) Act, 1972.
- Existing facilities are encouraged to prioritize local employment and skill development initiatives.

7.1.7: Zone Plan for Removal of Exotic Plantation:

In STR Larger area planted by exotic tree at the time of construction of reservoir of Koyna. Removing exotic plant species from a wildlife area is a crucial step in habitat restoration and conservation. It also suggested in 3 consecutive cycles of Management Effectiveness Evaluation. Here are some key benefits and methods:

Objectives

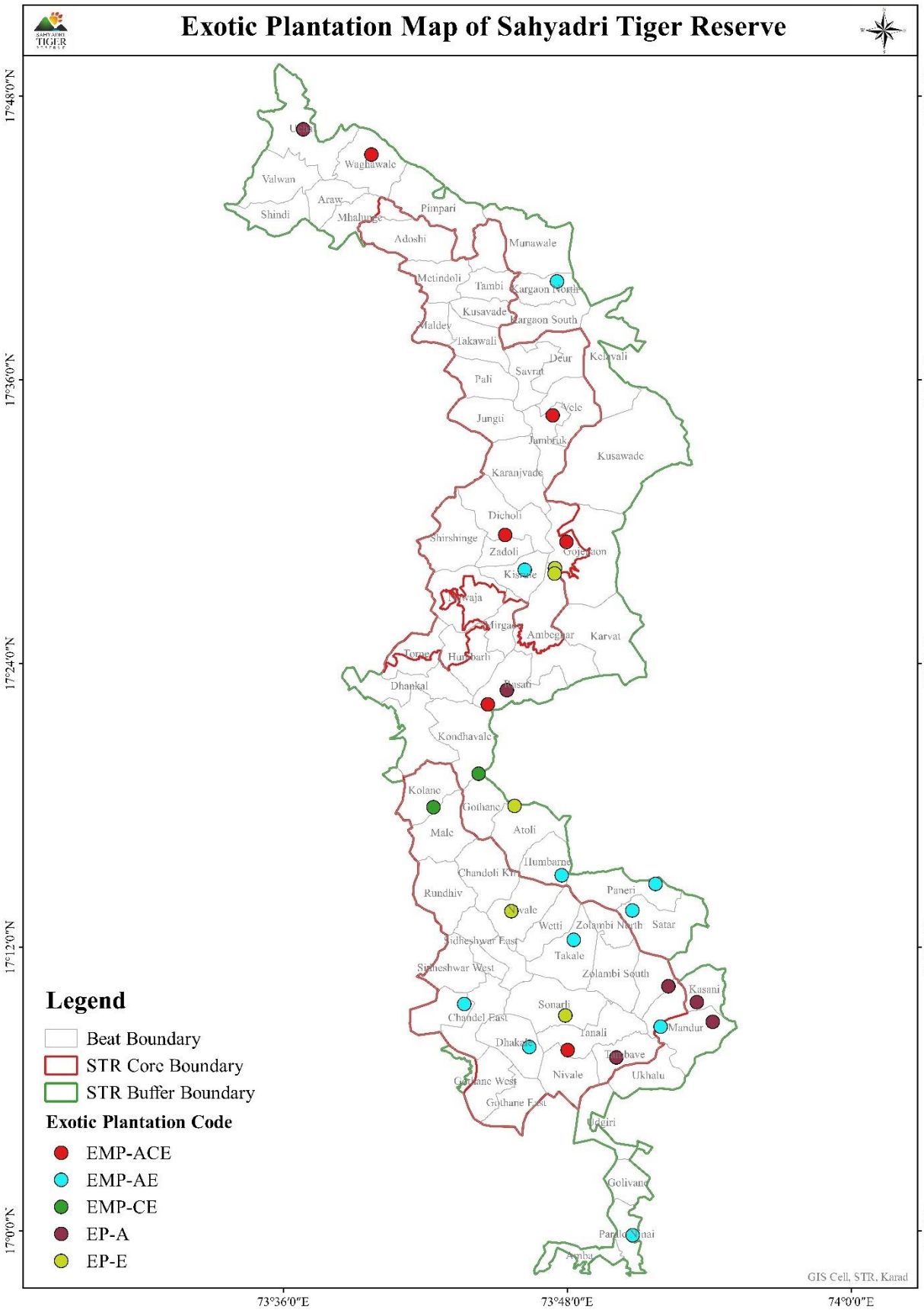
1. **Habitat Restoration:** Exotic plant species often outcompete native vegetation, reducing biodiversity and altering ecological processes. Removing them helps restore the natural habitat, providing better food and shelter for native wildlife.
2. **Improved Ecosystem Functioning:** Native plants are usually better adapted to local conditions and support a wider range of wildlife, including insects, birds, and mammals. Their removal can enhance nutrient cycling, soil stability, and water retention.
3. **Protection of Endangered Species:** Many exotic plants can displace native species that are critical for the survival of endangered or threatened animals.

Table No. 7.5 Area table under exotic plantations

Sr. No.	Protected area	Range	Beat	Plantation code	Area (Ha)	DD-Latitude	DD-Longitude
1	Koyna WLS	Bamnoli	Kargaon	EMP-AE	5.65	17.6692	73.7928
2	Koyna WLS	Bamnoli	Uchat	EP-A	5.37	17.7764	73.6141
3	Koyna WLS	Bamnoli	Vele	EMP-ACE	49.7	17.5748	73.7898
4	Koyna WLS	Bamnoli	Waghawale	EMP-ACE	3.32	17.7586	73.6621
5	Koyna WLS	Koyna	Ambeghar	EP-E	127	17.4671	73.7914
6	Koyna WLS	Koyna	Dicholi	EMP-ACE	2.64	17.4905	73.7563

7	Koyna WLS	Koyna	Karvat	EP-E	32	17.4633	73.7911
8	Koyna WLS	Koyna	Kisrule	EMP-AE	104	17.4659	73.7701
9	Koyna WLS	Koyna	Koyna	EMP-ACE	12.9	17.3711	73.7441
10	Koyna WLS	Koyna	Kusawade	EMP-ACE	105	17.4856	73.7995
11	Chandoli NP	Chandoli	Chandel West	EMP-AE	98	17.1599	73.7275
12	Chandoli NP	Chandoli	Dhakale	EMP-AE	6.84	17.1296	73.7733
13	Chandoli NP	Chandoli	Golivane	EMP-AE	11	16.9969	73.8461
14	Chandoli NP	Chandoli	Khundalapur-Zolambi	EMP-AE	14.3	17.1439	73.8658
15	Chandoli NP	Chandoli	Mandur buffer	EP-A	96.4	17.1473	73.9025
16	Chandoli NP	Chandoli	Nandoli	EP-A	48.6	17.1724	73.8713
17	Chandoli NP	Chandoli	Nivale kolhapur	EMP-ACE	47	17.1274	73.8003
18	Chandoli NP	Chandoli	Sonarli	EP-E	50	17.1518	73.7987
19	Chandoli NP	Chandoli	Takale	EMP-AE	12.6	17.2051	73.8046
20	Chandoli NP	Chandoli	Tambave	EP-A	59.3	17.1222	73.8346

21	Chandoli NP	Chandoli	Vetti	EP-E	49.7	17.2253	73.7607
22	Chandoli NP	Dhebewadi	Atoli	EP-E	13	17.2995	73.7629
23	Chandoli NP	Dhebewadi	Humbarne	EMP-AE	22.5	17.2506	73.7961
24	Chandoli NP	Dhebewadi	Karale	EMP-AE	10.2	17.2445	73.8622
25	Chandoli NP	Dhebewadi	Kasani	EP-A	27.2	17.1612	73.8913
26	Chandoli NP	Dhebewadi	Paneri	EMP-AE	58.6	17.2258	73.8459
27	Chandoli NP	Helwak	Govare	EMP-CE	7.3	17.3222	73.7376
28	Chandoli NP	Helwak	Kolane	EMP-CE	9.53	17.2986	73.7058
29	Chandoli NP	Helwak	Rasati	EP-A	8.17	17.3811	73.7575



Map No. 7.1 Map of exotic plantations

Methods for Removal:

1. **Manual Removal:** Hand-pulling or digging out exotic plants is effective for small infestations or areas with sensitive native species.

2. **Mechanical Control:** Using tools like brush cutters, mowers, or chainsaws can be necessary for larger or more established exotic plants.
3. **Biological Control:** Introducing natural predators or pathogens specific to the exotic plant species can sometimes be an option, but this approach requires extensive research to avoid unintended consequences.

Challenges:

1. **Re-Growth:** Exotic plants may have extensive root systems or seeds that can remain dormant for years, requiring ongoing monitoring and management.
2. **Impact on Native Species:** Care must be taken to avoid inadvertently harming native plants and animals during removal efforts.
3. **Cost and Resources:** Depending on the size of the area and the extent of the infestation, removal efforts can be labor intensive and expensive.

In conclusion, while removing exotic plant species from wildlife areas can be challenging, it is a critical step in restoring and maintaining healthy ecosystems. It requires careful planning, proper techniques, and ongoing monitoring to ensure long-term success and biodiversity conservation.

7.2 Theme Plan:

The identified zones may not always encompass the entire area within the core area boundary. In such cases, any remaining area should be designated as a 'Multiple Habitat Management Strategy Zone' and managed according to a general habitat management approach. It is imperative to recognize these a zonal requirements, and a sub-plan for each such requirement should be developed to ensure comprehensive treatment across all zones. These sub-plans, known as **Theme Plans**, are self-contained and have specific objectives related to their respective themes. Strategies are formulated within each theme plan to address identified issues and problems. This organization facilitates planning and management tasks. For effective implementation of strategies and monitoring, it is essential to identify issues and problems specific to each zone and provide detailed targets, areas, timing/period, and techniques. Additionally, a theme plan should establish links with all relevant zones to ensure the application of its prescriptions across the entire reserve.The following theme plans (Overlapping) are proposed for buffer zone of Sahyadri Tiger Reserve.

7.2.1 Theme Plan for Protection

7.2.2 Theme Plan for Fire protection

7.2.3 Theme Plan for Habitat Intervention

7.2.4 Theme Plan for Tiger/Wildlife Monitoring

7.2.5 Theme Plan for Addressing Human Wildlife Conflicts

7.2.6 Theme plan for Protection to Unique Habitat and Riparian Zones

7.2.7 Theme Plan for Nature education and Awareness in Local Communities

7.2.8 Theme Plan for GIS based Time Series Monitoring of Land Use Change

7.2.9 Theme Plan for Monitoring Permitted Activities in the Ecologically Sensitive Area within the Buffer

7.2.10 Theme plan for Staff Development

7.2.11 Theme plan for Veterinary Care

7.2.12 Theme Plan for Co-ordination with tiger bearing forest divisions

7.2.13 Theme Plan for Population Management of Feral Dogs in Wildlife Habitat

7.2.14 Theme Plan for Wildlife Health Surveillance and Management

7.2.1 Theme Plan for Protection:-

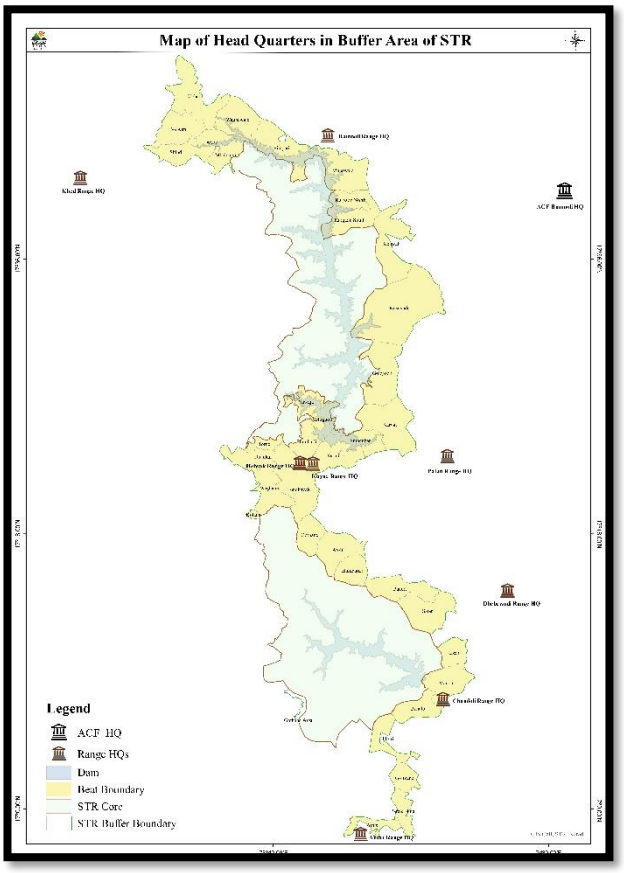
The foot patrolling by grass root level staff is an important part of protection. Smart patrolling protocol like M-STrIPES possibly should be followed. For further strengthening of the protection, following measures/strategies need to be implemented. This is explained in detail in chapter no.13

Preventive measures:

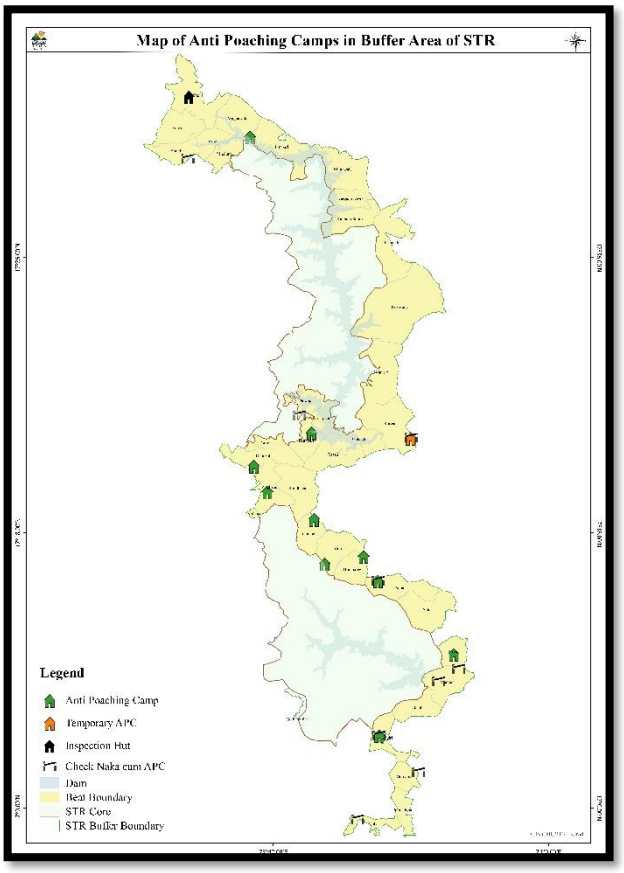
- Day to day patrolling (**M-STrIPES**) by frontline staff, keeping track of cattle depredation by tiger/leopard and crop depredation by wild ungulates.
- Surprising checking of countryside markets, railway stations, bus stands.
- Gathering local intelligence from local work force.
- Creation of village level squads for community patrolling (in rotation) with due payment and maintenance of a village level wildlife crime dossier.
- Weekly checking of water-points frequented by wild animals and monthly testing of samples to rule out poisoning in small puddles.
- Keeping track of pesticide sale in nearby outlets.
- Preparing a seasonal "sensitivity chart" of the buffer vis a vis its proximity to roads and cart tracks.
- Supervisory checks on patrolling intensity vis a vis sensitive spots.
- Deploying a sniffer dog squad, along with proper provisions for a kennel and its housekeeping.
- Installing 24x7 electronic surveillance along the border of the core critical tiger habitat.
- Registration of the crop protection firearms with local people (within a radius of 10 km. from the reserve boundary) in collaboration with district authorities.

Control measures:

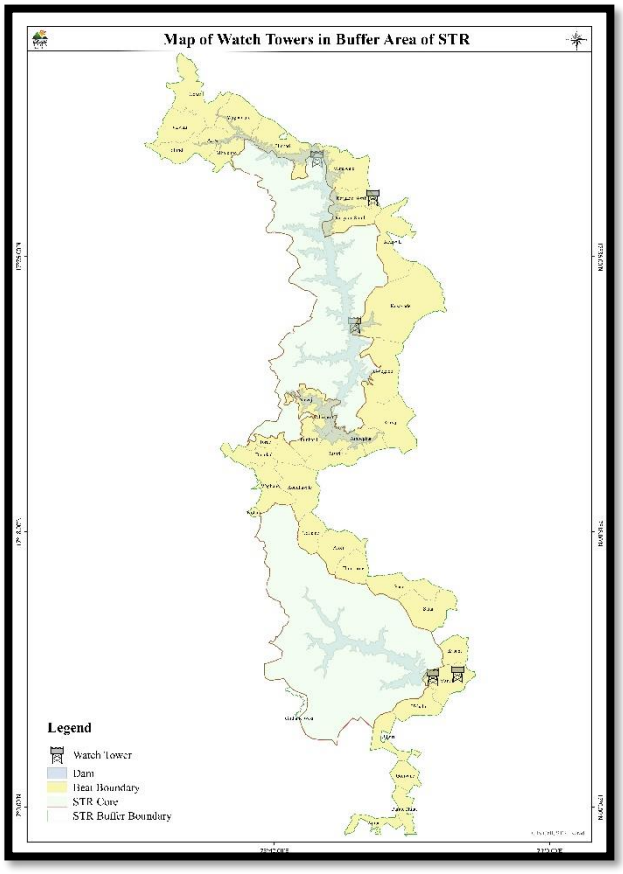
- Compliance of SOP issued by NTCA for dealing with deceased wild animals.
- In case of livestock depredation, camera trap needs to be deployed for ascertaining the I.D. (would be useful in case of recurring instances and also to avoid human mortality).
- Collection of forensic evidences and related crime scene details as per NTCA protocol/SOP.
- Action for prosecuting offenders as per security plan/NTCA guidelines to ensure a successful conviction.



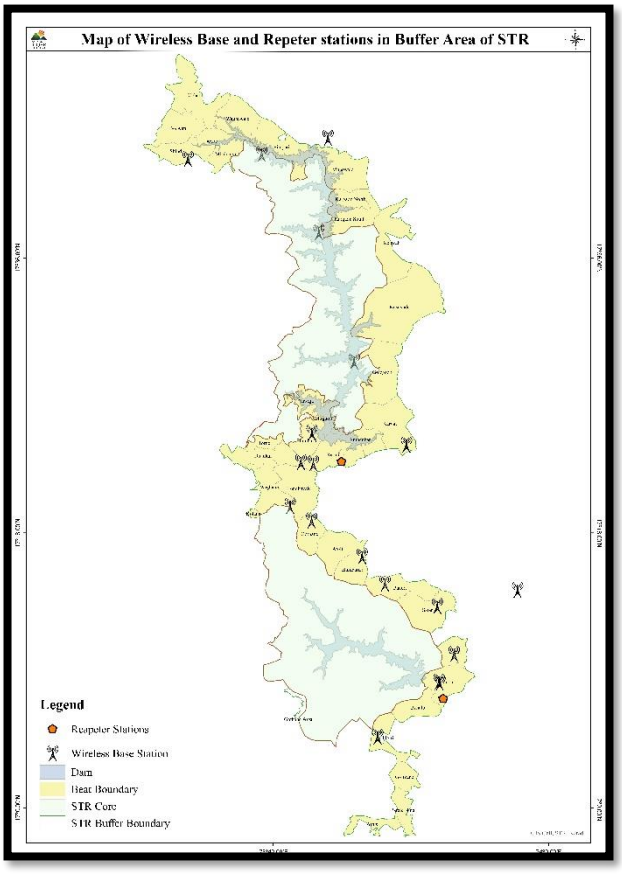
Map.7.2 Head Quarters



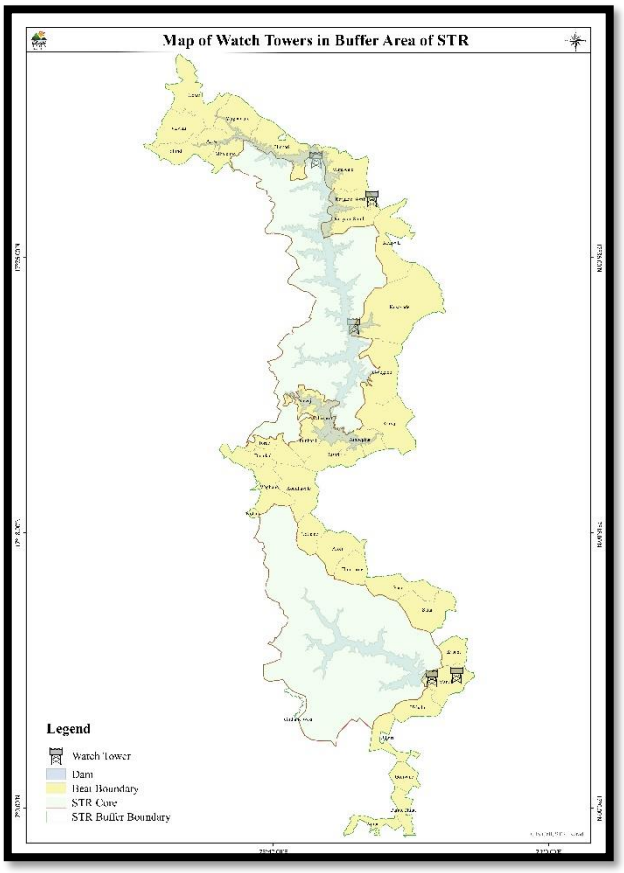
Map.7.3. APC



Map.7.4. Watch Tower



Map.7.5. Wireless Base and Repeater Stations



Map.7.6. Road in STR

7.2.2 Theme Plan for Fire Protection:-

The fire season in the STR forest typically occurs during the dry months, which are usually from February to May. During this period, the vegetation in the forest becomes dry and susceptible to ignition, increasing the risk of wildfires. Factors such as high temperatures, low humidity levels, and dry winds contribute to the elevated fire danger during these months. Forest management authorities and firefighting teams closely monitor the area during the fire season to prevent and manage any wildfires that may occur, employing various strategies such as controlled burns, firebreaks, and early detection systems to mitigate the risk of destructive fires The fire season typically commences from mid-February to mid-June, following the conclusion of the winter season. Fires in this area are predominantly human-induced, either accidentally or intentionally, as natural fires are rare. Ground fires have significant impacts on wildlife and their habitats. To address this, fire protection efforts entail cutting and burning

fire lines and deploying fire watchers. An effective fire management strategy, incorporating preventive and control measures, is imperative. A comprehensive Forest Fire Protection/ Management Plan should be prepared each December for the upcoming season, outlining duties and responsibilities. Detailed measures are outlined in Chapter 13, covering:

1. Preventive measures:
    i. Fire line burning
    ii. Establishing of fire watchtowers and Reserve fire fighting squad
    iii. Publicity and Awareness:
    iv. Analysis of Old data for planning:
2. Fire Control Measures:
3. Post fire management and documentation

7.2.3 Theme Plan for Habitat Intervention:-

Following works of habitat development/ improvement will be carried out:-

- **Creation of New Water Holes:-**

During periods of scarcity, it's commonly observed that tigers and other wildlife rely on village tanks for drinking water, increasing the likelihood of human-animal conflicts. This situation often leads to panic among local residents, prompting demands for carnivore confinement. To address this issue, existing and proposed sites for new waterholes have been outlined in annexures 27 to 29. It's crucial to safeguard these artificial waterholes during sensitive periods to deter poaching attempts.

- **Meadow Development:-**

Developing meadows for wild herbivores while preventing cattle grazing in buffer forests poses significant challenges. However, meadows and grasslands are crucial components of habitat, particularly for animals like spotted deer. While grass in plantations, where cattle grazing is prohibited, can serve as meadows, it's essential to establish grasslands in secluded areas deep within the forest, free from human and cattle disturbance.

To achieve this:

1. Identify sites with minimal tree and shrub cover and adequate soil depth for grassland development.
2. Demarcate the area and remove all weeds such as Lantana, Tarota, Mahador, Parthenium, Rantulas, and Besharami.
3. Remove all tree growth except fruit trees, browsable species, and a few large trees for shade.
4. Plough areas without palatable grasses and broadcast local grass species like Sheda and Pawanya at the onset of the Monsoon.
5. Implement measures such as rotational grazing and exclusion plots to provide fodder for wil

herbivores while managing cattle grazing.

Additionally, provision for watchmen should be made to prevent cattle grazing. Experimental habitat development initiatives can be conducted over a small area (e.g., 10 hectares) initially. If successful, these strategies can be scaled up in subsequent years.

7.2.4 Theme Plan for Tiger/ Wildlife Monitoring:-

The monitoring of tiger and other wildlife should be done as per Phase-IV monitoring protocol as mentioned in Chapter-12 of this Plan.

Monitoring

- Identifying luring pockets for wild herbivores (seasonal) and monitoring their presence.
- Deploying camera traps in areas having greater probability of tiger presence vis a vis herbivore/livestock abundance.
- Implementing the phase IV protocol of the NTCA.
- Creating a camera trap repository of tiger/leopard frequenting in the buffer and tallying the same with the camera captures done in the core critical tiger habitat and adjoining forest divisions.
- Monitoring each tiger movement on a day to day basis and delineating their range of frequent perambulation and visits to obligatory habitat features for forecasting/alerting in case of absence.
- Maintaining village level wildlife registers to keep track of wildlife movement while incentivising the local people for reporting presence.
- Maintaining gate level monitoring registers (as done in core critical tiger habitat) at patrolling camps. The phase-IV monitoring protocol provides for :-

Part-A: - Maintaining daily Patrolling log in patrolling camp/ chowki registers.

Part-B: - Carrying out beat-wise monitoring of signs and encounters of animals/ vegetation/ habitat disturbances following Phase-I protocols twice a year

Part-C: - Recording data from 'Pressure Impression Pads' (PIP)

Part-D: - Obtaining the minimum number of Tigers in the Tiger Reserve by using camera trap for minimum 45 days.

Part-E:- Obtaining Tiger population size for the Reserve using spatially-explicit Capture Recapture framework and Obtaining prey population size using Line Transect sampling.

Part-F: - Using scats for DNA analysis to obtain the minimum Tiger numbers in Reserves where camera trapping is not possible.

7.2.5 Theme Plan for Addressing Human Wildlife Conflicts:-

i. General:

Within the core zone, encompassing seven inhabited villages and one uninhabited village, instances of human attacks remain relatively low. However, the region grapples with frequent cases of cattle killings and crop raiding, primarily attributed to wildlife. Annexure [insert annexure number]

provides detailed compensation structures for these incidents.

The primary culprits behind human attacks include Gaur, Sloth bears, Wild pigs, with rare involvement of leopards. Conversely, leopard and wild dog are typically responsible for cattle killings, while Gaur and wild pigs are predominant in crop raiding incidents.

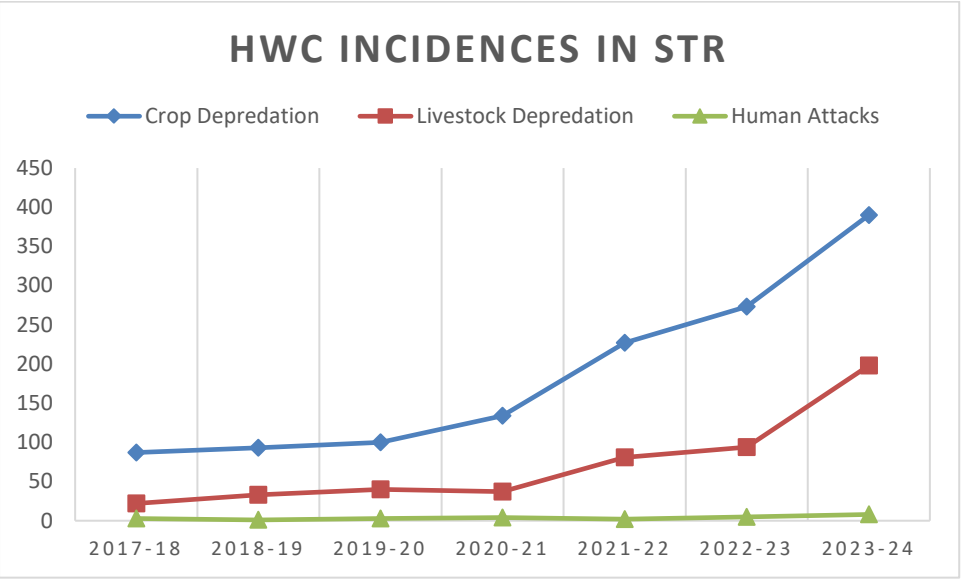
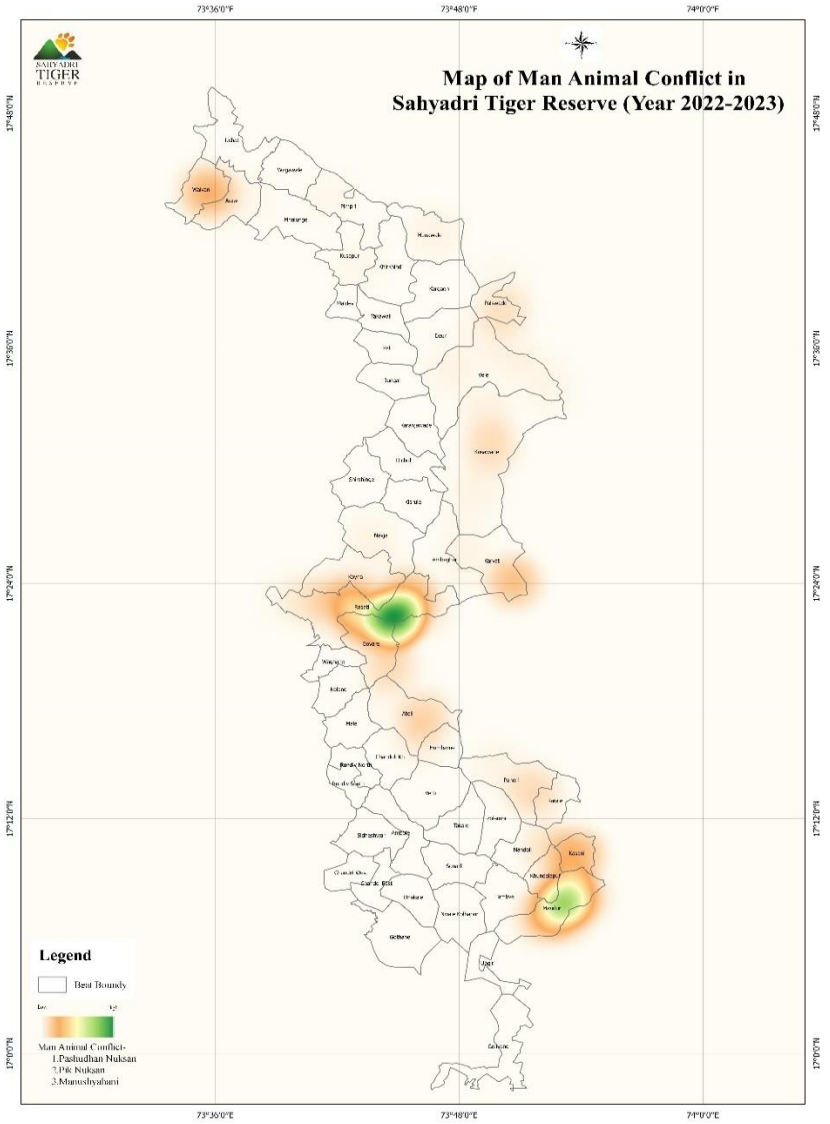


Fig. No.7.1 Human Wildlife Conflict over the past seven years



Map No. 7.7 Heat map showing HWC in STR landscape

Managing human-wildlife conflict (HWC) is paramount in areas where human settlements intertwine with wildlife habitats. Such conflicts stem from the competition for resources and habitat encroachment, necessitating effective strategies for coexistence. This becomes particularly crucial for the conservation of endangered species like tigers, thriving within these habitats. The compensation is given as per various government resolutions of WLP-1008/CN 270/F-1 dated 2/7/2010 and new GR issued time to time after this GR. Refer Annexure 5.3 for recent provisions and list of GRs for compensation.

Details about compensation structure and provisions as per latest government resolutions are given as following,

1. The rate of compensation payable for loss of human life or any injury to human caused due to attack of tiger, leopard, bear, bison, wild pig, jackal, hyena, fox, crocodile, elephant, wild dog, deer, nilgai, monkey or langur, shall be as follows :-

Table No. 7.6

Sr. No	Type of injury	Rate of compensation
1	2	3
(1)	Loss of human life.	Rupees twenty five lakhs.
(2)	Permanent Disability to human.	Rupees seven lakh and fifty thousand.
(3)	Major injury to human.	Rupees five lakhs.
(4)	Minor injury to human.	In case treatment is done in private hospital the cost of treatment or rupees fifty thousand only, whichever is less.

2. The rate of compensation payable for loss or injury to the cattle caused due to attack of tiger, leopard, bear, bison, wild pig, jackal, hyena, fox, crocodile, elephant or wild dogs shall be as follows :-

Table No. 7.7

Sr. No.	Type of Livestock (Domestic Animal)	Rate of compensation
1	2	3
(1)	Loss of cow, buffalo or bullock.	Seventy five per cent. of market price of cattle or rupees seventy thousand only, whichever is less.
(2)	Loss of sheep, goats and other livestock defined in clause (*18A*) of section 2 of the Wild Life (Protection) Act, 1972 (53 of 1972) .	Seventy five per cent. of market price of cattle or rupees fifteen thousand only, whichever is less.
(3)	Permanent disability to cow, buffalo or bullock.	Fifty per cent. of market price of cattle or rupees fifteen thousand only, whichever is less.
(4)	Injury to cow, buffalo, bullock, sheep, goat or other livestock.	Medical expenses incurred for treatment of injured cattle shall be paid. Treatment of injured cattle shall be taken in Government or *Zilla Parishad* veterinary hospital. Amount payable shall be limited to twenty five per cent. of the market price of cattle or rupees five thousand only, whichever is less.

- The rate of compensation payable for damage to crops caused due to attack of wild pig, deer, bison, nilgai, monkey, langur or elephant, shall be as follows :-

Table No. 7.8

Sr. No.	Details of damages	Rate of compensation
1	2	3
(1)	Crop damage upto rupees twenty thousand in each case.	Full cost of damage, but not less than rupees two thousand only.
(2)	Crop damage exceeding rupees twenty thousand in each case.	Rupees twenty thousand plus eighty per cent. of the amount above rupees twenty thousand, subject to maximum limit of rupees fifty thousand only.
(3)	Damage to sugarcane crop in each case.	Rupees sixteen hundred per metric ton, subject to a maximum limit of rupees fifty thousand only.

- The rate of compensation payable for damage to fruit trees caused due to attack of wild pig, deer, bison, nilgai, monkey, langur or elephant, shall be as follows :-

Table No. 7.9

Sr. No	Species and age of tree.	Rate of compensation per tree.
1	2	3
(1)	Coconut tree,- (i) upto one year,	Rupees five hundred only.
	(ii) above one year and upto two years,	Rupees one thousand only.
	(iii) above two years and upto three years,	Rupees three thousand only.
	(iv) above three years and upto four years,	Rupees five thousand only.
	(v) above four years and upto five years,	Rupees seven thousand and five hundred only.
	(vi) above five years.	Rupees nine thousand and five hundred only.
(2)	Betel vine,- (i) upto one year,	Rupees five hundred only.
	(ii) above one year and upto two years,	Rupees five hundred only.
	(iii) above two years and upto three years,	Rupees two thousand only.
	(iv) above three years and upto four years,	Rupees two thousand and five hundred only.
	(v) above four years and upto five years,	Rupees three thousand and five hundred only.
	(vi) above five years.	Rupees five thousand and five hundred only.
(3)	Banana plant.	Rupees two hundred and forty only per plant.

(4)	Grafted Mango tree,- (i) upto one year,	Rupees five hundred only.
	(ii) above one year and upto two years,	Rupees one thousand and five hundred only.
	(iii) above two years and upto three years,	Rupees three thousand only.
	(iv) above three years and upto four years,	Rupees five thousand only.
	(v) above four years and upto five years,	Rupees six thousand only.
	(vi) above five years.	Rupees seven thousand only.
(5)	Orange and sweet lime,- (i) upto one year,	Rupees five hundred only.
	(ii) above one year and upto two years,	Rupees one thousand only.
	(iii) above two years and upto three years,	Rupees two thousand and five hundred only.
	(iv) above three years and upto four years,	Rupees three thousand only.
	(v) above four years and upto five years,	Rupees three thousand and five hundred only.
	(vi) above five years.	Rupees four thousand and five hundred only.
(6)	Other fruit trees,- (i) upto one year,	Rupees two hundred only.
	(ii) above one year and upto two years,	Rupees three hundred only.
	(iii) above two years and upto three years,	Rupees five hundred only.
	(iv) above three years and upto four years,	Rupees six hundred only.
	(v) above four years and upto five years,	Rupees seven hundred only.
	(vi) above five years.	Rupees one thousand only.

1. The rate of compensation payable for damage of coconuts caused due to attack of vultures shall be as follows :-

Table No. 7.10

Sr No.	Name Of Fruit	Rate of compansation
1	2	3
(1)	Coconut fruit.	Rupees seven per coconut, subject to maximum of rupees four hundred per tree per year. The number of coconut for awarding compensation shall be determined based on the difference of per tree productivity in the last year and actual yield after damage by vulture droppings for the tree where the vulture has made his nest.

2. (1) In case of damage to the farm equipment or other property caused due to attack of wild elephants, the rate of compensation payable shall be as follows :-

Table No. 7.11

Sr. Nos.	Particulars of property	Rate of compensation
1	2	3
(1)	Farm machinery and equipment.	Amount of damage or rupees five thousand only, whichever is less.
(2)	Bullock cart.	Amount of damage or rupees five thousand only, whichever is less.
(3)	Protective wall and fencing.	Amount of damage or rupees ten thousand only, whichever is less.

(2) In case of damage to the building or house caused due to attack of wild elephants, the rate of compensation payable shall be as follows :-

Table No. 7.12

Sr. No.	Particulars of building or house	Rate of compensation
1	2	3
(1)	House made of tiles or metal sheet or cement sheet roof or cattle shed.	Amount of damage or rupees fifty thousand only, whichever is less.
(2)	Brick or cement slab building.	Amount of damage or amount sanctioned by the Government for housing or rupees one lakh, whichever is less.

Following are the main reasons for Human-Wildlife Conflict:

a. Change in Cropping Pattern: The most important challenge is the cropping pattern adopted by the farmers in the areas adjoining to the reserve forests. In core zone, most of these agricultural lands are under paddy and nachani (finger millet) cultivation. The farmers are trying various techniques to ward off the wild animals from crop fields, but only a few could succeed. The annual crop raiding is increasing every year alarmingly. Though crop raiding is not a recent phenomenon, there is a sustainable increase in the last few years mainly influenced by the cropping pattern.

There is no sugarcane cultivation in Core Zone but in buffer zone, crops like Sugar Cane, it gives good dense cover for animals like Panther, Sloth bear and Wild boar for delivering their litter due to less disturbance, cool and shade available etc. It also attracts animals from core due to its good fodder value. The proportion of straying of Guar out in the field is increased in the recent past due to this change in cropping pattern.

b. Reduced tolerance level: The agricultural sector's narrow profit margins have made farmers acutely sensitive to losses incurred due to animal damage. To safeguard their crops, farmers often resort to chasing animals throughout the night, employing tactics such as shouting and drumming. The resulting loss of sleep during early hours exacerbates their irritability, leading some farmers to resort to unethical methods, including the illegal use of live wires drawn from 11 KV electric lines but it is not regular practice like central Indian landscape.

c. Increase in animal population: Over the past two decades, the Forest Department has made unwavering efforts towards wildlife conservation, leading to a noticeable increase in ungulate populations. However, it is imperative to conduct a thorough study to ascertain whether the concentration of animals around forest fringes is influenced by the enticing crops grown in nearby fields.

d. Grazing of domestic livestock: The majority of cattle in the region are unproductive, primarily kept for their dung and as a cultural tradition rather than for commercial purposes. However, these animals pose significant challenges as they compete with wildlife for scarce resources such as fodder and water. Additionally, their presence increases the risk of spreading epidemics to the wildlife population, further exacerbating the challenges of coexistence between humans and wildlife.

e. Obstruction of corridors: Development activities near the reserve forests definitely affect the movement pattern of animals and in the process, the traditional corridors are blocked and animals are getting isolated in the human dominated landscape adjoining the forests. This has forced the animals to occupy the agricultural lands and damage crops "unintentionally".

f. Other factors responsible for the conflict:

- Adequate forage and water are not available during summer in the forests.
- Habitat disturbance by various factors like fire, grazing.
- Non-availability of effective barriers to prevent the wild animals from straying out into human habitats and agricultural fields.
- Enclosures and settlements inside or in the vicinity of the forests. (Mosaic pattern of forest and villages in between)
- Isolation of wildlife habitats.
- Lack of knowledge about wild animals among villagers.
- The core zone is divided into two distinct parts. These two parts are connected with narrow bottleneck of forest which is used by wild animals for movement from one part to another; create a situation of conflict in the landscape.
- Irregular nature of boundary of both blocks create large edge and core zone is exposed to more than 80 villages of buffer are 8 villages of core zone, are more prone to conflict.

ii. Objectives:

- Minimize Man-Wildlife Conflict to the lowest feasible extent through proactive measures.
- Establish a well-equipped and extensively trained Rapid Response Team.
- Acquire state-of-the-art equipment and rescue materials to enhance response capabilities.
- Ensure 100% success rate in all rescue operations, defined by the absence of injuries to wild animals, the public, or rescue team members, and the safe release of animals into the wild.

- Conduct door-to-door awareness campaigns in villages sensitive to Human-Wildlife Conflict (HWC).
- Establish a network of volunteers in HWC-sensitive villages, forming Preliminary Response Teams (PRT) for prompt intervention and support.

iv. Issues and Problems:

- Managing mobs at Human-Wildlife Conflict (HWC) sites poses the most significant challenge.
- Securing timely support from the police department is crucial for effectively handling mobs.
- Insufficient intensive awareness programs in villages exacerbate HWC incidents.
- The frequent rotation of Rapid Response Team (RRT) members due to transfers impedes the formation of an experienced and cohesive team. Long-term exposure and experience are vital for professionalism in successful operations.
- Dependence on forest resources compels people to enter the forest, increasing the likelihood of conflicts.
- Efficient wildlife protection measures have led to an increase in wildlife populations, consequently escalating HWC incidents.
- Historical vacant habitats now occupied by wildlife are contributing to current HWC situations, as humans have enjoyed these areas for many years.
    - Changes in cropping patterns favor wildlife by providing ample cover for shelter and breeding. For instance, the expansion of sugarcane fields in the vicinity of the STR over the past few years.

iv. Strategies:

- Mitigating measures will be implemented with a site-specific approach, informed by comprehensive data on historical man-animal conflict incidents. This approach ensures the long-term sustainability of the methods employed.
- Installation of high-standard, site-specific solar power fences will be prioritized, with provisions for annual maintenance costs. Community involvement in this endeavor will ensure its sustainability.
- Local communities will receive training in various techniques to prevent crop-raiding incidents, with the participation of NGOs and research institutions. Research institutions will be given priority in developing innovative prevention methods.
- A robust database will be created, documenting past crop damage incidents in sensitive villages. This data will be recorded daily during peak cropping periods, providing valuable insights for mitigation efforts.
- Modern technology will be utilized to develop an early warning system, enhancing public awareness and facilitating timely response to potential conflict situations.
- Compensation for affected individuals and their properties will be disbursed promptly to alleviate losses.
- Primary Response Teams (PRT) will be established in sensitive villages to facilitate information exchange and manage situations until the arrival of the Rapid Response Team (RRT) or responsible officers.
- The RRT, including a Veterinary Officer, will be equipped and trained to respond swiftly to

conflict situations. Regular maintenance of RRT vehicles and cages will be ensured.

- Ongoing training and demonstrations for the RRT team, along with timely equipment maintenance, are crucial for effective response capabilities.
- Protocols for training, practice sessions, demonstrations, and equipment maintenance will be developed to ensure consistency and effectiveness.
- Field-level meetings will be organized involving villages bordering forest fringes, forest field staff, researchers, and NGOs. These meetings will facilitate discussions on conflict issues, compensation procedures, and mechanisms for community participation in habitat control efforts.
- Forest field staff will receive training on wildlife conservation, law enforcement, conflict mitigation, and rescue management. Awareness programs, including street plays, folk songs, skits, film shows, and workshops, will be conducted in vulnerable villages to reduce man-animal conflicts. Publicity materials will be distributed to stakeholders to promote safe crop protection methods.
- Door-to-door awareness campaigns will be conducted in HWC-sensitive villages, educating all family members on HWC issues, forest entry precautions, and other safety measures. Printed pamphlets will

supplement detailed explanations. Implementation of Eco-development programs will reduce local dependency on forests, minimizing human-animal interactions.

- **STANDARD OPERATING PROCEDURE (NTCA) TO DEAL WITH EMERGENCY ARISING DUE TO STRAYING OF TIGERS IN HUMAN DOMINATED LANDSCAPES**
- This Standard Operating Procedure (SOP) provides the basic, minimum steps which are required to be taken at the field level (tiger reserve or elsewhere) for dealing with incidents of tiger straying in human dominated landscapes.
- Scope: The SOP applies to all forest field formations including tiger reserves besides other areas where such incidents occur.
- Responsibilities: The Field Director would be responsible in the case of a tiger reserve/fringe areas. For a protected area (National Park/Wildlife Sanctuary), the concerned protected area manager would be responsible. In the case of other areas (revenue land/conservation reserve/community reserve/village/township) the Wildlife Warden, as per the Wildlife (Protection) Act, 1972, or Divisional Forest Officer/Deputy Conservator of Forests (under whose jurisdiction the area falls), would be responsible. The overall responsibility at the State level would rest with the Chief Wildlife Warden of the concerned State.
- Suggested field actions to deal with strayed wild carnivores (tiger/leopard)

  (a) At the outset, constitute a Committee immediately for technical guidance and monitoring on day to day basis, as under:- i. A nominee of the Chief Wildlife Warden ii. A nominee of the National Tiger Conservation Authority iii.

A veterinarian iv. Local NGO representative v. A representative of the local Panchayat vi. Field Director/Protected Area Manager/DFO I/C - Chairman

(b) Since it may not be always possible for experts from the Wildlife Institute of India to provide assistance, it is advised that some outside experts may be involved in the ongoing monitoring.

(c) Establish identity of the tiger by comparing camera trap photographs with National Repository of Camera Trap Photographs of Tigers (NRCTPT)/ Reserve level photo database and find out the source area of the animal.

(d) Collect recent cattle/livestock depredation or human injury/fatal encounter data, if any, in the area. If it is an area historically prone to such incidences, detailed research work has to be carried out in order to assess the reasons for the frequent tiger emergencies in the area.

(e) In case of confirmed livestock depredation/human injury/fatal encounters or frequent straying of tiger near human settlements, set traps (automatic closure) with appropriate luring while avoiding disturbance, to trap the animal.

(f) Set up camera traps near kill site to confirm/establish the ID of the animal.

(g) Ensure unobtrusive guarding of the kill to allow feeding of the carcass (if not close to a human settlement) besides safeguarding from poisoning (for revenge killing).

(h) Create 'pressure impression pads (PIPs)' in the area to ascertain the daily movement of the animal, while plotting the same on a map (4" = 1 mile scale or 1 : 50,000 scale).

(i) Proactively involve District Collector/DM and SSP/SP of the area to maintain law and order in the area, besides avoiding crowding by local mobs. Acquaint them with human-tiger conflict issues and guidelines of the NTCA to deal with the situation.

(j) In all instances of wild carnivores like tiger/leopard straying into a human dominated landscape, the district authorities need to ensure law and order by imposing section 144 of the Cr.PC. This is essential to avoid agitation/excited local people surrounding the animal spot which hampers capture operation, leading to serious injuries on people and staff. It is also necessary that police and local administration be involved at an early stage. Effective coordination with them is critical to control mobs which as has been seen in several instances, worsen the situation and lead to avoidable fatalities/tragedies.

(k) Take help of the district level officials to alert the villages in the vicinity of the area having the spatial presence of the tiger.

(l) If successive trapping efforts fail, chemical immobilization of the wild

carnivore should be done by an expert team having a veterinarian, as per the protocol at Annexure-I.

(m)In case, the tranquilised tiger is found to be healthy in prime or young age without any incapacitation (loss of canine, injury, broken paw etc.), as confirmed/ certified by the Committee as constituted at para (1), then it may be released after radio collaring in a suitable habitat with adequate prey base, away from the territory of a resident male tiger (if any) or human settlements, under intimation to the National Tiger Conservation Authority. (Under no circumstances an injured/incapacitated tiger should be released back, and the same needs to be sent to a recognized zoo).

(n) Under no circumstances, a tiger should be eliminated by invoking the Wildlife (Protection) Act, 1972, if it is not habituated for causing human death. The guidelines for dealing with animals which have become 'Dangerous to Human Life' are annexed for compliance/guidance in this regard (Annexure-II).

(o) In case of a healthy tiger/encumbered tigress occupying a sugar cane field or similar habitat, attempt should be made first to attract it to nearby forest area, while avoiding disturbance. If such operations fail, the animal should be captured through immobilization for release in low density area of a nearby tiger reserve/protected area after radio collaring.

(p) An authorized spokesperson of the Forest Department, should periodically update the media (if required) to prevent dissemination of distorted information relating to the operation/incidents. Sensalization or distorted information can lead to further damage.

(q) In case monitoring using camera traps (Phase-IV) is ongoing in the area, the minimum tiger numbers based on individual tiger captures, should not be given undue publicity without due cross checking with the National Tiger Conservation Authority.

(r) The Chief Wildlife Warden has to take the final decision on whether a tiger has to be released back in the wild or transferred to a zoo.

(s) It is important to have properly designed suitable cages and transport mechanism which cause least stress to the captured carnivore.

- STANDARD OPERATING PROCEDURE (NTCA) TO DEAL WITH TIGER DEPREDATION ON LIVESTOCK
- Purpose: To ensure appropriate action to deal with livestock carcasses being fed upon by tigers, to avoid undue interference with the natural process prevailing in the habitat, while avoiding their casualty/injury, besides safeguarding general public and field staff.

- This Standard Operating Procedure (SOP) provides the basic, action and precautions required at the field level (tiger reserve or elsewhere) for dealing with livestock carcasses being fed upon by tigers 6. Scope: The SOP applies to all tiger reserves and field formations with tiger presence.
- Responsibilities: The Field Director would be responsible in the case of tiger reserves. For protected areas (National Park/Wildlife Sanctuary), the concerned protected area manager would be responsible. In the case of other areas (revenue land/conservation reserve/community reserve/village/township) the Wildlife Warden, as per the Wildlife (Protection) Act, 1972, or Divisional Forest Officer/Deputy Conservator of Forests (under whose jurisdiction the area falls), would be responsible. The overall responsibility at the State level would rest with the Chief Wildlife Warden of the concerned State.
- Causes/reasons/circumstances leading to tigers feeding on livestock

  a. Humans let loose their cattle in forest areas for grazing

  b. People tend to encroach upon forest land exposing their livestock to predation

  c. Tigers disperse into human dominated landscapes when the carrying capacity of a source area is achieved, forcing them to prey on livestock

  d. Young, old and weak tigers are pushed to the periphery of optimum habitats by tigers which have greater vigour

  e. Tigers may become habituated to feeding on livestock due to the principles of optimal foraging

  f. In case corridor connectivity exists, tigers disperse out to other habitats to establish their territory in a meta population.
- Suggested field actions to deal with tiger depredation on livestock

  (a) All livestock kills should be reported to the nearest forest management unit for which sensitization campaigns need to be carried out on a regular basis. The concerned forest unit should also develop an intelligence based informer network to detect such kills. Forest units adjoining tiger occupied areas also need to be sensitized to the issue of livestock kills and report these immediately. A mechanism for incentives to the villagers/informers, livestock graziers/charwahas for cattle kill may also be developed.

  (b) A committee with the following members may be constituted to oversee the kill and its surrounds; a. A representative of the local Panchayat b. Local NGO representative, nominated by the FD/DCF under whose jurisdiction the area falls c. A veterinarian d. Deputy Director/Protected Area Manager/DFO I/C-Chairman Non-official members need to be incentivized for adequate co-operation, for which a mechanism needs to be devised in coordination with

the District administration and/or nearest Tiger Reserve

(c) In case of livestock depredation by tiger/leopard, the carcass should not be removed from the site but should be allowed to be eaten in full by the carnivore to prevent recurrence of such depredation in the area.

(d) Prompt payment of compensation should be done to the affected people vis-à-vis the citizen's charter, for which a mechanism needs to be devised in coordination with the concerned District administration and/or nearest Tiger Reserve

(e) Ensure unobtrusive guarding/monitoring of the kill to allow feeding of the carcass (if not close to a human settlement) besides safeguarding from poisoning from villagers (for revenge killing). A special team may be formed for this purpose in consultation with the above committee, which too needs to be incentivized.

(f) The first 24 hours, after detection of the carcass, of observation are critical in context of the tiger returning to the kill and finishing feeding. If however, this does not happen, the livestock remains/rejects need to be incinerated completely by burning to prevent spread of infectious diseases to humans and other animals. The area also needs to be sanitized with chemicals/flaming to destroy any disease causing spores.

(g) Set up camera traps near kill site to confirm/establish the ID of the animal.

(h) Establish identity of the tiger by comparing camera trap photographs with National Repository of Camera Trap Photographs of Tigers (NRCTPT)/ Reserve level photo database and find out the source area of the animal.

(i) Collect recent cattle/livestock depredation or human injury/fatal encounter data, if any, in the area. If it is an area historically prone to such incidences, detailed research work has to be carried out in order to assess the reasons for the frequent tiger emergencies in the area

(j) Create Pressure Impression Pads (PIPs) in the area to ascertain the daily movement of the animal, while plotting the same on a map (4" = 1 mile scale or 1 : 50,000 scale).

(k) If close to human habitation, proactively involve District Collector/DM and SSP/SP of the area to maintain law and order in the area, besides avoiding crowding by local mobs. Acquaint them with human-tiger conflict issues and guidelines of the NTCA to deal with the situation. If the situation demands, the district authorities need to ensure law and order by imposing section 144 of the Cr.PC. This is essential to avoid agitation/excited local people surrounding the animal spot which hampers movement of the animal back to the wild as well as capture operation (if required), leading to serious injuries

on people and staff.

(l) Take help of the district level officials to alert the villages in the vicinity of the area having the spatial presence of the tiger. Local account of tiger presence can also be disseminated by munadi or other prevalent local systems to avoid visiting in such areas.

(m) In case of tiger/leopard showing disability due to injury/old age or display in aberrant behaviour by resorting to livestock depredation in a recurring manner, such animals should be dealt with as per the following SOPs issued by this Authority: a. SOP to deal with emergency arising due to straying of tigers in human dominated landscapes b. SOP deal with orphaned/abandoned tiger cubs and old/injured tigers in the wild.

v. Monitoring and Evaluation:

- Assess the effectiveness of awareness campaigns through interviews to gauge changes in people's perceptions.
- Utilize conflict data to analyze trends in conflict incidents over time.
- Utilize conflict data to identify and prioritize Human-Wildlife Conflict (HWC) sensitive areas, adapting planning strategies accordingly.
- Maintain a detailed HWC register documenting all incidents and operational details.
- Ensure regular equipment checks, medication inventory, and vehicle and cage maintenance on a monthly basis by in-charge ACF and RFO, with reports submitted to the Deputy Director (DD) and Field Director (FD). Additionally, the DD should conduct periodic checks, at least once every four months.
- Maintain separate registers for medication usage and stock, equipment lists and quantities, cage usage and maintenance, RRT vehicle usage and maintenance, and HWC operation records.

7.2.6 Theme plan for Protection to Unique habitat and riparian zones:

Unique habitat includes the habitat covering plateaus, cliffs, caves, rocky areas, burrows, dens, wetlands natural springs, aquifers and riparian zones and other unique features in forest area of entire buffer zone. Unique habitats of buffer zone need to be protected with due incentives to the local community. Activities aimed to maintain the habitat in its present status need to be continued. Special focus should be ensured to safeguard unique habitats. No intervention of any kind is required in such areas and full protection and regular monitoring of these habitats is needed to ensure complete tranquility. Following measures should be taken to protect these unique habitats:

- Special habitats will be identified and demarcated across the STR and proposed for periodic monitoring and documentation.

- Special habitats including natural water hole shall be protected, maintained and monitored at regular intervals against adverse influences.
- Snags, dead and fallen trees and down woody shall not be disturbed unless they are hazardous to wildlife or hamper human mobility as they perform an ecological function to support various species of mammals, birds, invertebrates, fungi, mosses and lichens.
- Protection from any illegal activities or human disturbance especially protects from a forest fire.
- Research on various aspects of unique habitat with help of experienced technical institutes and organizations and intervention in such habitat, if any, it should be supported with a strong research base. (Detail list of unique habitats found in STR is attached in Annexure no. 7.2.6)

7.2.7 Theme Plan for Fostering Awareness and Education in Local Communities:

i. General:

Efforts to educate the younger generation about the significance of wildlife, particularly tigers and their habitats within Sahyadri Tiger Reserves (STR), are crucial for fostering conservation awareness and stewardship. While various nature education and awareness programs exist in schools and colleges located in villages within the STR buffer area, there is a lack of systematic exposure to nature and conservation topics. To address this gap, a comprehensive theme plan focused on nature education and awareness is proposed.

ii. Objectives:

- To instill a deeper understanding of the importance of wildlife conservation, particularly tiger conservation, among students in schools and colleges within the STR buffer area.
- To raise awareness about the ecological significance of STRs and the role of local communities in conservation efforts.
- To promote a sense of responsibility and ownership among students towards protecting biodiversity and natural habitats.
- To foster a culture of environmental stewardship and sustainable living practices among the younger generation.
- Educate visitors on the ecosystem of the tiger reserve.
- Encourage sustainable behaviors among visitors and local communities.
- To develop a new and younger generation of buffer area more sensitive nature conservation.
- To arrange systematic nature education and awareness program in all school and colleges of buffer area.
- To make aware of the young generation about benefits getting from STR and its landscape.
- To achieve a goal of 100% social fencing by converting 100% younger generation into conservation sensitive generation by covering under this program.
- To aware and discuss with youths about burning issues like human-wildlife conflicts, electrocution of wild animals, poaching etc.

iii. Issues and Problems:

- Currently, our nature education and awareness program lacks organization and coherence.
- Printed and audio/video materials are either absent or fail to meet the required standards.
- Additionally, there is a lack of coordination among the various departments and NGOs operating within this landscape regarding the nature education and awareness program.
- Each entity operates in isolation, resulting in inconsistent messaging about the tiger reserve.
- When data, information, and messages about the reserve are disseminated disparately by different agencies, it can lead to confusion, particularly among the younger generation.

iv. Strategies:

1. **Understanding the audience:** Identify the target audience: visitors, local communities, school groups, etc. and analyze their demographics, interests, and existing knowledge about wildlife and conservation.
2. **Theme Development: following are the few themes suggested for this program-**
    - **Tiger Conservation:** Highlight the significance of tigers as apex predators and their role in maintaining ecosystem balance.
    - **Biodiversity Showcase** the rich variety of flora and fauna within the reserve, emphasizing the interconnectedness of species.
    - **Ecosystem Dynamics**: Explore the intricate web of relationships between different organisms and their habitats.
    - **Local Culture and Tradition**: Integrate aspects of local culture, folklore, and traditions that emphasize coexistence with nature.
3. **Educational Programs and Activities:**

    - **Guided Nature Walks**: Led by knowledgeable guides to observe wildlife and learn about their behavior and habitats.
    - **Interactive Exhibits**: Install informative exhibits and displays showcasing local flora, fauna, and conservation efforts.
    - **Workshops and Talks:** Organize sessions on topics such as wildlife photography, sustainable living, and conservation success stories.
    - **School Outreach**: Develop educational modules aligned with school curricula to engage students in learning about wildlife conservation.
    - **Volunteer Programs**: Recruit volunteers for activities like habitat restoration, wildlife monitoring, and community outreach.
    - **Teacher Training**: Conduct training programs for teachers to enhance their knowledge and skills in delivering nature education and conservation messages effectively in the classroom.

4. **Communication and Outreach:**

- **Information Centers**: Establish visitor centers/nature interpretation center equipped with informative displays, brochures, and multimedia presentations.
- **Online Platforms**: Maintain a website and social media channels to disseminate information, share updates, and engage with a wider audience.
- **Community Engagement**: Collaborate with local communities through workshops, training programs, and participatory conservation initiatives.
- **Partnerships**: Forge partnerships with educational institutions, NGOs, and government agencies to enhance outreach efforts.

5. **Other Strategies:**

- All the schools and colleges of buffer area are distributed among the different wing of forest department and all the voluntarily participate in the program.
- Well-designed syllabus and well distriuted year-round programs
- Every month at least one program in every school and colleges. At least, 8 programs in a year for each school of buffer zone.
- Every month program should be different type e.g. Slideshow. Lecture, Jungle safari, Nature competition etc.
- Develop a standard material for this program, mainly focus on the importance of tiger and wildlife and STR.
- The program should be implemented in the co-ordination with Zilla Parishad, Tribal department and local educational institutes.
- Cover at least 10000 students per year under this program.

6. **Sustainability**: integrate sustainable practices into all aspects of the education and awareness program, including waste management, energy conservation, and eco-friendly infrastructure. Encourage local economic development through responsible tourism practices that benefit both communities and conservation efforts.

v. Monitoring and Evaluation:

- Evaluation of nature awareness level and change in perception level of students about conservation issues can evaluate by interview or by filling questioners.
- Implement mechanisms to gather feedback from visitors and stakeholders to assess the effectiveness of educational programs.
    - Conduct regular evaluations to measure changes in knowledge, attitudes, and behaviors towards conservation.
    - Use feedback to refine and improve educational initiatives over time.

- This program should be co-ordinate by CF and FD and periodic meeting among the participant department and NGOs i.e. once in 3 months to discuss the progress and suggestion for improvement.

By implementing this theme plan for nature education and awareness, we aim to inspire and empower the younger generation to become advocates for wildlife conservation and environmental stewardship. Through systematic education efforts and community engagement, we can foster a generation of informedand committed conservationists who will play a vital role in safeguarding the biodiversity and natural heritage of Sahyadri Tiger Reserves and beyond.

7.2.8 Theme Plan for GIS based Time Series Monitoring of Land Use Change:

The landscape is not static in nature and it has its own dynamics based on climatic and anthropogenic factors. In the context of buffer, with a mandate for serving as a tiger gene conduit, it is important to understand the dynamics of a landscape, resulting in its change over time. Various land use factors cause changes in a habitat viz. agriculture, forestry, change in river courses, encroachment by settlements, urbanization, mining, quarrying, water impoundment, industrial discharges/effluents etc. Therefore, a time series monitoring of the buffer as well as the surrounding landscape (encompassing all the remaining nearby smaller protected areas) involving remotely sensed data in the GIS domain is absolutely essential for course corrections.

7.2.9 Theme Plan for Monitoring Permitted Activities in the Ecologically Sensitive Area within the Buffer:

The Ministry of Environment Forests and Climate Change (MoEFCC) has come out with new guidelines on February 9, 2011 to create eco-sensitive zones (ESZs) around Protected Areas to prevent ecological damage caused due to developmental activities around National Parks and Wildlife Sanctuaries. The ESZ acts as "shock absorbers" to the protected areas by regulating and managing the activities around such areas.

In exercise of the powers conferred by sub-section (I) and clauses (v) and (xiv) of sub-section (2) and sub-section (3) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government notifies the ESZ around protective areas in country. Yet it has not notified the ESZ area of STR but according to ESZ proposal sent by STR, the ESZ of STR has 120 villages from 4 districts and the deemed to be area of STR Eco Sensitive Zone is 772.77 sq km

The basic aim is to regulate certain activities around National Parks and Wildlife Sanctuaries to minimize the negative impacts of such activities on the fragile ecosystem encompassing the protected areas. The notification of ESZ includes a broad list of activities that could be allowed or promoted, regulated and prohibited. Mainly the activities which are prohibited in ESZ within buffer zone should be monitored by field staff and field officer regularly and immediately take cognizance and report the district level monitoring committee established as per ESZ notification.

7.2.10 Theme plan for Staff Development:

This would be in accordance with the theme plan prescribed for the core critical tiger habitat. However, the frontline personnel in a buffer area need to be a multi-tasking to tactfully handle the human-tiger interface issues, participatory planning, and socio-cultural appraisal. Therefore, a special module (one-week field training) should be developed to build up the skills of such personnel to handle site-specific interface/social issues, including effective communication. (Detailed staff development plan is given separately in security plan chapter)

7.2.11 Theme Plan for Veterinary Care:

The buffer area of the Sahyadri Tiger Reserve is characterized by significant human settlements with a large population of livestock, including dogs, cats, buffaloes, and poultry. Given this rural setting typical of many areas in India, proactive preventive measures are essential, requiring collaboration with the local district-level veterinary department. Landscape epidemiology, considering the sylvatic cycle of the forest and its relationship with grazing, must be taken into account. Regular monitoring of water points close to human habitation is necessary to rule out contamination by vectors.

Key actions advised include:

- Prophylactic immunization of livestock against communicable diseases mandated by the Wildlife (Protection) Act, 1972, such as Foot and Mouth Disease (FMD), Hemorrhagic septicemia, black quarters, anthrax, among others.
- Establishment of a "prophylactic buffer" by immunizing pet dogs biannually and maintaining records to prevent canine distemper.
- Periodic ocular assessment of the health status of wild ungulates, including lumbar shelf charting, and examination of bone marrow viscosity from carcasses of herbivores and carnivores.
- Conducting mortality surveys, including the collection of mandibles and skeletal remains of wild animals, and maintaining records of fresh and old carcasses to facilitate inference on species and age-specific mortality rates.

7.2.2.12: Theme Plan for Co-ordination with tiger bearing forest divisions :

i. General:

STR is northern most habitat in western ghat spread over four district and its border to four territorial forest divisions of Kolhapur circle and nearest source population area of tiger is in Sindhudurga and Kolhapur Forest Division. STR has directly connected with good corridors with Kali Tiger Reserve through this forest of these forest divisions. STR has regularly after each 3-4 years reporting of immigration of tigers from these southern tiger bearing areas (details are given in the chapter no. 03), but we hardly get any information about their source and sink areas because of lack of coordination and sharing of information among the tiger bearing area managers.

ii. Objectives:

- Exchange of information on camera trap photos periodically to identify the movements of tigers between two tiger bearing areas.
- Co-ordination for monitoring of straying or transient tigers.
- Co-operation during man-animal conflict cases.
- To maintain 'Tiger Reserve Landscape Repository of Camera Trap photograph (TRLRCTPT), on the line of NRCTPT at Tiger Cell in STR.

iii. Issues and Problems:

- Currently, there is very little or no sharing of information about Emigration and immigration of tigers with each other among the various divisions.
- If we know any history of a migrated conflict tiger, then we can manage the conflict individual before getting situation worst.
    - Many times, we don't know the route of migration of tiger to know about connectivity point of view.
    - Lack of coordination in the sharing of information about tiger among the neighboring tiger bearing area managers.
    - Transient tiger is not safe while travelling through human-dominated landscapes or area of identified gaps/bottleneck in the corridor.
    - Lack of monitoring of transient tiger.

i. Strategies:

- Establish Tiger Reserve Level well-equipped 'Tiger cell'
- Appoint nodal officer of the rank of RFO/ACF at each tiger bearing areas or forest divisions.
- Regular exchange of information about missing or new entry of tiger in their area, immediately.
- Share all data of camera trap photographs of tigers to STR-Tiger Cell to maintain TRLR-CTPT.
- All the photographs are stored as per guideline for NRCTPT given by NTCA.
- Share information and history of conflict tiger with neighboring tiger bearing area managers, if missing from area and possibility of their migration.
- To keep continuous monitoring of transient tiger and share information about their movement with neighboring tiger bearing area managers.
- Keep all precautions for the protection of the transient/straying tiger.
- Arrange coordination meeting under Chairmanship of Field Director and CCF, Territorial, Kolhapur of all neighboring tiger bearing area managers at STR, once in 6 months or year.

v. Monitoring and Evaluation:

CF and FD of STR will keep regular co-ordination between all the surrounding tiger bearing area managers and ensure the sharing of information and maintaining TRLRCTPT at STR.

7.2.2.13 Theme Plan for Population Management of Feral Dogs in Wildlife Habitat:

i. General:

The control of feral dog populations in wildlife habitats is essential for the protection of biodiversity and the health of ecosystems. By combining prevention, humane control measures, public involvement, and long-term monitoring, this plan aims to reduce the negative impacts of feral dogs on wildlife while respecting ethical considerations and community values. Successful implementation will require collaboration, adequate resources, and an adaptive approach to manage ongoing challenges.

ii. Objectives:

- To develop and implement effective strategies for the control and management of feral dog populations in wildlife habitats to reduce negative impacts on native wildlife, ecosystems, and public health.
- Reduce the population of feral dogs in wildlife habitats while minimizing harm to native wildlife and ecosystems.

iii. Issues and problems:

- **Predation**: Feral dogs hunt native wildlife, including vulnerable species, leading to population declines.
- **Competition for Resources**: Feral dogs compete with native carnivores and herbivores for food and shelter, potentially causing imbalance.
- **Disease Transmission**: Feral dogs are vectors for zoonotic diseases, such as rabies, distemper, and canine parvovirus, which can affect both wildlife and domestic animals.
- **Disturbance to Breeding and Habitat Use**: The presence of feral dogs can disturb wildlife breeding sites, nesting areas, and migration patterns. For example, dogs may raid bird nests, destroy burrows, or disturb sensitive habitats, impacting species' ability to reproduce and thrive.
- **Hybridization with Wild Species**: Feral dogs may interbreed with wild canid species like wolves, foxes, or coyotes, leading to genetic dilution and the loss of unique genetic traits that are important for conservation efforts.
- **Public Health Concerns:** Feral dogs pose several public health risks, both for local human populations and for domestic animals.
- **Disease Transmission**: Feral dogs are often carriers of zoonotic diseases (diseases that can be transmitted from animals to humans) and can spread illnesses like rabies, canine distemper, parvovirus, and leptospirosis. These diseases can affect wildlife populations and domesticated animals, as well as humans who may come into contact with infected animals or their waste.

- **Bites and Attacks**: In some instances, feral dogs can become aggressive toward humans or livestock, particularly in areas where they are hungry or feel threatened. Bites or attacks on people or animals can lead to injury and the spread of disease.
- **Tourism Impact**: In wildlife areas or national parks where, eco-tourism is a key revenue source, the presence of feral dogs can negatively affect the experience of visitors. Dogs may interfere with wildlife viewing, hiking, or other activities, potentially reducing tourism revenues.

iv. Strategies:

A. Assessment and Monitoring

- **Population Assessment**: Conduct regular surveys to estimate feral dog population sizes, distribution, and behaviors in STR.
- **Ecological Impact Monitoring**: Track the impact of feral dogs on local wildlife populations, especially endangered species or those of conservation concern.
- **Disease Surveillance**: Monitor for the spread of diseases transmitted by feral dogs, and assess risks to both wildlife and human populations.

- **Public Awareness and Education**: Launch educational campaigns targeting owners to prevent dogs' movement in wildlife areas.

B. Control Measures:

1. **Humane Trapping and Removal**:
   - **Live Traps**: Deploy humane traps to capture and relocate feral dogs.
   - **Capture, Neuter/Spay, and Release (CNR)**: For certain populations, a CNR program may be implemented to reduce reproductive rates in areas where total eradication is not feasible.
   - **Euthanasia**: In cases where relocation or rehabilitation is not possible or appropriate, euthanasia may be necessary to prevent further ecological damage and suffering.
2. **Habitat Restoration**: Enhance habitats to reduce attraction to feral dogs, such as removing food sources.
3. **Sterilization and Contraception**:
   - **Contraceptive Implants**: Research and implement the use of contraceptives (such as chemical sterilant) to control the population of feral dogs in the short to medium term, particularly in inaccessible or protected areas.
   - **Vaccination**: Vaccinate feral dogs against rabies and other diseases to prevent the spread of zoonotic infections.
4. **Collaboration with Local Communities and Agencies**:
   - Work with local animal welfare organizations, community groups, and local governments to coordinate control efforts.
   - Offer incentives for people to report sightings or assist in the capture of feral dogs.
   - Collaborate with wildlife agencies, conservationists, and veterinarians to implement best practices for both animal welfare and ecosystem health.

5. Public Engagement and Communication

- **Community Involvement**: Involve local communities in feral dog management efforts through volunteer programs, public meetings, and outreach initiatives.
- **Transparency**: Keep the public informed about the goals, progress, and successes of feral dog control programs. Use media platforms, websites, and newsletters to maintain communication.
- **Partnerships**: Build partnerships with conservation organizations, wildlife protection groups, and veterinary associations to gain broad support and expertise for the initiative.

6. Timeline

- **Short-Term (1-2 years)**:
  - Conduct baseline surveys and assessments.
  - Implement education and awareness programs.
  - Begin trap-neuter-return or removal operations in key areas.

- **Medium-Term (3-5 years)**:
  - Expand control programs to additional areas as needed.
  - Introduce sterilization and contraception initiatives.
  - Continue population monitoring and adjust strategies as necessary.
- **Long-Term (5+ years)**:
  - Achieve a significant reduction in the feral dog population in high-priority areas.
  - Promote long-term ecosystem recovery and stabilization.
  - Establish sustainable management frameworks to prevent reoccurrence.

v. Monitoring and Evaluation:

- **Regular Reviews**: Set up a monitoring and evaluation framework to assess the effectiveness of feral dog control strategies over time.
- **Data Collection**: Collect data on population dynamics, wildlife recovery, disease incidence, and ecological changes to adjust management practices.
- **Adaptive Management**: Be prepared to adjust strategies based on ongoing research, monitoring outcomes, and feedback from stakeholders.

7.2.2.14: Theme Plan for Wildlife Health Surveillance and Management:

i. **General:** Creating a theme plan for wildlife health surveillance and management in a tiger reserve is crucial for maintaining the well-being of both wildlife populations and the surrounding ecosystem. Application of veterinary science, conservation medicine and biomedical science in the Wildlife health management has become very important nowadays. Looking at the current scenario of an outbreak of different emerging diseases, zoonotic disease at a local and global level; we must understand the disease ecology of the free ranging wild animals and its impact on the captive population of these wild animals, domestic animals and global economy. Understanding diseases ecology, carrying out a necessary investigation, diagnosis of the disease should be a mandate to formulate the wildlife management strategy for the same. Wildlife Health Surveillance on regular basis is an essential component of wildlife management, especially, for the isolated populations of the critically endangered and endangered species such as Tiger, Leopard, Wild dog, Pangolin, Barking deer, Gaur, Chousingha, Mouse deer and reptiles including Python in STR.

Also, as per S - 33-A of Wildlife (Protection) Act 1972 the livestock present in or within 5 km. of Sanctuary/protected area are required to be immunized and hence the cattle should be vaccinated regularly with the help of District Animal Husbandry officer of Animal Husbandry Department, to ensure that no transmission of diseases takes place to and from domestic animals and vice versa.

- **ii. Objectives:**
- To Monitor and assess the health status of wildlife populations to detect and respond to emerging threats promptly.
- To Prevent the spread of infectious diseases among wildlife populations and mitigate the risk of transmission to humans and domestic animals.

- To Enhance the capacity of reserve staff to diagnose, treat, and manage wildlife health issues effectively.
- To Implement measures to improve habitat quality and reduce environmental stressors that impact wildlife health.
- To understand disease ecology of free ranging wild fauna
- To study the status of transmission of diseases from domestic animals to wild animals and from wild animals to domestic animals
- To investigate the mortality in free ranging wild animals
- To prevent the disease transmission to and from the domestic animals, wild animals a vice versa
- To detect the disease-causing pathogens in time and check the spread of infectious diseases
- To create awareness among the villagers and staff regarding the importance of diseases in wildlife and domestic animals
- To conduct annual vaccination of all the livestock populations, in villages in core and buffer zone
- To check the efficacy of the vaccination on a regular basis
- To conduct the post-mortem with all possible investigation techniques to arrive at the conclusive diagnosis.

iii. Issues and Problems:

- There are many times our field staff are observed unnatural mortalities but we treat it is natural. The reason remains always unknown.
- Death of any wild animal not done by any predator, it is not investigated by the Veterinary Officer and it will treat as a natural death. But it should be investigated for health condition of that animal.
- Intermittent mortality of Gaur (*Bos gaurus*) may happen due to Foot and Mouth Disease (FMD) and other diseases of viral and bacterial origin.
- Tuberculosis in herbivorous has been reported and has been suspected in Hanuman langur (*Semnopithecus entellus*).
- Mortality in domestic dogs (*Canis lupus familiaris*) due to Rabies has been reported at some places.
- Mortality of Wild dogs is also reported.
- Mortality in large number in birds of multispecies and few species of mammals observed.
- Sometimes, mortality in herbivorous including Gaur, wild pig and other animals observed due to unidentified diseases has been reported regularly but remains a mystery.

- It is easy to observe changed or abnormal animal behavior in any wild animal during routine foot patrolling but, it is not included in their patrolling mandate and field staffs are not trained accordingly.
- It is the most neglected subject in day-to-day wildlife management practices and needs to give priority.

iv. Strategies:

- **To understand disease ecology of free ranging wild fauna**: To conduct research on the disease of free ranging wildlife with the help of Animal Husbandry Department, Veterinary College, scientific non- government organizations or veterinary organizations with sufficient provision of funding for research on a particular topic related to wildlife health management.
- **To study the status of transmission of diseases from domestic animals to wild animals and from wild animals to domestic animals:** research on diseases of free ranging wild animals and domestic animals like cattle, dogs and cats and poultry from the villages in core and buffer villages of the STR is needed. To analyze the finding of the research project conducted and formulate strategies to avoid unforeseen casualties of wild animals.
- **To investigate the mortality in free ranging wild animals:** Conduct detail post-mortem with the help of a team of wildlife veterinarians and with the help of experienced veterinarians from animal husbandry department or Veterinary organizations. Keep a post mortem kit and sample collection kit at each range. Compilation and analysis of data of post mortem conducted should be done on a regular basis.
- **To prevent the disease transmission to and from the domestic animals, wild animals a vice versa:** Vaccination of domestic cattle, cat, dogs and poultry from the villages in a buffer area of the tiger reserve as per prescribed program. Conduct Wildlife Disease Risk Analysis once in six months to assess if the disease is a threat to the free ranging wildlife and up to what extent. It must involve the assessment and reassessment of the threats and its impact.
- **To detect the disease-causing pathogens in time and check the spread of infectious diseases:** Sending samples for disease investigation to well recognized laboratories and take appropriate and timely action, if required.
- **To create awareness among the villagers and staff regarding the importance of diseases in wildlife and domestic animals:** To organize workshops/training program in vernacular language to aware villagers, staff to understand the importance of disease in wildlife and domestic animals.
- **To monitor water bodies (including natural and artificial) and habitats frequented by wild animals, on a regular basis**. Water sample should be sent to the respective laboratories to check for the presence of pathogens or poisons.
- **To conduct annual vaccination and deforming of all the livestock populations, in villages in core and buffer zone:** Annual vaccination for FMD, PPR, Rabies, Rinderpest, Anthrax and other commonly found diseases should be considered as a priority. Also, deforming of domestic animals should be conducted on a regular basis.
- **To organize animal health camps for domestic animals in villages in the core and buffer area of the protected area.** Health checkup camps will allow us to assess the common disease condition in the domestic animal population and its severity in the village. The data can be corroborated with the findings from the wild animals.

- **To check the efficacy of the vaccination on a regular basis:** Pre and post vaccination titer of the animal should be analyzed to assess the efficacy of the vaccination done in the domestic animal population. Animal husbandry department, veterinary college staff and students, veterinary organizations and NGO's can be involved in this project.
- **To conduct the post-mortem with all possible investigation techniques to arrive at the conclusive diagnosis.** Post mortem investigation should be carried out very carefully and should involve experienced veterinarians.
- **To include veterinary science, conservation medicine in management practice**: We need to organize the multi-stakeholders meet once in a year or once in six months. It should include authority from Veterinary College, Animal Husbandry department, wildlife area managers, veterinary organizations, animal welfare organizations and individual working on disease aspects of animals. It will help to include and implement the veterinary perspective in wildlife management.
- **Collaboration and Partnerships**: Foster collaborations with government agencies, research institutions, and conservation organizations to leverage expertise and resources for wildlife health initiatives.
- **Technology Integration**: Utilize advanced technologies such as remote sensing, GIS, and molecular diagnostics to improve disease surveillance, monitoring, and data analysis.
- **Emergency Response Plans**: Develop protocols and procedures for responding to wildlife health emergencies, including disease outbreaks, mass mortalities, and wildlife rescue operations.
- To prepare a basic stock of requisite chemical immobilization equipment, drugs, tranquillizers, sedatives, narcotics, anesthetics, anti-dotes etc. should be kept to deal with contingencies, in this regard.
- Provide training and professional development opportunities for reserve staff, including wildlife veterinarians, biologists, and field technicians, to enhance their skills in wildlife health management and surveillance.
- To train the frontline staff for sample collection in case of mortalities of wild animals, scat collection and its analysis at the field level, providing first aid to the wild animals in distress
- To conduct a Wildlife Disease Risk Analysis workshop to understand the ecology of Wildlife diseases
- To formulate the strategy for euthanizing wild animals, if needed.
- Research on Study on behavior of a sick individual and healthy individual and assessment of nutrition status of the free ranging wildlife

- **Wildlife Disease Risk Analysis required to do regularly:**
  - Surveillance, monitoring and outbreak investigations as a source of information
  - Active and passive surveillance with statistical modeling
  - Screening test: Selection, interpretation and sample size calculation for effective analysis of the disease outbreak risk in wild animals
  - Formulating modeling for the assessment of the risk of wildlife disease, its monitoring and management.

- Prediction of Bacterial, a viral, parasitic, fungal infection in a wild animal metapopulation

- **Wildlife health management program in any protected areas is grouped under 6 categories.**
    - Preventive Measures - All possible field veterinary measures during a dry spell.
    - Health Monitoring Operation - Physical condition of key endangered species.
    - Disease Diagnostic Operations - Emphasis on forensic analysis.
    - Disease Control Operations - Preventive, Evaluation and monitoring.
    - Disease Impact Assessment - Utilizing veterinary research personally.
    - Evaluation of Management Strategies-Periodical evaluation by the DFO/DD.
    - The above aspects will be taken into account to deal with the wildlife health management plan of the STR.

v. Monitoring and Evaluation:3

- Regular monitoring of program through wildlife veterinary unit of STR and timely reporting and consultation with DD and FD.
- Establish monitoring indicators and protocols to assess the effectiveness of wildlife health surveillance and management activities.
- Regularly evaluate the health status of wildlife populations and habitats within the reserve and track progress towards achieving predefined objectives.
- Use monitoring data to adapt and refine wildlife health strategies based on emerging trends and challenges.
- Detail documentation of all related incidences of wild health and disease outbreak.
- Analyze the trends of disease outbreaks or unnatural deaths.

CHAPTER - 8

ECO DEVELOPMENT AND LIVELIHOODS

The Management Effectiveness Evaluation (MEE) of the Tiger Reserve underscores the imperative of actively involving local communities and establishing alternative income avenues, as highlighted in the actionable points for Sahyadri Tiger Reserve (STR). This recommendation aligns with the global trend of adopting a community participatory approach to natural resource management. Such an approach, endorsed by the National Forest Policy (1988) of the Government of India, emphasizes sustainable management of protected areas through community engagement.

India has effectively implemented strategies involving community participation in wildlife conservation, including eco-development schemes within protected areas through the Biodiversity Conservation Program. This approach, also known as community participation or joint forest management, has shown positive outcomes. Embracing this approach helps in conserving forest cover and biodiversity while addressing the livelihood needs of local communities dependent on forest resources. This is especially important for conserving endangered species and their habitats, which are at risk of fragmentation.

Since 2013-14, the Eco-development program has been operational in buffer zone villages of STR. Subsequently, the Government of Maharashtra introduced the Dr. Shyama Prasad Mukharji Jan Van Vikas Yojana in the financial year 2015-16, allocating Rs. 25.00 lakh to each village for comprehensive development and livelihood opportunities. By 2024-25, 59 out of 85 buffer zone villages have benefited from this scheme, fostering goodwill and support for the tiger reserve. The list of EDC villages and work done under this scheme is given in annexure-16.

To further enhance community engagement and provide alternative income sources, the following considerations should be taken into account:

Objectives:

- **Reducing Dependency on Forest Resources:**
  Aim to diminish the reliance of forest and forest-dwelling communities on natural resources sourced from forests.
- **Providing Conservation-Compatible Development:**
  Deliver tailored conservation-friendly measures suitable for each site, fostering environmentally sustainable development.
- **Enhancing Practices for Sustainability:**
  Improve existing practices while devising ecologically sustainable and economically viable alternatives, ensuring

community acceptance.

- **Fostering Community Participation and Trust:**
  Secure willing participation of stakeholders and cultivate mutual trust between managers and local communities.
- **Convergence of Government Programs:**
  Coordinate with other governmental agencies to align ongoing development programs for forest- dependent villages.
- **Ensuring Social Fencing for Conservation:**
  Safeguard biological diversity, productivity, and the integrity of the tiger reserve by establishing social fencing through the eco-development program.
- **Sharing Conservation Responsibilities and Benefits:**
  Distribute the duties and benefits of conservation equitably between the Tiger Reserve and the surrounding villages.

Issues and Problems:

- **Dependence on Forest Resources:**
  Villagers rely on resources from adjacent forest areas for their essential needs.
- **Lack of Alternative Solutions:**
  Absence of viable alternatives within the village exacerbates the dependency on forests.
- **Need for Livelihood Opportunities:**
  Villagers require opportunities for livelihood development to facilitate community growth.
- **Biotic Pressure on Tiger Reserve:**
  The Tiger Reserve must alleviate biotic pressure to effectively conserve wildlife.
- **Lack of Interagency Coordination:**
  Insufficient coordination among various governmental agencies operating in these villages complicates development efforts.
- **Trust Deficit between TR Administration and Locals:**
  Mutual trust between the Tiger Reserve administration and residents is lacking, hindering effective collaboration and progress.

Strategies:

- **Utilizing Government Resolutions:**
- Formulate a comprehensive Government Resolution based on insights gained from a decade of eco-development program implementation.
- **Community Consultation:**
  Engage in dialogue with villages to garner input and feedback regarding the implementation of the eco-development program.
- **Gram Sabha Resolution:**
  Obtain Gram Sabha Resolutions endorsing the implementation of the eco-development program.

- **Formation of Executive Committees:**
  Establish an executive committee or Eco-development Committee, operating as a sub- committee of the Gram Panchayat, as determined by the Gram Sabha.
- **Memorandum of Understanding (MoU):**
  Facilitate the signing of MoUs between villages and reserve managers to formalize collaboration and commitments.
- **Micro-Plan Preparation:**
  Develop micro-plans with active participation from villagers, utilizing participatory exercises such as Participatory Rural Appraisal (PRA) and Rapid Rural Appraisal (RRA).
- **Selection of Work and Beneficiaries:**
  Identify work projects and beneficiaries through the Gram Sabha process.
- **Adherence to Government Rules:**
  Ensure compliance with relevant government regulations concerning the procurement and construction of infrastructure when delivering benefits to beneficiaries.
- **Collaboration with Other Agencies:**
  Foster collaboration with other government agencies and voluntary bodies operating in rural areas to align efforts towards achieving eco-development objectives.
- **Regular Executive Committee Meetings:**
  Schedule monthly meetings of the executive committee for effective planning and coordination.
- **Review Meetings by ACF and RFO:**
  Conduct monthly review meetings of all Eco-Development Committees (EDCs) by the Assistant Conservator of Forests (ACF) and Range Forest Officers (RFOs).
- **Division-Level Workshops:**
  Organize meeting-cum-workshops at the division level at least once every three months to facilitate knowledge sharing and coordination among EDCs.

8.1 Policy and Institutional Framework:

The Eco-development and livelihood works are to be undertaken as per the Government of India policy through the Eco-Development Committee, which is to be constituted for each village. As of now, 59 EDCs are established in STR. There are 85 villages in the buffer zone. In the villages where the EDC has not been established, efforts should be taken to establish them in the next three years.

8.2 Livelihood Support Initiatives through Village Micro Plans:

Livelihood support initiatives will include involvement of villagers in ecotourism, which is quite possible in the villages that are located in gates of the Tiger Reserve or where nature tourism potentials are available. In other villages, training for youth for self-employment, encouraging the people for artisan works, etc., will be carried out in the first three years. The selected villages will be targeted. The micro plans for the

village, wherein EDC is functioning, have already been prepared. Eco-development activities, viz., reducing the dependency on natural resources by providing alternatives, providing means to earn a livelihood, provisions for reduction in man-animal conflict by providing protection to the crop by solar fencing, quick payment of compensations as per rules, will be carried out as per micro plans and the decisions taken by the EDC.

8.3 Integration of Rural Development Program:-

Most of the rural development programs are being implemented through Zilla Parishad of the district. To integrate the activities of various departments, the Government of Maharashtra vide Government Circular, Revenue & Forest Department No. FDM-2011/CN.100/F-2, dated 22/12/2011, has directed all government agencies working in rural areas to integrate their programs with Eco-Development Committees established in the areas adjoining wildlife Protected Areas. The Circular entrusts particular activities to be carried out by different agencies in the Eco-Development villages. In the same circular, it has been instructed to send a copy of the development plan in the sanctioned micro plan to the concerned development agencies.

In the same circular, responsibilities have been given to the line departments as follows:

- **Chief Executive Officer of Zilla Parishad**

  Shall take the village committee meeting as per provision of the Mumbai Gram Panchayat Act 1958 for the constitution of the Eco Development Committee in the village.

  Shall plan to execute activities incorporated in the micro plan of EDC through 7% forest grants.

  Shall supply on priority the subsidized biogas plant in the successful EDC villages as per the recommendation of the Deputy Conservator of Forests.

  Shall confirm that all the activities envisaged in the micro plan are implemented by all the executive agencies of the district.

- **Animal Husbandry Department**

  Shall implement a scheme of 100% castration of unproductive oxen in the EDC villages. Shall provide high-milking cattle instead of low-milking local cattle.

- **Project Officer, District Planning Committee**

  Shall select the beneficiary for improved stove, LPG, Solar energy equipment, etc., from the EDC villagers.

- **Minor Irrigation Department**

  Shall take up the work like desilting of old irrigation tank, village tank, KT Weir, or any other water body through the Mahatma Gandhi National Rural Employment Guarantee Scheme in the EDC villages.

8.4 Monitoring and Evaluation: -

The implementation, monitoring, and evaluation of Eco-development works will be done by the

committee of the District Collector, Chief Executive Officer (Zilla Parishad), Project Director District Rural Development Agencies, Deputy Director (Buffer), Deputy Director (Social Forestry), Deputy Commissioner (Animal Husbandry), and Project Officer Tribal Development as constituted vide Government Circular No. FDM-2011/C.N.100/F-2, dated 22/12/2011, once in 6 months.

8.5 Formation of Eco Development Committees (EDCs), Confederation of EDCs and other Supporting institutions like Self Help Groups (SHGs) and Nature Clubs.

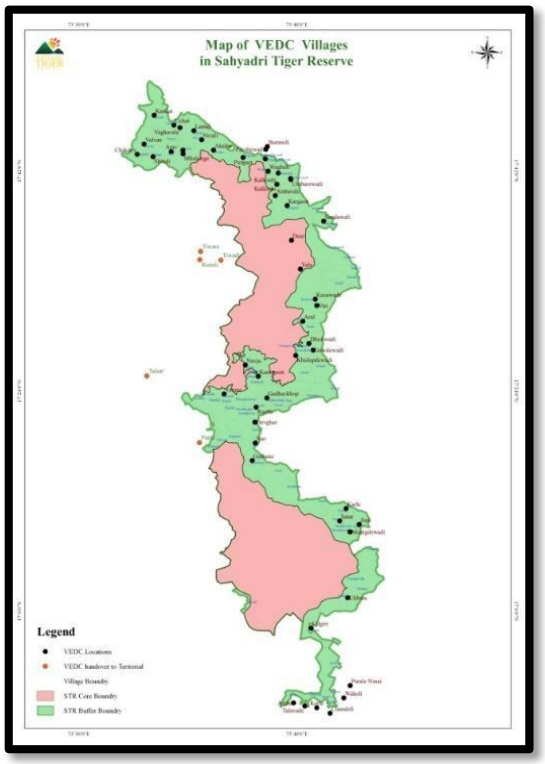
As many as 59 (36- Koyna and 23- Chandoli) Village Eco Development Committees (VED) have been established so far, and the process is ongoing. Eco Development Committees (EDCs) will extend to all buffer villages in the remaining villages also. More emphasis will be given to reducing dependency on the forest and increasing livelihood opportunities for the villagers. Training and capacity building of self-help groups in Eco Development Committees (EDCs) need to be undertaken. Self-help groups will be the major partner for running Eco-tourism-related activities in the buffer zone of Sahyadri Tiger Reserve.

Major objectives of EDCs are as follows

- Increasing income/productivity, alternative employment opportunities, and reducing human pressure on protected areas through sustainable development of people-water-forest-land resources in villages.
- To involve the villagers in the protection and conservation of protected forest areas.
- Establishing symbiosis by reducing human-wildlife conflict
- Utilization of benefits from forest and wildlife conservation for rural development

Duties and Responsibilities of EDCs

- Protecting and conserving forests, wildlife, and biodiversity jointly.
- To cooperate with forest authorities to control forest crimes.
- Proper implementation of the micro planning framework.
- Planning and implementation schemes for wildlife conservation and tourism through village development in coordination with other departments.
- Formulate and implement a plan as per the State Nature Tourism Policy to promote nature tourism in protected forest areas. In this, it will be taken into consideration to develop the local tourist places without destroying them, thereby providing employment opportunities to the locals and conveying the importance of those places the general public.



Map.8.1: Village Map having EDC

Table.8.1: List of Villages and Funds received to EDC

- **Chandoli Wildlife Division**

Sr.No.	Range	EDC	Year	CAMPA (Rs)	VEDC 2406-8711 (Rs)	Total Funds (Rs)	Remark
1	Helwak	Pathe	2016-17	1000000	2402418	3402418	
2		Nav	2015-16	1200000	2091470	3291470	
3		Rasati	2016-17	1700000	4041100	5741100	
4		Talsar	2017-18	0	2500000	2500000	
5		Dastan	2022-23	0	2500000	2500000	
6		Devghar	2022-23	0	2500000	2500000	
7	Dhebewadi	Karanjawade	2023-24	0	2500000	2500000	
8		Dabachamal	2023-24	0	2500000	2500000	
9		Mhalungevasti	2023-24	0	2500000	2500000	
10		Konkanwadi	2023-24	0	2500000	2500000	
11		Shivandeswar	2023-24	0	2500000	2500000	
12		Gothane	2015-16	1700000	2216802	3916802	
13		Satar	2015-16	1200000	2036804	3236804	
14		Karale	2015-16	0	2643128	2643128	
15		Jinti	2017-18	0	2500000	2500000	
16		Chirambe	2018-19	0	2500000	2500000	Handed over to Satara (T) Division
17		Nivi	2018-19	0	2500000	2500000	
18		Nigade	2018-19	0	2500000	2500000	Handed over to Satara (T) Division
19		Ghotil	2018-19	0	2500000	2500000	
20		Risawad	2018-19	0	2500000	2500000	
21		Kolekarwadi	2018-19	0	2500000	2500000	
22		Udhavane	2018-19	0	2500000	2500000	
23		Amba	2017-18	0	2500000	2500000	
24		Kerle	2017-18	0	2424999	2424999	
25		Chandoli	20189	0	2564260	2564260	

26	Amba	Udgiri	2017-18	0	2590440	2590440	
27		Ukhlu	2016-17	1200000	1484571	2684571	
28		Talwade	2017-18	0	2500000	2500000	
29		Parali-Ninai	2016-17	2000000	3474860	5474860	
30		Vakoli	2016-17	1000000	2797856	3797856	
		Admin Expence		700000	1546050	2246050	
	Grand Total			**11700000**	**77314758**	**89014758**	

- **Koyna Wildlife Division**

Sr. No.	**Range**	**EDC**	**Year**	**CAMPA 2012-13 2017-18 (Rs)**	**VEDC 2406-8711 (Rs)**	**Total Funds (Rs)**	**Remark**
1	Bamnoli	Umbarewadi	2017-18	0.00	2754999.00	2754999.00	
2		BamnoliKasbe	2018-19	0.00	2425000.00	2425000.00	
3		Pawashewaddi	2018-19	0.00	2425000.00	2425000.00	
4		ChorgeUmbari	2018-19	0.00	2425000.00	2425000.00	
5		Munavale	2015-16	1200000	1700000.00	2900000.00	
6		DevachiShebadi	2015-16	1700000.00	1700000.00	3400000.00	
7		Waghali	2016-17	0.00	2065800.00	2065800.00	
8		Kargav	2015-16	3200000.00	1029000.00	4229000.00	
9		Ambawade	2015-16	2200000.00	1029000.00	3229000.00	
10		Kalkoshi	2022-23	0.00	2500000.00	2500000.00	
11		Tetli	2017-18	0.00	2754999.00	2754999.00	Handover to Satara (T)Division
12		Daretamba	2017-18	0.00	2537199.00	2537199.00	
13		MazreShembdi	2017-18	0.00	2497599.00	2497599.00	
14	Kandat	Pimpari	2015-16	2200000.00	1700000.00	3900000.00	
15		Aaklpe	2015-16	1000000.00	2228000.00	3228000.00	
16		Waghawale	2015-16	1200000.00	1700000.00	2900000.00	
17		Lamaj	2015-16	500000.00	2528000.00	3028000.00	
18		Nivali	2015-16	1200000.00	1700000.00	2900000.00	
19		Uchat	2016-17	0.00	2300000.00	2300000.00	
20		Kandat	2016-17	0.00	2365800.00	2365800.00	
21		Chakdev	2017-18	0.00	2481099.00	2481099.00	
22		Mhalunge	2015-16	3200000.00	2000000.00	5200000.00	
23		Morni	2015-16	2200000.00	1400000.00	3600000.00	
24		Shindi	2015-16	2200000.00	1700000.00	3900000.00	
25		Valvan	2015-16	2200000.00	1700000.00	3900000.00	
26		Aarav	2015-16	2200000.00	2200000.00	4400000.00	

27	Patan	Khuduplewadi	2021-22	0.00	1725000.00	1725000.00	
28		Awasari	2021-22	0.00	1800000.00	1800000.00	
29		Kusawade	2021-22	0.00	1800000.00	1800000.00	
30		Dhuelwadi	2021-22	0.00	1800000.00	1800000.00	
31		Gawadewadi	2021-22	0.00	1800000.00	1800000.00	
32		Van	2021-22	0.00	1725000.00	1725000.00	
33		Sandawali	2022-23	0.00	2500000.00	2500000.00	
34		Vele	2022-23	0.00	2858236.00	2858236.00	
35		Deur	2022-23	0.00	2557780.00	2557780.00	
36	Koyna	Navja	2021-22	0.00	1850000.00	1850000.00	
37		Torane	2021-22	0.00	2500000.00	2500000.00	
38		Kamargav	2022-23	0.00	2500000.00	2500000.00	
39		Mirgav	2023-24	0.00	2500000.00	2500000.00	

40	Koyna	Tivdi	2016-17	1000000.00	2455016.00	3455016.00	Handover to Chiplun(T)Division
41		Tivre	2017-18	0.00	2771499.00	2771499.00	
42		Riktoli	2018-19	0.00	2425000.00	2425000.00	
43	Karad	Dicholi	2018-19	0.00	2425000.00	2425000.00	Handover to Satara (T)Division
		Admin Expence			156050.00	1546050.00	
		Total		**27400000.00**	**93385076.00**	**120785076.00**	

Table 8.2: Grants Under Dr. Shyamaprasad Mukherji Jan-Van Vikas Samiti in Year 2015-16 To 2023-24

Sr.No	Division	Total EDC	Total Fund	Total Fund 2406-8711	Total Fund CAMPA	EDC with STR	Handover to Territorial Division
1	Chandoli	30	89014758.00	77314758.00	11700000.00	23	07
2	Koyna	43	120785076.00	91839026.00	27400000.00	36	07
Total		**73**	**209799834.00**	**169153784.00**	**39100000.00**	**59**	**14**

Table 8.3: Activities Under Dr. Shyamaprasad Mukherji Jan-Van Vikas Yojna Livelihood Program

Sr.No		Details of work	Total Number
1	Solar Energy Based Equipment / Facilities	solar home light distribution	2936
		solar street light distribution	335
		solar water heater	02
		Solar fencing	30
		Solar lamp	1168
2	es and Implements for	vermicompost beds	83
		motor pipe line	37
		Distribution of milch animals	30
		Distribution of honey boxes	342

	Agriculture	Distribution of poultry cage	59
		Distribution of poultry chicks	175
		Damping / Repairing of Wells	4
		Seed distribution	10
		Gabion Bandhara	20
		Van-talav	01
		Tube well	01
3	Strengthening& Facilities	L.P.G Allotment	1873
		Gas refill number	14091
		water tank	15
		Water heater	878
		Supply distribution of water heating pumps	02
		Gas heater allocation	100
		Distribution of cookers and containers	362
		Distribution of flour mills	104

8.6 Livelihood Support Initiatives through Micro Plans

The village-level micro plans reflect proposed livelihood options vis-à-vis the various zone plans.
Livelihood training to youths and women will be supported through various schemes as well as TCF. Training for skill development of women will be such that it will create earning opportunities at the local level. NTFP-based livelihood activities will be initiated in a cluster manner. Repetition of NTFP livelihood activities will be avoided.

8.7 MONITORING AND EVALUATION

In order to execute/monitor and solve the problems related to EDCs, a State-level steering committee was formed under the chairmanship of Principle Chief Conservator of Forest (Wildlife), Maharashtra State, Nagpur, as follows.

Table No.8.4: to EDCs State-level steering committee

Sr.No.	Name	Committee
1	Principal Chief Conservator of Forest (Wildlife), Maharashtra State, Nagpur.	President
2	Additional Principal Chief Conservator of Forest (Wildlife), East, Nagpur.	Member
3	Principal Chief Conservator of Forest (Wildlife), West, Mumbai.	Member
4	Principal Chief Conservator of Forest (Eco-Tourism and Wildlife), Maharashtra State, Nagpur.	Member Secretary
5	Commissioner, Tribal Department, Nashik	Member
6	Member Secretary, Maharashtra Pollution Control Board.	Member
7	Member from Office of the Divisional Commissioner, Nagpur.	Member
8	Chief Conservator of Forest /Field Director of All Tiger Reserve.	Member
9	Two members from NGO's	Member
10	Two Additional Principal Chief Conservator of Forest/ Chief Conservator of Forest having work done in the same field	Guest Member

Objective of the Steering Committee:

1. Providing detailed guidance to the project level committee for effective implementation of the plan, Issuing notices
2. To remove obstacles in the implementation of the project-level committee.
3. It will be mandatory to hold the meeting of the state-level committee at least thrice in a year.

Monitoring and evaluation of all works carried out in the buffer zone will be done through the executive committee of the Sahyadri Tiger Reserve Conservation Foundation. This work can also be subcontracted to any individual, NGO, or agency, if decided by the Field Director.

Here are some key criteria that might be considered while monitoring and evaluating the Eco-Development Committee (EDC).

1. **Biodiversity Conservation Metrics:**

- Population trends of key species, including tigers and their prey species.
- Habitat quality and extent, particularly the status of critical habitats like grasslands, water bodies, and corridors.
- Incidence of human-wildlife conflict and its mitigation.

2. **Community Engagement and Livelihood Improvement:**

- Participation rates of local communities in eco-development activities.
- Income generation from alternative livelihoods introduced through the program.
- Improvements in socio-economic indicators such as literacy rates, healthcare access, and poverty levels.

3. **: Infrastructure Development:**

- Progress in infrastructure projects supporting eco-tourism, waste management, and renewable energy.
- Accessibility and maintenance of roads, trails, and visitor facilities.
- Adoption of sustainable practices in infrastructure development to minimize ecological impact.

4. **Capacity Building and Awareness:**

- Training sessions conducted for local communities on conservation practices and sustainable resource management.
- Levels of awareness and understanding among community members about the importance of wildlife conservation and their role in it.

5. **Policy and Institutional Support:**

- Integration of eco-development objectives into the overall management plan of the tiger reserve.
- Allocation of financial resources and support from governmental and non-governmental agencies.
- Existence and effectiveness of policies and regulations supporting eco-development and conservation efforts.

6. **Stakeholder Collaboration:**

- Collaboration and coordination among various stakeholders including government agencies, NGOs, local communities, and businesses.
- Effectiveness of mechanisms for resolving conflicts and fostering cooperation among stakeholders with diverse

interests.

7. **Sustainability and Resilience:**

- Long-term viability of eco-development initiatives beyond the duration of the program.
- Resilience of local communities and ecosystems to external shocks such as climate change or economic fluctuations.

8. **Monitoring and Reporting Mechanisms:**

- Adequacy and effectiveness of monitoring systems for tracking progress against key indicators.
- Timeliness and accuracy of reports generated to inform decision-making and adaptive management.

By evaluating the eco-development program against these criteria, stakeholders can gain insights into its strengths, weaknesses, and areas for improvement, ultimately enhancing its impact on both conservation and community well-being within the tiger reserve.

Overall, monitoring of an eco-development program within a tiger reserve is essential for ensuring accountability, learning, adaptive management, and ultimately, the achievement of conservation and development goals.

Table No.8.5: The following are the mechanisms for monitoring the routine works of EDC:

Sr.No.	Details of Monitoring Criteria	Responsibility
1	Monthly meeting of all EDCs in the range for review	RFO
2	Quarterly meeting of all EDCs of all ranges	ACF/Sub-DFO
3	Half-Yearly Review of all EDCs in Division	DD
4	Yearly Review of All EDCs in STR	CF and FD
5	Financial Audit of each EDC every year, and its Action Taken Report	and Secretary of EDC
6	Social Audit of each EDC every year	and Secretary of EDC

CHAPTER 9

IMPLEMENTATION STRATEGY

9.1 State Level Monitoring Committee

Implementation of various schemes, program and plans for the buffer zone would be on the basis of G.R. dated 5/10/2011 and any other instructions from the NTCA New Delhi, State Govt. or the PCCF (WL), from time to time.

9.1.1 Tiger Conservation Foundation, State Level Monitoring Committee And Tiger Reserve Level Executive Committee

The Tiger Conservation Foundation represents a fresh institutional framework designed to complement the management of tiger reserves. It serves as a vital liaison with various eco-development committees and production sectors within the landscape. Registered under the Mumbai Public Trust Act 1950, the Foundation operates as a Trust within the state. Its structure includes a State-level Governing Body and a field-level executive committee chaired by the Field Director. This executive committee comprises representatives from Eco-development committees, nominated by the Governing Body. The Foundation operates as both a non-profit center and a development agency, fostering local participation in forest and wildlife conservation through initiatives like social fencing.

Established in 2014 for the Sahyadri Tiger Reserve, the Foundation operates under the name Sahyadri Tiger Conservation Foundation Trust, commonly known as "The Foundation."

Executive committee the office bearers are as follows.

Table No.9.1: Executive Committee

Sr. No.	Name	Remark
1	Conservator of Forest and Field Director, Sahyadri Tiger Reserve, Kolhapur	Chairman
2	Deputy Director, Koyna, Sahyadri Tiger Reserve, Karad	Member Secretary-1
3	Deputy Director, Chandoli, Sahyadri Tiger Reserve, Karad	Member Secretary-2
4	Asst. Conservator of Forest, Dhebewadi	Member
5	Range Forest Officer, Bamnoli	Member
6	Range Forest Officer, Koyna	Member
7	Range Forest Officer, Chandoli	Member
8	Representative of Eco-development Committee, Amba (Rotational)	Member
9	Representative of Eco-development Committee, Kamargav (Rotational)	Member

9.1.2 State-level monitoring committee

As per Section 38U, Wildlife (Protection) Amendment Act, 2006, No. 39 of 2006, dated 3rd September 2006, Chapter-IVB, provides for the constitution of a 'steering committee' by the State Government for ensuring coordination, monitoring, protection, and conservation of tiger, co-predators and prey animals within the tiger range states, with the composition as indicated below:

Table No.9.2: State-level monitoring committee

Sr. No.	Name	Remark
1	The Chief Minister	Chairperson
2	The Minister in charge of Wildlife	Vice-Chairperson
3	Some official members not exceeding five, including at least two Field Directors of the tiger reserve or Director of National Park, and one from the State Government's Departments dealing with tribal affairs	Member
4	Three experts or professionals with qualifications and experience in conservation of wildlife, of which at least one shall be from the field of tribal development	Member
5	Two members from the State's Tribal Advisory Council	Member
6	One representative each from the State Government's Departments dealing with Panchayati Raj, Social Justice, and Empowerment	Member
7	Chief Wildlife Warden of the State is a member	Secretary, ex officio

The primary mandate of the above committee is to ensure sectoral coordination for steering the tiger agenda at the state level. This would also ensure a macro level monitoring.

9.2 Integration of Rural Development Programs:

The majority of rural development programs are implemented through the Zilla Parishad of the district. To integrate the activities, a project-level committee consisting of the Field Director as Chairman is as follows.

Table No.9.3: Integration of Rural Development Programs

Sr. No.	Name	Committee
1	Conservator of Forest and Field Director of STR	President
2	Deputy Director (Koyna)	Member Secretary
3	Deputy Director (Chandoli)	Member Secretary
4	Divisional Officer (Revenue)	Member
5	Chief Executive Officer, Zhila Parishad	Member
6	District Superintendent of Agriculture	Member
7	Additional Tribal Commissioner	Member
8	District Animal Husbandry Officer	Member
9	Deputy Director, Ground Water Survey and Development Agency	Member
10	Executive Engineer, Irrigation Department	Member
11	Representative of District Apex Bank	Member
12	Honorary Wildlife Warden	Member
13	Two Members from NGO's	Member
14	Two members from EDCs	Member
15	Regional Director, Maharashtra Tourism Development Corporation	Member

The nature of the work of the project-level committee will be as follows.

- To approve the final list of project-level villages for implementing the said scheme
- To approve the micro-plan and the works therein,
- Preparation of project report.
- Selection of experts for the scheme.
- To implement the schemes implemented through various departments in priority-selected areas, villages, and to coordinate various departments for the same.
- Disbursement of funds as per the micro plan, subject to the budgetary provision.
- Controlling the execution of works as per the micro plan and evaluating the work.

The Committee will meet regularly and integrate all Rural Development Schemes in the villages of the buffer zone. The help of NGOs, Self-help group, and local clubs will be sought for the integration of Rural Development.

9.3 Formation of Eco Development Committees (EDCs), Confederation of EDCs and Other Supporting Institutions Like Self Help Groups (SHGs) And Nature Clubs:

As many as 59 (36- Koyna and 23- Chandoli) Village Eco Development Committees (VED) have been established so far, and the process is ongoing. Eco Development Committees (EDCs) will extend to all buffer villages in the remaining villages also. More emphasis will be given to reducing dependency on the forest and increasing livelihood opportunities for the villagers.

Training and capacity building of Self-help groups in Eco Development Committees (EDCs) need to be undertaken. Self-help groups will be the major partner for running Eco-tourism-related activities in the buffer zone of Sahyadri Tiger Reserve.

Major objectives of EDCs are as follows

- Increasing income/productivity, alternative employment opportunities, and reducing human pressure on protected areas through sustainable development of people-water-forest-land resources in villages.
- To involve the villagers in the protection and conservation of protected forest areas.
- Establishing symbiosis by reducing human-wildlife conflict
- Utilization of benefits from forest and wildlife conservation for rural development

Duties and Responsibilities of EDCs:

- Protecting and conserving forests, wildlife, and biodiversity jointly.
- To cooperate with forest authorities to control forest crimes.
- Proper implementation of the micro planning framework.
- Planning and implementation schemes for wildlife conservation and tourism through village development in coordination with other departments.
- Formulate and implement a plan as per the State Nature Tourism Policy to promote nature tourism in protected forest areas. In this, it will be taken into consideration to develop the local tourist places without destroying them, thereby providing employment opportunities to the locals and conveying the importance of those places to the general public.

9.4 Livelihood Support Initiatives through Micro Plans

The village-level micro plans reflect proposed livelihood options vis-à-vis the various zone plans. Livelihood

training to youths and women will be supported through various schemes as well as TCF. Training for skill development of women will be such that it will create earning opportunities at the local level. NTFP-based livelihood activities will be initiated in a cluster manner.

9.5 Monitoring and Evaluation:

Monitoring and evaluation (M&E) criteria for an eco-development program in a tiger reserve are crucial for assessing its effectiveness in achieving conservation goals while also promoting sustainable development for local communities. It is also essential for maximizing its effectiveness, accountability, learning, and long-term sustainability, ultimately contributing to the conservation of biodiversity and the well-being of local communities. Evaluation helps determine whether the eco-development interventions are achieving their intended goals and objectives. It provides insights into what is working well and what needs improvement, allowing for adjustments to be made to enhance.

cy, if decided by the Field Director.

CHAPTER – 10

MAINSTREAMING STRATEGY WITH VARIOUS PRODUCTION SECTORS

Mainstreaming tiger/wildlife conservation concerns in various production sectors is imperative for the buffer zone to be viable and fulfill its objectives. This should involve modification of development activities/practices in the key production sectors to make them more 'Conservation friendly'. The process is sector as well as landscape specific. However, some generic suggestions based on environmental guidelines issued by the MoEF & CC for developmental projects in different sectors area are given below in relative section.

Depending upon site attributes, a holistic site specific package of measures in as appropriate combination most suited to the given site will emerge as a result of a fully participatory planning process, involving local people, NGO's and government agencies as conducted by Field Director with the coordination/ assistance of District administration.

10.1 FORESTRY: -

It is emphasized that forestry operations within the Buffer area will be adjusted to align with the requirements outlined in the NTCA guidelines dated 11.02.2010, specifically aimed at addressing the source-sink dynamics of Tiger populations. The Buffer zone primarily comprises forestry activities, situated in hilly and undulating terrain, managed under Protection Working Circles within respective divisions. These areas serve as collection grounds for minor forest produce such as Hirda, Hela, Shikekai, and Tamalpatra, while also supporting grazing activities for local communities. However, forest fires pose a significant threat, causing substantial damage. Additionally, a considerable portion of privately owned forest land remains fallow. The integration of wildlife conservation with forestry practices is already outlined in the working plans of relevant forest divisions, ensuring adherence to prescribed guidelines. Necessary adjustments will be made as required to maintain compliance.

Key Strategies:

- **Integrated Forest Management:** Implement landscape-level forest management approaches that encompass both tiger reserves and adjacent forest areas, focusing on habitat connectivity and ecological corridors.
- **Enhanced Protection Measures:** Strengthen anti-poaching and law enforcement efforts to combat wildlife crime and ensure the safety of tigers and their habitats.
- **Community Participation:** Empower local communities through capacity building, alternative livelihood programs, and equitable benefit-sharing mechanisms, fostering their stewardship of natural resources and support for conservation objectives.

- **Scientific Research and Monitoring:** Conduct rigorous scientific research and monitoring to assess tiger population dynamics, habitat quality, and human-wildlife interactions, guiding evidence-based conservation strategies.
- **Education and Outreach:** Engage in public outreach initiatives, environmental education programs, and awareness campaigns to foster appreciation for tigers and their habitats, encouraging responsible behavior among visitors and local residents alike.

The following forestry activities will be undertaken:

- Forestry and allied works will be conducted in accordance with TCP buffer zone prescriptions once they are prepared and sanctioned. Until then, guidelines issued by MoEF & CC and NTCA will be followed while implementing the prescriptions of the working plan in operation.
- Daily monitoring of wildlife/tiger presence in standardized formats.
- Foot patrolling by staff to ensure protection using the M-STrIPES Method.
- Monitoring of carnivore kills.
- Monitoring of water resources.
- Implementation of Joint Forest Management of forests, grasslands, and scrub-savanna lands with formalized prior agreements for substantial sharing of usufruct, contributing directly to protection and conservation.
- Organized collection of important Non-Wood Forest Products with measures to ensure long-term sustenance of productivity.
- Timely payment of compensation for livestock depredation by wild carnivores.
- Payment of compensation for crop damage by wild animals.
- Harvest of green grass and plant fodder during monsoon in designated areas (if necessary, rotational) in the 'conservation' and 'extension' buffer zones.
- Regulation of livestock grazing in areas prone to wild ungulates.
- Monitoring village cattle for disease.
- Retention of old/dead trees as prescribed in management plans and working plans.
- Development of meadows and eradication of weeds in a selective manner after study.
- Implementation of simple water harvesting and catchments treatment works.
- Fire protection by village committee.
- Exchange of Tiger/wildlife presence data with nearby protected areas or tiger reserves.
- Preferential employment of locals in all the above works.
- Maintenance of village-level wildlife crime dossier.
- Protection of riparian margins.
- Maintenance of grassy blanks.

- Retention of endemic/endangered species.
- Staggering of forest stands belonging to different age groups.
- Provision of incentives to local communities from the fund accruing through recycling of gate receipts, forming part of a MoU with the Tiger Conservation Foundation in the Village-level micro- plan.

Tree felling / Thinning:

Considerations for tree felling or thinning in the buffer area, despite tree cutting being a major source of employment and income in Patan Tauka in Satara, Shahuwadi Taluka in Kolhapur, and Sangameshwar Taluka in Ratnagiri District:

- Ecological availability of a tree must be determined before removal, ensuring that it does not create a gap beyond 43 to 45% and that regeneration of species within a radial distance of twice the crown radius is 'established.'
- Avoid clear felling and other silvicultural systems promoting concentrated regeneration, favouring a high forest system with diffused regeneration.
- Consider the status of regeneration as a key factor in permitting felling and avoid areas with considerable disturbance.
- Use the relationship between canopy class and wild ungulate dung presence as a guide for stem removal after considering regeneration status.
- Manage buffer/corridor areas for wild ungulates at a level 30% lower than optimal levels in core areas.
- In Sal forests of Central India, permit selective timber harvest in buffer/corridor areas to maintain canopy cover above 43% during winter months to minimize tiger-human conflict.
- Increase openings to allow more light, fostering regeneration and attracting wild ungulates and tigers.
- Maintain buffer/corridor management to sustain gene flow without elevating its status to that of core areas in terms of wildlife abundance.

Collection of NTFP

Non-Timber Forest Products (NTFPs) play a vital role in the livelihoods of millions of people worldwide, particularly in indigenous and local communities. However, the unsustainable collection of NTFPs can lead to biodiversity loss and ecological degradation. Mainstreaming conservation strategies into the collection of NTFPs is crucial to ensure their sustainable use while preserving forest ecosystems.

Conservation Strategies:

- **Sustainable Harvesting Practices:** Implementing sustainable harvesting techniques such as selective harvesting, rotation of collection areas, and seasonal restrictions can help minimize the impact on NTFP populations and their habitats.
- **Community Engagement and Empowerment:** Involving local communities in decision-making processes and empowering them to manage NTFP resources fosters a sense of ownership and encourages sustainable practices. This can be achieved through participatory approaches, co-management agreements, and capacity-building initiatives.
- **Research and Monitoring:** Continuous research on NTFP ecology, population dynamics, and socio-economic impacts is essential for informed decision-making. Monitoring programs can track NTFP populations, assess harvest impacts, and adapt management strategies accordingly.
- **Legal and Policy Frameworks:** Developing and enforcing appropriate legal frameworks and policies that regulate NTFP collection, trade, and management is critical. These frameworks should incorporate principles of sustainability, equity, and benefit-sharing while considering the rights of indigenous peoples and local communities.
- **Value Addition and Market Development:** Promoting value addition activities such as processing, certification, and branding can enhance the economic viability of sustainable NTFP management. Developing niche markets for sustainably harvested NTFPs incentivizes conservation efforts and supports livelihood diversification.
- **Conservation Incentives:** Providing incentives such as payment for ecosystem services (PES), carbon credits, and eco-certification schemes can encourage conservation-friendly NTFP management practices. These incentives recognize the ecological services provided by intact forest ecosystems and incentivize their conservation.

Following points should be considered while harvesting and collecting NTFP from the buffer area:

1. **Assessment of Regeneration Status:**
    - NTFP collection should be avoided in areas with maximum disturbance and inadequate regeneration to prevent adverse effects on species demography.
    - Compare regeneration status in buffer areas with that in core habitats to determine ecological health.
    -
2. **Protection of Endangered Fauna:**
    - Prohibit collection in areas with endangered arboreal fauna to safeguard their habitats and populations.

3. **Sustainable Harvesting Practices:**
    - Prohibit lopping or felling of trees during NTFP collection to minimize habitat disturbance.
    - Preserve canopy bridges to maintain ecological connectivity within the area.
4. **Timing and Patterns of Collection:**
    - Regulate collection timings, avoiding early morning or late evening to minimize disturbance to wildlife.
    - Study collection patterns to determine ecologically permissible practices.
5. **Regulation of Harvesting Quantities:**
    - Regulate the quantity of NTFPs collected, considering consumption by wildlife to maintain ecological balance.
6. **Estimation of NTFP Availability:**
    - Estimate NTFP availability, considering factors such as fruit crop yield per branch, to ensure sustainable harvesting practices.
7. **Fire Management:**
    - Prohibit the use of fire to promote leaf flush, as it can lead to forest fires and habitat destruction.
8. **Promotion of Fruit Trees:**
    - Foster fruit tree growth to support frugivores affected by fruit removal during NTFP collection.
9. **Density Comparison:**
    - Compare NTFP species density in buffer areas with that in core habitats. Avoid extraction in low-density areas to preserve species populations.
10. **Monitoring and Reporting:**
    - Maintain a chart documenting NTFP collection across divisions over months for effective monitoring and management.
11. **Sustainable Management Indicators:**
    - Prescribe site-specific indicators for sustainable management of different NTFP species based on regeneration status and ecological needs.
12. **Community Engagement and Nursery Techniques:**
    - Promote nursery techniques for NTFP species, especially those with medicinal value, through community involvement and incentivization.
13. **Regulation through Payment for Ecosystem Services (PES):**
    - Implement PES schemes to regulate NTFP collection, incentivizing sustainable practices that benefit ecosystem conservation.

Mainstreaming conservation strategies in the collection of NTFPs is essential for balancing socio-economic development with biodiversity conservation. By adopting sustainable harvesting practices, engaging local communities, strengthening legal frameworks, and promoting market-based conservation initiatives, we can ensure the long-term viability of NTFP resources and the ecosystems they depend on. Collaborative efforts involving governments, communities, NGOs, and the private sector are paramount for achieving sustainable NTFP management and fostering resilient forest landscapes.

10.2 Agriculture:-

The agriculture in the buffer zone, which serves as a major source of livelihood for locals, is essential for both sustaining communities and conserving wildlife. The predominant crops, such as paddy, finger millets, and sugarcane, are vital for the area's economy. However, the region's productivity is hindered by its hilly and plateau terrain.

To address these challenges and promote eco-agriculture for food production while safeguarding wildlife, several measures can be adopted:

- **Discouraging Abrupt Changes in Cropping Patterns**: Avoid sudden shifts in cropping patterns to prevent exacerbating human-wildlife conflicts, particularly in areas where sugarcane farming provides habitat for leopards and sloth bears.
- **Managing Sugarcane Expansion**: Mitigate potential man-leopard conflicts arising from the increasing acreage of sugarcane farming in the buffer zone by implementing preventive measures.
- **Maintaining Mosaic Habitats**: Create a diverse landscape comprising fallow lands, cultivation fields, fruit orchards, and plantations to mimic natural forest habitats.
- **Promoting Soil Conservation**: Implement measures to prevent soil erosion and degradation, thereby ensuring sustainable agricultural practices.
- **Preserving Non-Domestic Habitats**: Preserve areas with natural vegetation to support wildlife habitats and biodiversity.
- **Implementing Crop Protection Mechanisms**: Install solar fencing around agricultural areas and villages vulnerable to crop damage by wildlife to mitigate human-wildlife conflicts.
- **Offering Economic Incentives**: Provide financial incentives to farmers for wildlife conservation efforts, such as maintaining buffer zones and adopting eco-friendly farming practices.
- **Encouraging Organic Farming**: Promote the use of green manure and bio-insecticides while discouraging the reliance on chemical fertilizers and pesticides.
- **Facilitating Market Access**: Support marketing initiatives for local agricultural products through partnerships with organizations like the Tiger Conservation Foundation.

- **Promoting Agroforestry and Medicinal Plant Cultivation**: Encourage the cultivation of medicinal plants and the practice of agroforestry in buffer villages to diversify income sources and enhance ecological resilience.
- **Revitalizing Abandoned Fields**: Promote bamboo plantation in abandoned agriculture fields or areas facing crop damage by wild animals.
- **Rewarding Environmental Stewardship**: Provide incentives to local communities for providing carbon sequestration, water conservation, and other environmental services.
- **Respecting Property Rights**: Recognize farmers' property rights concerning genetic resources, fostering a sense of ownership and responsibility.
- **Boosting Rural Tourism**: Encourage rural and agro-tourism initiatives to promote sustainable livelihoods and conservation awareness.
- **Supporting Alternative Livelihoods**: Promote apiculture, sericulture, and other non-agricultural livelihood options to reduce dependence on agriculture.
- **Utilizing Market Instruments**: Use market-based mechanisms, such as organic product certification, facilitated by the Tiger Conservation Foundation, to incentivize sustainable practices.
- **Improving Infrastructure**: Provide financial support for the installation of parapets and covers for private wells in the buffer zone to prevent wildlife-human conflicts and enhance rural safety.

Following strategies can be adopted while mainstreaming Conservation Strategy with Agriculture sector:

- **Awareness and Education**: Start by raising awareness among farmers about the importance of tiger reserves and their role in maintaining ecological balance. Highlight how conserving tigers indirectly benefits agriculture through ecosystem services like pollination, pest control, and soil fertility.
- **Incentivizing Conservation Practices**: Offer incentives to farmers who adopt wildlife-friendly agricultural practices such as organic farming, agroforestry, and integrated pest management. These practices not only support biodiversity but also improve soil health and crop resilience.
- **Buffer Zone Management**: Develop buffer zones around tiger reserves where agriculture is allowed but under strict regulations to minimize human-wildlife conflict. Provide technical assistance to farmers in these zones to implement sustainable farming practices that mitigate negative impacts on wildlife habitats.
- **Livelihood Diversification**: Help farmers in the vicinity of tiger reserves diversify their livelihood options beyond agriculture. This can include ecotourism ventures, handicraft production, or small-

scale enterprises linked to conservation efforts, providing alternative sources of income while reducing pressure on natural resources.

- **Research and Development**: Invest in research to develop innovative agricultural techniques that are compatible with tiger habitat conservation. This could involve studying traditional farming methods used by indigenous communities living alongside tigers and adapting them to modern agricultural practices.
- **Policy Support**: Advocate for policies that recognize the importance of biodiversity conservation in agricultural landscapes. Encourage governments to provide financial support and technical assistance to farmers willing to participate in conservation efforts.
- **Partnerships and Collaboration**: Foster partnerships between government agencies, NGOs, research institutions, and local communities to implement integrated conservation and agricultural development projects. Pooling resources and expertise can lead to more effective solutions.
- **Monitoring and Evaluation**: Establish monitoring programs to track the impact of agricultural activities on tiger habitats and populations. Use this data to refine conservation strategies and ensure that agricultural practices remain sustainable in the long term.

By implementing these strategies, the buffer zone can become a model for harmonizing agricultural productivity with wildlife conservation, ensuring the long-term well-being of both ecosystems and local communities.

10.3 Intergrated Development:-

Eco-Development:

- Participatory village level planning and preparation of village level micro plans for eco-development
- Providing inputs for resource substitution, income generation, community welfare, ecotourism for reducing the resource dependency of local people on surrounding forests.
- Ensuring reciprocal commitments with the local people through respective eco-development committees, forming part of a MoU in the micro plan for safeguarding wildlife interests
- In some of buffer villages Drinking Water Facilities can be assisted through respective eco-development committees.

District Administration:

In Buffer area of Sahyadri Tiger Reserve, following activities can be taken up

- Forest protection, habitat development, roads, ecotourism etc works are to be carried out through DPDC funds in all four Satara, Sangali, Kolhapur and Ratnagiri Districts.
- SMC activities will be under taken State Plan Schemes, CAMPA and DPDC funds.

- Road works can also be taken under State Plan Schemes, CAMPA and DPDC funds. These works can be taken up in coordination with Joint Forest Management Committees/EDC.
- Regular Gram Sabhas organized by the field staff for taking consent and manpower for various integrated activities.

10.4 Animal Husbandry, Dairying:-

Tiger reserves are not isolated ecosystems; they are part of larger landscapes where human activities, including animal husbandry and dairying, intersect with wildlife habitats. Mainstreaming tiger reserve strategies into animal husbandry and dairying practices is essential for promoting harmonious coexistence between wildlife conservation and livelihood enhancement.

- **Habitat Protection and Management:**

  Encourage the adoption of wildlife-friendly practices in animal husbandry and dairying to minimize human-wildlife conflicts within and around tiger reserves.

  Implement measures to prevent encroachment and habitat degradation in critical wildlife corridors and buffer zones, ensuring the uninterrupted movement of both wildlife and livestock.

- **Sustainable Grazing Practices:**

  Promote rotational grazing systems and controlled grazing regimes to prevent overgrazing and habitat degradation in tiger reserve landscapes.

  Educate livestock owners about the importance of grazing management and the role of balanced ecosystems in supporting both wildlife and livestock populations.

- **Disease Control and Monitoring:**

  Establish veterinary healthcare facilities and disease monitoring programs to prevent the transmission of diseases between domestic animals and wildlife.

  Conduct regular health assessments of domestic livestock to mitigate the risk of disease outbreaks that could impact wildlife populations.

- **Livelihood Diversification:**

  Encourage alternative livelihood options such as agroforestry, ecotourism, and non-timber forest produce collection to reduce dependency on livestock grazing in sensitive wildlife habitats.

  Provide training and support for rural communities to transition towards sustainable livelihood practices that complement conservation goals.

1. Collaborative Governance:

- Foster partnerships between wildlife authorities, local communities, and livestock owners to develop collaborative management plans that address the needs of both wildlife and livestock.
- Facilitate dialogue and knowledge-sharing platforms to bridge the gap between conservation objectives and livestock management practices, ensuring mutual understanding and cooperation.

Following strategies should be adopted while mainstreaming Conservation Strategy with Animal husbandry and dairying practices:

- **Livestock Vaccination Mandate:**
  Implement mandatory vaccination programs for livestock in the vicinity of protected areas, ensuring regular and comprehensive coverage.
- **Selective Breeding and Population Control:**
  Gradually reduce the population of indigenous scrub livestock through phased measures while concurrently improving breed quality through controlled mating of healthy, prime-aged females with superior local males.
  Supplement population control efforts by sterilizing scrub bulls to mitigate unchecked breeding.
- **Promotion of Cooperative Dairying:**
  Facilitate cooperative dairying initiatives with robust marketing support to incentivize stall feeding practices and enhance financial stability among local farmers.
- **Stall Feeding Mandate and Fodder Development:**
  Enforce mandatory stall feeding practices in dairy farming operations, promoting the establishment of fodder development plots to ensure year-round availability of green fodder.
- **Financial Assistance for Livestock Improvement:**
  Provide financial aid to farmers for the acquisition of improved milch cattle, empowering them to enhance their dairy farming productivity and profitability.

Integrating tiger reserve strategies into animal husbandry and dairying practices requires a holistic approach that balances the needs of wildlife conservation with the livelihoods of local communities. By promoting sustainable grazing practices, disease control measures, livelihood diversification, and collaborative governance mechanisms, we can enhance the resilience of tiger reserves and promote coexistence between humans, livestock, and wildlife.

10.5 Fisheries:-

Fishing within the Sahyadri Tiger Reserve is restricted, with exceptions made for bonafide use by local residents. However, fishing is permitted in the Warana and Koyana rivers outside the Protected Area (P.A.). Access to fishing areas within the reserve is strictly regulated to ensure compliance with conservation objectives while respecting the traditional rights of local communities.

Following steps can be adopted for Fishing Management Strategies

- **Promotion of Sustainable Fishing Practices:**

  Utilize existing water bodies outside protected areas for eco-friendly and sustainable fishing activities, ensuring minimal ecological impact.

- **Community-Based Management:**

  Allocate exclusive fishing rights to organized cooperatives, user groups, or Eco-Development Committees (EDCs) comprising local residents, subject to adherence to regulations governing sustainability and economic viability.

  Enforce regulations regarding closed areas/seasons and mesh sizes of fishing nets to protect fish populations, while also collaborating to prevent illegal practices such as the use of explosives and poaching.

- **Conservation of Local Fish Species:**

  Prioritize the conservation and propagation of indigenous fish species endemic to the region, safeguarding biodiversity and ecological integrity.

- **Promotion of Fish Farming:**

  Encourage the establishment of fish farming ventures in private agricultural ponds, providing farmers with an additional source of income while reducing pressure on wild fish stocks.

- **Market Development and Infrastructure:**

  Provide marketing support to fisherfolk, including access to cold storage facilities and appropriate transportation arrangements, to ensure the efficient and profitable sale of their catch.

10.6 Rail and Road transport, linear infrastructure and other projects:-

The upgradation and widening of roads built before 1980 must adhere to the guidelines issued by the Government of Maharashtra, specifically those outlined by the Revenue and Forest Department on 03.05.2019. Notably, National Highway No. 166 (Nagpur - Ratnagiri) and National Highway No. 166E (Alibag to Jat) are two significant highways traversing the buffer area of the Sahyadri Tiger Reserve.

- Implementing wildlife crossing signages along roads, overseen by the Public Works Department (PWD).
- Constructing underpasses for wildlife on major highways during widening or expansion projects, overseen by both the PWD and National Highways Authority (NH).
- Installing speed breakers on highways passing through wildlife-rich areas. To mitigate the impact of linear infrastructure and other projects, the following strategies should be adopted:

- **Roads/Highways**: Establishing overpasses and underpasses, regulating speed limits, and occasionally closing traffic.
- **Railway Lines**: There is no any railway route/line passing through STR .
- **Power Transmission Lines**: Insulating lines, implementing surveillance measures, forming memorandums of understanding (MOUs) with electricity boards, conducting special patrols, employing underground cabling, and ensuring adequate height.
- **Irrigation Canals**: Providing covers and creating crossings for animal movement.
- **Open Wells**: Covering them with parapet walls and closing abandoned wells.
- **Wind Mills**: Employing both offsite and onsite measures to prevent turbine collisions with avifauna.

Mainstreaming conservation strategies with rail and road transport, linear infrastructure, and other projects is crucial for sustainable development and biodiversity preservation. This integration aims to minimize environmental impacts and promote harmonious coexistence between infrastructure development and conservation efforts.

- **Ecological Considerations**: Incorporating conservation into transport and infrastructure projects involves assessing potential ecological impacts. This includes identifying sensitive habitats, migratory routes, and biodiversity hotspots to avoid or mitigate adverse effects.

- **Green Corridors**: Implementing green corridors along railways and highways can enhance connectivity between fragmented habitats, facilitating wildlife movement and genetic exchange. This not only aids conservation but also reduces the risk of wildlife-vehicle collisions.
- **Mitigation Measures**: Introducing mitigation measures such as wildlife crossings, underpasses, and overpasses helps minimize habitat fragmentation and disturbance. These structures enable safe passage for wildlife, reducing roadkill and enhancing population viability.
- **Ecosystem Restoration**: Integrating conservation efforts with infrastructure projects presents opportunities for ecosystem restoration. Restoring degraded habitats along transport corridors enhances biodiversity, improves ecosystem services, and contributes to climate resilience.
- **Stakeholder Engagement**: Engaging stakeholders, including local communities, conservation organizations, and government agencies, fosters collaboration and ensures inclusive decision-making. Consultation processes help identify concerns, prioritize conservation goals, and design effective strategies.
- **Policy and Planning Integration**: Aligning conservation goals with transport and infrastructure planning requires integration at policy levels. Incorporating biodiversity considerations into national and regional planning frameworks ensures sustainable development outcomes and legal compliance.
- **Monitoring and Adaptive Management**: Regular monitoring of conservation outcomes and infrastructure impacts is essential for adaptive management. Tracking wildlife movements, assessing habitat connectivity, and evaluating project effectiveness inform adaptive strategies to enhance conservation outcomes.
- **Capacity Building**: Building capacity among relevant stakeholders, including government agencies, project developers, and local communities, enhances understanding and implementation of conservation principles in infrastructure projects.

In summary, mainstreaming conservation strategies with rail and road transport, linear infrastructure, and other projects is imperative for achieving sustainable development goals while safeguarding biodiversity and ecological integrity. By integrating conservation considerations into planning, design, and implementation processes, we can foster synergy between development and conservation priorities for the benefit of both people and nature.

10.7 Tourism:-

Tiger conservation and tourism can coexist harmoniously, offering mutually beneficial outcomes for both wildlife protection and economic development. Effective integration of tiger conservation strategies

with tourism initiatives is vital to ensure the long-term viability of tiger populations and the preservation of their habitats.

- **Sustainable Tourism Practices:** Encouraging responsible tourism practices that minimize disturbance to tiger habitats and adhere to ethical wildlife viewing guidelines. This includes promoting low-impact tourism activities such as guided safaris, nature walks, and community-based ecotourism initiatives.
- **Habitat Protection and Management:** Prioritizing the protection and management of tiger habitats to maintain ecological integrity and ensure sufficient prey populations. Sustainable tourism should be compatible with conservation goals, with designated tourism zones carefully planned to minimize habitat fragmentation and disturbance.
- **Community Engagement and Empowerment:** Involving local communities in tiger conservation efforts and ensuring they benefit directly from tourism revenues. Community-based tourism initiatives can provide alternative livelihoods, empowering communities to become stewards of their natural heritage and active participants in conservation.
- **Education and Awareness:** Raising awareness among tourists about the importance of tiger conservation and the role of responsible tourism in supporting conservation efforts. Educational programs, interpretive signage, and visitor centers can help promote conservation awareness and foster a deeper appreciation for tigers and their habitats.
- **Ecotourism Partnerships:** Collaborating with conservation organizations, government agencies, and tourism stakeholders to develop and implement ecotourism initiatives that prioritize tiger conservation. Public-private partnerships can leverage resources and expertise to support conservation activities while enhancing the visitor experience.
- **Monitoring and Regulation:** Implementing robust monitoring and regulation mechanisms to ensure compliance with wildlife protection laws and sustainable tourism standards. Effective enforcement of regulations is essential to prevent illegal activities such as poaching, habitat destruction, and wildlife trafficking.
- **Research and Innovation:** Supporting scientific research and innovation to enhance our understanding of tiger ecology, behaviour, and habitat requirements. Innovative technologies such as camera traps, satellite tracking, and ecological modelling can provide valuable insights for informed conservation and tourism planning.

Tourism facilities are accessible within designated Eco-tourism Zones across Chandoli National Park and Koyana Wildlife Sanctuary. These zones include Mandur, Paneri-Bhosgaon, Amba, and Helwak in Chandoli National Park, and Koyana, Kusavade-Karwat, Bamnoli-Munavale, and Kandat

in Koyana Wildlife Sanctuary. It is imperative to adhere strictly to the guidelines provided by the National Tiger Conservation Authority (NTCA) when delineating tourism areas on a map.

• Empowering local communities by facilitating wildlife ecotourism ventures.

• Securing contributions from private commercial tour operators and lodge owners to support local community development initiatives.

• Securing contributions from tour operators to maintain tourist facilities and ensure staff welfare.

• Utilizing proceeds from tourist gate receipts to fund community welfare projects through the Tiger Conservation Foundation, thus promoting sustainability and community involvement in conservation efforts.

Mainstreaming tiger conservation strategies with tourism presents a unique opportunity to promote sustainable development, biodiversity conservation, and community well-being. By embracing responsible tourism practices, fostering community engagement, and prioritizing habitat protection, we can ensure that future generations continue to marvel at the majesty of wild tigers in their natural habitats.

10.8 Temple Tourism: -

Temple Tourism and Tiger Conservation Integration:

Blending tiger conservation strategies with temple tourism offers a unique opportunity to protect biodiversity while promoting cultural and spiritual values. By utilizing the religious and cultural significance of temples, we can raise awareness and gain support for tiger conservation. Key points to consider include:

- Cultural Harmony: Temple tourism attracts a diverse group of pilgrims, tourists, and devotees. Integrating tiger conservation messages into temple visits can educate a wide audience on the importance of preserving wildlife and their habitats.
- Educational Initiatives: Temples can become centers for education on the intersection of religion and environmental stewardship. Signage, tours, and multimedia presentations can highlight the significance of tigers in mythology and emphasize the need to protect their habitats.
- Community Engagement: Local communities play a vital role in temple tourism and can be key partners in conservation efforts. Involving them in tiger conservation fosters a sense of responsibility for the surrounding wildlife and habitats.
- Sustainable Practices: Temples can adopt sustainable practices like waste management, water recycling, and energy conservation to demonstrate environmental commitment. These practices help protect tiger habitats and promote eco-friendly tourism.
- Partnerships and Collaboration: Working with temple authorities, local governments, conservation groups, and tourism stakeholders can amplify tiger conservation initiatives through joint campaigns, fundraising, and habitat restoration projects.
- Inclusive Approach: Temple tourism should be inclusive, welcoming all visitors regardless of background.

Promoting tiger conservation as a shared responsibility can unite people across cultural and religious boundaries.

- Economic Benefits: Sustainable tourism practices that support tiger conservation can generate economic benefits for local communities, providing job opportunities and development projects that incentivize conservation participation.

Temple Sites in Eco-Tourism Zones:

Various temples located in eco-tourism zones near tiger reserves offer opportunities for integrating conservation messages:

- Kandat Eco-Tourism Zone:
  - Chowkeshwar (Shri Shailya) Temple, Chakadev
  - Mallikarjun Temple, Parvat
- Bamnoli-Munavale Eco-Tourism Zone:
  - Nageshwar Temple, Bamnoli
  - Shembadi Datta Math, Bamnoli
- Karvat-Kusavade Eco-Tourism Zone:
  - Padmavati Devi Temple, Kelvali
  - Dhareshwar Temple, Karvat
  - Injai Devi Temple, Deur
- Koyana-Helwak Eco-Tourism Zone:
  - Shiva Temple, Dhankal
  - Amba Devi Temple, Bopoli
  - Ramban Temple, Navja
  - Mahadev Temple, Humbarli
  - Manai Devi Temple, Torane
  - Waghjai Devi Temple, Helwak
  - Shri Datta Dham, Nechal
- Paneri-Bhosgaon Eco-Tourism Zone:
  - Valmiki Temple, Paneri
- Mandur Eco-Tourism Zone:
  - Vitthalai Temple, Zolambi
  - Shevtai Temple, Mandur
- Amba Eco-Tourism Zone:
  - Shri Kalammadevi Temple, Udagiri
  - Marleshwar Temple, Marleshwar Gothane

Waste Management in Temple Areas Adjacent to Tiger Reserves:

Proper waste management is essential to maintaining the ecological balance near tiger reserves. Key

strategies include:

- Segregation at Source: Visitors should be educated on separating biodegradable and non-biodegradable waste to minimize environmental impact.
- Composting Organic Waste: Composting organic waste can significantly reduce landfill waste, with compost used in temple gardens or donated to local farmers.
- Proper Disposal of Non-Biodegradable Waste: Non-biodegradable materials like plastic should be collected and recycled or properly disposed of to avoid pollution.
- Reducing Single-Use Plastics: Encouraging alternatives to single-use plastics, like refill stations and reusable containers, helps minimize plastic waste.
- Regular Clean-up Drives: Organizing clean-up drives with local communities and NGOs can help keep areas clean and raise awareness about waste management.
- Community Involvement: Engaging local communities in waste management ensures active participation and fosters a sense of responsibility toward cleanliness.
- Monitoring and Enforcement: Ensuring compliance with waste management guidelines through dedicated staff or volunteers helps maintain proper waste disposal.
- Promoting Eco-friendly Practices: Encouraging the use of biodegradable materials for offerings, reducing packaging, and supporting sustainable tourism can further reduce environmental impact.

Collaboration with Village Eco-Development Committees (VEDCs) and Temple Committees:

Effective waste management can be achieved by collaborating with local VEDCs and temple committees. These community-based groups play a crucial role in ensuring sustainability.

By implementing these strategies, temples near tiger reserves can contribute to preserving habitats and biodiversity while offering a clean, sustainable environment for visitors and pilgrims.

10.9 Industry:-

In the context of the Sahyadri Tiger Reserve's buffer area being part of the Eco-Sensitive Zone (ESZ), integrating tiger conservation strategies with industrial activities requires a focused, eco-sensitive approach that balances conservation efforts with the promotion of sustainable development. Recognizing the unique significance of the ESZ as a critical area for preserving biodiversity, particularly tiger habitats, it becomes essential to ensure that industrial growth occurs in harmony with ecological protection. Here are key considerations for this approach:

- Environmental Impact Assessment (EIA): It is crucial to conduct detailed EIAs for any industrial project within or near the ESZ to assess the potential impact on sensitive ecosystems and tiger habitats. This ensures that any development activity considers the preservation of biodiversity hotspots, particularly in buffer zones that support the movement and survival of wildlife.
- Habitat Protection and Restoration: Special attention must be given to maintaining and restoring tiger habitats within the ESZ. This includes preserving wildlife corridors, reforesting areas affected

by development, and enforcing buffer zone protection to minimize fragmentation and human-wildlife conflict.

- Sustainable Resource Management: Industries should adopt sustainable practices, especially within the ESZ, to minimize resource depletion and environmental degradation. Using eco-friendly technologies, reducing emissions, and conserving water resources will help protect the integrity of the ESZ and ensure the viability of tiger habitats.
- Corporate Social Responsibility (CSR): Companies operating near the ESZ can integrate tiger conservation into their CSR efforts, supporting local conservation initiatives, funding habitat restoration projects, and working with nearby communities to promote awareness about the significance of preserving the ESZ for future generations.
- Stakeholder Collaboration: Engaging with a wide range of stakeholders–government bodies, conservation groups, industrial leaders, and local communities–can help to foster collaborative solutions. This collective effort is essential to balance development with biodiversity conservation and to ensure the long-term health of the tiger populations within the ESZ.
- Regulatory Compliance: Stringent adherence to environmental and wildlife protection laws, particularly in the ESZ, is vital for safeguarding sensitive ecosystems. Industries must comply with existing regulations and enforce practices that mitigate their impact on tiger habitats, ensuring compliance through monitoring and enforcement mechanisms.
- Innovation and Research: The industrial sector should support research into technologies that can reduce ecological impacts and enhance conservation efforts. This includes exploring new ways to minimize pollution and habitat destruction while promoting sustainable practices that are compatible with tiger conservation.
- Market Incentives: Encouraging industries to demonstrate their commitment to conservation through eco-certification programs and green procurement policies can help create market-based incentives for more sustainable industrial practices, particularly in and around ESZ areas.
- Wildlife Corridor Protection: Enforcing buffer zones, such as a 5 km "No Development Zone" around the core area of the Sahyadri Tiger Reserve, is critical to ensuring the protection of wildlife corridors and facilitating safe tiger movement between habitats.
- Eco-Friendly Construction Guidelines: Construction and industrial activities in or near the ESZ should follow guidelines that prioritize minimal environmental disruption. These protocols should include measures to prevent deforestation and habitat destruction while ensuring sustainable development practices.
- Stringent Pollution Control Measures: To safeguard wildlife health and ecosystem integrity, industries must implement strict pollution control measures, particularly within sensitive areas of the ESZ. This includes monitoring and controlling gaseous emissions and waste disposal.
- Holistic Infrastructure Management: Infrastructure projects, such as water supply, waste management, and drainage systems, should be designed to integrate with the natural environment, ensuring

minimal disruption to tiger habitats while meeting the needs of local populations.

In conclusion, aligning tiger conservation with industrial activities within the Sahyadri Tiger Reserve's buffer area requires a nuanced, multi-stakeholder approach that prioritizes ecological integrity and the sustainable development of both local communities and industries. By adhering to conservation principles and integrating them into industrial planning and operations, we can ensure the survival of tiger populations while fostering economic growth that respects and preserves the surrounding environment.

Cottage Industry & Handicrafts Integration:

The inclusion of tiger conservation within cottage industries and handicrafts can further strengthen the socio-economic fabric of communities living in the buffer zones of the ESZ, while simultaneously enhancing conservation efforts. This integrated approach can provide sustainable livelihoods and promote tiger conservation through cultural and economic means:

- Community Engagement and Empowerment: Promoting tiger conservation through local handicrafts offers communities alternative sources of income while encouraging stewardship of tiger habitats. Crafting products that reflect the natural beauty of tigers and their ecosystems builds a deep connection between local artisans and conservation goals.
- Promotion of Eco-friendly Practices: Artisans can be encouraged to use sustainable materials and eco-friendly techniques, reducing their ecological footprint and raising awareness about the importance of conserving tiger habitats. Products can reflect these values, helping foster an environmentally conscious consumer base.
- Market Linkages and Economic Incentives: By linking cottage industry products to tiger conservation, there is an opportunity to increase their market appeal. Promoting products with certifications that highlight their role in conservation could generate economic incentives for communities and industries alike.
- Education and Awareness: Workshops can be held to educate artisans about tiger conservation, sustainable practices, and the significance of their crafts in protecting biodiversity. These efforts can spread awareness both within and outside the community.
- Research and Innovation: Encouraging artisans to create innovative designs inspired by tiger motifs can bring cultural value to conservation. Additionally, research into the sustainable use of local resources for handicraft production can offer new opportunities for both conservation and economic development.
- Policy Support and Institutional Collaboration: Advocacy for policies that integrate tiger conservation with local handicrafts can provide necessary support for scaling these initiatives. Collaboration between conservation groups, government agencies, and local artisans is key to the long-term success of these strategies.

Mainstreaming tiger conservation with cottage industries and handicrafts presents an exciting and mutually beneficial approach to ensuring both wildlife preservation and community development. By

leveraging the creativity of local artisans, we can create a harmonious future where the survival of tigers and the prosperity of local communities go hand in hand.

10.10 Eco restoration of mining areas:

In the STR area, there are no active mining projects. However, there are closed bauxite mines that require restoration, namely M/s R. M. Mohite at Ainwadi-Udagiri, M/s Prakash Gavindi, and M/s Swati Minerals in Udagiri, located in Shahuwadi Tahsil of Kolhapur district, and M/s Ghanabi Mines at Karvat in Patan Taluka of Satara district. These mines lie within the buffer area, presenting a unique opportunity to reconcile economic development with wildlife conservation. Through targeted restoration efforts, we aim to revitalize degraded landscapes, reconnect fragmented habitats, and safeguard the future of tiger populations in this critical corridor.

- **Ecological Rehabilitation**:
  - Prioritize the rehabilitation of bauxite mines through ecosystem restoration techniques, including soil stabilization, re-vegetation, and water management measures.
  - Restore native vegetation communities and recreate habitat features essential for tiger survival, such as water sources and dense cover.
- **Corridor Connectivity**:
  - Focus on restoring connectivity within the tiger corridor by establishing green corridors linking restored mine sites to adjacent natural habitats.
  - Implement landscape-level planning to ensure seamless movement for tigers and other wildlife across the rehabilitated areas.
- **Habitat Enhancement**:
  - Enhance habitat quality and diversity within restored mine sites by incorporating features that support a wide range of wildlife species, including prey species crucial for tiger survival.
  - Integrate natural and artificial structures, such as ponds, rock formations, and vegetation patches, to create diverse microhabitats.
- **Community Engagement and Stakeholder Collaboration**:
  - Engage local communities and stakeholders in restoration efforts, fostering partnerships that promote shared stewardship of restored landscapes.
  - Provide training and employment opportunities for local communities in restoration activities, building capacity and incentivizing conservation efforts.
- **Monitoring and Adaptive Management**:
  - Establish long-term monitoring programs to assess the success of restoration initiatives and track changes in biodiversity and ecosystem functioning.
  - Implement adaptive management strategies to address emerging challenges and refine

restoration approaches based on scientific evidence and stakeholder feedback.

- **Research and Innovation**:
  - Invest in research initiatives to advance restoration science and develop innovative techniques tailored to the unique ecological conditions of bauxite mine sites in the Western Ghats.
  - Foster collaboration between scientists, practitioners, and local communities to co-create knowledge and solutions for effective mine restoration.

The restoration of bauxite mines within the tiger corridor of the Western Ghats represents a critical opportunity to reconcile past environmental damage with future conservation goals. By implementing targeted restoration efforts informed by scientific evidence and community engagement, we can create a mosaic of restored landscapes that not only support thriving tiger populations but also contribute to the overall health and resilience of the Western Ghats ecosystem.

10.11 Irrigation Project and Hydropower sectors:-

The economy of Western Maharashtra is significantly influenced by two major hydro-electric projects which are within sahyadri Tiger Reserve namely; the Koyna Hydro-electric Project and the Warana Irrigation Project. The Koyna Project boasts a massive capacity of 105 TMC (Thousand Million Cubic Feet) and generates 1080 MW of electricity. On the other hand, the Warana Irrigation Project has a capacity of 32 TMC and generates 40 MW of electricity. These projects play a crucial role in bolstering the local economy by providing a substantial source of electricity and supporting irrigation needs in the region.

The integration of tiger conservation strategies within irrigation and hydropower sectors is vital for both sustainable development and biodiversity conservation. By implementing measures to mitigate negative impacts and enhance coexistence, we can ensure the preservation of tiger habitats while meeting the growing demands for water and energy.

- **Habitat Protection and Restoration**:
  - Identify and safeguard critical tiger habitats within irrigation and hydropower project areas, establishing buffer zones to minimize disruption.
  - Implement habitat restoration initiatives to revive degraded areas and foster connectivity between fragmented habitats.
- **Environmental Flow Management**:
  - Integrate environmental flow assessments into water resource management plans to sustain aquatic ecosystems and associated tiger habitats.
  - Employ adaptive management strategies to balance human water needs with ecological requirements, ensuring tiger habitats remain resilient to hydrological changes.

- **Fish Passage and Biodiversity Connectivity**:
    - Construct fish passage structures like ladders and channels to facilitate the movement of aquatic species past hydropower dams, preserving biodiversity connectivity.
    - Mitigate tiger habitat fragmentation caused by irrigation canals and reservoirs by implementing wildlife corridors and underpasses.
- **Community Engagement and Livelihood Enhancement**:
    - Engage local communities as partners in tiger conservation efforts through education and capacity-building programs.
    - Provide alternative livelihood opportunities, such as eco-tourism and sustainable agriculture, to lessen reliance on resources affected by irrigation and hydropower projects.
- **Technology and Innovation for Sustainability**:
    - Utilize advanced technologies such as remote sensing and GIS to assess project impacts on tiger habitats and inform decision-making.
    - Invest in innovative solutions like smart irrigation systems and low-impact hydropower turbines to minimize environmental disruption while maximizing efficiency.
- **Policy Support and Institutional Collaboration**:
    - Advocate for policies prioritizing tiger conservation within irrigation and hydropower sectors, integrating biodiversity concerns into project planning and decision-making.
    - Foster collaboration among government agencies, conservation groups, and private stakeholders to develop and implement management plans balancing water and energy needs with wildlife conservation goals.

Mitigation measures are essential to address the impacts arising from dam construction and operation. These measures should encompass both onsite and offsite initiatives, drawing from global best practices. Key considerations include:

- **Retaining Dead Trees as 'Snags'**: Preserve dead trees within submergence areas to serve as habitat for water birds and aquatic fauna.
- **Maintaining River Flow**: Prohibit reducing river flow to 'zero' or 'critical' levels to prevent adverse effects on local flora and fauna, particularly aquatic species. Implement mitigation measures like fish ladders to facilitate migration across dams.
- **Emulating Natural Flooding Regime**: Mimic natural water release patterns to replicate the natural flooding regime.
- **Aquatic Weed and Disease Control**: Implement measures to control aquatic weeds and manage disease factors to safeguard aquatic ecosystems.
- **Flood Protection**: Ensure downstream flood protection measures are in place to mitigate flood risks.

- **Water Pollution Control**: Implement strategies to prevent water pollution within the dam's vicinity.
- **Fish Management**: Introduce appropriate fish management measures to benefit local communities and support tiger reserve management objectives.
- **Watershed Management**: Implement site-specific watershed management practices to prevent sedimentation.
- **Regulation of Access Roads**: Prescribe timings for the use of access roads and minimize maintenance infrastructure to reduce disturbance to wildlife.
- **Development Restrictions**: Prohibit new developmental projects within the core or critical tiger habitat to preserve natural ecosystems.
- **Resource Support for Habitat Management**: Provide resource support to tiger habitat management as a compensatory measure for habitat loss.
- **Wildlife Rescue SOP**: Develop and implement Standard Operating Procedures (SOPs) in collaboration with tiger reserve management for rescuing wild animals from drowning incidents.
- **Spatial Use Pattern Monitoring**: Conduct annual monitoring of wild animal spatial use patterns and related infrastructure development in the area.
- **Water Quality and Ecosystem Monitoring**: Periodically monitor water quality and track the recovery of river ecosystems.
- **Re-vegetation**: Promote re-vegetation of construction sites with indigenous plant species to restore ecological balance.

In conclusion, mainstreaming tiger conservation within irrigation and hydropower sectors is essential for achieving sustainable development while safeguarding biodiversity and ecosystem services. Adopting a holistic approach that considers both human and wildlife needs will ensure the long-term viability of tiger populations and their habitats despite increasing anthropogenic pressures.

10.12 Thermal Power Plants: -

There is no any thermal power plant in the Tiger Reserve area. However, integrating tiger reserve conservation strategies with thermal power plants is vital to ensure sustainable development while safeguarding biodiversity and ecosystem integrity. By incorporating measures to mitigate potential impacts and foster coexistence, we can promote responsible energy production while preserving critical tiger habitats.

- **Habitat Protection and Management**:
    - Identify and protect critical tiger habitats within the vicinity of thermal power plants, establishing buffer zones to minimize disturbance.
    - Implement habitat management plans to enhance habitat quality and connectivity, ensuring the long-term viability of tiger populations.

- **Emission Control and Pollution Mitigation**:
    - Implement stringent emission control measures to minimize air pollution and mitigate the impact on local air quality and wildlife health.
    - Implement robust pollution control measures to prevent contamination of water bodies and soil, safeguarding the integrity of tiger habitats and associated ecosystems.
- **Wildlife Monitoring and Conservation**:
    - Conduct regular wildlife surveys and monitoring programs to assess the impact of thermal power plant operations on tiger populations and other wildlife.
    - Implement conservation measures, such as habitat restoration and wildlife corridors, to mitigate habitat fragmentation and promote species dispersal.
- **Community Engagement and Sustainable Development**:
    - Engage local communities as stakeholders in tiger conservation efforts, fostering awareness and participation through education and livelihood support programs.
    - Promote sustainable development initiatives, such as eco-tourism and alternative livelihood options, to reduce pressure on natural resources and support tiger reserve conservation goals.
- **Technology and Innovation for Sustainability**:
    - Invest in advanced technologies for thermal power generation, such as clean coal technologies and renewable energy integration, to minimize environmental impact.
    - Explore innovative solutions for waste management and resource utilization to reduce the ecological footprint of thermal power plant operations.
- **Regulatory Compliance and Corporate Responsibility**:
    - Ensure compliance with environmental regulations and standards, incorporating tiger reserve conservation requirements into thermal power plant permits and licenses.
    - Encourage corporate responsibility initiatives that prioritize biodiversity conservation and support local communities affected by thermal power plant operations.

7. **Research and Collaboration**:

    - Foster collaboration between thermal power plant operators, conservation organizations, and government agencies to develop and implement integrated management plans.
    - Support research initiatives to better understand the interaction between thermal power plant operations and tiger reserve ecosystems, informing evidence-based conservation strategies.

Mainstreaming tiger reserve conservation strategies with thermal power plants is essential for achieving a balance between energy production and wildlife conservation. By

adopting a holistic approach that addresses environmental concerns, engages local communities, and promotes sustainable practices, we can ensure the coexistence of tigers and thermal power plants while advancing towards a greener and more sustainable future.

10.13 Developmental Projects: -

All development activities within the buffer zone, including industries, mining, thermal power plants, and irrigation projects, will undergo scrutiny by the Standing Committee of the National Board for Wildlife (NBWL) for approval and consideration.

Permissible minor developmental projects within the buffer zone shall adhere to the following principles:

- **Local Orientation and Compensation**:
  - Projects must integrate with local area development, ensuring they contribute positively without disrupting local resource dynamics.
  - Compensation or alternatives should be included in project costs to address any adverse impacts on local communities.
- **Support for Eco-Development**:
  - Projects are required to contribute financially and with other resources towards site-specific micro-plans for eco-development in surrounding villages.
- **Access to Water Resources**:
  - Projects must allow Wildlife Authorities and local communities access to draw drinking water for wildlife and local populations, as well as water for irrigation, through lift irrigation facilities.
- **Preference for Local Employment**:
  - Priority should be given to hiring locals for employment opportunities, with provisions for education and training if necessary to enhance local workforce capacity.
- **Insulation of Electric Transmission Lines**:
  - All electric transmission lines passing through forested areas of the buffer zone, with voltages of 11 KV and above, should be insulated by the electricity department in a phased manner to minimize wildlife disturbances and safety hazards.

10.14 Regulation for Non Forestry Activities in Buffer:-

As per the guidelines issued by the Wildlife Division, Ministry of Environment, Forest and Climate Change (MoEF & CC), Government of India, vide F.No. 6-10/2011 WL dated 19 December 2012, any proposal involving any area within the notified Tiger Reserve (including the buffer zone) will be governed by the relevant provisions applicable to wildlife sanctuaries. Therefore, such proposals will be referred to the Standing Committee of the National Board for Wildlife (NBWL) for consideration. Hence, the proper

procedure as laid down in the guidelines dated 19.12.2012 shall be followed.

Buffer zones surrounding tiger reserves serve as critical transition areas between human settlements and core wildlife habitats. Establishing robust regulations for non-forestry activities in these buffer zones is paramount to harmonize human development with tiger conservation efforts. The following note outlines key regulatory principles for managing non-forestry activities within buffer areas of tiger reserves.

- **Environmental Impact Assessment (EIA)**:
    - Mandate rigorous EIAs for all proposed non-forestry activities within tiger reserve buffer zones to evaluate potential ecological impacts.
- **Zoning and Land Use Planning**:
    - Develop zoning regulations to delineate permissible land uses in buffer areas, considering ecological sensitivity and wildlife corridors.
    - Implement land use planning measures that prioritize habitat connectivity and minimize disturbance to wildlife habitats.
- **Community Engagement and Consent**:
    - Ensure active involvement of local communities in decision-making processes regarding non-forestry activities in buffer zones.
    - Obtain consent from indigenous and local communities for projects affecting their lands and livelihoods, adhering to principles of free, prior, and informed consent.
- **Mitigation and Compensation**:
    - Require proponents of non-forestry projects to implement robust mitigation measures to mitigate adverse impacts on wildlife and habitats.
    - Provide compensation and alternative livelihood support for communities affected by non-forestry activities, ensuring equitable sharing of benefits and burdens.
- **Infrastructure Development Regulations**:
    - Regulate the construction of infrastructure, such as roads, power lines, and tourism facilities, to minimize habitat fragmentation and disturbance.
    - Implement measures to mitigate the impacts of infrastructure development on wildlife movement and behavior, including wildlife crossings and habitat restoration.
- **Water Resource Management**:
    - Regulate water extraction and use in buffer zones to maintain ecological flows in rivers and streams, crucial for sustaining wildlife populations.
    - Promote water conservation measures and sustainable water management practices to minimize impacts on aquatic ecosystems and wildlife habitats.

- **Monitoring and Enforcement**:
    - Establish robust monitoring and enforcement mechanisms to ensure compliance with regulatory requirements and track the ecological health of buffer zones.
    - Enforce penalties for non-compliance, including fines, project suspension, or revocation of permits, to deter illegal activities and safeguard tiger reserve integrity.
- **Adaptive Management and Review**:
    - Implement adaptive management strategies to address emerging threats and changing environmental conditions in buffer areas.
    - Conduct regular reviews of regulatory frameworks to incorporate new scientific knowledge and adaptive management practices, enhancing the effectiveness of tiger reserve buffer zone management.

Regulating non-forestry activities in buffer areas of tiger reserves is essential for maintaining the ecological integrity of these critical habitats. By implementing comprehensive regulatory frameworks, we can ensure sustainable development while safeguarding tiger populations and their habitats for future generations.

Chapter – 11

Research, Monitoring, Training & Wildlife Health

Investing in continuous monitoring and research initiatives to assess the impact of existing threats and track the effectiveness of implemented mitigation measures would provide valuable insights for adaptive management. Tracking the effectiveness of implemented mitigation measures and adapting strategies accordingly based on ongoing monitoring and evaluation could lead to more efficient conservation outcomes. (Bridging The Gap: Unveiling effectiveness of India's tiger reserve management, NTCA, report 2024)

11.1 Research Priorities, Main Projects and Implementation

The research priorities in STR are given below:

- Faunal and Floral survey of the buffer area of Sahyadri Tiger Reserve with special reference to the wildlife covered under various schedules appended to Wildlife (Protection) Act, 1972 and also other endangered, threatened and keystone species.
- Field survey to assess the status of flora and fauna as per IUCN Red data listing.
- Study on feasibility/suitability of the site to reintroduce locally extinct species like tiger, spotted deer etc.
- Regeneration survey of buffer of Sahyadri Tiger Reserve with special emphasis on endangered plants. This research activity should explain particular focus on the flora which the wild animals feed on especially during the scarcity period.
- Assessment of territories and home ranges of important carnivores reported in the buffer of Sahyadri Tiger Reserve and also seasonal fluctuations in their movement.
- Surveillance and monitoring of wildlife health with help of Veterinary University.
- Testing of forest soil to assess the mineral deficiency, so that adequate mineral could be supplemented through salt licks, waterholes etc.
- Survey of water holes in order to test its hygiene with respect to infestation by helminthes, a harmful protozoan etc.
- Response of the wildlife to the changes introduced by management like habitat manipulation i.e. maintenance of grass strips and view-lines along the protection roads, weed eradication, meadow management along with study of grasses.
- Methods to avoid crop depredation by wild animals to the agricultural fields in and around the Sahyadri Tiger Reserve. These methods should not put the wild animals under stress and be cost effective.

- Photographic monitoring of habitat conditions, in order to provide time series of habitat conditions and habitat factors undergoing changes. This should be done particularly before and after the occurrence of the event viz. onset of fire season, grazing, various seasons, clearing etc.
- Monitoring the impact of tourism on the Wildlife.
- Monitoring the tourist inflow and preferences though feedback
- Carbon stock mapping and climate changes
- Resource dependency of primary stakeholders on forests
- Possible ecologically sustainable livelihood options
- Models of biodiversity conservation through livelihood improvement
- Ecosystem services with special reference to watershed value
- Indigenous strain of cattle and cultivar
- Monitoring changes in the vegetation composition of the buffer forest due to biotic pressure.

11.2 Monitoring Framework:

11.2.1 Monitoring is a continuous process in management:

Following things needs to be monitored continuously: -

- Wild animal population estimates.
- Existing preservation plots and sample plots.
- Wildlife health
- The dependency of people on P.A.
- Wildlife tourism.
- Sources of water.
- Weed eradication area
- Monitoring the trend of change of Predator, Co-predator, Wild dog, Sloth bear population and abundance of prey species
- Monitoring the change in vegetation composition especially in the area under constant biotic pressure and area which is rehabilitated.
- Micro-habitats are extremely important and it shall be monitor regularly as it is highly sensitive for endemic species.
- Biotic pressure in TR
- Monitoring of changes in Grassland areas.
- All research works will be carried out with prior permission of NTCA and Chief Wildlife Warden of the Maharashtra State or authorized officer. Related document for research permission is attached in Annexure 8.3.
- Regular feedback of such ongoing project needs to be conveyed by Principal Investigator to the concerned Area ACF/ DFO(Core) and review of such projects/ progress at least once in a quarter be made by the Field Director.

- All Researchers must give necessary intimation of at least 7 days before their visit to the concerned Range Officer. They should enter their entry and outgoing, necessary feedback while they are visiting a particular area, in a separate register in the range office. Failure to do so may attract a penalty of Rs. 500/- minimum for the first time of the violation and it will be doubled for subsequent happenings. The amount so collected will be deposited in STR foundation.
- No night halt in the Core Zone will be allowed unless specially permitted by Chief Wildlife Warden, M.S. or authorized officer.
- Leaving the projects without proper & prior reasoning, unnecessary delays in completion of the projects without intimation and permission of STR field Director is a mere waste of Government money and time of officials. Such researchers or related institute/ organization may be penalized, blacklisted and will be prohibited to carry out any research and other activities in STR as well as any other PAs of Maharashtra state.
- Need to discuss with PA managers before finalizing results about the findings.
- Need to submit a draft copy of research paper to Field Director before publishing in any publication.
- It is mandatory to provide author credit to the relevant forest officers who guide and support the field study.
- Need to submit one copy of the final report and research paper to Field Director. If fail to submit or deny to give such copy of report, such researchers or related institute/ organization may be penalized, blacklisted and will be prohibited to carry out any research and other activities in STR as well as any other PAs of Maharashtra state.

Some important Institutes for research-

- There is a need to utilize available expert agencies as necessary in scientific investigation, such as the following:
- Wildlife Institute of India, Dehradun,
- Zoological Survey of India,
- Botanical Survey of India,
- Shivaji University, Kolhapur
- Savitribai Phule Pune University, Pune
- Kolhapur Agriculture College, Kolhapur
- Veterinary University, Nagpur
- Veterinary College, Shiraval, Satara
- Mahatma Phule Krishi Vidyapeeth, Rahuri
- Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli
- College of Forestry, Dapoli
- National Centre for Biological Sciences, Bangalore

- Other state and national universities
- Kundal Forest Academy, Kundal
- Local colleges which have experts in a particular subject

Establishing Field Laboratory -

- There is a need for a well-equipped field laboratory in tiger reserve at a suitable location to support field studies and to house field collection of samples for training and investigation purpose. There is a need for a good availability of computers and facilities on information technology under the supervision of a qualified Research Officer -Ecologist and allied staff. It can also serve as a center of data collection and analysis of different kinds of data which is religiously collected from the field but it is not largely analyses and utilize in decision making. Data collected in field patrolling, PIP observations, camera trap data, tourism data, offence data, data of EDC work, social data etc should be collected at one place and need to be analyzed and submit a report to DD and FD. This analysis should be providing to RFO's also. Now, this facility can make available at newly established and approved Sahyadri Wildlife Research Facility, Koynanagar.

11.2.2 Sahyadri Wildlife Research Facility (SWRT), Koynanagar:

1. **Concept of SWRT:** Sahyadri Wildlife Research Facility (SWRF) will facilitate students, researchers and forest staff in wildlife research, training, documentation and management inputs in Sahyadri Tiger Reserve and its adjoining landscape. Sahyadri Tiger Reserve is well known for its biodiversity and Endemism. It is one of the biodiversity hotspot and world heritage site. As northernmost tiger habitat of Western Ghats, it is critically important to protect and conserve biodiversity of Sahyadri Tiger Reserve through research-based management. With this aim, SWRF will provide various services for students, researchers and forest staff in wildlife research and management. Students, researchers and forest staff will be facilitated with natural science library, laboratory, meeting hall, accommodation facilities, experts panel & local support for quality research, documentation & training. (Detail proposal of SWRF is attached as Annexure No. 8.4)

2. **Aim:** The long-term aim of the Sahyadri Wildlife Research Facility is to facilitate students, researchers and forest officials to conserve wildlife through scientific research, training and documentation of biodiversity in the Sahyadri Tiger Reserve, its landscape and in the northern Western Ghats.

3. **Objectives:**

- To document biodiversity and endemic species & research on management issues and problems of the Sahyadri Tiger Reserve & its landscape is primary objective.
- To conduct research on endangered & threatened species of wildlife as well as least studied flora & fauna of the STR and its landscape.
- To facilitate training in wildlife research, monitoring, conservation & nature education for students, researchers and forest staff.
- To promote and facilitate collaborative & interdisciplinary research with educational and research institutes & enhancement of the research networking capacity & infrastructure in northern western ghat.
- To involve & support the stakeholders for research & documentation through citizen science in STR and its landscape.

- To develop STR landscape as hub for students of conservation science, wildlife researcher and experts.
- To collect and make available all research data to researchers and create natural science library.

4. Permissions for SWRF:

- This is undertaking of Sahyadri Tiger Reserve Conservation Foundation (TCF) and research is one of the mandates of TCF.
- All the technical staff like Ecologist, GIS expert, Veterinary officers, Social Scientist, Livelihood Experts, PRO, Nature Extension Officer, Data operators etc. are the human resource used for running SWRF. Hence, there is no additional financial burden for TCF.
- Formal permissions are taken in meeting of executive committee on 28.11.2023 and governing body on 24.01.2024. (Minutes of meeting attached as Annexure No. 8.6)

5. Expert Panel:

SWRF will select the top 1-2 experts in each subject from prestigious institutes/organizations who are willing to volunteer their expertise for biodiversity research in the Sahyadri Tiger Reserve and its surrounding landscape. They will mentor the young researchers conducting research in the Sahyadri Tiger Reserve.

6. SWRF will provide following Services & Activities:

Table No.11.1: SWRF will provide following Services & Activities

Services	Activities
• Research • Conservation Actions • Training to forest staff, students & stakeholders • Consultation to forest officers for management • Natural History Fellowships • Internship program • Volunteering for wildlife census & management activities • Citizen Science Initiatives • Facilitation for getting Research Grants • Local support to researchers from outside • Availability of Research Library • Availability of Research Laboratory • Availability of Scientific data to research purpose • Facilitation for research permissions • Facilitation for guidance of renowned panel of experts • Facilitation for all types of local support to researchers	• Wildlife Monitoring - Phase I, Phase-IV, AITE, Waterhole Census etc. • Workshops for students, researchers & forest staff • Conferences for students, researchers & forest staff • Nature Education Camps • Nature trails • Scientific Tours/Visits • Trainings for forest Staff & Students • Citizen Science Activities: • Butterfly Survey, Amphibian Survey, Reptile Survey, Insect Survey, Bird Survey & other surveys etc. • Botanization • Documentation of Biodiversity • Publicity about scientific research • Publication of 'Sahyadri Varta' (Quarterly Magazine of STR)

7. Administration of SWRF:

The CF and FD, STR will be the Director of SWRF and DD (Koyna), STR, Karad will be the Executive Director, SWRF. ACF(Koyna) will be the Administrative Officer of SWRF which will be the responsible for day-to-day work of SWRF.

8. Natural History Fellowship and Internship Program:

The Natural History Fellowship and Internship Program of STR Conservation Foundation offers a unique opportunity for individuals interested in conducting research within the Sahyadri Tiger Reserve (STR) and its landscape. Selection for the fellowship will prioritize individuals whose research subjects align with the management priorities identified by the Sahyadri Tiger Reserve (STR). This ensures that the research conducted under the fellowship program directly contributes to addressing key conservation challenges and management issues within the tiger reserve and its landscape. This program aims to facilitate scientific inquiry and conservation efforts in one of India's biodiverse regions. An amount of Rs 50000 per year has been fixed for the fellowship and Rs 10000 per month for internship program. Fellowship will be offered maximum for two years and Internship will be allowed maximum for three months. Both fellowship and internship will be only given to students on recommendation from their educational institute/organization. Research Committee or Executive committee of TCF will finalize the fellowship candidate and finalize students for internship. An amount of fellowship and internship may increase in Governing Body meeting on recommendation of executive committee of TCF.

9. Research Committee of SWRF: CF and FD are chairmen of the committee, DD (Koyna), STR is Member Secretory, DD (Chandoli), STR, one expert from biological science from Shivali University, one member from College of Forestry, Dapoli and one wildlife biologist (having expertise in field research) from NGO's are the members of committee. This committee will be finalizing candidate for fellowship and internship by considering research priority of STR. Committee can decide research priorities for the financial year and can give advice to Director of SWRF on any other research related topic. Director can be selected the Members of committee and their tenure will be for two years. Meeting should be at least once in two months and as per requirement and Director, SWRF feels necessary.

10. Research Ethics: All research permissions of CWLW, Maharashtra State and Maharashtra State Biodiversity Board or any others if required are mandatory before starting any research in field. Mere selection by Research Committee of SWRF is not sufficient and this is only for screening of candidate for fellowship and internship. Research permissions are coming under Right to Service. Formats for research permissions are attached as Annexures No. 8.3

This wildlife research center will serve following several crucial purposes:

1. **Conservation:** It helps in understanding wildlife populations, their habitats, and the threats they face. This knowledge is vital for conservation efforts aimed at protecting endangered species and preserving biodiversity.

2. **Ecological Balance:** Wildlife research centers study the interactions between different species and their environments. This research helps in maintaining ecological balance and preventing the overpopulation or extinction of certain species, which can have cascading effects on entire ecosystems.

3. **Human-Wildlife Conflict Mitigation:** Understanding animal behavior and ecology can help in mitigating conflicts between humans and wildlife. Research centers can develop strategies to minimize conflicts such as crop raiding, attacks on livestock, and human-wildlife encounters.

4. **Disease Management:** Wildlife research centers play a crucial role in monitoring and managing diseases that affect both wildlife and humans. Understanding the spread of diseases among wildlife populations can help in preventing outbreaks and controlling zoonotic diseases.

5. **Education and Outreach:** These centers often engage in public outreach and education programs to raise awareness about wildlife conservation and the importance of preserving natural habitats. They also provide training and resources for students and professionals interested in wildlife research and conservation.

6. **Policy Development:** Wildlife research centers generate scientific data and expertise that inform policy decisions related to wildlife management, habitat protection, and environmental regulations.

Overall, wildlife research centers are essential for advancing our understanding of the natural world and implementing effective strategies for wildlife conservation and sustainable management.

11.2.3 GIS Cell:

A Geographic Information System (GIS) cell holds significant importance in various fields due to its capability to capture, store, manipulate, analyze, manage, and present spatial or geographic data. Special GIS cell is very important for tiger reserve for following reasons: Integrating Geographic Information Systems (GIS) into tiger conservation efforts offers numerous benefits:

1. **Habitat Mapping**: GIS technology allows conservationists to map tiger habitats accurately. This mapping helps identify critical habitats, corridors, and areas where tigers are likely to roam, aiding in the development of effective conservation strategies.

2. **Monitoring Tiger Populations**: GIS can be used to collect and analyze data of camera traps, data on tiger sightings, tracks, and signs of activity. By overlaying this information with habitat maps, conservationists can estimate tiger population densities and monitor population trends over time.

3. **Human-Wildlife Conflict Analysis**: GIS helps in analyzing spatial data related to human-tiger/wildlife conflicts. By mapping conflict hotspots and understanding the underlying causes, conservationists can develop targeted interventions to mitigate conflicts and reduce human-tiger/wildlife conflicts.

4. **Identifying Priority Areas for Protection:** GIS analysis can identify priority areas for tiger conservation based on factors such as habitat quality, connectivity, and potential threats. This information helps conservationists allocate resources more effectively and focus conservation efforts where they are most needed.

5. **Corridor Planning and Management**: GIS facilitates the identification and planning of wildlife corridors that connect fragmented tiger habitats. By mapping land use patterns and barriers to movement, conservationists can design corridors that promote genetic exchange and facilitate the movement of tigers between populations.

6. **Law Enforcement and Anti-Poaching Efforts**: GIS can be used to map poaching incidents, illegal trade routes, and other threats to tigers. This information helps law enforcement agencies target their patrols and enforcement efforts more effectively, leading to improved protection for tigers and their habitats.

Overall, the integration of GIS technology into tiger conservation efforts enhances data-driven decision-making, improves monitoring and management strategies, and contributes to the long-term survival of tigers in the wild.

11.2.4 Tiger Cell:

A separate 'Tiger Cell' within a Tiger Reserve plays a crucial role in collecting and analyzing data for conservation and management of tiger populations and their habitats. Here are some key points highlighting its importance:

1. **Tiger Monitoring and Research:** The Tiger Cell is responsible for monitoring tiger populations within the tiger reserve and its landscape through various methods such as camera trapping, DNA analysis, and satellite tracking. This data is essential for estimating population trends, assessing habitat quality, and identifying threats to tiger survival.

2. **Habitat Management and Protection**: The Tiger Cell coordinates efforts to protect and restore tiger habitats within the reserve by providing research inputs.

3. **Collaboration and Networking**: The Tiger Cell often collaborates with other tiger reserves, forest divisions, conservation organizations, government agencies, and international bodies to share information, best practices, and resources for tiger conservation. This networking facilitates coordinated conservation efforts at regional and global scales.

4. **Ecological Monitoring and Management:** Beyond tigers, the Tiger Cell is involved in monitoring the overall ecological health of the reserve, including prey populations, vegetation dynamics, and ecosystem processes. Maintaining a balanced ecosystem is essential for the long-term survival of tigers and other wildlife.

5. **Research and Innovation**: The Tiger Cell may conduct or support research projects aimed at understanding behavior, ecology, genetics, and disease dynamics of tiger, co-predators and its prey. This research contributes to the development of effective conservation strategies and adaptive management practices.

Overall, the Tiger Cell serves as a focal point for tiger conservation efforts within a Tiger Reserve, bringing together various stakeholders to ensure the survival and recovery of this iconic species in its natural habitat.

11.3 Training Needs Assessment

The TCP covers at length, theme plans for capacity building. The needs relating to in-service training for field personnel should be in tune with the thematic areas under capacity building as stated in theme plan for staff development. This would be in accordance with the theme plan prescribed for the core/critical tiger habitat. However, the frontline personnel in a buffer area needs to be a multi-tasker to

tactfully handle the human-tiger interface issues, participatory planning and socio-cultural appraisal. Therefore, a special module (one-week field training) should be developed to build up the skills of such personnel to handle site-specific interface/social issues, including effective communication. Theme plan for training is given in para no. 11.4

11.4 HRD Plan and Staff Development Plan:

Administrative structure: Field Director, an officer of the rank of Chief Conservator of Forests is administrative and managerial head of Sahyadri Tiger Reserve. The office of Field Director is based at Kolhapur. Field Director is assisted by Deputy Director, Koyna Wildlife Division at Karad and Deputy Director, Chandoli Wildlife Division at Karad. Assistant Conservators of Forests are responsible for leading the forest sub-divisions.

Administrative Hierarchy of STR:

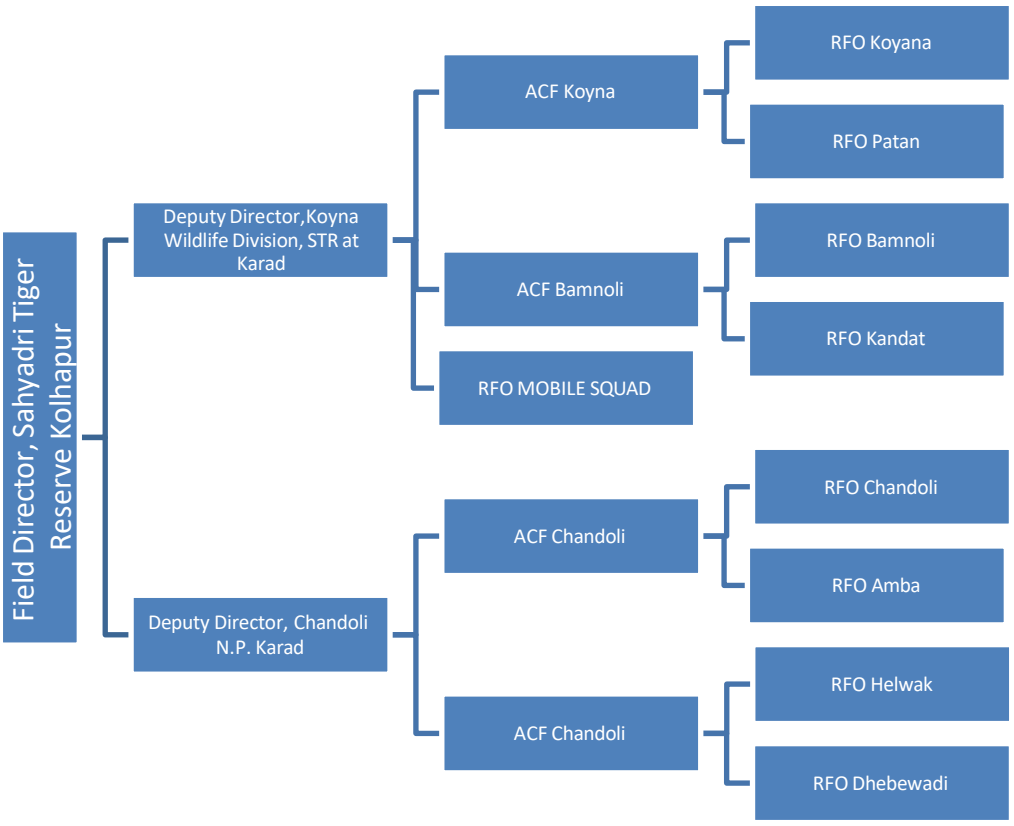


Fig No.11.1: Administrative Structure of STR

Primary Objectives:

1. To have a suitable administrative setup for tiger reserve.
2. To provide efficient administration for attaining conservation and protection goals through implementing TCP.

3. To ensure human resources development through identification of weaknesses and arranging suitable training and skill development modules.

4. To provide amenities to all staff for efficient functioning and working in the field.

5. To evolve a better performance monitoring mechanism to access the performance of all staff.

Specific Objectives:

A staff development plan for a tiger reserve would be specifically tailored to address the unique challenges and requirements of managing and conserving tiger populations and their habitats. Here are some key objectives that such a plan might include:

- **Tiger Conservation Expertise:** Enhancing the knowledge and skills of staff members in tiger monitoring, population estimation, habitat management, anti-poaching strategies, and human-tiger conflict resolution.
- **Wildlife Law Enforcement:** Providing specialized training on wildlife laws, enforcement techniques, and intelligence gathering to combat poaching, illegal wildlife trade, and other threats to tigers and their prey species.
- **Habitat Management**: Training staff in habitat restoration, landscape planning, fire management, and invasive species control to improve the quality and connectivity of tiger habitats within the reserve.
- **Community Engagement:** Equipping staff with the skills necessary to engage with local communities living in and around the tiger reserve, fostering collaboration, addressing human-tiger/wildlife conflicts, and promoting sustainable livelihoods that reduce pressure on tiger habitats.
- **Ecotourism Management:** Providing training on ecotourism principles, visitor management, interpretation techniques, and infrastructure development to generate revenue for conservation while minimizing disturbance to wildlife.
- **Research:** Building capacity in scientific research methods, data analysis, and monitoring protocols to assess tiger population trends, habitat status, and the effectiveness of conservation interventions.
- **Enhanced Expertise**: Providing specialized training in areas such as wildlife management, forestry techniques, biodiversity conservation, forest law enforcement, and community engagement to enhance the expertise of staff members.
- **Emergency Response:** Conducting drills and training exercises to prepare staff for rapid response to emergencies such as wildlife rescues, natural disasters, disease outbreaks, and human-wildlife conflicts.
- **Technology Adoption:** Introducing and training staff on the use of technology such as camera traps, GPS tracking devices, drones, and remote sensing for wildlife monitoring, law enforcement, and habitat mapping.
- **Collaboration and Networking:** Facilitating collaboration with other tiger reserves, government agencies, research institutions, NGOs, and international organizations to share best practices, resources, and expertise in tiger conservation.
- **Capacity Building for Stakeholders:** Extending training and capacity-building initiatives to local stakeholders, including forest department staff from neighboring areas, conservation NGOs, local communities, and tourism operators, to create a broader support network for tiger conservation efforts.

- **Promoting Best Practices**: Promoting the adoption of best practices in Wildlife and forest management, including s habitat management, protection technique, ecosystem restoration, fire management, community engagement and climate change adaptation strategies etc.
- **Encouraging Innovation:** Fostering a culture of innovation and creativity among staff members to develop new approaches, tools, and methodologies for addressing emerging challenges in forest/Wildlife/Tiger conservation and management.
- **Fostering Environmental Awareness:** Conducting awareness campaigns and educational programs for staff members to enhance their understanding of the importance of forests, Wildlife, biodiversity conservation, and the role of the forest department in sustainable development.
- **Continuous Learning:** Encouraging a culture of continuous learning and professional development among staff members through access to resources such as online courses, research publications, and networking opportunities.
- **Monitoring and Evaluation:** Establishing mechanisms for monitoring and evaluating the effectiveness of staff development initiatives, including regular performance assessments, feedback mechanisms, and impact evaluations.
- **Promoting Leadership Development:** Identifying and nurturing leadership potential within the department through mentorship programs, leadership training, and opportunities for career advancement.
- **Capacity Building:** Strengthening the capacity of forest department staff through targeted training programs, workshops, and seminars to equip them with the necessary skills and knowledge for sustainable forest management, wildlife and tiger conservation, and protection.

Overall, the objective of a staff development plan for a tiger reserve is to build a skilled, dedicated, and well-coordinated team capable of effectively protecting and conserving tiger populations and their habitats, ensuring their long-term survival in the wild.

Problems:

The problems and challenges in achieving these objectives are as follows:

- The available positions do not align with the requirements.
- A significant number of positions remain unfilled due to prolonged recruitment delays.
- Staff members exhibit reluctance to be stationed in Protected Areas, often attempting to avoid joining or seek transfers out.
- Essential roles, such as wireless operators, boat driver etc, lack sanctioned post within the Tiger Reserve.
- There is no provision for compensating staff members who serve extended periods at field stations, resulting in financial strain from maintaining separate households. This contributes to high levels of disenchantment and absenteeism.

- No planned infrastructure development and availability of basic facilities at many anti-poaching camps, including water supply and electricity, requires enhancement.

Strategies:

Following strategies for a staff development plan tailored to a tiger reserve:

A. **Strategies are required to enhance performance in different areas.**:

- **Training Programs:** Implement regular training programs focused on protection, intelligence and surveillance, habitat management, Wildlife monitoring and any other tiger conservation aspects, including workshops, seminars, and field exercises. These programs should cover various aspects such as tiger monitoring techniques, wildlife law enforcement, habitat management, and community engagement.
- **Skill Enhancement:** Offer specialized training to enhance staff skills in areas such as wildlife monitoring using technology (e.g., camera traps, GPS), data analysis, habitat restoration, and conflict resolution etc.
- **Leadership Development:** Identify potential leaders within the reserve staff and provide opportunities for leadership development through mentoring, leadership training, and participation in decision-making processes.
- **Cross-Training:** Encourage cross-training opportunities where staff members can gain experience in different roles within the reserve, fostering a more versatile and adaptable workforce.
- **Community Engagement Training:** Equip staff with the necessary skills to effectively engage with local communities living in and around the tiger reserve, promoting awareness, cooperation, and sustainable livelihoods that reduce human-wildlife conflicts.
- **Technology Adoption**: Provide training on the use of modern technology for wildlife monitoring, law enforcement, and management, including GPS devices, camera traps, drones, and data management software.
- **Ecotourism Management:** Offer training programs on ecotourism principles, visitor management, interpretation techniques, and infrastructure development to generate revenue for conservation while minimizing disturbance to wildlife.
- **Research Collaboration:** Foster collaboration with research institutions and universities to provide staff with opportunities for scientific research and collaboration on conservation projects, enhancing their skills and knowledge base.
- Performance Evaluation and Feedback: Establish a system for regular performance evaluation and feedback to identify areas for improvement and tailor training programs to meet staff needs effectively.
- **Incentives and Recognition:** Recognize and reward staff members who demonstrate outstanding performance and dedication to tiger conservation through incentives, awards, and opportunities for career advancement.
- **Networking and Collaboration:** Facilitate networking opportunities with other tiger reserves, conservation organizations, government agencies, and international partners to share best practices, experiences, and resources.
- **Continuous Learning Culture:** Foster a culture of continuous learning and professional development by providing access to resources such as online courses, workshops, conferences, and scientific literature.
- **In-house training facilities** will be developed. Refresher courses for important management activities such as MSTrIPES, census methodologies etc. will be organized regularly. Vertical and horizontal integration and

experience sharing will be promoted. The training modules must contain case studies and experience sharing by the participants. The participants must be selected so as to represent all levels of the hierarchy. Experiences coming out of successful innovations and initiatives must be shared and implemented to improve the delivery.

By implementing these strategies, a tiger reserve can effectively build the capacity of its staff members, empowering them to contribute more effectively to tiger reserve management and conservation efforts and ensuring the long-term sustainability of the tiger reserve's conservation goals.

B. Identification of skills and training areas

Training modules addressing new challenges in protection, intelligence and surveillance, habitat management, wildlife monitoring, etc., need to be developed. A definite annual schedule for these modules is essential for personnel assigned to the Wildlife wing. Training needs according to tiger reserve management will be identified for improvement of knowledge and skills of staff. These will include:

- Basic training in forestry and wildlife.
- Training in unarmed combat, ambush techniques and information gathering.
- Exposure to the working of other departments such as Police, Revenue, and Land records, Veterinary, Agricultural department etc.
- Training on Wildlife Conflict Management, wildlife forensics.
- Training of Field staff about wild animal rescue techniques.
- Training in various aspects of wildlife monitoring, scat analysis, camera trapping.
- Legal issues and enforcement- Staff shall not only be trained in forest and wildlife laws but shall also be made conversant with the provisions of IPC and CrPC, Evidence act and other relevant laws.
- Intelligence gathering and processing - The people living around the protected areas have information about illegal activities. However, lack of proper communication mechanism prevents flow of this information. the staff are not accustomed to gathering this information, and this issue requires rectification. Staff will be trained in information gathering techniques.
- Training on Wildlife crime detection, crime scene investigation and report writing: Staff should be trained in filing proper preliminary offence reports, procedures to be followed during inquiry and interrogative techniques and other methodologies and essential requirements for filing complaints, for production of offenders in court of law, collection, handling and forwarding of material evidence.
- Use and maintenance of firearms, GPS equipment, PDA and wireless sets etc.
- M-STRIPES based patrolling system will be improved for effective anti-poaching activity in the Reserve.

Table No.11.2: Training Schedule:

Sr. No.	Training Details	Period
1	Phase I, Camera trapping, Census techniques, Disaster management	October and April
2	Law enforcement, evidence collection, Account procedure, VEDC Works, Maintenance of Land Records, Stress management, Motivation, Communication & presentation skills, First aid	June / July
3	PIP, Habitat management works (Waterhole, Meadow etc.), Wireless operative procedure	At the end of monsoon (September)
4	Swimming, basic boat Training (Driving & Maintenance, Life saving techniques)	September
5	RRT, PRT training and mock practice	Quarterly
6	Fire prevention, control & awareness	December
7	Use of fire arms	As per need

C. **Creation and restructuring of executive setup-** To streamline administration and improve management, the following changes are required:

- Regular evaluation of the administrative setup is necessary to adjust or create posts as needed.
- Efforts must be made to fill vacant positions through recruitment or on a contractual basis.
- Range reorganization is proposed to enhance efficiency.
- Clear definitions of duties and responsibilities for all positions will be established, and procedures for various activities will be codified and distributed to relevant parties.
- Technical positions will be filled on a contractual basis according to requirements.
- Regular meetings with other agencies, particularly enforcement agencies, will be conducted.

D. **Human Resource Development:**

- Bio data of every staff member will be compiled and regularly updated for accurate records.
- Regular professional and personal counselling sessions will be conducted for field staff.
- Measures to appreciate excellent performance will be developed to motivate staff, supported by a comprehensive performance monitoring and evaluation system.
- Due to the remote and challenging terrain of the STR, a one-step pay structure will be implemented.
- Ensure timely salary for all the permanent, temporary and contractual staff.
- Institutionalized incentives and rewards system will be established, with necessary government approvals sought for the implementation of provisions of Section 60(A) of the Wildlife (Protection) Act.
- Regular supply of uniforms and field gear such as boots, cycles, torches, and raincoats will be ensured.
- Medical support facilities, including first-aid kits at protection huts, offices, and vehicles, will be regularly replenished.
- Periodic medical check-ups for staff will be organized.

- Sessions on Vipashyana, Yoga, motivation, and stress management will be arranged for field staff.
- Annual sports and cultural activities will be organized for all staff members.
- Financial literacy campaigns will be conducted for staff.
- Daily wage laborers will be covered by insurance schemes like e-Shram or similar, considering their vulnerability while performing duties in the Tiger Reserve alongside field staff.
- Entertainment facilities will be provided at every anti-poaching camp to engage staff during their leisure time.
- Encourage staff to improve their skills and pursue their hobbies.

E. Infrastructure and transportation enhancement to aid the staff:

- To ensure better functioning and performance of duties, all staff members should be equipped with proper transportation and infrastructure, indirectly contributing to staff development.
- Staff quarters, protection huts, check posts, and all other infrastructure must be maintained in good condition with a set maintenance schedule. The layout of existing buildings and infrastructure will be mapped for future development planning. Dilapidated buildings will be restored or replaced with appropriately designed structures.
- Family accommodations at suitable Tehsil/District levels where all facilities required for families of staff are available for personnel posted in ranges/rounds/beats are necessary. Repair and renovation of existing staff quarters and amenities will be prioritized.
- More patrolling camps will be established with basic facilities such as sufficient light, toilets, kitchens, and safe drinking water.
- Electricity or solar power backup will be provided to all residential complexes and protection huts where feasible.
- All transportation vehicles including jeeps, boats, and others will be maintained in good condition with an annual vehicle maintenance schedule in place to ensure smooth and swift movement for all situations. Ensure sufficient fund for maintenance and fuel.
- The wireless network will be improved through technological upgrades and user training to enhance efficiency.

F. **Performance monitoring mechanism:**

Proper performance monitoring and evaluation mechanism should be in place to assess the staff and recognize the better performing staff: Following are the few mechanisms keenly implemented.

- Confidential reports
- K.R.A. (Monthly)
- Monthly diary

G. Appreciation Mechanism:

Some of appreciation measures need to be adopt as follows:

- Sukanya Samriddhi- On birth of girl child to staff, Sukanya Samriddhi account is opened with some initial contribution from STR Conservation Foundation.
- Best performing candidate should be given a Tour to other tiger reserves along with his/her family.
- Special awards on 15 august, 26 January, Foundation Day, Wildlife week- in the fields of Protection, crime detection & investigation, VEDC works, Biodiversity documentation etc.
- Exhibition of photos (Biodiversity/Landscape) by field staff in nearby Tehsil/District places

- Reward should be given to Best Protection camp/ Beat/Round/Range in STR.
- Monthly award to candidate who successfully complete MSTrIPES patrolling targets. He/she will get opportunity to have a dinner with Special Guest/Field director along with family.
- Ensure opportunity of sharing his/her experience on big stage/newspaper/Newsletter/radio/ TV Channels

11.5 Wildlife Health Monitoring

1. Vaccination: Regular vaccination has been done by Zilla Parishad and state government animal husbandry department. STR Kolhapur is always ready to provide vehicle and field staff to help the veterinary staff for vaccination with following vaccines
   i. Foot and mouth disease vaccine
   ii. Black quarter vaccine
   iii. Haemrregic septicemia vaccine

2. Vaccination of the street dogs of buffer zone villages by Veterinary Doctor against rabies

3. Veterinary (Wildlife) officer must be appointed permanently with mobile van, well equipped with medicines, equipment's and other accessories. Veterinary officer must visit at least once in a week to every zone to monitor the herbivores and carnivores' animals to check their health and its behavior with well-trained RRT team and walkie talkie should be provided to the team.

4. Training to be provided to RRT team and field staff: Monthly training and practice must be given to RRT team as well as field staff by veterinary, by experts on subjects like how to identify weak animals, exhausted animals, aggressive animals and abnormal behavior of wild animals and how to control them.

5. Well-equipped lab as well as operation theatre and post mortem room should be constructed and necessary medicines, vaccines and equipment's should be provided, so that treatment and operation can be conducted at STR landscape itself.

6. Transit Treatment Centre should be constructed with this place at Koynanagar as it is center point of tiger reserve.

7. Rescued animals should be GPS tagged before releasing after treatment.

11.6 Mortality Survey

Annual figures about death of the animals of schedule-I and schedule-II shall be collected from the RFOs working in buffer zone and the same shall be entered in the register of office of Field Director, Sahyadri Tiger Reserve so that year wise mortality for 5 to 10 years span shall be calculated. The protocol as prescribed by the NTCA with respect to mortality of Tiger and other animals shall be complied carefully.

CHAPTER 12

TIGER POPULATION AND HABITAT ASSESSMENT

Monitoring status of tigers, co predator, prey base and evaluating habitat quality constitutes of the most important components of the tiger conservation plan. The existing methodology of tiger estimation has been reviewed and refined methodology has been developed by NTCA. Now Tiger population estimation is being carried out as per Phase-IV monitoring protocol.

Day to day intensive (but unobtrusive) monitoring of tiger is crucial apart from an assessment of the habitat status (welfare factors, prey base) at periodic intervals, covering all the seasons. Both traditional, as well as state of the art monitoring protocols, need to be used in a mutually complementary manner.

12.1 Daily Monitoring Protocol:

The daily monitoring protocol becomes extremely important in the buffer/peripheral area owing to the co-occurrence of people and wild animals. Thus, it becomes important to incorporate the livestock movement pattern as well, in addition to wild animals as indicated below:

12.1.1 Traditional methods:

- Recording/Collecting field evidences - Presence/Droppings/Spoor/Pugmarks and others of wild animals
- Recording evidences/sightings of livestock and maintaining seasonal grazing maps
- Keeping track of wandering pastoral groups with sheep
- Monitoring areas with livestock depredation
- Monitoring water points particularly during the dry season
- Monitoring fruit/flower bearing trees favored by wild animals and also collected by people as NTFP to prevent lethal encounters (ex: sloth bear presence near mahua trees)
- Making field observations in prescribed format (species/sex/group size/marker animals/phonological qualifiers/untoward incidents/evidence of natural kill/poaching and others)

12.1.2. State of the art monitoring protocol:

- Use of M-STrIPES
- Tiger scatology for DNA in low tiger density areas not amenable to camera trap
- 24x7 electronic surveillance using intelligent infrared/thermal camera system for recording animal presence/movements at sensitive points.

The phase IV monitoring protocol of the NTCA combines both traditional as well as state-of-the-art methods for year-round monitoring in tiger reserves (tiger/prey base/habitat status). This needs to be done on a priority basis, with due capacity building of frontline staff.

12.1.3 Forecasting:

The day-to-day monitoring data (spread over seasons) needs to be plotted on the habitat map (G.I.S. layers of cover/welfare factors /infrastructure/human settlements /unique habitat features/M-STrIPES output) in an ongoing manner to identify high-density pockets of prey species, tiger and co-predators. This exercise would highlight several species specific "obligatory points" as well as species-specific most frequented areas (season wise). Any change in the recurring spatial occupancy of prey/predator species should be taken as an alert /forecast for a thorough appraisal to eliminate the possibility of target killing.

12.2 Tiger Population Estimation Framework (Phase- I, II, III and IV):

- Snapshot assessment (once in four years) of tiger/co-predators/prey species/habitat status, during the country level tiger assessment by the NTCA (Double Sampling method: phases I, II and III)
- Yearly publication of phase-I and phase-IV monitoring results (minimum tiger numbers) as prescribed by the NTCA
- Creating reserve specific camera trap photo repository of a tiger as a shred of supporting evidence for minimum number/fixing ID of the aberrant tiger/ascertaining repeat captures vis-à-vis adjoining protected area/division

Framework (Phase I, II, III and IV):

The tiger population monitoring is normally a total count (census) of countrywide tiger population every 4 years and within tiger reserve every year. The census is based on intensive monitoring of tigers within areas identifying individual tigers by visual inspection of pugmarks, tracing/plaster cast. This methodology has come under severe criticism. Major limitations of this technique are (1) it relies on subjective (expert knowledge) identification of tigers based on their pugmarks. (2) The pugmarks of a tiger are likely to vary within a substrate, tracings/casts and the tiger's gait: (3) it is not possible to obtain pugmarks of tigers from all tiger occupied landscapes, and (4) the method attempts a total count of all tigers.

An alternative proposed by tiger biologists is to use individually identified tiger by camera traps in capture-recapture statistical framework to estimate tiger densities.

The other two potential methods that can be used in smaller sample areas for monitoring source tiger populations are the individual identification of tigers from digital images of their pugmarks and tiger DNA profiles obtained from scats and other non-invasive techniques.

Stage I: Spatial mapping and monitoring of tigers, prey and habitat:

This stage consists of mapping of forest beat taking it as a unit of sampling. The sampling is systematically distributed in all beats of tiger occupied forests. The detailed methodological approach for sampling is given in the field guide by Y. Jhala Q. Qureshi and R. Gopal, 2017. The target data are extremely easy to collect and requires minimum technical skills. The spatial data generated is scientifically robust, amenable for statistical analysis and inference. Since several replicate surveys will be undertaken in each beat, it will enable to model tiger occupancy, detection probability of tiger signs and relative sign density at a high spatial resolution. The data will be analyzed in a GIS domain. Several spatial and attribute data like human density, livestock density, road network, topographical features, forest type and cover, meteorological data, poaching pressures and landscape characteristics will be used as covariates to model tiger occupancy and relative abundance in a landscape and individual forest patches. Time series analysis of the data at a larger spatial resolution is likely to have sufficient precision for monitoring spatial occupancy of tigers in association with changes in tiger prey, habitat quality and anthropogenic pressures.

Stage II: Spatial and attribute data

The spatial and non-spatial data that are likely to influence tiger occupancy of a landscape is used for modeling in a GIS domain. The vegetation map, terrain model, night light satellite data, drainage, transportation network, forest cover, climate data, Normalized Difference Vegetation Index, livestock abundance, human density, socio-economic parameters, etc. is used for modeling habitat condition and tiger occupancy. Beat-wise vegetation sampling is done to generate broad vegetation map. This modeling helps in determining the current spatial distribution of tigers, potential habitats, threats to crucial linkages between occupied landscapes and conservation planning.

Stage III: Estimating the population of tigers and its prey

This answers the question of how many tigers and ungulates are there.

Tiger numbers:

Tiger conservation unit is stratified into tiger conservation sign abundance classes of a high, medium, low and no tiger sign at the beat and larger special resolution. (Range 100 sq.km.)

All known techniques of tiger density estimates are used depending on the logistic possibility within each landscape: capture-recapture based on camera traps, mark-recapture based on pugmarks, and DNA profile obtained from tiger scat. These densities will then be extrapolated for the areas under various density classes within the landscape to arrive at a tiger population estimate.

Tiger prey:

Stage I of the protocol reports encounter rates on line transect sufficient for monitoring trends in ungulate population and site-specific occupancies. Pellet group counts on transects serve as an index to

the presence of ungulate species and pellet relative abundance, especially in disturbed areas where actual sightings may be difficult.

Stage IV: Intensive monitoring of source populations

It is expected to monitor the source population of tigers in the reserve by the following methodology.

Photo registration of tigers:

Pictures of individual tigers obtained by camera traps or by regular cameras should be maintained in the form of a photo identity album. Records should be kept of the location, condition breeding status, injury, etc.) and associated tigers whenever a tiger is sighted. This will provide crude data on ranging patterns demography and mortality.

Tiger pugmarks and other signs:

Regular monitoring of tiger signs (pugmarks tracings, plaster casts, etc) should be undertaken in every beat at a weekly interval within a monthly compilation of data. With experience and exposure to the resident tigers and their pugmarks, the forest staff may be able to identify individual tigers from their track set characteristics. Sign surveys and individual tiger monitoring should become a regular task for every guard as practiced in STR. The monthly data should be mapped and maintained to analyze trends.

Monitoring by telemetry in select areas:

Use of modern technology of VHF, GPS and satellite telemetry to study and monitor aspects of demography, meta-population dynamics (dispersal, ranging patterns), mortality, predation ecology and behavior is expected.

In all source populations, tiger abundance and density should be estimated using camera traps, digital images of pugmarks and/or DNA profile from non-invasive methods biannually.

The Project Tiger directorate will play the overall supervisory and coordination role for all the phases and tasks under each phase of the monitoring.

12.3 Habitat Assessment Framework:

- Laying permanent transects and assessment of habitat status using the methodology prescribed in the country level tiger assessment exercise (needs to be done yearly)
- Time series monitoring of the entire habitat using remotely sensed data in the GIS for an assessment of anthropogenic grassland regression, a progression of woodland due to "arresting" of ecological succession owing to managerial interventions/anthropogenic disturbances/natural stochastic events/manipulation by gregarious wild animals

The data compilation/analysis should be done as prescribed for the double sampling exercise

12.3.1 Sampling for Vegetation, Human Disturbance, and Ungulate Pellets (Phase-I):

To quantify the habitat parameters and determine the relative abundance of ungulates sampling will be done along the same line transect on which ungulate encounter rates were estimated. For economy of time and effort, it would be possible to first sample the line transects during early morning hours for ungulate encounter rate and then while returning along the same line, sample for vegetation and ungulate pellets. Sampling for vegetation, ungulate dung and human disturbance will be done only once on a line transect.

- Again, a beat will be the sampling unit, and sampling will be done along the established line transects.
- The beginning and endpoint coordinates of the line transect need to be recorded using a GPS unit.
- The same principle of laying line transects as explained in the section on ungulate encounter rates is applicable here
- Vegetation would need to be sampled every 400 m along the transect.
- The vegetation would need to be quantified visually in the following categories for each plot:

12.3.1.1 In 15 m. radius circular plot:

- Broad vegetation type and associated terrain type eg. mixed teak forest on hilly terrain, sal forest on flat land, etc.
- Within a distance of approximately 15 m of the observer the five most dominant trees need to be listed in the order of dominance (abundance)
- The observer needs to list the 5 most dominant shrub species in order of dominance (abundance) within 15m of the location. He needs to categorize shrub density (under-story vegetation) as absent, very low, low, medium, and dense. Shrubs will be assessed on five-point scale (0 to 4 i.e. absent to most abundant) for density estimation.
- If weeds are present, their abundance needs to be scored on 0 to 4 scales (0 being absent and 4 high abundance) and the three most common weeds seen in 15m need to be listed in order of abundance.
- Within the same 15 m distance, the observer needs to record several signs of looping, woodcutting, and presence/absence of a human foot trail.
- The observer needs to visually quantify the canopy cover at the location. The observer should subjectively classify the proportion of the sky above him that is covered by canopy foliage and categorize it into <0.1, 0.1-0.2, 0.2-0.4, 0.4-0.6, 0.6-0.8, >0.8 canopy cover.
- A mention needs to be made in the datasheet regarding the number of permanent human settlements, human population, and livestock population present in the beat (to the best of his knowledge).

- A mention needs to be made based on the observers' knowledge if any non-timber forest product is collected from the beat. If yes, which NTFP and to score the magnitude of collection on a 5-point scale (0- no collection 4-high rate of the collection).
- All the observation writes in the prescribed format.

12.3.1.2 In 1 m radius circular plot:

The observer needs to use a 2m long stick to define an imaginary circle around him with the stick as the diameter. Within this circular plot (2m diameter) the observer needs to a) quantify the per cent ground cover, i.e. the proportion of the ground covered by herbs, grasses, litter, and bare ground, b) List the 3 most dominant grass species, and herb species in order of dominance. All the observation writes in the prescribed format.

12.3.1.3 Sampling for Ungulate Pellets:

Ungulate abundance will also be indexed by enumerating their faecal pellets. This exercise will be done on the same line transect that has been sampled for ungulate encounter rate. To save time, this exercise could be done after the line transect has been sampled in the early morning for ungulate encounters. Details of line transects location with start and endpoints of all beats of core zone in STR is given in Atlas map 120.

- At every 400 m along the transect (line of walk) the observer needs to sample an area of 2m by 20m, perpendicular to the transect for quantifying ungulate pellets. This is done by using the 2 m long stick held at the centre horizontally in his hand and by walking slowly, 20m right and left of the transect alternately at every 400 m.
- All ungulate pellets encountered need to be recognized to ungulate species and recorded in appropriate columns of the attached datasheet.
- The number of faecal pellets needs to be counted. In cases where the pellets occur in large heaps, then they should be categorized into the following categories: A (50-100), B (100-200) and C (>200).
- In areas where small livestock like sheep and goat are known to be grazed, it is possible that fecal pellets of these can be confused with wild ungulates especially those of chital. In such areas, mentions being made that goat or sheep graze the area.
- In the last row of the datasheet, the observer needs to report if ungulate/animal listed in the data sheet occurs in the sampled beat to the best of his knowledge irrespective of whether its pellets/dung were recorded in the plots or not.
- All the observation writes in the prescribed format.

12.3.1.4 Sampling for Tiger, Leopard, and Other Carnivore Sign Encounter Rate:

To obtain data on the presence, absence and intensity of use of a beat by tigers and other carnivores, quantify the relative abundance of tiger, leopard, and carnivore signs in an area. The following procedure needs to be followed for data collection:

- A beat will be considered as a sampling unit.
- Areas within the beat that have the maximum potential for tiger occupancy will be intensively searched.
- Since tigers and leopards have a tendency of using dirt roads, trails, footpaths, river beds and nullah, these landscape features within the beat need to be searched intensively.
- One to three persons who know the terrain and habitat features of the beat should search tiger sign.
- There should be 3-5 separate searches (in different compartments within the beat and/or at different times 1-5 days apart) each search covering about 4-6 km distance in areas having the best potential for tiger presence. It is important to record the distance covered and the time spent during each search separately (in the data sheet-1) and accurately. If time is spent resting or in other activities while searching, this duration should be reported separately. If possible, the GPS coordinate of the beginning point of each search path should be recorded.
- The total minimum distance covered while searching for tiger and other carnivore sign should be 15 km per beat.
- Tiger and leopard signs should be classified into the following categories 1) Pugmark trails, 2) Scats (Old: dry with hair and bones visible; Fresh: dry but intact with a shiny surface; Very Fresh: soft, moist, and smelly, 3) Scrapes, 4) Scent marks (spray, rolling), 5) Rake marks on trunks, 6) Actual sighting, 7) Roaring (vocalization).
- A brief description of the topography and forest type is to be recorded for each sign.
- In case of pugmark trails, each trail set is considered as one sign (not each pugmark as one sign). In case a tiger (or other carnivores) continues to walk along a dirt road for a long distance (say 1 km), then this should be considered as one sign, and a comment recorded in the remarks section of the data regarding distance covered by a pugmark trail of a single tiger.
- Tiger and leopard signs if encountered outside the sampling route should also be recorded with GPS coordinates (if available) and with appropriate comments.
- Special emphasis should be given to sign of tigress and leopards with cubs, and any authentic evidence of tiger cubs (sightings of cubs, lactating tigress, tracks, etc.) obtained within the past twelve months should be mentioned in the datasheet.
- While sampling for tiger and leopard signs, a record should also be kept for signs of any other carnivore that are encountered.
- The number of livestock that is killed by predators within the past three months needs to be recorded in the questionnaire following the datasheet.

- It is important to report data sincerely. There may likely be reliable information that tiger/leopard is present in the beat being sampled, but no tiger/leopard signs are recorded during the intensive search survey. In such cases, mention should be made in the remark's column of the datasheets. However, failure in obtaining tiger sign from a beat is equally important as recording tiger/leopard signs and for appropriate analysis of this data, the actual data should be reported.
- All the observation writes in the prescribed format.

12.3.1.5 Sampling for Ungulate Encounter Rates:

This protocol outlines a simple method for quantifying ungulate abundance in an area based on visual encounters while walking along fixed-line transects. The following procedure needs to be followed for data collection:

- A beat would be considered as the unit for sampling.
- After considering the shape, size, vegetation, and terrain type of the beat, a transect line of a minimum of 2 km and not exceeding 4 km will be marked for sampling.
- The transect line should traverse similar habitat (broad vegetation types) as far as possible. If the beat is composed of 2 or 3 distinct vegetation types eg. Mixed Teak Forest comprising 40% of the beat and the remaining 60% comprised of Miscellaneous Forest with bamboo, then 2 separate line transects should be marked for sampling.
- The line transect within a beat may be broken up into 2 or more segments so that each segment has a minimum length of 2 km and traverses' similar habitat.
- Care should be taken that a line transect is not located near a busy road nor should it run parallel to a river or other features of the landscape which may bias sighting of ungulates.
- For each transect the point of beginning and endpoint coordinates (Latitude and Longitude) should be recorded by a global positioning system.
- The broad forest type and terrain type that the transect traverses needs to be recorded.
- Each transect should be walked by 1-2 persons during the early morning hours (6:30 AM to 8:30 AM). Preferably one of the persons walking should be a good field person who can spot wildlife.
- A record should be kept of all mammals and peafowl seen during the walk in the prescribed format (see datasheet). For each animal sighting the following needs to be recorded: 1) serial no of the sighting, 2) time of the sighting, 3) species (eg. sambar, chital, wild pig, peafowl, langur, etc.), 4) group size - number of animals of the same species in the group sighted, it is important to try to count the number of animals in the group as accurately as possible. Animals are considered to belong to two different groups if the closest animals from the two groups are separated by a distance of over 30 m.

- If possible, the number of young (fawns/calves less than 1 year of age) seen in the group should also be recorded.
- Broad habitat category (vegetation and terrain type) needs to be recorded for each sighting eg. S. No.5. 12 chital (10 adults and 2 young) were seen at 6:40 am, in a mixed teak forest, gently undulating terrain.
- Each line transects needs to be walked at least on three different mornings for estimating ungulate encounter rates.
- All the observation writes in the prescribed format.

12.4 Spatial Database Development:

The process given in 9.1, 9.2 and 9.3 will form the basis of development of data. The help of GPS/ GIS will be taken to develop the database.

- Creation of time series habitat monitoring database in the G.I.S. using remote sensing
- Creation of seasonal Spatio-temporal maps of major wild animal species in the G.I.S.
- Creation of tiger home range atlas based on radio telemetry data (core area and adjoining forest/protected areas)
- Creation of tiger camera trap photo repository

12.5 Analysis and Reporting Framework:

Monthly data received will be analyzed for distribution of animals, habitat, sighting etc. by RFO & ACF and then through Deputy Director and Field Director, the data will be submitted to APCCF, PCCF(Wildlife) and NTCA.

The analysis on phase IV monitoring/tiger/prey/habitat status assessment needs to be done as per the peer-reviewed methodology of NTCA/WII while reporting the outcome on an annual basis to the NTCA.

12.6 Monthly Return for the Death of Wild Animals:

A monthly report about the death of wild animals should be prepared in following pro-forma by Range Forest Officers of each range and should be submitted to Field Director through Deputy Director. Field Director will further submit it to NTCA and Chief Wildlife Warden.

Table No.12.1: Performa for Death Of Wild Animal

Sr. No.	Division	Range	Place of offence RF/PF/Other Govt./Pvt. area (Specify)	Name of agency (Forest/RDD/Police/CBI etc.)	Name of Species their No. with sex (M/F)	Scientific Name	Schedule to which it belongs
1	2	3	4	5	6	7	8
--	--	--	--	--	--	--	--

Cause of Death			WL articles seized (skin/bones/antlers & others) specify	Other Items Seized (tools, weapons, vehicle)	P.O.R. No.	Date	Act. & sections under which offence was registered	Present status of the case. Give details	Remarks
Natural	Accidental Specify	Poaching Trapping/ Poisoning/ Electrocution/ Other methods- specify							
9	10	11	12	13	14	15	16	17	18
--	--	--	--	--	--	--	--	--	--

[Ref: - The Director (Project Tiger), Ministry of Environment and Forests, letter No. PS/ IGF (PT)-Misc, Dt. 11/3/2006.]

Chapter 13

PROTECTION AND INTELLIGENCE GATHERING

The Sahyadri Tiger Reserve (STR) stands as a vital repository of biodiversity and natural assets, nestled within reach of populous districts like Satara, Sangli, Kolhapur, and Ratnagiri, as well as numerous urbanized areas and 82 neighbouring villages in its buffer zone. However, this proximity renders it particularly susceptible to threats such as poaching and human-wildlife conflicts. Situated amidst the burgeoning Western Ghats region of Maharashtra, the reserve faces mounting pressures from habitat degradation, encroachment, and the illicit wildlife trade.

Under the aegis of Project Tiger, safeguarding the reserve assumes paramount importance, with a distinct focus on bolstering protection measures within its core critical tiger habitat. Such a mandate necessitates a robust, site-tailored security infrastructure, reinforced by cutting-edge surveillance technology and manned by proficient frontline personnel. However, recognizing the interconnectedness of the reserve's buffer zones with its core habitats, it becomes imperative to extend similar levels of vigilance and intelligence gathering to these ecological transition areas.

In devising security strategies for the buffer zones, it is essential to maintain a nuanced understanding of the unique challenges they pose, without compromising the imperative of field-level protection. This entails a multifaceted approach encompassing preemptive measures and responsive interventions, spanning infrastructure enhancement, communication networks, personnel deployment, intelligence gathering, and collaborative information-sharing mechanisms. By adopting such a comprehensive approach, the Sahyadri Tiger Reserve can fortify its defenses and ensure the continued preservation of its invaluable natural heritage.

The details are discussed/suggested in the forthcoming paragraphs:

13.1 Deployment Of Native Workforce:

The buffer zone's management strategy should adopt an assertive coexistence approach, leveraging the invaluable insights of local communities who possess deep-rooted knowledge of the area's dynamics, vulnerabilities, and on-going activities. Accordingly, an inclusive protection strategy is recommended, combining both proactive measures and sustainable, indirect interventions. This holistic approach aims to foster harmonious relations between wildlife and human populations while addressing immediate threats and laying the groundwork for long-term conservation efforts.

- **Local Expertise**: Utilizing native workforce enhances the effectiveness of protection efforts as they possess intimate knowledge of the terrain, wildlife behaviour, and local communities.
- **Cultural Sensitivity**: Native workforce understands the cultural nuances and sensitivities of the region, facilitating better community engagement and cooperation in conservation initiatives.

- **Cost-Effective**: Employing residents can be cost-effective compared to hiring external personnel, as it reduces recruitment and training expenses while also providing employment opportunities to local communities.
- **Enhanced Surveillance**: Local workforce can serve as informants and intelligence sources, aiding in the detection and prevention of poaching, illegal logging, and other illicit activities within the tiger reserve.
- **Community Empowerment**: Involving native workforce in protection activities empowers local communities and fosters a sense of ownership and responsibility towards the conservation of their natural heritage.
- **Rapid Response**: Native workforce can respond quickly to incidents and emergencies within the tiger reserve, minimizing response time and potential damage to wildlife and habitat.
- **Cultural Conservation**: Deployment of native workforce contributes to the preservation of indigenous knowledge and traditions, thereby supporting cultural conservation alongside biodiversity conservation.
- **Capacity Building**: Providing training and capacity-building opportunities to local workforce enhances their skills and expertise in wildlife monitoring, law enforcement, and conservation management, contributing to long-term sustainability.
- **Trust and Cooperation**: Building trust and rapport with local communities through the deployment of native workforce fosters greater cooperation and collaboration in conservation efforts, leading to more effective protection of the tiger reserve.
- **Sustainable Development**: Integrating local workforce into protection activities aligns conservation goals with local livelihood needs, promoting sustainable development and fostering socio-economic benefits for surrounding communities.

A. Active Interventions:

Active intervention for protection in a tiger reserve encompasses dynamic and proactive measures focused on preserving the tiger reserve's biodiversity and maintaining habitat integrity. Key strategies for active interventions include:

- Regular Patrolling
- Technology Integration
- Community Engagement
- Anti-Poaching Units
- Habitat Management
- Law Enforcement Collaboration
- Intelligence Gathering
- Capacity Building

- Rapid Response Teams
- Research and Monitoring

These strategies work together synergistically to enhance the effectiveness of conservation efforts and ensure the long-term survival of tigers and other wildlife within the tiger reserve.

1. **Infrastructure:**

- **Establishment of a Network of Basic Patrolling Camps**: Set up a network of patrolling camps strategically located throughout the Sahyadri Tiger reserve to ensure regular surveillance and presence in key areas.
- **Integration of 24x7 Control Room with Patrolling Camps**: Establish a central control room linked to all patrolling camps for real-time monitoring, coordination, and rapid response to incidents.
- **Deployment of Vehicular Squads for Ready Mobility**: Deploy vehicular squads equipped for rapid response and mobility to address emergencies and cover large areas efficiently.
- **Installation of 24x7 Electronic Surveillance System**: Implement electronic surveillance systems, including cameras and sensors, in sensitive village and forest patches to detect and deter illegal activities.
- **Manned/Unmanned Barriers at Exits**: Install manned or unmanned barriers at all exits of the tiger reserve to regulate access and prevent unauthorized entry or exit.
- **Monitoring of Vehicular Movement after Sunset**: Implement a system for recording and monitoring vehicular entry and movement within the reserve after sunset to detect suspicious activities.
- **Registration of Crop Protection and Firearms**: Enforce registration of crop protection measures and firearms owned by residents within the reserve to regulate their use and prevent misuse.
- **Establishment of Temporary Monitoring Huts**: Set up temporary monitoring huts near perennial water sources, large water bodies, and market places to monitor wildlife movement, human activities, and potential threats.
- **Registration of Pesticide Outlets**: Enforce registration of pesticide outlets near the reserve to monitor and regulate the sale and use of pesticides, minimizing their impact on wildlife and ecosystems.
- **Watchtowers and Observation Posts**: Erecting watchtowers and observation posts at strategic locations within the reserve to facilitate monitoring of wildlife movements, illegal activities, and potential threats.
- **Boundary Fencing and Signage**: Installing boundary fencing and signage to demarcate the reserve boundaries, prevent encroachment, and deter unauthorized entry into protected areas.

- **Visitor Centres and Interpretation Facilities**: Establishing visitor centres and interpretation facilities to educate visitors about the importance of tiger conservation, biodiversity, and the rules and regulations governing the reserve.
- **Roads and Trails**: Constructing roads and trails for patrolling, monitoring, and access to remote areas of the reserve, while minimizing ecological impact and disturbance to wildlife habitats.
- **Communication Systems**: Implementing robust communication systems, including radio networks, mobile phones, and satellite technology, to facilitate real-time communication between reserve staff, law enforcement agencies, and neighboring communities.
- **Research Stations and Laboratories**: Setting up research stations and laboratories equipped with scientific instruments and equipment for conducting research on wildlife ecology, biodiversity, and conservation genetics.
- **Residential Quarters and Field Stations**: Providing residential quarters and field stations for reserve staff, researchers, and law enforcement personnel to ensure their presence within the reserve and prompt response to emergencies.
- **Emergency Response Facilities**: Equipping the reserve with emergency response facilities, including first aid stations, veterinary clinics, and fire-fighting equipment, to address emergencies such as wildlife injuries, disease outbreaks, and forest fires.

2. Actions:

- **Strengthen patrolling efforts:** Increase the frequency and intensity of patrols conducted by trained forest guards to deter poaching and illegal activities.
- **Enhance habitat protection:** Implement measures to safeguard and restore the natural habitat of tigers, including efforts to reduce human-wildlife conflict and habitat fragmentation.
- **Collaborate with local communities**: Engage with local communities living around the tiger reserve to foster support for conservation efforts and involve them in wildlife monitoring and protection initiatives.
- **Establish tiger protection squads:** (Tiger Protection Force) comprising entirely of local people to accompany frontline staff on day-to-day patrolling with due remuneration.
- **Utilize Special Tiger Protection Forces** (STPF), dog squads, and other specialized units for enhanced protection measures.
- **Gather the intelligence on wildlife crimes**: from local sources, prioritize the high-risk areas for surveillance.

- Appointing village-level "Forest Patil's" to facilitate ongoing communication between local communities and tiger reserve authorities, sharing information on potential threats like intruders, trespassers, and poachers.

- **Engaging Eco Development Committees** (EDCs) in maintaining records of wildlife offenses, livestock depredation incidents, and human-wildlife conflict incidents.
- Forming a dedicated team of villagers to monitor livestock depredation, compensating them accordingly.
- Implementing a detailed seasonal and daily patrolling schedule for effective coverage and surveillance of the tiger reserve area.
- **Employ technology for monitoring:** Utilize advanced technologies such as camera traps, drones, and satellite tracking to monitor tiger populations and detect threats in real-time.
- **Enforce strict laws and regulations for wildlife and forest protection.**
- **Collaborate with local communities**: Engage with local communities living around the tiger reserve to foster support for conservation efforts and involve them in wildlife monitoring and protection initiatives.
- **Conduct anti-poaching operations:** Organize targeted anti-poaching operations in coordination with law enforcement agencies to dismantle wildlife crime networks and apprehend poachers.
- **Promote conservation awareness:** Conduct educational campaigns and outreach programs to raise awareness about the importance of tiger conservation and the role of local communities in protecting wildlife.
- **Implement habitat restoration projects:** Undertake projects to restore degraded habitats within the tiger reserve, such as reforestation and water source management, to support healthy ecosystems for tigers and their prey species.

B. Indirect Interventions:

- **Community Engagement:** Involving local communities in conservation efforts through education, capacity building, and providing alternative livelihoods to reduce dependence on forest resources. **(**as covered in Chapter 7)
- Initiatives for eliciting local support (as covered in Chapter 7)
- **Public Awareness Campaigns:** Raising awareness among the public about the importance of tiger conservation, the threats facing tigers, and what individuals can do to contribute to their protection through education, media campaigns, and outreach activities.

13.2 Patrolling strategy including Joint Patrolling:

Effective security planning is imperative for safeguarding a tiger reserve, necessitating periodic security audits due to the habitat's vulnerability to various threats, including potential revenge killings and poaching. Patrolling in this rural, forested landscape, intersected by human settlements, serves the dual purpose of protecting the area and intercepting potential offenders. Special attention must be given to factors such as on-going trade, demand for wildlife products, local customs, dependency on the habitat, and the historical context of militancy or criminal activity in the region, as well as the general attitude toward wild animals.

The patrolling strategy consists of two main components: preventive measures and control operations. Preventive measures encompass the establishment of permanent anti-poaching camps, deployment of frontline staff, implementation of wireless communication and surveillance systems, maintenance of the forest road network, provision of vehicular support, ensuring adequate arms and ammunition, and the implementation of intelligence-based patrolling protocols like M-Stripes. Additionally, intelligence gathering, regular supervisory checks on patrolling intensity, formation of patrolling squads, deployment of special tiger protection forces (STPF), and capacity building efforts are crucial.

Control operations involve maintaining a duty roster, 24x7 surveillance utilizing state-of-the-art technology, information exchange, counteracting poaching activities, apprehending offenders, conducting forensic investigations, and ensuring prosecution.

Security audits should adhere to the provisions of the Wildlife (Protection) Act, 1972, state government regulations, guidelines from the National Tiger Conservation Authority (NTCA)/Project Tiger, and standard operating procedures (SOPs). Audits should assess site-specific risks and identify gaps or shortcomings in current practices, with a particular focus on legal compliance and the effectiveness of management responses to security threats. Innovative approaches to surveillance and networking, based on a SWOT analysis, should be critically evaluated as they underpin intelligence-based enforcement efforts. The audit should also assess frontline response to security incidents in comparison to desired supervisory checks, especially concerning seasonal variations.

Patrolling strategies particularly joint patrolling, play a crucial role within tiger reserves following are the points to be consider while patrolling by implementing these strategies, including joint patrolling, tiger reserves can enhance their capacity to protect tigers and their habitats effectively.

- **Understanding the Terrain**: Before initiating patrolling, it is essential to understand the terrain of the tiger reserve. This includes identifying key habitats, water sources, and potential areas of conflict between humans and tigers.
- **Regular Patrols**: Establish a schedule for regular patrols within the tiger reserve. These patrols should cover different zones and habitats to ensure comprehensive coverage.

- **Joint Patrolling**: Collaborate with multiple stakeholders such as forest department officials, wildlife NGOs, local communities, and law enforcement agencies for joint patrolling. Joint patrolling fosters better coordination, resource sharing, and intelligence gathering.
- **Utilizing Technology**: Incorporate technology such as GPS tracking, camera traps, drones, and satellite imagery for efficient patrolling. These tools can help in monitoring tiger movements, identifying poaching activities, and assessing habitat changes.
- **Training and Capacity Building**: Provide training to patrolling teams on wildlife monitoring techniques, conflict resolution, first aid, and handling of firearms (if required). Capacity building ensures that patrolling teams are equipped with the necessary skills and knowledge to effectively protect tigers.
- **Community Engagement**: Involve local communities living in and around the tiger reserve in patrolling efforts. Community members can serve as informants, guides, and partners in conservation. Their support is crucial for gathering intelligence and addressing human-wildlife conflicts.
- **Response Protocol**: Develop a clear protocol for responding to poaching incidents, human-wildlife conflicts, and other threats to tigers. This protocol should outline roles and responsibilities of patrolling teams, law enforcement agencies, and relevant stakeholders.
- **Data Collection and Analysis**: Implement a system for collecting and analyzing patrolling data. This includes recording tiger sightings, poaching incidents, habitat disturbances, and other relevant information. Data analysis can help in identifying trends, hotspots, and areas requiring intensified patrolling.
- **Adaptive Management**: Continuously evaluate and adapt patrolling strategies based on emerging threats, changing patterns of human activity, and feedback from field observations. Flexibility and responsiveness are key to effective protection.
- **Collaboration with other Agencies**: Collaborate with other conservation agencies and tiger range countries for sharing best practices, intelligence, and resources. Trans boundary cooperation is essential for addressing issues such as illegal wildlife trade and habitat fragmentation.

i Other important components include:

- **Capacity Building of Frontline Personnel**: Ensure frontline personnel are equipped with the necessary skills and knowledge through training programs.
- **Fitness for Rugged Terrain**: Ensure personnel are physically fit to perform patrolling duties in challenging terrains.

- **Legal Knowledge**: Provide basic knowledge of legal provisions related to wildlife protection to enable effective enforcement.
- **Technical Expertise**: Equip personnel with technical expertise to safeguard crime scenes and reconstruct offenses for investigation purposes.
- **Patrolling Intensity**: Increase patrolling intensity in sensitive areas of the habitat frequented by tigers and potential threats.
- **Arms and Ammunition**: Ensure availability and proper maintenance of arms and ammunition for patrolling teams.
- **Monitoring Wildlife Crime Litigations**: Keep track of wildlife crime cases, especially those involving Schedule 1 and Schedule 2 Part II animals, in the courts of law.
- **Sensitizing the Judiciary**: Undertake efforts to sensitize the judiciary about the importance of wildlife protection and strengthen legal measures.
- **Engaging Local Workforce**: Deploy local workforce in patrolling activities and utilize them as informants for gathering intelligence.
- **Monitoring Local Markets and Transportation Hubs**: Monitor local countryside markets, railway stations, bus stands, and highways for illegal wildlife trade activities.
- **Liaison with Outlets Selling Pesticides**: Establish liaison with outlets selling pesticides to prevent their misuse for wildlife poisoning.
- **Monitoring Livestock and Human Injury**: Monitor livestock and human injury incidents to assess the sensitivity towards retaliatory killings and take preventive measures.
- **Protection as Highest Priority**: Ensure that protection of wildlife, particularly tigers, is accorded the highest priority over other activities in the tiger reserve.
- **Addressing Socioeconomic Pressures**: Recognize and address socioeconomic problems and pressures contributing to illegal wildlife trade and habitat degradation.

ii. Objectives:

- To achieve zero poaching and other illegal activities in the TR
- To conserve and improve wildlife/biodiversity in its natural habitat for perpetuity
- To protect natural and national wealth for the next generation of this country
- To strengthen the intelligence network.

iii. Issues and Problems:

- **Human Dominated Buffer Zone**: The tiger reserve is in a human-dominated area, with the buffer zone comprising 82 villages, all situated adjacent to the core zone boundary, leading to increased human-tiger conflicts.

- **Electrocution**: Electrocuting wildlife is a significant issue, posing a threat to tiger populations and other wildlife species within the reserve.
- **Grazing Pressure and NTFP Collection**: The reserve faces constant grazing pressure throughout the year, coupled with the collection of Non-Timber Forest Products (NTFPs), which can degrade tiger habitat and affect prey availability.
- **Poaching for Bush meat**: Poaching activities targeting wildlife for bush meat consumption are prevalent, posing a threat to the survival of tiger prey species.
- **Wildlife Collection for Black Magic**: The illegal collection of wildlife for use in black magic rituals is a persistent problem, leading to the depletion of tiger prey species and disturbance to the ecosystem.
- **Illegal Wildlife Trade**: Poaching and trafficking of wildlife and their products for national and international trade pose a severe threat to tiger populations and undermine conservation efforts.
- **Proximity to Urban Areas and Transportation Networks**: The tiger reserve's location near city junctions and a well-connected network of highways and railways makes it susceptible to wildlife trade and transportation of illegal wildlife products.
- **Fire Susceptibility**: The area is prone to wildfires, which can destroy tiger habitat, disrupt ecosystem dynamics, and pose risks to wildlife populations.
- **Involvement of Temporary Labours in Illegal Activities**: Temporary labours who have previously worked in protection labour may be involved in illegal activities due to their familiarity with the area and knowledge of wildlife presence.

Addressing these issues requires a multi-faceted approach, including enhanced law enforcement, community engagement, habitat restoration, and public awareness campaigns, to ensure the long-term conservation of tigers and their habitats within the reserve.

iv. Strategies:

Strategies for Forest Protection and Anti-poaching activities:

- **Establishment and Maintenance of Anti-poaching Camps/Protection Camps**: Set up and maintain anti-poaching camps strategically located within the tiger reserve to serve as bases for patrolling teams and deter poaching activities.
- **Field Patrolling and Surveillance**: Conduct regular patrolling and surveillance operations across different zones and habitats of the tiger reserve to monitor wildlife movements, detect poaching activities, and ensure law enforcement.

- **Strengthening Check Posts**: Enhance the effectiveness of check posts at entry and exit points of the reserve to regulate access, monitor vehicles, and prevent illegal activities such as wildlife trafficking.
- **Wildlife Highway Patrolling**: Implement patrols along highways and major roads passing through or near the reserve to deter wildlife poaching, trafficking, and accidents involving animals.
- **Communication Network**: Establish a robust communication network, including radio communication and mobile networks, to facilitate real-time coordination and information sharing among patrolling teams and authorities.
- **Intelligence Gathering**: Collect and analyse intelligence on poaching activities, wildlife traffickers, and other threats through various sources, including informants, surveillance, and community engagement.
- **Inter-State Coordination and Cooperation**: Foster collaboration and coordination with neighbouring states and agencies through regular meetings and joint patrolling strategies to address trans-boundary poaching and wildlife trafficking.
- **Capacity Building for Field Staff**: Provide comprehensive training and capacity building programs for field staff, including forest guards, rangers, and anti-poaching units, to enhance their skills in wildlife monitoring, law enforcement, and conflict resolution.
- **Effective Coordination with Line Agencies**: Coordinate closely with law enforcement agencies, wildlife departments, and other relevant stakeholders to ensure a unified and effective response to poaching and wildlife crimes.
- **Special Tiger Protection Force**: Establish and deploy a specialized tiger protection force comprising trained personnel equipped with modern technology and resources to intensify anti-poaching efforts and safeguard tiger populations within the reserve.

Anti-Poaching Operations:

One of the most effective protection strategies within the core area of the STR involves engaging local communities in anti-poaching operations. Additionally, the establishment of Anti-poaching camps, also known as Protection Huts, in the most sensitive and vulnerable areas of the buffer zone is crucial for controlling illegal activities. These camps are manned by anti-poaching watchers and beat guards on a 24- hour basis, ensuring constant vigilance. Rotation of Protection Hut watchers monthly is implemented to maintain alertness and prevent complacency. The Protection Hut watchers conduct foot patrols covering approximately 5-8 km routes daily, documenting the condition of the area, human presence, wildlife sightings, and any detected offenses. They meticulously record any signs of intrusion by outsiders and sightings or evidence of wildlife in registers maintained at each camp. Wireless communication ensures that field reports are securely transmitted daily. The sustained presence of anti-poaching watchers serves

as a significant deterrent against illegal activities, both within the Tiger Reserve and adjoining forest divisions.

1. Criteria for Selecting Anti-Poaching Camps/Protection Huts

Considerations for selecting an anti-poaching camp in a tiger reserve are essential for ensuring its effectiveness in combating poaching and protecting wildlife.

- **Location Based on Animal Movement Patterns**: Prioritize selecting a location for the anti-poaching camp based on areas known for frequent animal movements, ensuring coverage of key wildlife corridors and habitats.
- **Vulnerability to Poaching Incidences**: Identify and prioritize locations that are highly vulnerable to poaching incidents, focusing on areas with historical poaching activity or where wildlife is particularly targeted.
- **Seasonal Availability of Crucial Resources**: Consider the significance of the location in terms of seasonal availability of crucial resources such as food, water, shade, and breeding areas for wild animals, ensuring that the camp can support wildlife conservation efforts year-round.
- **Accessibility to Forest Roads**: Select a location with better accessibility to forest roads to facilitate patrolling activities and the regular supply of rations and equipment to the anti-poaching camp, ensuring operational efficiency.
- **Proximity to Perennial Streams**: Prioritize locations closer to perennial streams to ensure a suitable living condition for anti-poaching personnel and to maintain access to water sources, particularly during dry seasons.
- **Suitability for Communication Facilities**: Assess the suitability of locations for establishing communication facilities such as radio towers or satellite connectivity, ensuring effective communication between the anti-poaching camp and central control centres for coordination and reporting purposes.
- **Surveillance Potential**: Choose sites that offer good visibility and surveillance potential, allowing anti-poaching watchers to observe wildlife movements and detect illegal activities from a distance.
- **Communication Infrastructure**: Assess the availability of communication infrastructure, such as mobile network coverage or radio connectivity, to facilitate coordination and reporting between anti-poaching camps and central control centers.
- **Resource Availability**: Consider the availability of resources such as water, fuel, and shelter at selected locations to support the operational needs of anti-poaching teams stationed at the camps.
- **Vulnerability Assessment**: Identify areas within the tiger reserve and its buffer zone that are highly vulnerable to poaching, illegal logging, and other wildlife crimes. These areas may include wildlife corridors, water sources, and regions with high tiger density.

- **Strategic Location**: Select locations for anti-poaching camps that provide optimal coverage of vulnerable areas, including major entry and exit points, wildlife trails, and known poaching hotspots.
- **Proposal to strengthen the Anti-Poaching Camps: Overall Strategy**
  It is necessary to supply the following infrastructure for Anti-Poaching Camps-
- **Wages and Operational Expenses**: Ensure provision of minimum wages as per government norms for each watcher per month. Supply operational expenses for necessities such as torchlights, cells, transportation, hunter shoes, two sets of uniform, and maintenance of camp accessories.
- **Staffing Requirements**: Maintain a minimum of three persons per camp for proper functioning.
- **Communication Equipment**: Provide walkie-talkies and communication accessories to each camp for efficient communication.
- **Documentation and Training**: Maintain a separate register for scientifically documenting patrolling details and field data, which should be communicated to headquarters regularly. Provide proper training for field staff on the use of GPS and compass, with each camp equipped with these tools.
- **Utensils and Medical Kits**: Supply adequate utensils and medical kits periodically to strengthen morale and support protection measures.
- **Meetings and Confidence Building Measures**: Organize periodic meetings with higher officials (Range Officers and DFO) for anti-poaching watchers to build confidence and fine-tune functional abilities. Allocate a separate fund for such meetings.
- **Insurance and Health Support**: Implement a group insurance scheme for all anti-poaching watchers and establish tie-up arrangements with line agencies and NGOs. Organize separate health camps for all anti-poaching watchers periodically.
- **Indoor Sports Materials and Clean Water Supply**: Provide indoor sports materials for each camp and ensure proper clean water supply for daily use.
- **LPG Connection and Data Collection**: Install LPG connections in each camp. Properly collect and pass on data on MSTrIPES (Monitoring System for Tigers – Intensive Protection and Ecological Status) to headquarters every fortnight. Conduct training sessions on data compilation periodically for anti-poaching watchers.
- **Field Kits and Training**: Supply proper field kits for anti-poaching watchers and provide training on intelligence gathering and interrogation with assistance from police and legal departments.
- **Driving and Arms Training**: Train all anti-poaching watchers in driving and the use of arms for enhanced effectiveness.
- **Comprehensive Health Camps and Cash Reward Mechanism**: Organize comprehensive health camps once every three months with the involvement of Rural Health Camp Program /NGOs.

Establish a mechanism for cash rewards for successful detection of forest offenses to motivate anti-poaching watchers.

By ensuring these provisions, the efficiency and effectiveness of anti-poaching camps can be significantly enhanced in protecting the tiger reserve and its wildlife.

2. Strengthening Protection Measures:

To strengthen anti-poaching operations in the tiger reserve, the following activities are required:

- **Rotation of Patrolling Staff**: Implement a rotation system for patrolling staff in anti-poaching camps, led by uniformed field staff, to ensure continuous coverage and effectiveness.
- **Formation of Patrolling Teams**: Organize patrolling teams for specific areas within the reserve to enhance surveillance and response capabilities.
- **Focus on Border Areas**: Concentrate efforts on border areas, particularly entry and exit points used by poachers, and lay ambushes to intercept illegal activities.
- **Documentation of Indicators**: Document visible indicators such as human trails and signs of poaching activities to gather intelligence and track poacher movements.
- **Regular Visits to Vulnerable Areas**: Conduct regular visits to vulnerable areas within the reserve and mark them for increased surveillance and protection.
- **Night Patrolling**: Conduct foot patrols during night time to enhance surveillance and deter poaching activities under the cover of darkness.
- **Enhanced Vigilance and Staggered Leave**: Increase vigilance during weekends and stagger staff leave to ensure continuous coverage.
- **Detailed Activity Logs**: Maintain detailed activity logs in prescribed formats to record patrolling activities and observations effectively.
- **Inter-camp Visits**: Facilitate visits between anti-poaching camps to share information, coordinate efforts, and strengthen collaboration.
- **Continuous Identification of Vulnerable Areas**: Continuously identify and assess vulnerable areas within the reserve to prioritize patrolling efforts.
- **Regular Presence of Senior Staff**: Ensure senior staff regularly stay in the camps to provide guidance, supervision, and support to field staff.
- **Codification of Camps**: Codify anti-poaching camps with a common code for the division to streamline communication and coordination.
- **Moonlight Patrolling**: Implement moonlight patrolling as an additional measure to enhance surveillance and deterrence during night time.

By implementing these activities, the anti-poaching operations of the tiger reserve can be strengthened, leading to improved protection of wildlife and conservation efforts

3. Check Post and Communication Facilities:

- **Establishment of Check Posts**: Set up strategically located check posts at key entry and exit points of the tiger reserve to regulate movement and monitor activities.
- **Equipping Check Posts**: Ensure that all check posts are adequately equipped with necessary infrastructure, including shelters, lighting, and facilities for staff.
- **Communication Network**: Establish a robust network of communication facilities at each check post, including landline phones, mobile connectivity, and two-way radios.

4. Proposed Protection Measures to Safeguard Tiger Reserves:

- **Conduct Conservation Awareness Programs:** Organize awareness programs targeting various stakeholders including local communities, tourists, and government officials to educate them about the importance of tiger conservation and the threats faced by these majestic animals.
- **Strengthen Existing Anti-Poaching Camps:** Provide comprehensive infrastructure facilities to existing anti-poaching camps within the reserves, including proper shelter, communication systems, and equipment necessary for effective patrolling and surveillance.
- **Enhance Training for Anti-Poaching Watchers:** Ensure thorough training programs for anti-poaching watchers, focusing on advanced patrolling techniques, intelligence gathering methods, and proficient use of surveillance equipment to enhance their effectiveness in preventing poaching incidents.
- **Establish a Dedicated Task Force:** Establish a specialized cell within the Chief Conservator of Forests (CF) or Divisional Forest Officer (DFO) office, in collaboration with relevant line departments, to combat illegal trafficking of tiger and other wildlife products. This task force should coordinate efforts to intercept and apprehend traffickers.
- **Conduct Periodical Workshops**: Organize regular workshops involving officials from neighboring states to discuss and strengthen protection measures for tiger reserves. The outcomes and recommendations from these workshops should be communicated to policymakers to ensure effective implementation.
- **Ensure Adequate Budget Allocation:** Secure sufficient annual budgetary allocations from the state treasury specifically earmarked for tiger conservation, with a special focus on funding protection measures. This financial commitment is crucial for sustaining conservation efforts and safeguarding tiger populations in the long term.

5. New Check Posts

Increasing vigilance to prevent illegal activities within the boundaries of the Sahyadri Tiger Reserve (STR) involves the establishment of both permanent and temporary check posts in sensitive areas.

6. Special Tiger Protection Force:

The Sahyadri Tiger Reserve (STR) currently lacks a dedicated Special Tiger Protection Force unit. A proposal has been submitted to the government requesting approval and sanction for the establishment of such a unit. Approval of this proposal is essential to deploy the Special Tiger Protection Force as a specialized strike force for the protection of the Tiger Reserve.

7. M-STrIPES: Monitoring System for Tigers – Intensive Protection and Ecological Status:

Currently, the Core Zone and Buffer Zone of the Sahyadri Tiger Reserve (STR) employ a system comprising two key components: field-based protocols for patrolling, law enforcement, recording wildlife crimes, and ecological monitoring, alongside a customized software for data storage, retrieval, analysis, and reporting. While the enforcement of laws and ecological monitoring are in effect, the information gathered tends to be ad hoc and often lacks the necessary format for informed decision-making within an adaptive management framework. Addressing this gap is the M-STrIPES system.

M-STrIPES conducts statistical analyses of various parameters such as occupancy, precision, sample size, and trends across appropriate time and spatial scales for tiger, other carnivore and prey populations, human impacts, illegal activities, and law enforcement efforts. This system generates reports and maps that synthesize data on illegal activities, wildlife crime, protection efforts, and ecological status at desired temporal and spatial scales, there by guiding effective management decisions. If implemented as intended, M-STrIPES would significantly reduce response times to detrimental events like poaching or habitat degradation, providing a comprehensive tool for monitoring the health of the tiger reserve.

Since 2015, STR has been utilizing M-STrIPES with technical assistance from the Wildlife Conservation Trust (WCT) based in Mumbai. Initially, the system operated manually using GPS devices and handwritten pro-forma. Data collected from each range is compiled and analyzed at the Divisional Forest Officer (DFO) office in Karad on a weekly basis. The final reports and recommendations are then forwarded to the respective range offices for necessary adjustments in staff patrolling patterns. Currently, efforts are underway to test the compatibility of mobile handsets/PDAs for transitioning to an online data collection system.

8. Protection Related training suggested for field staff and officers are given below:

1. Values and Ethics in Duty Performance
2. Concepts and Principles of Conservation and Ecology
3. Operational Security
4. Roles and Responsibilities
5. Teamwork
6. Values and Ethics in Duty Performance (Reiteration)
7. Physical Training
8. Witness Confidence Building, Maintenance, and Protection
9. Survival Skills
10. Equipment Use and Maintenance
11. Camouflage and Concealment
12. Radio Communication
13. Hand Signals
14. Orienteering and Navigation
15. Tracking
16. Surveillance Training
17. Rapid Response to Emergencies (Elective)
18. Search and Raids
19. Vehicle Checkpoints
20. Temporary Basis Operations
21. Basic Crime Scene Response and Photography
22. Night Operations
23. Snaring and De-snaring
24. Unexploded Ordnance, Land Mines, and Booby Traps (Elective)
25. Combative Techniques
26. Standard Operating Procedure (SOP)
27. Wildlife Crime Information Gathering
28. Basic Crime Scene Response and Photography (Reiteration)
29. Basic Identification of Wildlife Products and Derivatives
30. Criminal Threats to Natural Resources in and around Protected Areas (PAs)
31. Human Rights Considerations
32. Use of Force
33. Community Collaboration
34. Drill and Discipline

35. Concepts and Principles of Conservation and Ecology (Reiteration)
36. Weapon Handling (Elective)
37. Wildlife Protection Legislation and Court Procedures
38. Types of Evidence and Collection Methods
39. First Aid
40. Arresting Procedures
41. Mission Planning and Orders
42. Marksmanship (Elective)
43. Immediate Action Drill (Elective)
44. Patrolling Techniques
45. Waterborne Operations (Elective)
46. Debriefing and Reporting
47. Joint Operations and Cooperation with Other Enforcement Agencies
48. Ambush Techniques
49. Wildlife Crime Information Gathering
50. Interview and Interrogation Skills
51. Data Collection
52. Pesticide Crime/Wildlife Poisoning Investigation

This comprehensive training curriculum encompasses a wide range of skills and knowledge necessary for effective protection and enforcement efforts within tiger reserves, addressing both field-specific tasks and broader legal and ethical considerations.

v. Monitoring and Evaluation:

Periodic security auditing of tiger reserves is essential for monitoring and evaluating protection efforts, assessing threats, and reviewing current strategies. The primary concern remains the escalating threat of poaching driven by the demand for tiger body parts and derivatives in consumer countries, posing a constant risk to every wild tiger. To address this, security audits must adhere to international standards set forth by the National Tiger Conservation Authority (NTCA) to strengthen protection measures within tiger reserves.

These audits aim to evaluate the security status of reserves, identify gaps, and enable reserve managers to take necessary steps to address evolving poaching pressures. The security audit process encompasses three key exercises: Threat Assessment, Protection Assessment, and Conservation-Oriented Patrol Standards (COPS), serving as a comprehensive evaluation framework. Additionally, the

security plan derived from these audits serves as a monitoring and evaluation mechanism for implementation.

NTCA, through an independent team, conducts regular status assessments to track enforcement progress and ensure adherence to protocols. While NTCA typically oversees the security audit annually, reserve managers may also conduct self-assessments following established protocols. This independent assessment provides an external perspective, highlighting protection and enforcement service gaps and empowering reserve management to rectify shortcomings and enhance biodiversity protection efforts.

13.3 Maintenance of Village level Crime dossiers:

In the buffer zone surrounding the tiger reserve, comprehensive crime dossiers will be established and regularly updated for every village. These dossiers will include detailed information such as the names of wildlife offenders, their socio-economic backgrounds, and their methods of operation, along with specifics of each offense committed. The assigned Beat Guard will maintain vigilant watch over these offenders, and submit weekly reports detailing their activities to the Range Forest Officer.

Following points should be considered while designing the protection strategy:

- Enhancing the Capacity of EDCs: Eco Development Committees (EDCs) to conduct regular sensitization and orientation sessions on wildlife offenses.
- Recognizing Excellence: Implementing a reward system to acknowledge exceptional performance, providing incentives to encourage continued dedication.
- Standardizing Record-Keeping: Establishing a standardized wildlife crime register in the local vernacular for efficient day-to-day documentation of incidents.
- Providing Performance-Based Incentives: Offering incentives to EDCs demonstrating exceptional performance, fostering motivation and commitment to conservation efforts.
- Assessing Vulnerability: Developing a vulnerability chart at the village level to identify and address areas of heightened susceptibility to wildlife crime.
- Maintaining/Updating the wildlife distribution map of the area (using field evidences)

13.4 Fire Protection:

The Mix deciduous habitat of Sahyadri Tiger Reserve is particularly susceptible to forest fires, which are predominantly anthropogenic in nature. Occurring from mid-February to mid-June, these fires are largely attributed to activities such as Non-Timber Forest Product (NTFP) collection, grazing, and occasional retaliation against forest staff actions. Given these risks, it is imperative to establish a robust fire management strategy comprising both preventive and control measures.

To effectively address this challenge, a comprehensive Forest Fire Protection/Management Plan needs to be developed each December, ahead of the fire season. This plan should delineate specific duties and responsibilities, allocate necessary resources, and outline preventive and control measures. Adequate funding must be provisioned to ensure the seamless implementation of the plan, enabling timely and effective management of forest fires within the reserve.

i) Preventive measures:

Preventive Measures for Fire Protection:

a. Fire-line Burning: To prevent the spread of forest fires from outside to inside the Tiger Reserve and mitigate internal spread, clearances and controlled burns should be conducted along the outer boundaries, road edges, and compartment boundaries. A buffer zone of 12 meters, 6 meters, and 3 meters should be maintained respectively before the onset of the fire season, starting from February 15th.

b. Establishment of Fire Watchtowers and Reserve Firefighting Squad: Erecting fire watchtowers strategically atop elevated points to swiftly detect and report fires. These watchtowers should be manned 24/7 by fire watchers who can immediately alert the control room in case of any fire incidents. Additionally, deploying a specialized fire-fighting squad with minimal response time is crucial. This squad should be stationed either at range headquarters or other strategic locations, adequately trained, and equipped to combat fires effectively.

- Ensure the operational readiness of wireless communication systems throughout the fire season to facilitate prompt response and coordination.

-Utilize fire blowers, which have proven effective in controlling fires within the reserve. These blowers not only aid in extinguishing fires but also assist in clearing fire lines by removing leaf litter post-burning.

c. Publicity and Awareness:

During the fire seasons, it is imperative to conduct regular meetings in neighbouring villages and maintain continuous communication with local communities to mitigate intentional fires. Eco-Development Committees (EDCs) and Joint Forest Management (JFM) Committees hold significant responsibility in forest protection and can actively contribute during the fire season. Prior to the onset of fire season, creating awareness and sensitizing residents is crucial. This can be achieved through village-level meetings, distribution of pamphlets, and posting informative posters in local vernacular languages to effectively engage and educate the community.

d. Analysis of Old data for planning:

Utilize remotely sensed time-series data from the FSI Fire Alert Service to create a Fire Sensitivity Map within a Geographic Information System (GIS). Incorporate this map into the design of an annual fire management strategy, specifically tailored for each year's fire season.

ii) Fire Control Measure:

Upon detection of a fire by the fire watch tower staff or through the FSI fire alert system, immediate communication is initiated with the in-charge forester, Range Forest Officer (RFO), and Fire Protection/Extinguisher Squads, as well as personnel stationed at all Anti-Poaching Camps (APCs) in the vicinity, regardless of range boundaries. This communication is facilitated through wireless or mobile phones.

The reserve's Fire Fighting/Extinguisher squad is promptly dispatched to the fire site equipped with leaf blowers and all necessary firefighting equipment to extinguish the fire and minimize its spread. The fire unit maintains readiness to mobilize to the fire site at any time of the day. The RFO ensures that a First-aid kit and an adequate supply of drinking water are readily available at the fire site to address any medical emergencies that may arise during firefighting operations.

The following additional measures are proposed for controlling forest fire:

- **Strategic Location Identification for Fire Watch Towers:** Utilize GIS to strategically position Fire Watch Towers for maximum coverage with minimal towers. Deploy dedicated and well-trained staff equipped with essential gear like GPS, compass, maps, torches, wireless communication devices, and necessary supplies.
- **Temporary Watch Towers:** Erect sturdy temporary watch towers capable of withstanding adverse weather conditions, fortified with locally available materials to ensure durability.
- **Communication System Maintenance and Upgrade:** Regularly maintain and upgrade communication systems including roads, wireless networks, vehicles, and mobile phones to facilitate efficient coordination and response during fire emergencies.
- **Training in Fire Ecology and Fire-fighting:** Provide comprehensive training in fire ecology and fire-fighting techniques, emphasizing the use of fire blowers, first-aid, heat season precautions, and fire containment strategies. Utilize experienced forest officers, fire-fighting schools, or department resources for training.
- **Past Fire Data Review and Action Planning:** Analyse past fire data annually to develop action plans for sensitive areas, ensuring proactive measures are in place to mitigate fire risks.

- **Fire Alert Registration:** Encourage registration for fire alerts on platforms such as the FSI website and NASA website prior to the fire season, enhancing early warning capabilities.
- **Active Fire Control Rooms:** Maintain 24x7 active fire control rooms at range offices, Divisional Forest Officer (DD) offices, and Forest Department (FD) offices to facilitate real-time information exchange and coordination during fire incidents.
- **Community Sensitization:** Conduct regular meetings and sensitization programs for villagers on forest fire prevention and management strategies to foster community involvement and awareness.
- **Public Road Monitoring:** Monitor public roads traversing the core zone by gathering information from passing individuals at checkpoints to ensure early detection of potential fire threats.
- **Research Focus:** Prioritize research on the impact of forest fires as an integral part of forest management practices to inform effective fire management strategies.
- **Sign board Installation:** Install signboards in highways and sensitive areas to raise awareness among the public and tourists about fire prevention measures and regulations.

iii) Post Fire Management and Documentation:

1. **Verification of Extinguished Fire**: Following fire suppression efforts, the same team should conduct thorough checks along the perimeter of the burnt area to ensure complete extinguishment.
2. **Measurement of Burnt Area:** Utilize GPS technology to delineate the burnt area and complete necessary formalities for documenting the offense.
3. **Assessment of Damage:** Estimate the approximate loss incurred due to the fire incident.
4. **Prompt Reporting:** Immediately relay detailed reports, including essential information, to the control rooms of the Divisional Forest Officer (DD) and Forest Department (FD) office, as well as share the report on the official WhatsApp Group for swift dissemination of information.
5. **Timely Reporting:** Submit daily, weekly, fortnightly, and monthly reports in the prescribed format without any delay, ensuring comprehensive documentation of fire incidents and their aftermath.

Impact of Fire on Habitat and Wildlife:

The Mix deciduous forests and grasslands within the Sundarbans Tiger Reserve (STR) face significant risk of fire incidents. This fire-prone season typically spans from mid-February to mid-June, following the conclusion of the winter season. Unlike some regions, natural fires are uncommon here, with the majority being caused by human activities, whether accidentally or deliberately. Ground fires have profound implications for both wildlife and their habitats. They disrupt the natural succession of plant

communities, altering the abundance and distribution of wildlife, and causing damage to seedlings, saplings, and shrubs. This results in the creation of openings and impedes regeneration processes.

In areas highly susceptible to fires, such as the deciduous forests of the sanctuary, the diversity of plant species is notably reduced. Furthermore, unpalatable weeds tend to proliferate in areas that have been repeatedly burnt by fires. The dynamics of grasses and their associated species have also been altered due to the frequent occurrence of fires. Despite these impacts, there has been a lack of comprehensive investigation into the post-fire effects on deciduous forests within the sanctuary as part of management practices. Therefore, there is a pressing need for studies to assess the impact of fires on both animal and plant ecology, to inform effective conservation planning efforts.

13.5 Intelligence Gathering and Coordination:

- **Training Staff:** Equip staff with intelligence gathering skills pertinent to wildlife crimes. Villagers often provide valuable information regarding suspicious activities in and around the reserve.
- **Utilization of Secret Service Fund:** The Maharashtra government's allocation of the Secret Service Fund for the Forest Department should be effectively utilized to enhance intelligence operations.
- **Collaboration with NGOs:** Leverage the expertise of NGOs working in wildlife conservation for intelligence gathering efforts. Organizations like the Wildlife Protection Society of India have introduced award schemes to incentivize the reporting of wildlife offenses.
- **Review and Strengthening of Field Protection:** Given the proximity of the Sahyadri Tiger Reserve (STR) to human settlements and diverse land uses, traditional field protection methods require periodic evaluation and reinforcement. This entails:

1. Intelligence Gathering: Enhance intelligence gathering capabilities to detect and deter wildlife crimes.
2. Effective Communication: Ensure seamless communication channels to facilitate timely sharing of intelligence.
3. Enforcement Based on Intelligence: Strengthen enforcement measures based on gathered intelligence to prevent poaching and retaliatory killings.

- **State-of-the-Art Approach:** Implement a modern, site-specific approach leveraging advanced technology while equipping frontline staff with the necessary skills to utilize these tools effectively. The suggested actions within the categories are diagrammatically depicted below, highlighting potential strategies for intelligence gathering and information dissemination.

Table No.13.1: Strategy For Enhanced field Protection

Intelligence gathering	Effective communication	Enforcement, based on intelligence
-Tiger/Leopard/Wild animal presence -Gathering information from the local workforce -Cattle depredation -Local market survey -The ID of carnivore causing depredation (camera trap) -Wildlife mortality/poaching -Caracass (wildlife/cattle) -Fire (especially during antler shedding period) -Unauthorized vehicular entries leading to core habitat -Pesticide sale and use -Random/Sudden checking at railheads/flag stations/bus stops/roadway -Reconnaissance of water points	-Use of wireless and its housekeeping (solar charges in places without electric supply) with a round the clock control station linking core/buffer/ adjoining forest divisions -Use of electronic surveillance along the sensitive periphery (between core and buffer) -Use of camera trap/mobile phone interface in sensitive areas (only for frontline staff) -Ensuring vehicular mobility for transporting patrolling parties -Creating temporary patrolling camps equipped with wireless	-Information scrutiny on a day-to-day basis and sharing with patrolling teams -Day to day patrolling chart based on the information and duty allocation -Supervisory checks for patrolling intensity -Feedback and rapid action -Ongoing capacity building of frontline staff and fitness test -Equipping patrolling parties with arms, ammunition/ accessory equipment -Evolving site-specific patrolling protocols (summer/ monsoon/ winter) -Deploying group patrols (if necessary)

13.6 Tiger Cell:

At the state level, a Tiger Cell has been instituted under the Director General of Police, Maharashtra State, with the Principal Chief Conservator of Forests (Wildlife), Maharashtra State serving as Co-Chairman and the Chief Conservator of Forests (Wildlife), East Nagpur (formerly upgraded to Additional Principal Chief Conservator of Forests), acting as the Member Secretary. This initiative was formalized through Government Resolution No. WLP-10-2000/C.N.10/F-1, Mumbai, dated September 28th, 2006. Regionally, Tiger Cells operate with a three-tiered structure, chaired by a Special Inspector General of Police, and facilitated by the concerned Chief Conservator of Forests (Wildlife) as the Member Secretary, along with the relevant Chief Conservator of Forests (Territorial) as a member.

Due to the vast area covered by the Sahyadri Tiger Reserve (STR) spanning four districts, each district hosts its own Tiger Cell. Led by the Superintendent of Police and co-chaired by the Deputy

Conservator of Forests (Territorial), with the Divisional Forest Officer (Vigilance) serving as the Member Secretary, these cells ensure coordination and information exchange at the district level. For instance, the Tiger Cells for Satara District comprise members from DD STR (Koyna) and DD STR (Chandoli), while the Tiger Cell for Sangli, Kolhapur, and Ratnagiri Districts includes the Deputy Director from Chandoli.

These Tiger Cells facilitate regular meetings to discuss protection strategies, seizures, patrolling tactics, and other pertinent issues. It fosters seamless coordination between law enforcement agencies and forest/wildlife authorities, thereby enhancing the protection of forests and wildlife. Regular monthly meetings are proposed for Tiger Cells in Satara and Sangli, Kolhapur, and Ratnagiri Districts to ensure on-going coordination and collaboration between the Police and Forest/Wildlife wings.

Chapter 14

ECOTOURISM, INTERPRETATION AND NATURE EDUCATION

The IUCN Ecotourism Program defines Ecotourism 'as environmentally responsible travel and visitation to relatively undisturbed natural areas in order to enjoy and appreciate nature, that promotes conservation, has low visitor impact, and provides for beneficially active socioeconomic involvement of local populations'.

Eco-Tourism in the context of Tiger Reserve is ecologically sustainable nature-tourism, which is emerging as an important component of the tourism industry. It is distinct from mass tourism, having sustainable, equitable, and community based effort for improving the living standards of local host community living on the fringes of the Tiger Reserve. Eco-Tourisms are proposed to be fostered with financial support to the host community through soft loans from Eco-development committees, following site-specific Eco-Tourism plan and carrying capacity of Tiger Reserve.

The Eco-Tourism plan for Sahyadri Tiger Reserve has the following objectives:

Highlight the heritage value of Sahydri's wilderness.

- Build environment & cultural awareness and respect.
- Provide livelihood opportunities to local communities and benefit sharing.
- Wilderness conservation in ecologically sensitive landscapes.
- Capacity building of local communities in planning, providing and managing ecotourism facilities.

Sahyadri Tiger Reserve is eco-tourism destination in Maharashtra which is yet to become famous. Other tourist spots in the vicinity of the Sahyadri Tiger Reserve are Agashiv caves of Karad, Thoseghar waterfalls, Historical-Pratapgad fort, hill station-Mahabaleshwar, Ghera Dategad is famous for sword shape well, Guru Ramdas Swamis abode-Sajjangad, Ajinkyatara fort, Khandoba temple of Pali. These all are important tourist & pilgrimage destinations. The place Tapola on bank of Shivsagar lake is important tourist hub, attracts thousands of water lovers in summer. Kas plateau one of the UNESCO's World Heritage Site, is very famous for its beautiful flowering plants attracts nature lovers during Sept-Oct months every year. Historical Panhala fort, Historical Pavankhind where Baji Prabhu Deshpande fought till his last breath to save Chatrapati Shivaji Maharaj & Vishalgad fort are the main tourist attractions as well as Chandrarao More's wada (mansion) in Javli is another must visit spot. Lord Shiva temple of Marleshwar in Ratnagiri district nearby Amba Ghat is famous pilgrimage site. All these spots are nearby Sahyadri TR in Satara, Kolhapur & Ratnagiri districts. All these values make Sahyadri Tiger Reserve a favorite area for ecotourism, interpretation and conservation education.

Since, much of the buffer/peripheral area is subjected to human use, apart from livestock presence; it becomes important to identify wilderness pockets (ecotourism zone in multiple patches) which are relatively less frequented, to evolve specific ecotourism/interpretative packages. The overarching theme for interpretation in the buffer would be co-occurrence of human beings and wild animals and the resultant issues of interface.

The vision of ecotourism in Sahyadri TR is to organize environmentally responsible tourism activities based on enjoying admiring and studying the nature and wildlife as well as cultural aspects found in and around Sahyadri Tiger Reserve with active and socio-economically beneficial involvement of local communities. Also to promote and establish Sahyadri Tiger Reserve as a popular and unique ecotourism destination.

14.1 Tiger Conservation Foundation and Management of Community Based Ecotourism Program:

Eco tourism will be managed by Eco development committees in coordination with Sahyadri Tiger Reserve Conservation Foundation and Sahyadri Tiger Reserve in buffer zone area and it will be based on livelihood management of community as well as the nature tourism.

Eco-tourism is a new initiative in the realm of tourism throughout the world. It has become one of the largest global economic activities - a way of paying for nature conservation and increasing the value of land left natural. The growing interest in eco-tourism, speaks of its enormous economic and conservation potential. In countries like India, rich in wild-lands yet disadvantaged by rural poverty, ecotourism could be a potential industry to generate enormous employment opportunities.

Eco-tourism provides for involvement of local people and addressing them livelihoods. The local people get employment as tourist's guides and drivers of safari vehicles. They gives information to tourist about forest and wildlife in the area and their importance. It also takes care of maintaining the discipline in the tourists. The local people can also get their livelihood by offering the tourists their local dishes. They have to be trained about the hygiene, presenting/packing the material they are offering.

The local people can also sale some handicrafts articles prepared by them. There is scope for preparing bamboo articles like caps; flower vases other weaved articles as mementos. Some local youths can also offer folk dances for the tourists camping at the camps.

As an incentive to Eco-development works carried out by EDCs benefit of Eco tourism shall be given to EDCs for protection of Tiger Reserve. Some part of the net benefit from Ecotourism can be ploughed back for development works of Tiger Reserve.

The community based ecotourism programmers, vis-à-vis the zone plan should form part of the village level micro plan (depending on its location within the ecotourism zone/priority area. The packages aimed at "forest revival" would require a comparatively longer gestation period. Hence, the tiger reserve

management may be required to support the EDC with required resources as per the plan during the said time period. The overall package for the buffer should have a priority listing based on the gestation time required, to kick start the same, while hyper linking it to ongoing tourism circuits for modest (within carrying capacity) tourist visitation. The computation of carrying capacity becomes relevant as well as important in the buffer area also. Hence, the most frequented/preferred interpretative points/areas should be regulated based on the model computation of NTCA.

As "host community", the local people should benefit from ecotourism. Hence, the strategy for securing livelihood needs to be evolved, while appropriately reflecting the same in the micro plan.

14.2 ECO-tourism zones :

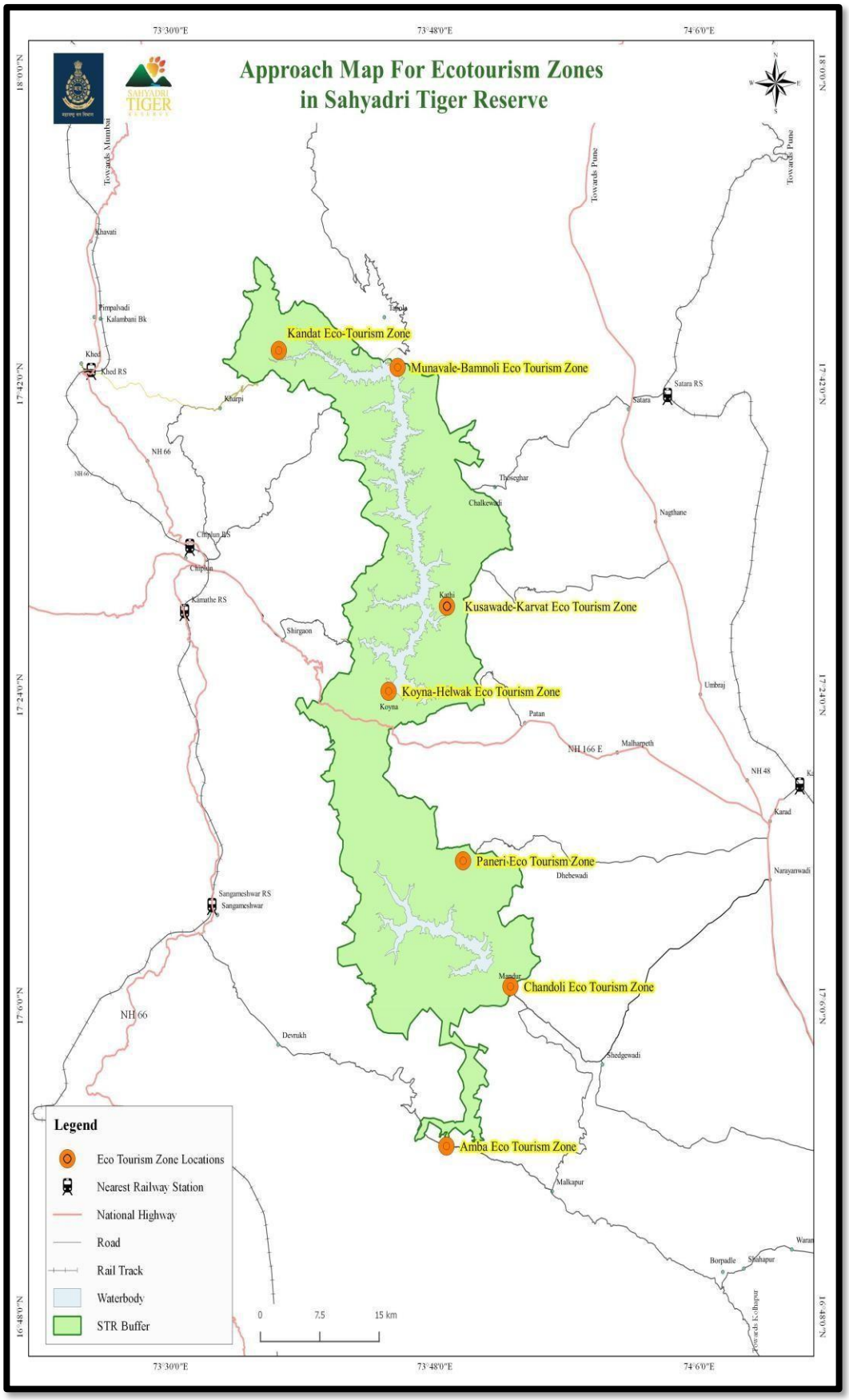
Salient Features of the Tourism Zones:

The tourism zones are carved out meticulously to ensure least possible disturbance to the ecological environment of the Tiger Reserve. The tourism zone covers land intended for a variety of tourist activities, facilities and places. Development may range from small interpretive centers to large nature parks, depending on the location of the zone. Services and facilities, including tourist accommodation, souvenir shops, restaurants and entertainment, may also be located in this zone.

A planning scheme may include land in this zone to grow the local economy and cater to the needs of existing and future local residents and workers in an area. It can also identify the range of activities that may occur, how new buildings should look and fit in with local character and ensure activities do not cause harm to the natural environment. After careful planning, Sahyadri Tiger Reserve has been restricted to seven zones. These seven zone will have a separate Ecotourism complex and seven entry gates for tourists. Surely the new Zone policy will help boost tourism in the region.

Following are the proposed Zones with their entry gate location :

I. KANDAT ECOTOURISM ZONE, AARAV Tal-Mahabaleshwar, Dist-Satara (Zone number 1)
II. BAMNOLI-MUNAWALE ECOTOURISM ZONE, Bamnoli,Tal- Jawali, Dist-Satara (Zone number 2)
III. KARVAT-KUSAVDE ECOTOURISM ZONE, Karvat Tal-Patan, Dist-Satara (Zone number 3)
IV. KOYNA-HELWAK ECOTOURISM ZONE, Koyna, Tal-Patan, Dist-Satara (Zone number 4)
V. BHOSGAON-PANERI ECOTOURISM ZONE, Paneri, Tal -Patan, Dist- Satara (Zone number 5)
VI. CHANDOLI ECOTOURISM ZONE, Mandur, Tal-Shirala, Dist - Sangli (Zone number 6)
VII. AMBA ECOTOURISM ZONE, Amba Tal-Malkapur, Dist - Kolhapur (Zone number 7)



Map14.1.Eco-Tourism Zone in STR

14.3 Ecotourism Guidelines and Constitution of Park Welfare Funds:

The comprehensive set of guidelines issued by NTCA/Project Tiger needs to be complied in letter and spirit. The recycling of gate receipts through the foundation would provide scope for creating "welfare fund", if required.

14.4 Interpretation Program:

Tourism in National Parks and Sanctuaries, the symbols of human efforts in conservation, acquires immense significance from the point of enhancing people's receptiveness and appreciation of nature and wildlife conservation. In the present context, since inception of the National Park and later the Tiger Reserve, tourism has emerged as an important value of the area.

The interpretation infrastructure in the buffer should be developed at each spot identified for ecotourism in buffer zone. Since, the experience of field excursion in the buffer would be quite different owing to villages, more emphasis should be on highlighting the importance and involvement of local people in protecting forest and wildlife. This needs to be exhibited using the state-of-the-art technology in a museum complex. The entire interpretation package should comprise of the following:

Thematic areas for display are as follows:

- Importance of forest in the day to day sustenance of local people
- Primary stakeholders as custodians of forest
- Bonafide use and overuse of forest resources
- Importance of wild animals as indicators of ecological well-being
- The common man's portfolio for tiger conservation
- Biodiversity
- Endemic Spp.
- Water security
- Why livestock immunization is important?
- Cleanliness and garbage disposal
- Ecosystem services
- Benefits to people from buffer area
- Important medicinal herbs/plants in the area

Interpretation & Awareness components are as follows:

- Amphitheatre with a small museum
- Wayside exhibits/Signage's/literature
- Nature shop / Souvenir Shop

- Interpretation centers
- Orchidarium
- Bamboo setum
- Bird/Butterfly watching trails
- Cycle trails
- Nature pedestrian trails
- Fort treks
- Landscape safari
- Viewing from watch/observation tower
- Exposure to ethnic culture (a conducted tour to a village with local food and other community level interactions)
- Machans and Hides for wild animal observation and Bird watching
- Butterfly garden
- Yoga centre/Eco-meditation points
- Nature games
- Mobile Nature Exhibition
- Painting on walls on the theme of Nature & wildlife conservation

14.5 Nature Education:

Wilderness has always fascinated mankind. Since his evolution man has lived in the lap of nature. He has benefitted from her bounties, has drawn inspiration from her and despite his long association has not been able to understand her fully and probably never will. Till the turn of the century, when human population was relatively low and human needs and aspirations were few, the forests and wilderness areas were considered inexhaustible. They were understood to be subservient to man and meant for his exploitation. But, how things change but at what speed! In less than a human life time, things once thought off as inexhaustible, are now considered to be of tremendous conservation significance. Things once taken for granted are now few and far between and people now spend time, effort and money to visit forest and wilderness areas.

- Screening wildlife documentaries in schools (thrice a year)
- *"Chala Sahyadri Bhramantila"* Nature tours in subsidized rates for local school kids.
- Organizing wildlife week/other green days celebration events, while rewarding good performance
- Incorporating nature education in park interpretation
- Conservation education and sensitization camps
- Library of nature books

14.6 Organization Setup and Management:

Presently there is no organized setup especially for eco-tourism and the presently available staff is managing the tourism. Special duty guard is doing the job of issuing entry permits and recovering entry fees. there is need of one post of RFO (Ecotourism & Reception) under the office of Field Director, headquartered at Kolhapur/Karad. he will look after overall ecotourism issues in core as well as a buffer zone. He will be supported by two Round Officers & contractual post of Ecotourism Manager, Nature Interpreter, Nature extension officer for nature education.

A separate Eco-Tourism Plan is prepared as per NTCA guidelines dated 15.10.2012 and Maharashtra Government Resolution dated 09.11.2012 and 21.01.2013 and the plan is approved by LAC in the last meeting of LAC held at Satara on 18 October 2023. As this plan should be treated as part of Tiger Conservation Plan as per NTCA instruction, detailed Eco-Tourism Plan is annexed as Volume-I, Part-3 of the Tiger Conservation Plan.

CHAPTER – 15

ORGANIZATION, ADMINISTRATION AND BUDGET

Following the consolidation of control and the transfer of jurisdiction from territorial divisions and area of Koyna WLS and Chandoli NP, the integration of 1165.57 sq.km. into the Sahyadri Tiger Reserve represents a pivotal administrative milestone. Under the purview of the Field Director, this region assumes a crucial role within the reserve's operational framework. The assimilation process encompasses the deployment of frontline staff, daily management protocols, implementation of conservation activities, and allocation of resources within the reserve's Annual Plan of Operations.

Central to this integration is the imperative adherence to guidelines established by the National Tiger Conservation Authority (NTCA) and Project Tiger, particularly regarding the management of buffer zones. Effective coordination across diverse sectors is paramount to uphold the integrity and objectives of the reserve, ensuring harmonious alignment with broader conservation mandates.

15.1 Buffer Area Coordination Committee and its Linkages with Tiger Steering Committee & Tiger Conservation Foundation

To streamline coordination and integration across diverse sectors for the effective implementation of conservation interventions, the establishment of four district-level coordination committees is imperative. Each committee, chaired by the respective District Collectors of Satara, Sangli, Kolhapur, and Ratnagiri, will consist of members including divisional forest officers, executive engineers from the Public Works Department (PWD), and nominated officials from relevant line departments. The Field Director will serve as the member convener.

These committees play a pivotal role in preventing duplication of efforts and ensuring the seamless integration of inputs from different sectors. They align with interventions outlined in various zone and theme plans, optimizing resource utilization and enhancing efficiency. Under the leadership of District Collectors, these committees facilitate local-level oversight and coordination, ensuring that conservation efforts are tailored to the specific needs of each district.

Moreover, it is essential for the Field Director to ensure coordination with the steering committee and Tiger Conservation Foundation at the state level. This coordination ensures the integration of sectors at the broader state level, extending benefits to the buffer areas. By fostering collaboration between district-level committees and higher-level bodies, such as the steering committee and Tiger Conservation Foundation, a cohesive and comprehensive approach to conservation efforts can be achieved. This

approach maximizes impact and outcomes across all levels, thereby contributing to the sustained preservation of biodiversity and ecosystems within the Sahyadri Tiger Reserve.

As per the Section 38U, Wildlife (Protection) Amendment Act, 2006 No. 39 of 2006, dated 3rd September 2006 Chapter-IVB, provides for constitution of steering committee by State Government for ensuring co-ordination, monitoring, protection and conservation of tiger, co-predators and prey animals within the tiger range states, with the composition as indicated below:

Table No.15.1: State Level Monitoring Committee

Sr. No.	Name	Remark
1	The Chief Minister	Chairperson
2	The Minister in-charge of Wild Life	Vice-Chairperson
3	such number of official members not exceeding five including at least two Field Directors of tiger reserve or Director of National Park and one from the State Government's Departments dealing with tribal affairs	Member
4	Three experts or professionals having qualifications and experience in conservation of wild life of which at least one shall be from the field of tribal development	Member
5	Two members from the State's Tribal Advisory Council	Member
6	One representative each from State Government's Departments dealing with Panchayati Raj and Social Justice and Empowerment	Member
7	Chief Wildlife Warden of the State is the Member	Secretary, ex officio

The primary mandate of the above committee is to ensure sectored coordination for steering the tiger agenda at the state level. This would also ensure a macro level monitoring.

In order to execute/monitor and solve the problems related to EDCs State level steering committee formed under the chairmanship of Principle Chief Conservator of Forest (Wildlife) , Maharashtra State, Nagpur as follows

Table No.15.2: State level steering committee.

Sr. No.	Name	Remark
1	Principle Chief Conservator of Forest (Wildlife), Maharashtra State, Nagpur.	President
2	Additional Principle Chief Conservator of Forest (Wildlife), East, Nagpur.	Member
3	Principle Chief Conservator of Forest (Wildlife), West, Mumbai.	Member
4	Principle Chief Conservator of Forest (Eco-Tourism and Wildlife), Maharashtra State, Nagpur.	Member Secretary
5	Commissioner, Tribal Department, Nashik	Member
6	Member secretary, Maharashtra Pollution Control Board.	Member
7	Member from Office of Divisional Commissioner , Nagpur.	Member
8	Chief Conservator of Forest /Field Director of All Tiger Reserve.	Member
9	Two members from NGO's	Member
10	Two Additional Principle Chief Conservator of Forest/ Chief Conservator of Forest having work done in same field	Guest Member

Objective of the Steering Committee:

- Providing detailed guidance, guidance to the project level committee for effective implementation of the plan Issuing notices
- To remove obstacles in the implementation of the project level committee.
- It will be mandatory to hold the meeting of the state level committee at least thrice in a year.

Monitoring and evaluation of all works carried out in buffer zone will be done through executive committee of the Sahyadri Tiger Reserve Conservation Foundation. This work can also be sub contracted to any individual, NGO or agency, if decided by the Field Director.

Tiger Conservation Foundation has been formed for Sahyadri Tiger Reserve in the year 2014. The name of the TRUST is the Sahyadri Tiger Conservation Foundation trust which hereafter it will be referred to as "The Foundation". For executive committee the office bearers are as follows.

Table No.15.3: The Foundation". For executive committee

Sr. No.	Name	Committee
1	Conservator of Forest and Field Director, Sahyadri Tiger Reserve, Kolhapur	Chairman
2	Deputy Director , Koyna, Sahyadri Tiger Reserve, Karad	Member Secretary-1
3	Deputy Director, Chandoli, Sahyadri Tiger Reserve, Karad	Member Secretary-2
4	Asst. Conservator of Forest, Dhebewadi	Member
5	Range Forest Officer, Bamnoli	Member
6	Range Forest Officer, Koyna	Member
7	Range Forest Officer, Chandoli	Member
8	Representative of Eco-development Committee, Amba (Rotational)	Member
9	Representative of Eco-development Committee, Kamargav (Rotational)	Member

15.2 oordination with EDCs, Confederation and other Line Agencies/ Departments/ Production ectors

The overall coordination for sectored integration in the buffer would be managed by the Field Director, with support from the Assistant Conservator of Forests. Additionally, frontline personnel at the beat level would serve as the member convener of the EDC within their respective jurisdictions. Coordination with line departments in wildlife areas for eco-development and livelihood initiatives is essential for several reasons:

- **Holistic Development:** Line departments such as Agriculture, Rural Development, and Water Resources play a crucial role in supporting eco-development and livelihood initiatives. Collaboration with these departments ensures a holistic approach to development, addressing various aspects such as agriculture, water management, and rural infrastructure alongside conservation efforts.

- **Resource Utilization:** Line departments possess expertise, resources, and infrastructure that can be leveraged to support eco-development and livelihood projects in wildlife areas. Coordination allows for efficient utilization of these resources, maximizing the impact of conservation interventions while promoting sustainable livelihoods for local communities.

- **Community Engagement:** Many eco-development and livelihood initiatives require active participation and engagement from local communities. Line departments often have established channels for community outreach and engagement, making them valuable partners in mobilizing support and participation for conservation initiatives.

- **Technical Expertise:** Line departments bring specialized technical knowledge and skills to the table, which are essential for the successful implementation of eco-development projects. Collaborating with these departments ensures access to expertise in areas such as agriculture, horticulture, animal husbandry, and watershed management, enhancing the effectiveness and sustainability of conservation efforts.

- **Policy Alignment:** Coordination with line departments ensures alignment with broader policy objectives and priorities at the regional and national levels. By integrating eco-development and livelihood initiatives into existing government programs and policies, conservation efforts gain institutional support and long-term sustainability.

Overall, coordination with line departments is crucial for fostering synergy between conservation objectives and socio-economic development priorities in wildlife areas. By working together, wildlife authorities and line departments can create synergies that benefit both conservation and local communities, ultimately contributing to the sustainable management of biodiversity and ecosystems.

Coordination with line departments in wildlife and forest areas is indispensable for effective management, conservation, and sustainable development. Here's why:

- **Eco-Development Initiatives:** Line departments such as Agriculture, Rural Development, and Water Resources contribute to eco-development initiatives in forest and wildlife areas. They provide support for sustainable livelihood projects, agro-forestry, and watershed management, ensuring the well-being of both wildlife and local communities.

- **Infrastructure Development:** Departments like Public Works and Transportation are crucial for building and maintaining infrastructure in forest and wildlife areas. Coordination with these departments ensures

the development of essential infrastructure such as roads, bridges, and communication networks, facilitating access for conservation activities and eco-tourism.

- **Fire Management:** Fire management is a critical aspect of forest conservation. Collaboration with Fire and Emergency Services departments helps in the prevention, detection, and suppression of wildfires, safeguarding forest ecosystems and wildlife habitats.

- **Law Enforcement:** Coordination with Law Enforcement departments, including Police and Forest Law Enforcement Agencies, strengthens efforts to combat illegal activities such as poaching, logging, and encroachment. Joint patrols and information sharing enhance surveillance and enforcement capabilities, ensuring the protection of wildlife and forests.

- **Research and Monitoring:** Departments involved in scientific research, such as Environmental Science and Wildlife Biology, contribute valuable insights into biodiversity conservation and ecosystem management. Collaborative research projects and data sharing enhance understanding of wildlife populations, habitat dynamics, and ecological processes.

- **Community Engagement:** Departments responsible for Tribal Affairs, Social Welfare, and Education play a vital role in engaging local communities in conservation efforts. Collaboration with these departments fosters community participation, awareness, and capacity-building initiatives, promoting sustainable livelihoods and fostering stewardship of natural resources.

- **Policy Alignment:** Coordination with Government Departments ensures alignment with national and state-level policies, laws, and regulations pertaining to forest and wildlife conservation. Consistency in policy implementation and enforcement strengthens governance frameworks and enhances the effectiveness of conservation measures.

Majority of rural development programs are implemented through Zilla Parishad of the district. To integrate the activities a project level committee consisting of Field Director as Chairman is as follows.

Table No.15.4: Integrate the activities a project level committee

Sr. No.	Name	Remark
1	Conservator of Forest and Field Director of STR	President
2	Deputy Director (Koyna)	Member Secretary
3	Deputy Director (Chandoli)	Member Secretary
4	Divisional Officer (Revenue)	Member
5	Chief Executive Officer , Zhila Parishad	Member
6	District Superintendent of Agriculture	Member
7	Additional Tribal Commissioner	Member
8	District Animal Husbandry Officer	Member

9	Deputy Director, Ground Water Survey and Development Agency	Member
10	Executive Engineer , Irrigation Department	Member
11	Representative of District Apex Bank	Member
12	Honorary Wildlife Warden	Member
13	Two Members from NGO's	Member
14	Two members from EDCs	Member
15	Regional Director, Maharashtra Tourism Development Corporation	Member

The nature of work of the project level committee will be as follows.

- To approve the final list of project level villages for implementing the said scheme
- To approve the micro-plan and the works therein,
- Preparation of project report.
- Selection of experts for the scheme.
- To implement the schemes implemented through various departments in priority selected
- villages and to coordinate various departments for the same.
- Disbursement of funds as per micro plan subject to budgetary provision.
- Controlling the execution of works as per micro plan and evaluating the work.

The Committee will meet regularly and integrate all Rural Development Scheme in the villages of buffer zone. Help of N.G.O. Self help group and local clubs will be sorted for the integration of Rural Development.

As many as 59 (36- Koyna and 23- Chandoli) Village Eco Development Committees (VED) have been established so far and the process is ongoing. Eco Development Committees (EDCs) establishment will extend to all buffer villages in the remaining villages also. More emphasis will be given on reducing dependency on forest and increasing livelihood opportunities for the villagers.

Training and capacity building of Self help groups in Eco Development Committees (EDCs) need to be undertaken. Self help groups will be the major partner for running Eco-tourism related activities in buffer zone of Sahyadri Tiger Reserve.

Major objectives of EDCs are as follows

- Increasing income/productivity, alternative employment opportunities and reducing human pressure on protected areas through sustainable development of people-water-forest-land resource in villages.
- To involve the villagers in the protection and conservation of protected forest areas.
- Establishing symbiosis by reducing human-wildlife conflict
- Utilization of benefits from forest and wildlife conservation for rural development

Duties and Responsibilities of EDCs

- Protecting and conservation of forest, wildlife and biodiversity jointly.
- To co-operate with forest authorities to control forest crimes.

- Proper implementation of the micro planning framework.
- Planning and implementation schemes for wildlife conservation and tourism through village development in coordination with other departments.
- Formulation and implementing a plan as per State Nature Tourism Policy to promote nature tourism in protected forest areas. In this, it will be taken into consideration to develop the local tourist places without destroying them, thereby providing employment opportunities to the locals and conveying the importance of those places the general public.

Effective coordination with various agencies and departments is essential for the efficient management of conservation efforts. Here's how collaboration with specific entities can enhance management:

- **Revenue Department**: Collaboration with the Revenue Department is crucial for tasks such as village rehabilitation and maintaining law and order. The District Collector serves as the head, and the respective Deputy Conservator of Forest of Territorial Division plays a pivotal role as the nodal officer. Their assistance is vital in mobilizing resources and coordinating efforts. During rehabilitation, coordination with departments like Land Records, Public Works Department (P.W.D.), Maharashtra State Electricity Distribution Company Limited (MSEDCL), Irrigation Department, Rural Development, Health, Education, and Town Planning is imperative.

- **Zilla Parishad**: Coordination with Zilla Parishad is vital as they undertake numerous village development activities. Z.P. oversees tasks such as providing bio-gas facilities, vaccination programs, and improving healthcare services. Additionally, Z.P. implements employment generation initiatives like sericulture (Tassar Silk), horticulture, bee-keeping, fisheries, poultry farming, bamboo cultivation, and dairy farming in EDC villages. Other activities such as stall feeding, water harvesting structures, and soil and moisture conservation works are also under the purview of Zilla Parishad.

- **Police Department**: Collaboration with the Police Department is essential for the protection of forests and wildlife. Coordination is particularly necessary with the District Tiger Cells of Satara, Sangli, Kolhapur, and Ratnagiri. These cells, led by the Superintendent of Police, convene monthly to discuss relevant issues. References to Government Resolutions (GR) such as WLP. 10-2000/C.N. 10/ F-1 dated August 1, 2003, and another GR with the same number dated November 7, 2000, highlight the establishment and importance of District Tiger Cells in facilitating coordination between the Revenue and Forest Departments.

Table No.15.5: Structure of District Tiger Cell

Sr.No.	Name	Remark
1	Superintendent of Police	President
2	Deputy Conservator of Forest (Territorial Division)	Add-President
3	Divisional Forest Officer, Vigilance	Member Secretary
4	Deputy Conservator of Forest, Wildlife	Member
5	Police Inspector, Local Crime Branch	Member
6	Executive Engineer, MSCEB	Member
7	Honorary Wildlife Warden	Member
8	Superintendent of Police , Railway	Static/Guest

- **Animal Husbandry Department**: Working in tandem with the Animal Husbandry department is essential for vaccinating cattle in both interior and fringe villages. Additionally, in cases of animal deaths due to offenses, unknown causes, sickness, epidemics, or transmitted diseases, conducting post-mortems to determine the cause of death is necessary. The assistance of the Livestock Development Officer is invaluable in such instances.

- **Forest Department**: Coordination with neighbouring territorial divisions of the Forest Department, including DyCF Satara, DyCF Sangali, DyCF Kolhapur, DFO Chiplun, and DCF Thane, is vital for village rehabilitation and conducting joint patrols in fringe and sensitive areas. Moreover, cooperation with tiger- bearing area divisions such as Kolhapur (WL), Kolhapur (T), and Sawatwadi (T) is essential for effective management.

- **Irrigation Department**: The Sahyadri Tiger Reserve encompasses the catchment areas of two dams in western Maharashtra, namely Koyna (Shivsagar) and Chandoli (Vasantsagar) reservoirs. Therefore, collaboration with the Irrigation Department is necessary for the protection and management of habitats within these areas. Coordination ensures the preservation of habitats and the sustainable management of water resources for the benefit of the reserve's biodiversity

15.3 Staff Deployment

Staff development will adhere to the theme plan designated for the critical tiger habitat. However, frontline personnel in buffer areas must possess multitasking abilities, managing human-wildlife interface issues, Eco-tourism, EDCs, Nature education and awareness, participatory planning, and socio- cultural appraisals with tact. To equip them with the necessary skills for handling site-specific interface and social issues, including effective communication, a specialized one-week field training module should be

developed. Staff deployment in wildlife and forest areas is based on several key factors that ensure effective management and conservation of natural resources:

- **Ecological Considerations:** Staff deployment is often determined by the ecological characteristics and conservation priorities of the area. High biodiversity regions, critical habitats, and sensitive ecosystems require a greater presence of staff to monitor wildlife populations, enforce regulations, and implement conservation measures.

- **Habitat Type:** The type of habitat present in the area influences staff deployment. Different habitats such as forests, grasslands, wetlands, and aquatic ecosystems have distinct management requirements. Staff deployment is tailored to address the specific needs and challenges associated with each habitat type.

- **Species Presence:** Areas inhabited by endangered or flagship species require dedicated staff deployment for their protection and monitoring. Staff are stationed in locations where these species are known to occur, conducting patrols, monitoring populations, and implementing measures to mitigate human-wildlife conflicts.

- **Threat Assessment:** Staff deployment is influenced by the presence and intensity of threats such as poaching, illegal logging, encroachment, and habitat degradation. Areas facing significant threats require enhanced staffing levels to address these challenges and mitigate risks to biodiversity.

- **Accessibility and Infrastructure:** The accessibility of the area and the availability of infrastructure such as roads, trails, and communication networks influence staff deployment. Remote and inaccessible areas may require specialized staff and logistical support to ensure effective management and conservation efforts.

- **Community Engagement:** Staff deployment is often influenced by the need to engage and collaborate with local communities. Deploying staff in areas where communities reside fosters communication, builds trust, and facilitates participation in conservation initiatives, leading to more sustainable outcomes.

- **Legal Mandates and Management Plans:** Staff deployment aligns with legal mandates, management plans, and conservation strategies developed for the area. Deployment decisions are guided by regulatory requirements, policies, and objectives outlined in management plans to achieve conservation goals effectively.

Budgetary Constraints: Budgetary considerations may also impact staff deployment decisions. Limited resources may necessitate prioritization of staffing in areas with higher conservation significance or greater threats to biodiversity.

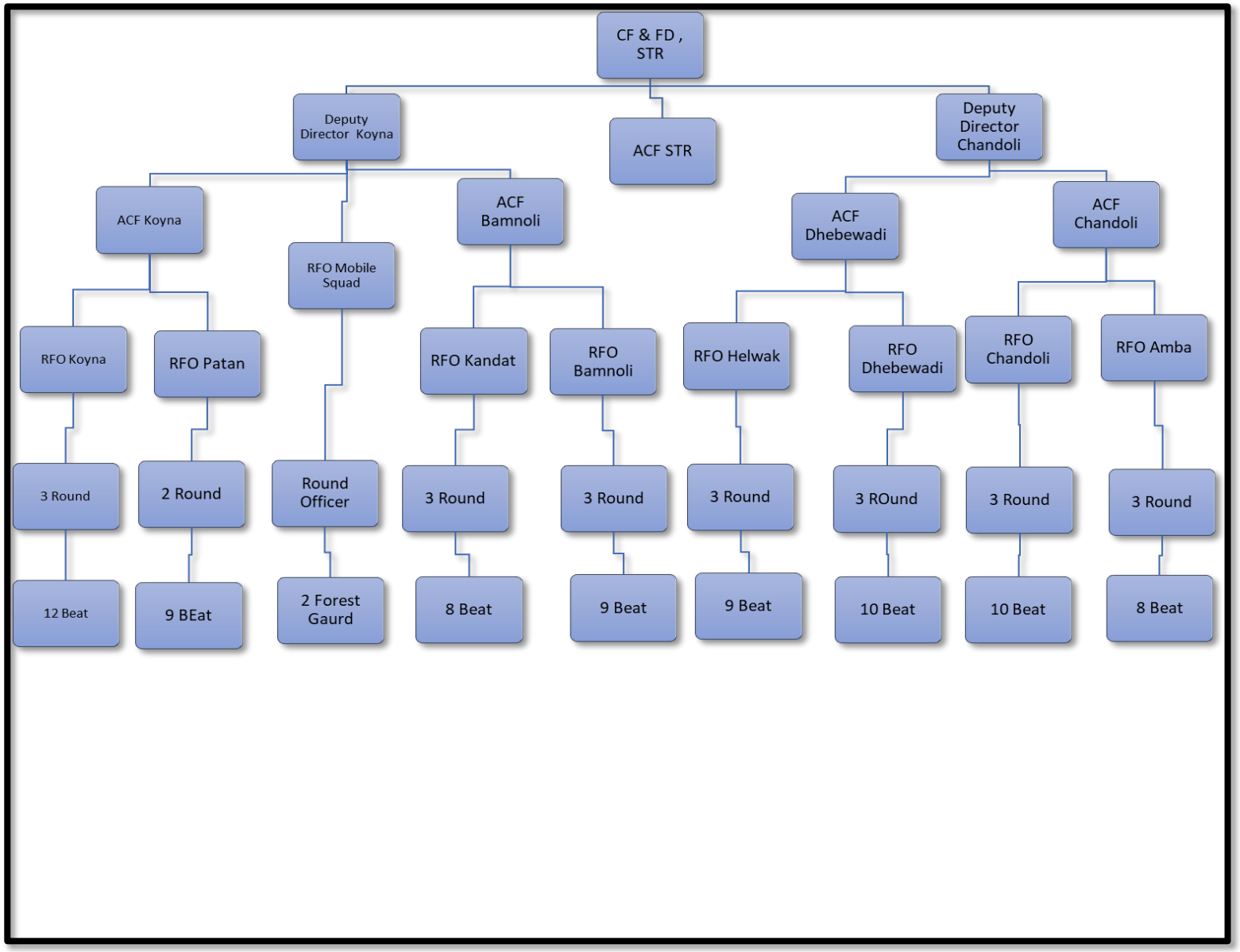
Currently, the Sahyadri Tiger Reserve (STR) comprises a workforce of 94 Forest Guards, 30 Foresters, 9 Range Forest Officers, 05 Assistant Conservators of Forest, 01 Divisional Forest Officer (DD), 01 Deputy Conservator of Forest (DD), and 01 Conservator of Forest and Field Director. Supporting this core team are administrative staff including 01 Head Clerk, 01 Stenographer, 06 Accountants, 16 Clerks, 10
Permanent Labours, 3 Drivers, 1 Launch Tandel, 1 Launch Driver, 2 Peons, 1 Naek, 4 Surveyors (with an additional surveyor), 1 Ranger Surveyor, and 1 Sectional Engineer.

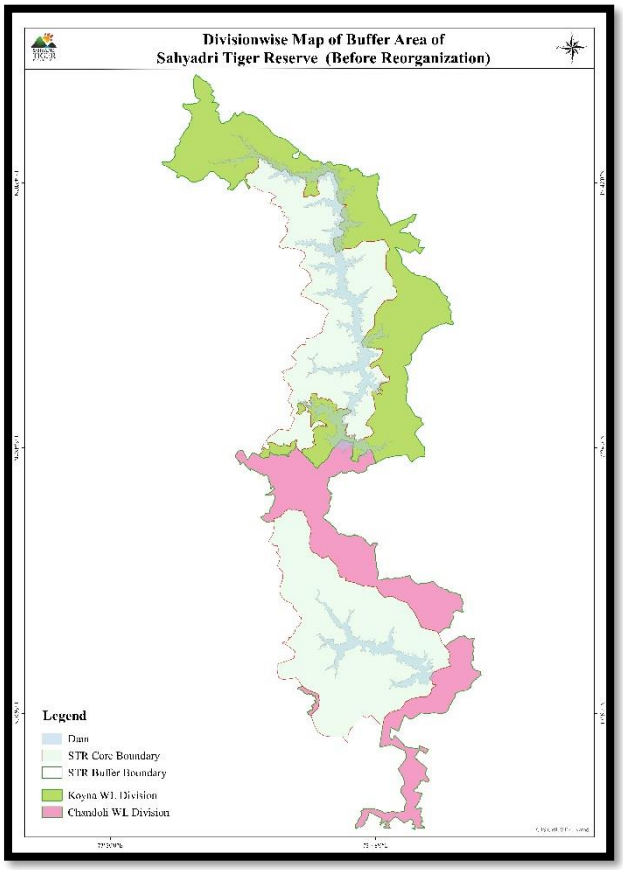
According to Government Resolution (GR) WLP-2012/L.N.-240/F-1 dated August 21, 2012, unified control has been sanctioned by the state government. A proposal for the reorganization of the tiger reserve has been submitted to the Principal Chief Conservator of Forest (HoFF), Maharashtra State, Nagpur.

The current allocation of beats stands at 75 for an area of 1165.57 square kilometre, resulting in an approximate area of 15.54 square kilometre per beat. This falls significantly short of the accepted norm of 7.5 square kilometres for Protected Areas, as per State Government Resolution No. TRS 06/2001/219/F-6 dated May 8, 2003.

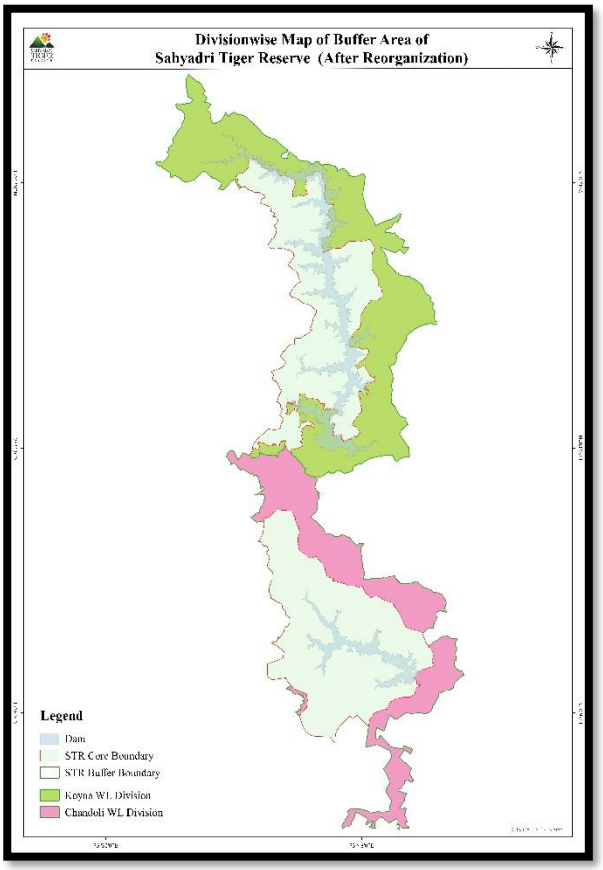
Additional posts are deemed necessary to fulfil specific management requirements such as those for Buffer Zones, Eco-tourism, Veterinary services, Livelihood Generation activities, Eco- development programs, Nature Interpretation & Research, and Nature Education purposes. Special interaction meetings with local communities and their representatives are essential for effective Buffer and Eco-tourism management.

Following Project Tiger guidelines (GOI), the Sahyadri Tiger Reserve is to be organized based on a Core-Buffer strategy. A proposal for reorganization has been submitted, suggesting the formation of two units, namely Koyna and Chandoli, each with its own core and surrounding buffer zone. These units will be overseen by separate Deputy Directors, who will also act as Drawing and Disbursing Officers (DDOs) for their respective conservation units. Detailed proposals for reorganization, including new ranges and beats, are outlined in Annexures 36 to 39, and corresponding maps in No.170 and 172

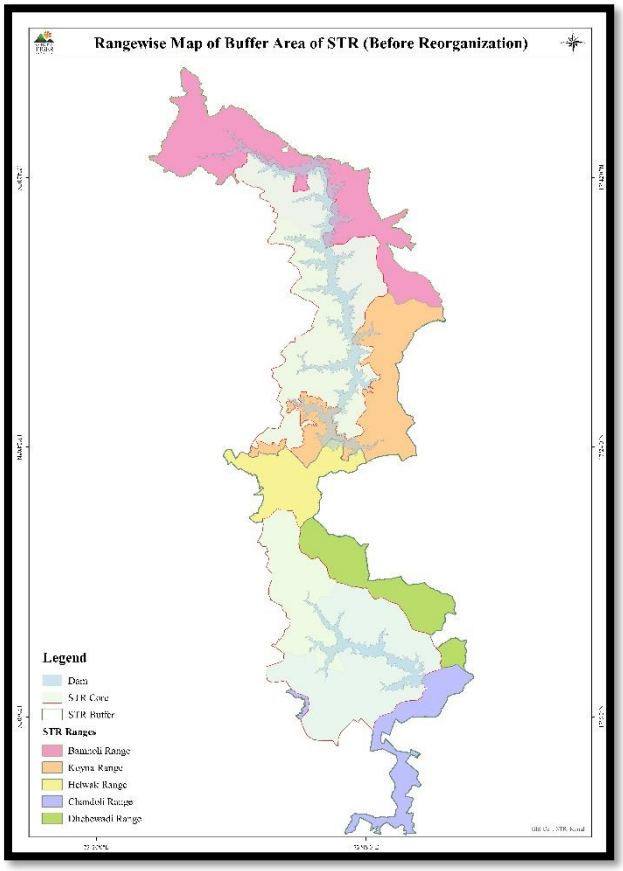

CF & FD , STR
Deputy Director Koyna
ACF STR
Deputy Director Chandoli
ACF Koyna
RFO Mobile Squad
ACF Bamnoli
ACF Dhebewadi
ACF Chandoli
RFO Koyna
RFO Patan
RFO Kandat
RFO Bamnoli
RFO Helwak
RFO Dhebewadi
RFO Chandoli
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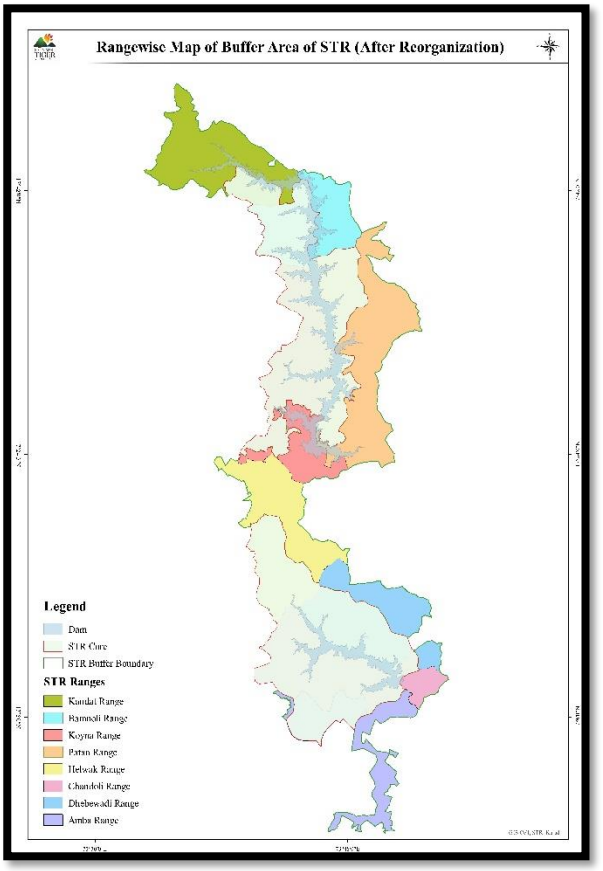
15.1 Division wise map (Before Reorganization)



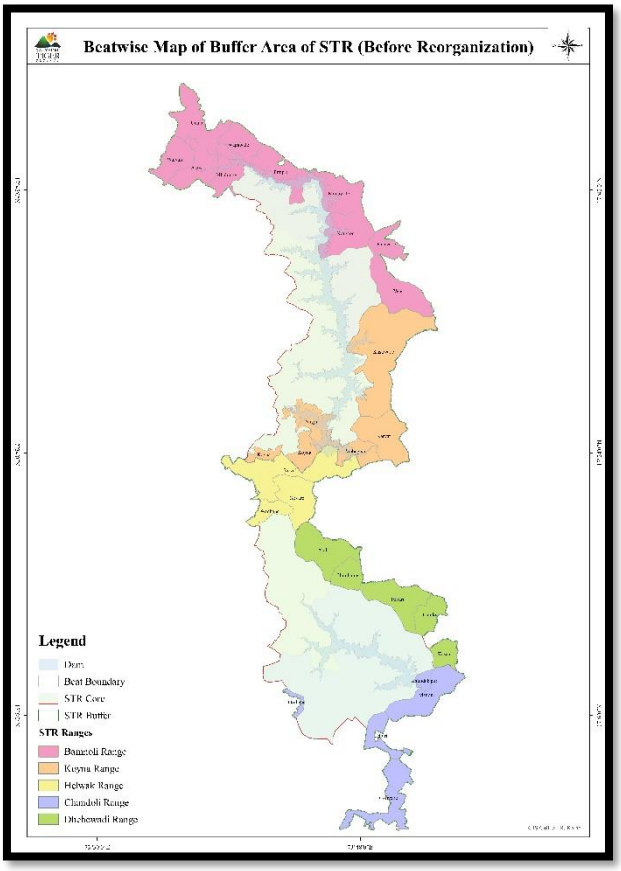
15.2 Division wise map (After Reorganization)



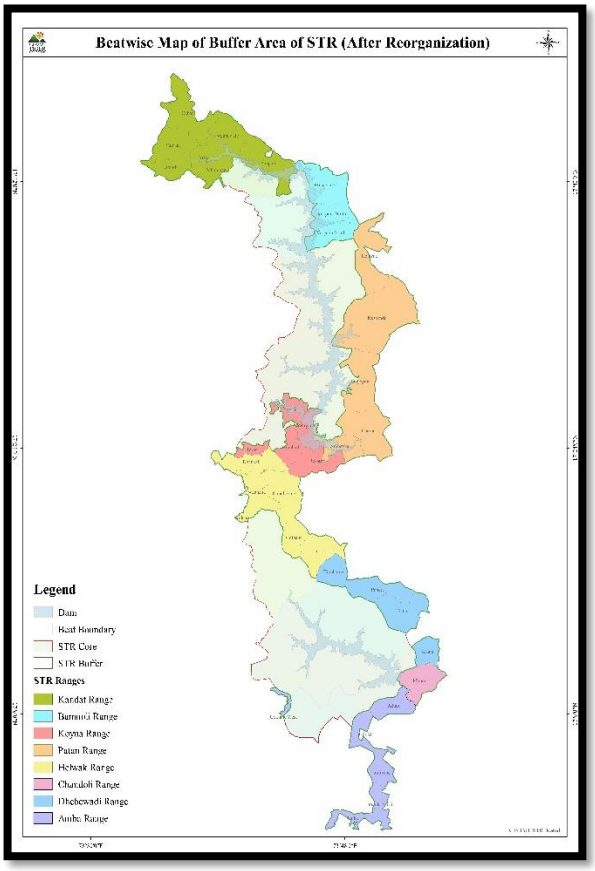
15.3 Range wise map (Before Reorganization)



15.4 Range wise map (After Reorganization)



15.5 Beat wise map (Before Reorganization)



15.6 Beat wise map (After Reorganization)

15.4 Fund Raising Strategies

The funding for proposed initiatives within the Sahyadri Tiger Reserve (STR) primarily stems from multiple sources, ensuring a diversified financial base to support conservation efforts. The Centrally Sponsored Scheme serves as a significant contributor, supplemented by funds generated from interest on deposits from the tiger conservation foundation and the Compensatory Afforestation Fund Management and Planning Authority (CAMPA). Additionally, resources from various State Level Schemes and the Eco-Tourism Development Scheme are tapped into. Gate entry revenue and income from tourist activities are channelled into the STR Conservation Foundation, alongside donations from Non-Governmental Organizations and Corporate Social Responsibility (CSR) initiatives facilitated through the Foundation.

However, it is essential to acknowledge that the funds received often fall short of the requirements and lack consistency in their availability. This inconsistency poses challenges to the effective execution of conservation strategies and the fulfilment of commitments. Therefore, there is an urgent need for funding to be reliable, timely, and sustained to ensure uninterrupted progress.

Additional funding sources include allocations from the District Planning Committee, Tourism funds at the State Sector level, CAMPA funds, and resources from the Finance Commission. Adhering to the Project Tiger guidelines, the STR operates on a Core-Buffer strategy, with separate complements of field staff and Deputy Directors assigned to each unit. These officials also serve as Drawing & Disbursing Officers (DDOs) for their respective conservation units, facilitating efficient financial management.

Recognizing that Sectored Integration is pivotal in Buffer Zone Management, allocations from various sectors complement Project Tiger funding, thus warranting their continuity and integration into the overall funding framework. By ensuring a stable and diverse funding base, the STR can effectively implement its conservation objectives and sustainably manage its ecosystem.

The funding landscape for ongoing protection, maintenance, eco-tourism, and forestry works in wildlife and forest areas remains primarily reliant on state funds. However, to bolster specific initiatives such as special protection work, wildlife habitat development, eco-development, and eco-tourism, requests for financial assistance will be directed to the National Tiger Conservation Authority (NTCA) based on the strategic plan outlined herein.

Efforts to integrate the rural development program of Zilla Parishad with eco-development works will be prioritized, fostering synergies between conservation and community development initiatives. Concurrently, the Tiger Conservation Foundation will intensify its efforts across various

activities aligned with its overarching aims and objectives. Detailed allocation of funds for last few years given in Table.15.6 and 15.7

Fundraising in wildlife areas is essential to support conservation, eco-development, habitat development, and livelihood initiatives for several reasons:

- **Resource Mobilization:** Wildlife areas often face resource constraints for implementing conservation and development projects. Fundraising efforts enable the mobilization of financial resources from various sources, including government grants, philanthropic donations, corporate sponsorships, and international funding agencies.

- **Conservation Projects:** Many conservation projects, such as anti-poaching measures, habitat restoration, wildlife monitoring, and community engagement programs, require substantial financial investments. Fundraising enables the implementation of these projects, thereby contributing to the protection and preservation of biodiversity in wildlife areas.

- **Eco-Development and Livelihoods:** Supporting eco-development and livelihood initiatives in wildlife areas is crucial for promoting sustainable development and reducing human-wildlife conflicts. Funds raised can be used to implement income-generating activities, vocational training programs, and infrastructure development projects that benefit local communities while minimizing their dependence on natural resources.

- **Habitat Development:** Habitat degradation and fragmentation pose significant threats to wildlife populations. Fundraising efforts can finance habitat development projects such as afforestation, reforestation, wetland restoration, and watershed management, which are vital for maintaining healthy ecosystems and enhancing wildlife habitats.

- **Community Engagement:** Effective conservation and development initiatives require active participation and support from local communities. Fundraising can facilitate community engagement through awareness campaigns, capacity-building workshops, and collaborative decision-making processes, fostering a sense of ownership and stewardship among community members.

- **Research and Monitoring:** Fundraising can support scientific research and monitoring efforts in wildlife areas, providing valuable data and insights for evidence-based conservation management. Funding research projects, wildlife surveys, and ecological studies contributes to our understanding of biodiversity dynamics and ecosystem health, informing conservation strategies and policy decisions.

- **Infrastructure and Equipment:** Adequate infrastructure and equipment are essential for effective conservation and management of wildlife areas. Fundraising can help procure necessary equipment such as vehicles, communication devices, surveillance cameras, and field gear, as well as develop infrastructure such as visitor centres, interpretation facilities, and eco-lodges to support ecotourism and educational activities.

Supplementary support for tiger conservation endeavours is anticipated from the state government, facilitated through budgetary allocations under Project Tiger/NTCA funding. Furthermore, several auxiliary sources are identified to augment financial resources and advance conservation efforts:

- **Recycling of Gate Receipts/Souvenir Sales through the Foundation:** Revenue generated from gate receipts and souvenir sales will be recycled through the Tiger Conservation Foundation, contributing to conservation initiatives and infrastructure development within the protected areas.

- **Corporate Social Responsibility (CSR) Contributions:** Contributions from corporate entities through CSR initiatives will be instrumental in upgrading protection infrastructure and supporting essential activities aimed at enhancing wildlife conservation and habitat management.

- **Expert Organization Contributions:** Collaboration with expert organizations will be sought to address specialized requirements and tasks, including capacity building and tiger monitoring at the landscape level using advanced techniques such as camera traps. These partnerships will enrich conservation efforts by harnessing specialized expertise and resources.

By leveraging a diverse array of funding sources and fostering collaborations with key stakeholders, wildlife and forest authorities aim to fortify tiger conservation endeavours and advance the overarching goals of biodiversity preservation and ecosystem stewardship.

Table No.15.6: Various Scheme Fund

Sahyadri Tiger Reserve Karad Year 2015-16 To 2023-24 Various Scheme Fund (Amt in Lacs)																				
Sr.No	Year	Division Name	Central Sponered Scheme		State Plan Scheme										Foundation	District Annual Plan Scheme				Total
			CSS	IFMS	2406 0775	2406 2295	2406 2232	2406 8711	2406 8669	2406 8589	2406 2241	4406 0026	4406 0171	State Campa	Foundation	DPC SATARA	DPC Sangli	DPC Kolhapur	DPC Ratnagiri	
1	2014-15	STR	-	-	-	-	-	-	-	-	-	-	-	-	9.08	-	-	-	-	9.08
2	2015-16	STR	21.555	13.14	127.289	63.278		221.00		0.25					165.02	261.272	27.96	22.368	-	923.132
3	2016-17	STR	469.431		42.92	39.739		312.29			784.00	112.04			257.6	105.64	52.02	11.78	-	2187.46
4	2017-18	STR	508.095	39.900	87.38	116		39.67					73.44	725.94	105.034	105.64	52.02	11.78	-	1864.899
5	2018-19	STR	524.56		29.90	127.88	19.50	281.82		2.00	784.00	112.04		1132.6	363.41	63.27	42.83	4.92	-	3488.73
		Total	**1523.641**	**53.04**	**287.489**	**346.897**	**19.50**	**854.78**	**0**	**2.25**	**1568.00**	**224.08**	**73.44**	**1858.54**	**900.144**	**535.822**	**174.83**	**50.848**	**0**	**8473.30**
Budget Allocation after Sahyadri Tiger Reserve Re-Organised into two Division																				
6	2019-20	Cf & FD Kolhapur	-	-	-	-	-	-	-	-	-	-	-	-	36.7054	-	-	-	-	36.7054
		Koyna Division	396.828	1.50	-	125.5	2.88	12.474	-	-	-	-	-	17.33	88.40789	15.36	-	-	-	660.28
		Chandoli Division	346.568	2.00	-	46.27	35.78	-	-	-	-	-	-	-	118.55561	19.49	29.14	96.83	-	694.63
		Total	**743.396**	**3.5**	**0**	**171.77**	**38.66**	**12.474**	**0**	**0**	**0**	**0**	**0**	**17.33**	**243.6689**	**34.85**	**29.14**	**96.83**	**0**	**1391.6189**
7	2020-21	Cf & FD Kolhapur	-	-	-	-	-	-	-	-	-	-	-	-	10.47542	-	-	-	-	10.47542
		Koyna Division	51.17	1.06	-	-	-	-	-	-	-	-	-	118..280	117.44267	71.49	-	-	-	241.16267
		Chandoli Division	53.88	1.06	-	-	-	-	-	-	-	-	-	2893.74	226.94652	103.46	240.72	173.21	26.00	3719.01652
		Total	**105.05**	**2.12**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2893.74**	**354.86461**	**174.95**	**240.72**	**173.21**	**26.00**	**3970.65**
8	2021-22	Cf & FD Kolhapur	-	-	-	-	-	-	-	-	-	-	-	-	22.81644	-	-	-	-	22.81644
		Koyna Division	144.73	1.047	-	-	-	125.00	-	-	-	-	-	32.00	121.91625	43.52	-	-	-	468.21325
		Chandoli Division	141.93	1.047	-	-	-	-	-	-	-	-	-	34.80	135.83407	34.63	16.88	32.25	-	397.37107
		Total	**286.66**	**2.094**	**0**	**0**	**0**	**125.00**	**0**	**0**	**0**	**0**	**0**	**66.80**	**280.56676**	**78.15**	**16.88**	**32.25**	**0.00**	**888.4008**
9	2022-23	Cf & FD Kolhapur	-	-	-	-	-	-	-	-	-	-	-	-	12.94702	-	-	-	-	12.94702
		Koyna Division	82.39	0.64	29.77	9.406	14.39	150.00	-	6.50	-	-	-	16.74	148.71351	29.96	-	-	-	488.50951

	2022-23	Chandoli Division	82.08	0.64	139.26		26.00	59.33	-	-	-	-	-	60.70	169.94828	172.66	127.12	62.62	13.29	913.64828
		Total	**164.47**	**1.28**	**169.03**	**9.406**	**40.39**	**209.33**	**0**	**6.5**	**0**	**0**	**0**	**77.44**	**331.61**	**202.62**	**127.12**	**62.62**	**13.29**	**1415.10481**
10	2023-24	Cf & FD Kolhapur	-	-	-	-	-	-	-	-	-	-	-	-	11.48005	-	-	-	-	11.48005
		Koyna Division	135.456	1.521	-	-	94.34	25.00	0.30	-	-	-	2.02	6.72	110.60265	217.57	-	-	-	593.52965
		Chandoli Division	127.456	1.521	30.00	485.71	254.77	125.00	0.30	-	-	-	4.43	53.35	85.81750	131.6	275.05	236.49	61.60	1873.0945
		Total	**262.912**	**3.042**	**30.00**	**485.71**	**349.11**	**150.00**	**0.60**	**0**	**0**	**0**	**6.45**	**60.07**	**207.9002**	**349.17**	**275.05**	**236.49**	**61.60**	**2478.1042**

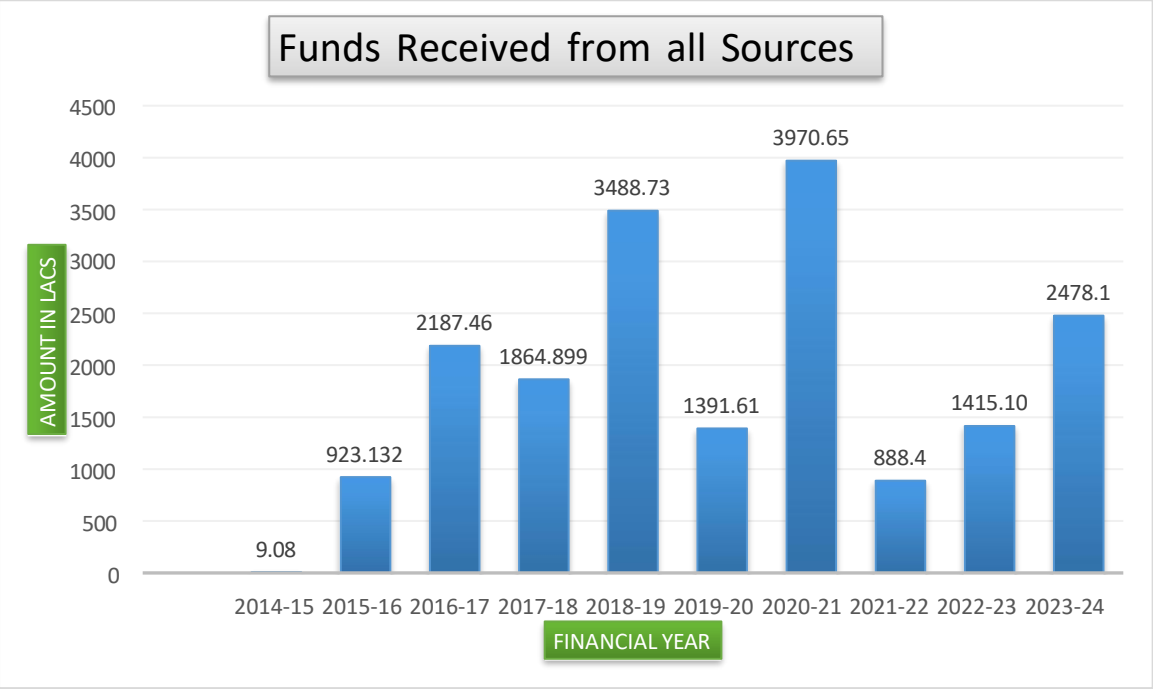


Fig No.15.2: Funds Received from all Sources

Table No.15.7: Various Non Plan Scheme Fund

Sahyadri Tiger Reserve Karad Year 2015-16 To 2023-24 Various Non Plan Scheme Fund (Amt in Lacs)																	
Sr.No	Sub Heads	Non Plan Scheme Heads	Budget Allocation of Sahyadri Tiger Reserve Karad From year 2015-16 to 2018-19				Budget Allocation After Sahyadri Tiger Reserve Re-Organised into Two Division										Total
			2015-16	2016-17	2017-18	2018-19	2019-2020		2020-21		2021-22		2022-23		2023-24		
			STR	STR	STR	STR	Koyna Division	Chandoli Division	Koyna Division	Chandoli Division	Koyna Division	Chandoli Division	Koyna Division	Chandoli Division	Koyna Division	Chandoli Division	
1	(01) SALARIES	2406 0042-01	-	-	-	-	-	6.47386	-	9.10971	-	9.52591	-	7.54574	-	8.24598	**40.90120**
2		2406 0096-01	-	5.32957	6.23998	6.84464	10.16799	6.91609	11.38445	13.70227	6.45733	13.29588	12.24260	20.47340	12.00301	19.37449	**144.43170**
3		2406 0102-01	-	-	-	-	-	-	1.31548	-	8.42285	-	9.94366	-	3.56992	-	**23.25191**
4		2406 0122-01	5.29308	5.65392	6.01358	3.60417	-	11.23408	-	7.37214	2.33940	16.17530	6.43075	12.32375	4.37260	5.53516	**86.34793**
5		2406 0472-01	1.79742	1.83883	2.45409	2.76548	3.92594	-	2.42636	-	-	-	-	-	-	-	**15.20812**
6		2406 0766-01		20.17100	-	-	-	11.26365	2.49081	11.92932	3.64178	3.04533	4.23209	-	4.49777	9.90457	**71.17632**
7		2406 1898-01	5.56546	6.20451	4.97830	4.70660	7.00256		6.67578		7.04943		4.65433		4.65648	0	**51.49345**
8		2406 8506-01	-	8.08405	-	-	-	-	-	-	-	-	-	12.40731	-	5.63744	**26.12880**
9		2406 8524-01	-	-	-	-	-	-	-	-	-	-	-	-	6.98080	-	**6.98080**
10		2415 0016-01	9.14225	-	11.64116	-	10.55053	-	10.83301	-	15.41427	-	17.88262	-	18.70518	-	**94.16902**
11		2406 0238-01	-	3.17842	-	6.89462	7.31810	5.46400	7.75383	8.60698	22.05436	6.21612	44.64536	0.77816	44.03911	23.90984	**180.85890**
12		2406 0552-01	13.17396	5.54898	2.83074	5.72105	4.64123	-		-	-	-	3.73754	-	10.34044	-	**45.99394**
		Total	**34.97217**	**56.00928**	**34.15785**	**30.53656**	**43.60635**	**41.35168**	**42.87972**	**50.72042**	**65.37942**	**48.25854**	**103.76895**	**53.52836**	**109.16531**	**72.60748**	**786.94209**
13	(02) WAGES	2406 0102-02	6.56180	6.28000	-	-	-	-	-	-	-	-	-	-	-	-	**12.84180**
14		2406 0122-02		2.54000	0.70000	-	-	-	-	17.64000	-	-	-	-	-	-	**20.88000**
15		2406 0131-02	0.77000	1.78000	2.14483	8.03656	0.94011	0.060130	-		-	-	-	-	-	-	**13.73163**
16		2406 0247-02	-	-	-	-	-	-	-	0.30000	-	-	-	-	-	-	**0.30000**
17		2406 0659-02	0.28000	0.32000	0.02031	14.99821	-	-	-	-	-	-	-	-	-	-	**15.61852**
18		2406 0766-02	6.00000	-	0.83000	-	0.74497	0.74498	-	-	-	-	-	-	-	-	**8.31995**
19		2406 0784-02	15.50400	-	-	-	-	-	-	-	-	-	-	-	-	-	**15.50400**
		Total	**29.11580**	**10.92000**	**3.69514**	**23.03477**	**1.68508**	**0.80511**	**0.00000**	**17.94000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**87.19590**
23	(06) ELETRICTIY, WATER, PHONE CHARGES	2406 0096-06	-	-	-	-	0.52804	0.0000	-	-	-	-	-	-			**0.52804**
24		2406 0122-06	-	-	-	-	-	-	6.00000	-	-	-	-	-	0.95000	0.95000	**7.90000**
25		2406 0472-06	-	-	-	-	0.20000	0.41900	-	-	-	-	-	-	-	-	**0.61900**

26		2406 0766-06	-	1.74186	1.90382	2.33736	-	-	0.12584	0.12583	-	-	-	-	0.90000	0.55000	**7.68471**
		Total	**0**	**1.74186**	**1.90382**	**2.33736**	**0.72804**	**0.419**	**6.12584**	**0.12583**	**0**	**0**	**0**	**0**	**1.85000**	**1.50000**	**16.73175**
27	(11) DOMESTIC TRAVEL EXPENSES	2406 0096-11	0.03312	0.69495	0.32583	-	0.47776	0.79632	-	0.05970	0.05703	-	-	-	-	-	**2.44471**
28		2406 0122-11	0.16176	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.16176**
29		2406 0131-11	-	0.06146	-	-	0.11932	-	-	-	-	-	-	-	-	-	**0.18078**
30		2406 0238-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.00000**
31		2406 0472-11	-	-	0.22067	-	-	-	-	-	-	-	-	-	-	-	**0.22067**
32		2406 0552-11	-	-	-	-	0.01755	-	-	-	-	-	-	-	-	-	**0.01755**
33		2406 0659-11	0.19220	0.06406				-	-	0.02320	-	-	-	-	-	-	**0.27946**
34		2406 0766-11	0.92126	0.13114	0.30814		0.24595	0.25770	0.41130	0.04212	0.23020				1.59835	0.72578	**4.87194**
		Total	**1.30834**	**0.95161**	**0.85464**	**0**	**0.86058**	**1.05402**	**0.4113**	**0.12502**	**0.28723**	**0**	**0**	**0**	**1.59835**	**0.72578**	**8.17687**
35	(13) OFFICE EXPENSES	2406 0087-13	-	-	0.09500	-	-	-	-	-	-	-	-	-	-	-	**0.09500**
36		2406 0096-13	-	0.10000	0.18000	0.03000	0.10138	0.02137	-	-	-	-	-	-	-	-	**0.43275**
37		2406 0122-13	-		0.26224	-	0.10000	0.14700	-	-	-	-	-	-	-	-	**0.50924**
38		2406 0131-13	-	1.61000	0.92000	-	0.51927	0.35927	-	-	-	-	-	-	-	-	**3.40854**
39		2406 0472-13	-	1.52000	0.10000	0.26000	0.22333	0.19334	-	-	-	-			0.20000	0.35000	**2.84667**
40		2406 0766-13	2.00000	0.93000	1.50000	0.38200	0.22800	0.22800	-	-	-	-	0.40000	0.40000	3.00000	2.50000	**11.56800**
41		2406 0659-13	1.50000	0.78000	0.20000	3.84046	0.07000	0.07000	-	-	-	-	-	0.28500	1.00000	1.00000	**8.74546**
		Total	**3.50000**	**4.94000**	**3.25724**	**4.51246**	**1.24198**	**1.01898**	**0**	**0**	**0**	**0**	**0.40000**	**0.68500**	**4.20000**	**3.85000**	**27.60566**
42	(14) RENT,RATE TAXES	2406 0096-14	0.08000	0.18000	0.04954	-		-	-	-	-	-	-	-	-	-	**0.30954**
43		2406 0122-14	-	-	-	-	0.03000	-	-	-	-	-	-	-	-	-	**0.03000**
44		2406 0472-14	-	-	1.91688	3.87000	-	-	-	-	-	-	-	-	-	-	**5.78688**
45		2406 0659-14	0.04000	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.04000**
46		2406 0766-14	1.52000	1.51000	0.32000	1.15000	-	-	-	-	-	-	-	-	-	-	**4.50000**
		Total	**1.64000**	**1.69000**	**2.28642**	**5.02000**	**0.03000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**10.66642**
47	(17) COMPUTER EXPENSES	2406 0087-17	-	-	-	-	-	-	-	-	-	-	-	-	0.04000	0.04800	**0.08800**
48		2406 0096-17	-	-	0.01000	-	-	-	-	-	-	-	-	-	0.00000		**0.01000**
49		2406 0102-17	-	-	-	-	-	-	-	-	-	-	-	-	0.04000	0.04000	**0.08000**
50		2406 0122-17	-	-	-	-	-	-	-	-	-	-	-	-	0.10000	0.10000	**0.20000**
51		2406 0131-17	-	-	-	-	0.02100	0.04600	-	-	-	-	-	-	0.13000	0.14000	**0.33700**
52		2406 0238-17	-	-	-	-	-	-	-	-	-	-	-	-	0.03500	0.03000	**0.06500**
53		2406 0452-17	-	-	-	-	-	-	-	-	-	-	-	-	0.09500	0.09500	**0.19000**

54		2406 0499-17	-	-	-	-	-	-	-	-	-	-	-	-	0.02000	0.02000	**0.04000**
55		2406 0532-17	-	-	-	-	-	-	-	-	-	-	-	-	0.03000	0.03000	**0.06000**
56		2406 0552-17	-	-	-	-	-	-	-	-	-	-	-	-	0.02000	0.01000	**0.03000**
57		2406 0659-17	-	-	-	-	-	-	-	-	-	-	-	-	0.04000	0.04000	**0.08000**
58		2406 0766-17	-	-	0.03000	-	-	-	-	-	-	-	-	-	-	-	**0.03000**
		Total	**0**	**0**	**0.04000**	**0**	**0.02100**	**0.04600**	**0**	**0**	**0**	**0**	**0**	**0**	**0.55000**	**0.55300**	**1.21000**
59	(21) SUPPLIES AND MATERIALS	2406 0102-21	0.04000	0.41000	-	-	0.13000	0.03500	-	-	-	-	-	-	-	-	**0.61500**
60		2406 0122-21	-	-	-	-		-	-	-	-	-	-	-	1.85000	1.80000	**3.65000**
61		2406 0131-21	-	5.59325	-	-	0.06500	-	-	-	-	-	-	-	-	-	**5.65825**
62		2406 0472-21	-	-	-	-	-	0.02000	-	-	-	-	-	-	-	-	**0.02000**
63		2406 0659-21	-	0.46000	-	-	-	--	-	-	-	-	-	-	-	-	**0.46000**
64		2406 0766-21	-	0.11000	0.10000	-	-		-	-	-	-	-	-	1.00000	1.00000	**2.21000**
65		2406 0784-21	1.19778	-	-	-	-	-	-	-	-	-	-	-	-	-	**1.19778**
		Total	**1.23778**	**6.57325**	**0.10000**	**0.00000**	**0.19500**	**0.05500**	**0**	**0**	**0**	**0**	**0**	**0**	**2.85000**	**2.80000**	**13.81103**
66	(24) PETROAL, DIESEL	2406 0102-24	-	-	-	-	0.01000	0.01000	-	-	-	-	-	-	-	-	**0.02000**
67		2406 0472-24	-	0.57000	-	0.35000	-	-	0.15000	0.15000	-	-	-	-	0.20000	0.35000	**1.77000**
68		2406 0659-24	-	0.40000	-	-	-	-	-	-	-	-	-	-	-	0.20000	**0.60000**
69		2406 0766-24	-	0.06000	-	-	-	-	0.03500	0.03500	-	-	-	-	0.65000	0.65000	**1.43000**
		Total	**0**	**1.03000**	**0**	**0.35000**	**0.01000**	**0.01000**	**0.18500**	**0.18500**	**0**	**0**	**0**	**0**	**0.85000**	**1.20000**	**3.82000**
70	(26) ADVERTISING AND PUBLICITY	2406 0096-26	0.01500	0.02000	0.01000	-	-	-	-	-	-	-	-	-	-	-	**0.04500**
71		2406 0472-26	-	-	-	0.18000	-	-	-	-	-	-	-	-	-	-	**0.18000**
72		2406 0766-26	-	-	-	0.06000	-	-	-	-	-	-	-	-	-	-	**0.06000**
		Total	**0.01500**	**0.02000**	**0.01000**	**0.24000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.28500**
73	(27) MINOR WORKS	2406 0087-27	2.64000	8.12000	-	-	-	0.13000	-	-	-	-	-	-	-	-	**10.89000**
74		2406 0078-27	0.12000	1.10929	-	-	0.13000	-	-	-	-	-	-	-	-	-	**1.35929**
75		2406 0131-27	0.06500	0.64000	0.26000	-	-	-	-	-	-	-	-	-	-	-	**0.96500**
76		2406 0766-27		0.50000	0.04000	-	-	-	-	-	-	-	-	-	-	-	**0.54000**
		Total	**2.82500**	**10.36929**	**0.30000**	**0.00000**	**0.13000**	**0.13000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**13.75429**
77	(28) PROFESSION AL SERVICES	2406 0096-28	0.08000	0.15000	-	0.55000	-	-	-	-	-	-	-	-	-	-	**0.78000**

78		2406 0766-28	-	-	0.01000	-	-	-	-	-	-	-	-	-	-	-	**0.01000**
		Total	**0.08000**	**0.15000**	**0.01000**	**0.55000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.79000**
79	(41) SECRETE SERVICE EXPENDITURE	2406 0096-41	-	-	0.50000	-	-	-	-	-	-	-	-	-	-	-	**0.50000**
		Total	**0**	**0**	**0.50000**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.50000**
80	(50) OTHER CHARGES	2406 0766-50	-	0.03000	-	-	0.14000	0.25000	-	-	-	-	-	-	-	-	**0.42000**
81		2406 0784-50	0.47400	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.47400**
82		2406 1495-50	0.55500	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.55500**
83		2406 8195-50	0.24640														**0.24640**
		Total	**1.27540**	**0.03000**	**0.00000**	**0.00000**	**0.14000**	**0.25000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**0.00000**	**1.69540**
84	Compensation for the Losses due to Wild animals attack	2406 2366-50	-	5.23747	-	21.93549	4.56034	-	2.74434	2.56000	8.22317	-	21.47389	16.57160	19.03526	39.97272	**142.31428**
		Total	**0**	**5.23747**	**0**	**21.93549**	**4.56034**	**0**	**2.74434**	**2.56**	**8.22317**	**0**	**21.47389**	**16.5716**	**19.03526**	**39.97272**	**145.70508**
85	(51) MOTOR VEHICLES	2406 0472-51	-	-	2.25000	-	0.05685	0.05686	-	-	-	-	-	-	1.00000	1.00000	**4.36371**
		Total	**0**	**0**	**2.25**	**0**	**0.05685**	**0.05686**	**0**	**0**	**0**	**0**	**0**	**0**	**1.00000**	**1.00000**	**4.36371**
86	(52) MACHINERY AND EQUIPMENT	2406 0659-52	-	-	-	-	-	0.09200	-	-	-	-	-	0.07875	-	0.24000	**0.41075**
		Total	**0**	**0**	**0**	**0**	**0**	**0.09200**	**0**	**0**	**0**	**0**	**0**	**0.07875**	**0**	**0.24000**	**0.41075**
87	(57) LIVE STOCK	2406 0659-57	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15000	**0.15000**
		Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.15000**	**0.15000**
	GRAND TOTAL		**75.96949**	**99.66276**	**49.36511**	**88.51664**	**53.26522**	**45.28865**	**52.34620**	**71.65627**	**73.88982**	**48.25854**	**125.64284**	**70.86371**	**141.09892**	**124.59898**	**1120.42315**

15.5 Schedule of Operations:

The primary objective of preparing a schedule of operations in a wildlife area is to ensure the efficient and effective management of conservation activities, habitat restoration, and community engagement initiatives. Here are some key objectives:

- **Strategic Planning:** The schedule of operations serves as a strategic planning tool, outlining the timeline, sequence, and allocation of resources for various conservation and management activities. It helps prioritize tasks based on their urgency, significance, and feasibility, ensuring that limited resources are allocated judiciously to achieve conservation goals.

- **Task Allocation:** By delineating specific tasks and responsibilities, the schedule of operations facilitates task allocation among staff, volunteers, and partner organizations. Clear assignment of duties ensures accountability and fosters a coordinated approach to implementing conservation projects and programs.

- **Resource Management:** The schedule of operations helps optimize the utilization of resources, including manpower, equipment, and funds, by aligning them with project timelines and objectives. It enables efficient planning and procurement of resources, minimizing wastage and maximizing the impact of conservation efforts.

- **Coordination and Collaboration:** A well-defined schedule of operations promotes coordination and collaboration among stakeholders involved in wildlife management, including government agencies, non-profit organizations, local communities, and research institutions. It provides a common framework for communication, cooperation, and synergy, enhancing the effectiveness of conservation initiatives.

- **Monitoring and Evaluation:** The schedule of operations serves as a basis for monitoring and evaluating the progress and performance of conservation activities. By setting clear milestones, benchmarks, and timelines, it facilitates regular monitoring of project implementation, enabling timely adjustments and course corrections to ensure desired outcomes are achieved.

- **Compliance and Reporting:** The schedule of operations helps ensure compliance with legal and regulatory requirements governing wildlife management and conservation. It provides a structured framework for documenting activities, expenditures, and outcomes, facilitating reporting to funding agencies, government authorities, and other stakeholders.

- **Adaptation and Flexibility:** While providing a structured framework for planning and implementation, the schedule of operations also allows for adaptation and flexibility in response to changing circumstances, emerging priorities, and unforeseen challenges. It enables agile decision-making and adjustment of strategies to address evolving conservation needs and opportunities.

Overall, the preparation of a schedule of operations in a wildlife area aims to enhance the effectiveness, efficiency, and sustainability of conservation efforts, contributing to the protection and preservation of biodiversity and ecosystems for the benefit of present and future generations.

Activities	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Micro-watershed management and forestry												
Soil and water conservation measures												
Special engineering measures												
Nallah rejuvenation												
Related actions for business agreement												
Baseline data collection												
Discussion with stakeholders												
Operations for natural regeneration												
Interventions for Zudpi jungle												
Ecotourism												
Developing rural home-stay												
Developing nature trail												
Creating interpretation facilities												
Capacity Building of stakeholders												
Retrofitting Measures												
Safeguards/Alerts on roads												
Open well/canal												
High Tension wires												
Highways												
Eco Development												
Micro planning												
Implementing interventions												
Wildlife monitoring and protection												
Monitoring actions												
Control measures												
Wildlife- Human interface												
Preventive measures												
Control measures												
Veterinary Care												
Preventive /Prophylactic measures												
Control measures												
Staff Development												
Monitoring change in Land Use												
Protection to unique habitats and riparian zones												

Table No.15.8: Schedule of Operations

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१ .संरक्षण कुटी (Anti Poaching Camps)

संरक्षत ◌◌◌◌त्राचे नाळ	ळननसर◌◌त्र	ळतुतल	ननयत◌◌त्र	कं क्र.	स्थान	_Latitude	Longitude	_स्थान_altitude	_स्थान_precision	प्रकार	ठिकाणाचे नाळ	बांधकाम ळर्◌ु	◌◌◌त्र (हेक्टर)	मजरी (एकर/दहेरी)	अंदाज नत्रकीय रक्कम	दतरुस्ती ळर्◌ु	सद्यस्स्थती
कोयना अभयारण्य	कोयना	Koyna	Koyna		17.717805 73.763108 0 0	17.717805	73.763108	0	0	नक्के	Vasota			दुहेरी			Good
कोयना अभयारण्य	कोयना	0	koyna		17.55 73.23 0 0	17.55	73.23	0	0	नक्के	sada	2019	10	एकर	22000	2021	no
कोयना अभयारण्य	कोयना	ए	koyna	12	17.25 73.4 0 0	17.25	73.4	0	0	कच्चे	सडा	2020	12	एकर	20000	2021	ठीक
कोयना अभयारण्य	कोयना	कोयना नरमंडल	नळजा	419	17.272708 73.4215 814 0	17.272708	73.4215	814	0	नक्के	नळजा ते डडचोरी क्रॅ ळ राईन रस्ता	2016	0.02	एकर	750000	0	दरळाजा ना दुरुस्त आहे राईट ळ नाणी सोय करणे
कोयना अभयारण्य	कोयना	ळन नरमंडल कोयना	कोयना		17.2433 73.443 0 5.8	17.2433	73.443	0	5.8	नक्के	जेटी	2015		एकर			चांगरी
कोयना अभयारण्य	कोयना	शळरशळंगे	ककसरुले	412	71.480833 73.771111 0 0	71.480833	73.771111	0	0	कच्चे	नुनळरी			एकर			ळानरत आहे
कोयना अभयारण्य	कोयना	Takwali	नारी	376	17.60524 73.756445 0 0	17.60524	73.756445	0	0	कच्चे	नारी ननयत ◌◌त्र के	2019		एकर			चांगरी
कोयना अभयारण्य	कोयना	ताकळरी	नारी	375	17.608167 73.726748 0 0	17.608167	73.726748	0	0	कच्चे	नारी खोरे			एकर			खराब
कोयना अभयारण्य	कोयना	kusavade	ambeghar	428	17.43636 73.7803 00	17.43636	73.7803	0	0	कच्चे	nahimbe shala	1995	0.01	एकर			NOT suitable to use
कोयना अभयारण्य	कोयना	kusavade	kusavade	429	17.4873 73.7877 0 0	17.4873	73.7877	0	0	नक्के	gojegaw		0.02	एकर		2022	used for camping
कोयना अभयारण्य	कोयना	kusavade	karvat	458	17.4036 73.8498 0 0	17.4036	73.8498	0	0	नक्के	karvat	2014	0.01	एकर			used for camp
कोयना अभयारण्य	कोयना	शळरशळंगे	शळरशळंगे	406	17.488611 73.730278 713 8	17.488611	73.730278	713	8	नक्के	शळरशळंगे	2020		एकर			ळानरात आहे
कोयना अभयारण्य	कोयना	शळरशळंगे	डडचोरी		17.501667 73.746111 961 5.4	17.501667	73.746111	961	5.4	कच्चे	डडचोरी ळाला		0.04	एकर			ळानरात आहे
कोयना अभयारण्य	कोयना	Takavali	Karanjawade	396	17.530555 73.775282 0 0	17.530555	73.775282	0	0	नक्के	Karanjawade	0	0.1	एकर	0	0	Bad
कोयना अभयारण्य	कोयना	Takavali	Karanjawade	396	17.53803 73.775004 0 0	17.53803	73.775004	0	0	नक्के	Karanjawade l	2019	0.01	एकर	0	2019	Good
कोयना अभयारण्य	कोयना	Takwali	Jungti	390	17.573614 73.7325 0 0	17.573614	73.7325	0	0	नक्के	Jungti खोरे	2021		एकर			सुस्थतीत
कोयना अभयारण्य	कोयना	शळरळंगे	ककसरुले	412	17.480833 73.771111 0 0	17.480833	73.771111	0	0	कच्चे	नुनळरी		0	एकर			दुरुस्त करणे आळश्यक
कोयना अभयारण्य	बामणोरी	Vele	Deur	382	17.3623 73.4839 1161 2	17.3623	73.4839	1161	2	नक्के	Deur kuti	2018	0.0027	एकर			Pavsala sodun rahnyayogya
कोयना अभयारण्य	बामणोरी	बमनोशर	म्हालुंगे		17.733966 73.752989 650.1845703125 2816	17.733966	73.752989	650.18457	2816	नक्के	अडोशळ			एकर			चांगरी
कोयना अभयारण्य	बामणोरी	ळेले	नलसाळडे	250	17.665375 73.981222 663.8 12.899999618530273	17.665375	73.981222	663.8	12.9	नक्के	सांडळरी			एकर			प्रस्तावळत
कोयना अभयारण्य	बामणोरी	Vele	Vele	383	17.3441 73.4918 1081 3	17.3441	73.4918	1081	3	नक्के	Vele kutii		0.007154	एकर			Pavsala sodun rahanyayogya

कोयना अभयारण्य	बामणोरी	WAGHAVALE	WAGHAVALE	356	17.732583 73.674944 0 0	17.732583	73.674944	0	0	नक्के	NIVALI	2020		इतर			BAD
कोयना अभयारण्य	बामणोरी	WAGHAVALE	WAGHAVALE	356	17.732583 73.674944 0 0	17.732583	73.674944	0	0	नक्के	NIVALI	2020		इतर			GOOD
कोयना अभयारण्य	बामणोरी	Met indoli	Kusapur	331	17.3957 73.4521 0 1.5	17.3957	73.4521	0	1.5	कच्चे	Tambi kuthi	2018	0.05	एकर			Changali
कोयना अभयारण्य	बामणोरी	Met indoli	Kusapur	331	17.4018 73.432 0 3.2	17.4018	73.432	0	3.2	कच्चे	Met indoli	2019	0.004	एकर			चांगली
कोयना अभयारण्य	बामणोरी	Met indoli	Kusapur	330	17.3905 73.4512 0 0	17.3905	73.4512	0	0	नक्के	Kusavde			एकर			उपलब्ध नाही
कोयना अभयारण्य	बामणोरी	मेट इंदोली	खखरखंडी	304	17.707007 73.746893 741.88 5.5	17.707007	73.746893	741.88	5.5	कच्चे	खखरखंडी	2022		एकर			चांगली
कोयना अभयारण्य	बामणोरी	ळेले	नलसळडे	250	17.631692 73.837843 1097.6 9.300000190734863	17.631692	73.837843	1097.6	9.3000002	नक्के	ळारस ळाडी सांडळली	0	0	इतर	0	0	प्रस्तावळत आहे
कोयना अभयारण्य	बामणोरी	Waghavale	Pimpari	301	17.720278 73.701083 0 0	17.720278	73.701083	0	0	कच्चे	C. N. 301 dare uchat Rastyalagat	0	0	इतर	0	0	sadarchi kuti hi prastavit aahe
कोयना अभयारण्य	बामणोरी	KOLHAPUR	MUNAWALE	307	17.717222222 73.778888889 890 12	17.71722222	73.77888889	890	12	कच्चे	ननरंक			इतर			ननरंक
कोयना अभयारण्य	बामणोरी	ळरळन	म्हालुंगे		17.688466 73.575987 76.80652618408203 1988.6840326200336	17.688466	73.575987	76.806526	1988.684	नक्के	अडोशल	2020		एकर			चांगली
कोयना अभयारण्य	बामणोरी	Waghavale	Pimpari	301	17.720472 73.701083 0 0	17.720472	73.701083	0	0	नक्के	Aaklpe F.C. No 301	0	0	एकर	0	0	prastavit Navin Sanrakshan Kuti
चांदोली राष्ट्रीय उद्यान	चांदोली	Kolhapur	Vetti	15	17.235 73.77333333 0 0	17.235	73.77333333	0	0	नक्के	ळेर्ते कु टी ननळले	2000		एकर			चारू
चांदोली राष्ट्रीय उद्यान	चांदोली	Kolhapur	Takale	19	17.210849 73.815426 858.267333984375 3.9000000953674316	17.210849	73.815426	858.26733	3.9000001	नक्के	टाकले कु टी	2015		एकर			चारू
चांदोली राष्ट्रीय उद्यान	चांदोली	कोल्हानूर ननळले	ढाकाले	33	17.06947 73.46375 0 0	17.06947	73.46375	0	0	नक्के	ढाकाले	2017	0.2	एकर			राहणेस योग्य आहे
चांदोली राष्ट्रीय उद्यान	हेलळाक	रुं ददळ	शसद्धेश्वर	7	17.18027778 73.70305556 24 20.2	17.18027778	73.70305556	24	20.2	कच्चे	कऱाळंती वळदहर जळल			एकर			खराब
चांदोली राष्ट्रीय उद्यान	हेलळाक	रुं ददळ	शसद्धेश्वर	7	17.18027778 73.70305556 24 20.2	17.18027778	73.70305556	24	20.2	कच्चे	कऱाळंती वळदहर	2008		एकर			खराब
चांदोली राष्ट्रीय उद्यान	हेलळाक	Helwak	Rasati	427	17.373611 73.679167 829 4.8	17.373611	73.679167	829	4.8	नक्के	Rasati kuti	2017		एकर		2021	सुस्थतीत
चांदोली राष्ट्रीय उद्यान	हेलळाक	Hedvak	ळाघाने		17.52 73.55 0 0	17.52	73.55	0	0	नक्के	Sada	2019		दुहेरी	10	2020	चांगली
चांदोली राष्ट्रीय उद्यान	हेलळाक	Rundiv	Rundiv dakshin	6	17.1317 73.4325 3 3	17.1317	73.4325	3	3	कच्चे	Rundiv sada	2016	0.2	एकर	0	0	Nadurudt

चांदोरी राष्ट्रीय उद्यान	हेलळाक	Rundiv	Ambole	0	17 73 1 1	17	73	1	1	कच्चे	No	0	0	इतर	0	0	No
चांदोरी राष्ट्रीय उद्यान	हेलळाक	Rundiv	Ambole	0	17 73 2 2	17	73	2	2	कच्चे	No	0	0	इतर	0	0	No
चांदोरी राष्ट्रीय उद्यान	हेलळाक	कोलने	चांदोरी खुदद	12	17 73 0 0	17	73	0	0	कच्चे	चांदोरी खुदद			इतर			Nill
चांदोरी राष्ट्रीय उद्यान	हेलळाक	कोलने	चांदोरी खुदद	12	17 73 0 0	17	73	0	0	कच्चे	चांदोरी खुदद			इतर			Nill
चांदोरी राष्ट्रीय उद्यान	हेलळाक	कोलने	चांदोरी खुदद		17 73 0 0	17	73	0	0	कच्चे	चांदोरी खुदद			इतर			Nill
चांदोरी राष्ट्रीय उद्यान	हेलळाक	कोलाने	चांदोरी खुदद		17 73 0 0	17	73	0	0	कच्चे	चांदोरी खुदद			इतर			Nill
चांदोरी राष्ट्रीय उद्यान	हेलळाक	कोलणे	चांदोरी खुदद	12	17.15594 73.45214 0.4 0.6	17.15594	73.45214	0.4	0.6	नक्के	चांदोरी खुदद	2010		इतर		2023	नूणद
चांदोरी राष्ट्रीय उद्यान	हेलळाक	कोलणे	चांदोरी खुदद	12	17.15594 73.45214 0.4 0.6	17.15594	73.45214	0.4	0.6	नक्के	चांदोरी खुदद	2010		एकर		2023	नूणद
चांदोरी राष्ट्रीय उद्यान	हेलळाक	कोलणे	चांदोरी खुदद	12	17.16004 73.45214 0 0	17.16004	73.45214	0	0	नक्के	चांदोरी खुदद	2018		एकर		2023	नूणद
चांदोरी राष्ट्रीय उद्यान	हेलळाक	Helwak	Rasati	427	17.385 73.302 17 17	17.385	73.302	17	17	नक्के	Dhankal	2017	0.2	एकर	655000	2022	Well

२.तपासणी नाका (Check Post)

तारीख	ळनरसकाचं नाळ	शक्षसत सं	ळननररसत्र	ळ्तुतल	ननयतसत्र	कस क्र	स्थान	Latitude	Longitude	_स्थान_ak	_स्थान	प्रकार	ठिकाणाचं नाळ	बाधकाम व	क्षे (फ्क्टर	मजरी	अदाज	दतरुस्त ळ्तु	शद्यस्स्थती	छायाचत्र	छायाचत्र_	ळेरा
2023-05-11	Arjun .j.chavan	कोयना अभ	बामणोरी	Met indoli	Kusapur	331	17.4019 73	17.4019	73.432	0	3	कच्चे	Met indoli	2009	0.05	तलमजरा			Good	IMG-20230	https://kc.kobotoolbox.org/media	
2023-05-13	FG Anil Pundlik kumbhar	कोयना अभ	बामणोरी	ळेले	नलसळड	0	17.631712	17.63171	73.83788	1097.6	8.7	कच्चे	ननरंक	0	0	इतर	0		ननरंक			अंतर्तळात नाही
2023-05-15	Deepak bhalchandra sorat	कोयना अभ	बामणोरी	Vele	Deur	0	17.606388	17.60639	73.81083	1167	3.6	कच्चे	Nirank	0	0	इतर	0	0	Nirank			Nirank
2023-05-14	SWAPNIL SAMBHAJI SHENDAGE	कोयना अभ	बामणोरी	KOLHAPUR	ARAW	346	17.708055	17.70806	73.60667	738.91	220	कच्चे	RGHUVEER GHAT CHEC	2008	0	एक मजरी		2014	NOT IN GOOD COND	168438836	https://kc.kobotoolbox.org/media	
2023-05-18	जो आर बंद्र	कोयना अभ	कोयना	न ननरमडल कोय	कोयना		17.235785	17.23579	73.44389	287	1.61	कच्चे	ह्ंबरली चक नाका			एक मजरी			बद अळतथत			
2023-05-18	रोहन आनदा माने	कोयना अभ	कोयना	ळननररमडर कोय	नळजा	420	17.2627 73	17.2627	73.43364	595	1.8	कच्चे	धनगर ळतत	0	0.02	तलमजरा	0	0	नाद्रुतत	IMG-20230	https://kc.	नाद्रूतत स्ततथात
2023-05-15	Dada Maruti jankar	कोयना अभ	बामणोरी	Vele	Vele	0	17.599167	17.59917	73.5126	1158	9	कच्चे	Nirank			इतर			Nirank			Nirank
2023-05-17	shri suresh kundlik suryawanshi	कोयना अभ	बामणोरी	valvan	Arav	346	17.708028	17.70803	73.60678	0	0	नक्के	raghuveer ghat check naka , shindi			इतर			नडरेरी नाद्रुतत	WhatsApp	https://kc.kobotoolbox.org/media	
2023-05-18	Kishor Dhane	कोयना अभ	कोयना	ताकळरी	नारी	0	17.60521 7	17.60521	73.75649	0	0	कच्चे	नारी			तलमजरा			बंद			गाभा ं'ंेत्र असरेने ननममन्ष्य ळत्तती आहे. म्हणून या ं'ंेत्रात तनासणी नाका ननरंक आहे
2023-05-19	parvati sargar	कोयना अभ	कोयना	kusavade	karvat	458	17.4036 73	17.4036	73.8498	0	0	नक्के	karvat kutti			इतर			proposed for future			proposed
2023-05-19	Kishor Dhane	कोयना अभ	कोयना	Takwali	Jungti	390	17.573614	17.57361	73.7325	0	0	कच्चे	संरण क्टी	2021		एक मजरी			बंद असतो. गाभा ं'ंेत्र असल्याने तनासणी नका बंद असतं			गाभा ं'ंेत्र असल्याने ळ ननममन्ष्यळतती असल्यामं ले तनासणी नाका बंद आहे
2023-05-19	Ajit Patil	कोयना अभ	कोयना	Takavali	Karanjawade	0	17.53803 7	17.53803	73.775	0	0	कच्चे	ननरंक	0	0	इतर	0	0	00			सादर माहहती ननरंक आहे
2023-05-23	गजानन अळोक सकट	चादोरी राष	चादोरी	कोल्हापूर ननळल	ढाकाल	33	17.06947 7	17.06947	73.46376	0	0	नक्के	ढ	2017	0.2	तलमजरा			राहणस योग्य तो	20230207_	https://kc.kobotoolbox.org/media	
2023-05-19	संदीन नांड्रंग नळार ळनर' क पनंनरी ळन्	कोयना अभ	बामणोरी	Waghavale	Pimpari	0	17.43053 7	17.43053	73.43334	0	0	कच्चे	No	0	0	इतर	0	0	तनासणी नाका माहहती ननरंक आहे			तनासणी नाका माहहती ननरंक आहे
2023-06-14	Rohan mane	कोयना अभ	कोयना	कोयना ननरमंडल	नळजा	0	17.257322	17.25732	74.16247	241.9	20	कच्चे	ननरंक	0	0	तलमजरा	0		ननरंक			ननरंक
2023-07-12	SONAI SHIVAJI KISAVE	कोयना अभ	बामणोरी	KOLHAPUR	MUNAWALE		17.717222	17.71722	7.778889	876	13	कच्चे	MUNAWALE			इतर			ननरंक			ननयत'ंेत्र म्नाळले तनासणी नाका नाही
2023-07-19	प्रनतक धांड्डबा गायकळाड	कोयना अभ	बामणोरी	ळ्रळन	म्हाल्ंग		17.689633	17.68963	73.57865	76.80653	2288	कच्चे	रघ्ळार घाट चक नाका			तलमजरा			ठीक	DA58C021-	https://kc.kobotoolbox.org/media	
2023-07-20	तानाजी शळळाजी शलद ळननार कालण	चादोरी राष	हेलळाक	रु दोळ	रु दोळ दक्षण	6	17 73 0 0	17	73	0	0	कच्चे	नाही	0	0	इतर	0	0	नाही			ननरंक
2023-07-20	Pritam Baban Kamble	चादोरी राष	हेलळाक	Rundiv	Ambole	0	17 73 2 2	17	73	2	2	कच्चे	No	0	0	इतर	0	0	No			ननरंक
2023-03-31	SD Kakade	चादोरी राष	हेलळाक	कारण	चादोरी खद्म		17 73 0 0	17	73	0	0	कच्चे	चादोरी खद्म			इतर			ननरंक			ननरंक
2023-07-18	भारत शळळराम खट्टार ळननार रु हदळ	चादोरी राष	हेलळाक	रु हदळ	रु हदळ उत्तर	5	17 73 0 0	17	73	0	0	कच्चे	रु हदळ			इतर			ननरंक			ननरंक
2023-10-23	sunil basappa kuri	चादोरी राष	ढबळाडी	kolhapur	Takale	19	17.210846	17.21085	73.81528	0	0	नक्के	Takale Kuti	2015		एक मजरी		0	chalu	20230517_	https://kc.kobotoolbox.org/media	
2023-10-23	S P Pawar Forest Guard	कोयना अभ	बामणोरी	Waghavale	Pimpari	0	17.718611	17.71861	73.70889	0	0	कच्चे	माहीती नीरंक अंाहे	0	0	इतर	0	0	सदरची माहीती नीरंक अंाहे			सदरची माहीती नीरंक अंाहे
2023-09-01	SWAPNIL SAMBHAJI SHENDAGE	कोयना अभ	बामणोरी	METINDOLI	KHIRKHINDI		0.00255 53	0.00255	53.3704	0	0	कच्च	तनासणी नका नाही			इतर			तनासणी नाका नाही			NIRANK
2023-09-18	S P Pawar FG Waghavale Addi.Charge	कोयना अभ	बामणोरी	Waghavale	Waghavale	0	17.729561	17.72956	73.67465	0	0	कच्चे	'तनासणी नाका ळाघाळल	0	0	इतर	0	0	'तनासणी नाका ळाघाळले बीट मधीर माहीती ननरंक आहे.			'तनासणी नाका ळाघाळले बीट मधीर माहीती ननरंक आहे.

३. ठबनतारी संदे श ठं स स्टेशन (Wi reless B ase Stat ion)

संरक्षत ाचे नाळ	ळननरर ेत्र	ळ्तुतल	ननयत ेत्र	क क्र.	स्थान	_स्थान_lat itude	_स्थान_longit ude	_स्थान_altitude	_स्थान_pr ecision	प्रकार	ठिकाणाचे नाळ	बांधकाम ळर ु	ी (हेक्टर)	मजरी (एकर/ दंतहरी)	अंदाज नत्रकीय रक्कम	दतरुस्ती ळर ु	सद्यस्थती
कोमना अबमायण्म	कोमना	लन नरयभंडर कोमना	कोमना		17.243363 73.443032 737 6.8	17.243363	73.443032	737	6.8	नक्के	जेटी ननयीक्षण कुटी			एकर			चांगरी
कोमना अबमायण्म	कोमना	लननरयभंडर कोमना	नलजा	419	17.272706 73.42152 817 1.8	17.272706	73.42152	817	1.8	नक्के	नलजा ननयीक्षण कुटी	2016	0.02	एकर	0	2023	नादुरूस्त
कोमना अबमायण्म	कोमना	Takwali	नारी	376	17.60524 73.756445 0 0	17.60524	73.756445	0	0	कच्चे	नारी टोक	2019		एकर			सुस्थतीत
कोमना अबमायण्म	कोमना	kusavade	ambeghar	428	17.4336 73.7803 0 0	17.4336	73.7803	0	0	नक्के	ambeghar kutti			इतय			proposed new
कोमना अबमायण्म	कोमना	kusavade	kusavade	429	17.4873 73.7877 0 0	17.4873	73.7877	0	0	नक्के	gojegaw kutti			इतय			need to repair
कोमना अबमायण्म	कोमना	kusavade	karvat	458	17.4036 73.8498 0 0	17.4036	73.8498	0	0	नक्के	karvat kutti			इतय			need to reapir
कोमना अबमायण्म	कोमना	शळयशळंगे	डडचोरी		17.501667 73.746111 961 5.6	17.501667	73.746111	961	5.6	नक्के	डडचोरी ळाश	2019		एकर		2022	लानयण्मास मोग्म
कोमना अबमायण्म	कोमना	Takavali	Karanjawade	396	17.530385 73.775172 0 0	17.530385	73.775172	0	0	नक्के	Karanjawade संयक्षण कुटी	0	0.01	एकर		2022	चांगरे
कोमना अबमायण्म	कोमना	Takwali	Jungti	390	17.573614 73.7325 0 0	17.573614	73.7325	0	0	नक्के	संयक्षण कुटी	2021		एकर			सुस्थतीत
कोमना अबमायण्म	कोमना	शळयशळंगे	ककसरुरे	412	17.48033 73.771111 0 0	17.48033	73.771111	0	0	कच्चे	ककसरुरे कुटी			इतय			नादुरुस्त
कोमना अबमायण्म	फाभणोरी	Met indoli	Kusapur	331	17.4018 73.432 0 1.7	17.4018	73.432	0	1.7	नक्के	Met indoli	2009	0.05	एकर			Good
कोमना अबमायण्म	फाभणोरी	लेरे	नरसलडे	0	17.631595 73.837832 1085.5 7.8000001907	17.631595	73.837832	1085.5	7.8000002	कच्चे	ननयंक	0	0	इतय	0	0	ननयंक
कोमना अबमायण्म	फाभणोरी	Vele	Deur	0	17.6063889 73.81083333 1167 3.6	17.606389	73.81083333	1167	3.6	नक्के	Nirank	0	0	इतय	0	0	Nirank
कोमना अबमायण्म	फाभणोरी	KOLHAPUR	ARAW	346	17.70805556 73.60666667 738.91 220	17.708056	73.60666667	738.91	220	कच्चे	RAGHUVEER GHAT CHECK POST	2014		एकर			नादुरुस्त
कोमना अबमायण्म	फाभणोरी	valvan	Arav	346	17.708028 73.606778 0 0	17.708028	73.606778	0	0	कच्चे	raghuveer ghata check naka, shindi			इतय			फेद अलथेत

कोमना अभयारण्य	फाभणोरी	Waghavale	Pimpri	0	17.43053 73.43334 0 0	17.43053	73.43334	0	0	कच्चे	No	0	0	इतय	0	0	बफनतायी संदेळ स्टेळन भाहहती ननयंक हअि
कोमना अभयारण्य	फाभणोरी	KOLHAPUR	MUNAWALE		17.717222222 73.778888889 987 11	17.717222	73.77888889	987	11	कच्चे	MUNAWALE			इतय			NIRANK
कोमना अभयारण्य	फाभणोरी	लरलन	म्हे ंारंुगे		17.683949 73.56573 76.806526184 08203 1980	17.683949	73.56573	76.80652618	1980	कच्चे	अडोशळ			इतय			नीयंक
कोमना अभयारण्य	फाभणोरी	METINDOLI	KHIRKHINDI		-0.000223 21.69606 0 0	-0.000223	21.69606	0	0	कच्चे	NIRANK			इतय			NO BASE STATION
कोमना अभयारण्य	फाभणोरी	Waghavale	Pimpari	0	17.729561 73.674653 0 0	17.729561	73.674653	0	0	कच्चे	बफनतायी संदेळ फेस स्टेळन लाघालऱे फीट भधीर भाहं ंीती ननयंक	0	0	इतय	0	0	बफनतायी संदेळ फेस स्टेळन लाघालऱे फीट भधीर भाहं ंीती ननयंक हअि.
कोमना अभयारण्य	फाभणोरी	Waghavale	Pimpari	0	17.729561 73.674653 0 0	17.729561	73.674653	0	0	कच्चे	नमंत्रण कक्ष फाफत लाघालऱे फीट भधीर भाहं ंीती ननयंक हआ	0	0	इतय	0	0	नमंत्रण कक्ष फाफत लाघालऱे फीट भधीर भाहं ंीती ननयंक हअि.
चांदोरी याष्ट्रीम उद्मान	चांदोरी	Kolhapur	Vetti	15	17.235 73.77333333 0 0	17.235	73.77333333	0	0	नक्के	नाऱऱ ंत्ता कुटी			एकर			चारू
चांदोरी याष्ट्रीम उद्मान	चांदोरी	Kolhapur	टाकऱे	19	17.21081 73.815264 857.3924561 46875 48.098999023	17.21081	73.815264	857.3924561	48.098999	नक्के	टाकऱे कु टी	2015		एकर			चारू
चांदोरी याष्ट्रीम उद्मान	चांदोरी	कोल्ह ंानूय ननलऱे	ढाकाऱे	33	17.06947 73.46376 0 0	17.06947	73.46376	0	0	नक्के	ढाकाऱे	2017		एकर		2017	सुस्थतीत
चांदोरी याष्ट्रीम उद्मान	ढेफेलाडी	kolhapur	Takale	19	17.210857 73.815288 0 0	17.210857	73.815288	0	0	नक्के	Takale Kuti			एकर			chalu
चांदोरी याष्ट्रीम उद्मान	ह ंेरलाक	रुं हदल	शसाधेऱलय	7	17.18027778 73.70333333 16 11	17.180278	73.70333333	16	11	नक्के	संयऺण कु टी			एकर			फंद
चांदोरी याष्ट्रीम उद्मान	ह ंेरलाक	Helwak	Rasati		17.368083 73.7456 815 28.7	17.368083	73.7456	815	28.7	नक्के	Helwak ऑकपस			एकर			सुस्थतीत
चांदोरी याष्ट्रीम उद्मान	ह ंेरलाक	रुं दील	रुं दील दक्षऺण	6	17.1316 73.4324 0 0	17.1316	73.4324	0	0	नक्के	रुं दील कु टी	0	0	इतय	0	2022	नादुरूस्त
चांदोरी याष्ट्रीम उद्मान	ह ंेरलाक	Rundiv	Ambole		17 73 2 2	17	73	2	2	कच्चे	No	0	0	इतय	0	0	No
चांदोरी याष्ट्रीम उद्मान	ह ंेरलाक	कोयणे	चांदोरी खु खुदद	12	17.15594 73.45214 0 0	17.15594	73.45214	0	0	कच्चे	चांदोरी खुदद			इतय			फंध
चांदोरी याष्ट्रीम उद्मान	ह ंेरलाक	Helwak	Rasati	0	17 17 17 17	17	17	17	17	कच्चे	No	0	0	इतय	0	0	No
चांदोरी याष्ट्रीम उद्मान	ह ंेरलाक	रुं हदल	रुं हदल उत्तय	5	17 73 0 0	17	73	0	0	कच्चे	रुं हदल			इतय			ननयंक

४.ठनयंत्रण कक्ष (Control Room)

४.ठनयंत्रण कक्ष (Control Room)

तारीख	ळनरंकाचं नाळ	संरक्षत	ळनपरर्त्र	ळतुतल	ननयत्र	कं क्र	स्थान	Latitude	Longitude	_स्थान_al	_स्थान_p	प्रकार	काणाचं ना	ह्वर	रों (एकर/	सद्यस्स्थती	ळेरा
2023-05-13	FG Anil Pundlik kumbhar	कोमना अ	फाभणोरी	लरे	नरसलड	0	17.63158 7	17.63158	73.83784	1085.9	1	कच्चे	ननयंक	0	इतय	ननयंक	ननयंक
2023-05-15	Deepak bhalchandra sorat	कोमना अ	फाभणोरी	Vele	Deur	0	17.606388	17.60639	73.81083	1167	3.	नक्के	Nirank	0	इतय	Nirank	Nirank
2023-05-18	जो आय फंद्र	कोमना अ	कोमना	लन नरयभड	कोमना		17.223455	17.22346	73.44358	630	82.5	नक्के	यासाहट		एकर	चागरी	चागरी
2023-05-18	Dada Maruti jankar	कोमना अ	फाभणोरी	Vele	Vele		17.599167	17.59917	73.5126	1158		कच्चे	Nirank		इतय	Nirank	Nirank
2023-05-19	Kishor Dhane	कोमना अ	कोमना	Takwali	नारी		17.380816	17.38082	73.74202	0		नक्के	कोमना		एकर	चारू	ननमंत्रण क' कोमना आफपस लनरय त्र कामारम
2023-05-19	Kishor Dhane	कोमना अ	कोमना	Takwali	Jungti		17.380816	17.38082	73.74202	0		नक्के	Koyna		एकर	सुथथतीत	ननमत त्र Jungti चें ननमंत्रण क' कोमना हे टदरे आहे
2023-05-19	Ajit Patil	कोमना अ	कोमना	Takavali	Karanjawade	0	17.53803 7	17.53803	73.775	0		कच्चे	भाटहतों नन	0	इतय	00	सादय भाटहतों ननयंक आहे
2023-05-18	वलजम कोडीयाभ बांसरे	कोमना अ	कोमना	शळयशळग	फकसरुरे		17.380816	17.38082	73.74202	0		नक्के	ना कामारम कोमना न		इतय	चारू आहे	कोमना लन्मजोल कामारम
2023-05-22	S P Pawar forest guard pimpri	कोमना अ	फाभणोरी	Waghavale	Pimpari	0	17.43053 7	17.43053	73.43334	0		कच्चे	No	0	इतय	ननमत्रण क' भाटहतों ननयंक आहे	ननमत्रण क' भाटहतों ननयंक आहे
2023-07-12	SONALI SHIVAJI KISAVE	कोमना अ	फाभणोरी	KOLHAPUR	MUNAWALE		17.717222	17.71722	73.77889	879	1	कच्चे	MUNAWALE		इतय	NIR	भुनालरे फाह ननमत्रण क' नाहां
2023-07-19	प्रनतक गामकलाड	कोमना अ	फाभणोरी	लरलन	म्हाडुग		17.6917 73	17.6917	73.5808	76.80653	202	कच्चे	म्हाडुग		इतय	नायंक	
2023-07-20	तानाजी शळलाजी शळद लननार	चादारी कू	हरलाक	रु दोल	रु दोल दक्षण	6	17 73 0 0	17	73	0		कच्चे	नाहां	0	इतय	नाहां	ननयंक
2023-07-20	Pritam Baban Kamble	चांदोरी कू	हरलाक	Rundiv	Ambole	0	17 73 2 2	17	73	2		कच्चे	No	0	इतय	No	ननयंक
2023-03-31	S D KAKADE	चादारी कू	हरलाक	कारण	चादारी खुदा		17 73 0 0	17	73	0		कच्चे	चादारी		इतय	ननयंक	ननयंक
2023-07-26	S S Mundhe	चादारी कू	हरलाक	Helwak	Rasati	0	17 17 17 1	17	17	17	1	कच्चे	No	0	इतय	No	
2023-07-18	बायत शळलयाभ खुह र लननार रु टदल	चादारी कू	हरलाक	रु टदल	रु टदल उत्तय	5	17 73 0 0	17	73	0		कच्चे	रु टदल		इतय	ननयंक	ननयंक
2023-10-26	ए ज चव्हाण	कोमना अ	फाभणोरी	भहं इंदलरी	कुसावूय		16.4017 56	16.4017	56.4473	747		कच्चे	फी गालठा	0	इतय	ननयंक	कु सूय नमत त्रामध्ये नमत्रक' नाहां
2023-09-01	SWAPNIL SAMBHAJI SHENDAGE	कोमना अ	फाभणोरी	METINDOLI	KHIRKHINDI		16.239995	16.24	-7.14705	0		कच्चे	NIRANK		इतय	NO CONTROL ROOM IN KHIRKHINDI BEAT	NO CONTROL ROOM IN KHIRKHINDI BEAT
2023-09-18	S P Pawar FG Waghavale Add.Charge	कोमना अ	फाभणोरी	Waghavale	Waghavale	0	17.729561	17.72956	73.67465	0		कच्चे	लरे फीहं भ	0	इतय	ननमंत्रण क' फाफत लाघालरे फीहं भधीर भाहीती ननयंक आहे.	

५.२रपीट ंस्टेशन ((Repea tor Station)

संरक्षत ंंंंत्राचे नाळ	ळनत्तरंंत्र	ळतुतल	ननयतंंत्र	कें क्र.	स्थान	Latitude	Longitude	_स्थान_alt itude	_स्थान_pr ecision	प्रकार	ठिकाणाचे नाळ	बांधकाम ळर्ु	ंं (हेक्टर)	मजरी (एकर/ दतहेरी)	अंदाज नत्रकीय रक्कम	दतरुस्ती ळर्ु	सद्यस्स्थती
कोयना अभयारण्य	कोयना	Takwali	नारी		17.730879 73.688238 0 0	17.73088	73.688238	0	0	नक्के	Vele Ripitr			एकर			सुथथतीत
कोयना अभयारण्य	कोयना	kusavade	ambeghar	428	17.3861 73.7686 0 0	17.3861	73.7686	0	0	नक्के	Nanel	2018	0.01	एकर			repeater is situated at Nanel
कोयना अभयारण्य	कोयना	KUSAVDE	KARVAT	458	17.3861 73.7686 0 0	17.3861	73.7686	0	0	नक्के	NANEL	2018	0.01	इतर			NEED TO REAPIR
कोयना अभयारण्य	कोयना	KUSAVADE	KUSAVADE	429	17.3861 73.7686 0 0	17.3861	73.7686	0	0	नक्के	NANEL			इतर			NEED TO REPAIR
कोयना अभयारण्य	कोयना	Takwali	Jungti		17.730833 73.688333 0 0	17.73083	73.688333	0	0	नक्के	Vele			एकर			सुथथतीत
कोयना अभयारण्य	कोयना	Takavali	Karanjawade	0	17.53803 73.775004 0 0	17.53803	73.775004	0	0	कच्चे	Karanjawade	0	0	इतर	0	0	00
कोयना अभयारण्य	कोयना	शळरशहळगे	ककसरुले		17.730833 73.688333 0 0	17.73083	73.688333	0	0	नक्के	ननयत ंंत्र ळेले			इतर			चारू आहे
कोयना अभयारण्य	बामणोरी	Vele	Vele	383	17.3441 73.418 1081 3	17.3441	73.418	1081	3	नक्के	Vele kuti		0.007154	एकर			Thik
कोयना अभयारण्य	बामणोरी	ळेले	नलसळडे	0	17.631603 73.837832 1085.5 9.199999809265137	17.6316	73.837832	1085.5	9.2	कच्चे	ननररंक	0	0	इतर	0	0	ननररंक
कोयना अभयारण्य	बामणोरी	Vele	Deur	0	17.6063889 73.81083333 1167 3.6	17.60639	73.8108333	1167	3.6	नक्के	Nirank	0	0	इतर	0	0	Nirank
कोयना अभयारण्य	बामणोरी	Waghavale	Pimpri	0	17.43053 73.43334 0 0	17.43053	73.43334	0	0	कच्चे	Aakalpe	0	0	इतर	0	0	मुख्याश्रय हे आकल्ने असून इमारत माहहती ननररंक आहे
कोयना अभयारण्य	बामणोरी	KOLHAPUR	MUNAWALE		17.712222222 73.778888889 980 12	17.71222	73.7788889	980	12	कच्चे	MUNAWALE			इतर			NIRANK
कोयना अभयारण्य	बामणोरी	ळरळन	लुहंंगे		17.688498 73.575586 76.80652618408203 1748.977947182367 2	17.6885	73.575586	76.80653	1748.978	कच्चे	म्हाहलंुगे			इतर			नीररंक
कोयना अभयारण्य	बामणोरी	ळरळन	आरळ		17.67858 73.561713 67.9402084350586 1652	17.67858	73.561713	67.94021	1652	कच्चे	आरळ			इतर			ननरक
कोयना अभयारण्य	बामणोरी	ळरळन	म्हालुहंंगे		17.680456 73.563698 67.9402084350586 2019	17.68046	73.563698	67.94021	2019	कच्चे	म्हाहलंुगे			इतर			ननरक
कोयना अभयारण्य	बामणोरी	ळरळन	ळरळन		17.678577 73.561711 67.9402084350586 1652	17.67858	73.561711	67.94021	1652	कच्चे	ननरक			इतर			ननरक
कोयना अभयारण्य	बामणोरी	मेट हईदळरी	कुसानूर		11.4017 4.4373 788 3.2	11.4017	4.4373	788	3.2	कच्चे	कुसानूर	0	0	इतर	0	0	ननररंक
कोयना अभयारण्य	बामणोरी	METINDOLI	KHIRKHINDI		3.101028 - 88.777398 0 0	3.101028	-88.777398	0	0	कच्चे	NIRANK			इतर			NO REPEATER STATION IN KHIRKHINDI BEAT
कोयना अभयारण्य	बामणोरी	Waghavale	Waghavale	0	17.729561 73.674653 0 0	17.72956	73.674653	0	0	कच्चे	ररनीटर थटेळन बाबत ळाघाळले बीट मधील माहीती ननररंक आहे.	0	0	इतर	0	0	ररनीटर थटेळन बाबत ळाघाळले बीट मधील माहीती ननररंक आहे.
चाहंंदोरी राष्ट्रीय उद्यान	हेलळाक	रुहंंदीळ	रुहंंदीळ दक्षण	6	17 73 0 0	17	73	0	0	कच्चे	नाही	0	0	इतर	0	0	नाही
चाहंंदोरी राष्ट्रीय उद्यान	हेलळाक	Rundiv	Ambole	0	17 73 2 2	17	73	2	2	कच्चे	No	0	0	इतर	0	0	No
चाहंंदोरी राष्ट्रीय उद्यान	हेलळाक	कोलणे	चाहंंदोरी		17 73 0 0	17	73	0	0	कच्चे	चाहंंदोरी खुदद			इतर			ननररंक
चाहंंदोरी राष्ट्रीय उद्यान	हेलळाक	Helwak	Rasati	0	17 17 0 0	17	17	0	0	कच्चे	No	0	0	इतर	0	0	No
चाहंंदोरी राष्ट्रीय उद्यान	हेलळाक	रुहंंहदळ	रुहंंहदळ उत्तर	5	17 73 0 0	17	73	0	0	कच्चे	रुहंंहदळ			इतर			ननररंक

६.मुख्यालय (Head Quarter)										६.मुख्यालय (Head Quarter)											
तारीख	ळनरसकाचं नाळ	शरक्षसत से	ळननवरससेत्र	ळतुतलं	ननयतसेत्र	कस क्र.	स्थान	Latitude	Longitude	_स्थान_al	_स्थान_pr	प्रकार	ठिकाणाचं नाळ	बांधकाम व	सेत्र (एक्ट	मजरी (एव	अंदाज नत्रव	दंतरुस्ता	शद्यस्स्थत	ळेरा
2023-05-09	Deepak bhalchandra sorat	कोयना अ	बामणोरी	Vele	Deur	382	17.3623 73	17.3623	73.4839	1161	2	नक्के	Deur	2018	0.0027	एकर			Pavsala sonun rahanyayogya	
2023-05-09	Dada Maruti jankar	कोयना अ	बामणोरी	Vele	Vele	383	17.3441 73	17.3441	73.5918	1158	5	नक्के	Vele kuti		0.007154	एकर			Thik	
2023-05-11	Arjun.j.chavan	कोयना अ	बामणोरी	Met Indoli	Kusapur	331	17.4017 73	17.4017	73.431	0	3.8	नक्के	Met Indoli	2009	0.05	एकर			Good	
2023-05-13	अममत गुराब जमादार	चाादोरी ह्.	हेलळाक	रा ददळ	हमद्दळर	1	17.180277	17.18028	73.70333	32	15.6	कच्चे	हमद्दळर			एकर			खराब	
2023-05-13	FG Anil Pundlik kumbhar	कोयना अ	बामणोरी	ळेले	नहलळडे	250	17.63155 7	17.63155	73.83775	1085.6	9.2	नक्के	हंळाळंाडळ री		0	एकर	0		प्रस्तावळत	प्रस्तावळत आहे
2023-05-19	Kishor Dhane	कोयना अ	कोयना	Takwali	नारी		17.380816	17.38082	73.74202	0	0	नक्के	कोयना			एकर			हुस्स्थता त	
2023-05-18	हंचचन युळराज नाटार	कोयना अ	कोयना	मळरमळाग	मळरमळाग	406	17.488611	17.48861	73.73028	721	8	नक्के	मळरमळाग	2020	0.03	एकर			ळानरण्याह योग्य	
2023-05-18	हंचचन युळराज नाटार	कोयना अ	कोयना	ळरमळागे	डडचोरी		17.501667	17.50167	73.74611	968	5.4	कच्चे	डडचोरी ळाला		0.04	एकर			ळानरण्याह योग्य	
2023-05-19	PRASHANT BHOSALE	कोयना अ	कोयना	KUSAVADE	AMBEGHAR	428	17.4336 73	17.4336	73.7803	0	0	कच्चे	AMBEGHAR KUTTI			इतर			NOT USEFUL TO STAY	
2023-05-19	PARVATI SARGAR	कोयना अ	कोयना	KUSAVDE	KARVAT	458	17.4036 73	17.4036	73.8498	0	0	नक्के	KARVAT KUTTI	2019	0.01	एकर			USED TO CAMP	
2023-05-19	SANJAY AIWALE	कोयना अ	कोयना	KUSAVADE	KUSAVADE	429	17.4873 73	17.4873	73.7877	0	0	नक्के	GOJEGAW KUTTI		0.01	एकर		2021	USED TO CAMP	
2023-05-19	Kishor Dhane	कोयना अ	कोयना	Takwali	Jungti		17.380816	17.38082	73.74202	0	0	नक्के	कोयना			एकर			हुस्स्थता त	ळननरक्षेत्र कायाारय कोयना
2023-05-19	Ajit Patil	कोयना अ	कोयना	00	Karanjawade	0	17.53803 7	17.53803	73.775	0	0	कच्चे	हंळादर मादहती ननरा		0	इतर	0	0	ननराक	हंळादर मादहती ननराक आहे
2023-05-18	वळजय कोंडीराम भोईर	कोयना अ	कोयना	मळरमळांगे	कहकरले		17.380816	17.38082	73.74202	0	0	नक्के	कोयना			इतर			मुख्याारय	कोयनानगर येथे मुख्याारय आहे
2023-05-18	जी आर बेंद्रे	कोयना अ	कोयना	नरमांडल को	कोयना		17.223455	17.22346	73.44358	1200	104.1	नक्के	कोयना			एकर			चाांगरी	चाांगरी
2023-07-12	SONALI SHIVAJI KISAVE	कोयना अ	बामणोरी	KOLHAPUR	MUNAWALE		17.717222	17.71722	73.77889	879	15	कच्चे	MUNAWALE			इतर			NIRANK	मुनाळले बीट मध्ये मुख्याारय नाही
2023-07-19	प्रनतक गायकळाड	कोयना अ	बामणोरी	ळरळन	म्हालुांग		17.688455	17.68846	73.57596	76.80653	1982.057	कच्चे	बामनोमर			दुहेरी			ठीक	
2023-07-20	तानाजी मळळाजी मळाद ळननार	चाादोरी ह्.	हेलळाक	रा दोळ	रा दोळ दक्षक्षण	0	17 73 0 0	17	73	0	0	कच्चे	नाही		0	इतर	0	0	नाही	ननराक
2023-07-20	Pritam Baban Kamble	चाादोरी ह्.	हेलळाक	Rundiv	Ambole	0	17 73 2 2	17	73	2	2	कच्चे	No		0	इतर	0	0	No	ननराक
2023-03-31	S D KAKADE	चाांदोरी ह्.	हेलळाक	कोलणे	चाांदोरी खुदा		17 73 0 0	17	73	0	0	कच्चे	चाांदोरी खुदा			इतर			ननरांक	ननरांक
2023-07-26	S S Mundhe	चाांदोरी ह्.	हेलळाक	Helwak	Rasati	0	17.2238 73	17.2238	73.43475	2	2	नक्के	Helwak	2016	1.17	एकर	1250812	0	Well	No
2023-07-18	भारत मळळराम खुटार ळननार रा ददळ	चाांदोरी ह्.	हेलळाक	रा ददळ	रा ददळ उत्तर	5	17 73 0 0	17	73	0	0	कच्चे	रा ददळ			इतर			ननरांक	ननरांक
2023-10-23	sunil basappa kuri	कोयना अ	ढबळाडी	kolhapur	Takale	19	17.210862	17.21086	73.81529	0	0	नक्के	Takale Kuti			एकर			chalu	
2023-10-26	Ajit Patil	कोयना अ	कोयना	Koyana	Koyana		17.374262	17.37426	73.74451	0	0	नक्के	Reang forest offic		0	एकर			चाांगरे	हंळादर मादहती कायाारयातीर आहे
2023-10-24	S P Pawar FG Pimpari	कोयना अ	बामणोरी	Waghavale	Pimpari	0	17.718611	17.71861	73.70889	0	0	कच्चे	Pimpari		0	इतर	0	0	वनांतरी ननय	वनांतरी ननयतक्षेत्रामध्ये ळाहंकीय ननळाहंथान नाही
2023-10-26	प्रनतक धंडबा गायकळाड	कोयना अ	बामणोरी	ळरळन	म्हालुांग		17.678765	17.67877	73.56191	67.94021	1652	कच्चे	म्हालांुग			एकर			नड़झड। झ	नोरक
2023-09-01	SWAPNIL SAMBHAJI SHENDAGE	कोयना अ	बामणोरी	METINDOLI	KHIRKHINDI	304	17.706944	17.70694	73.74694	669	5	नक्के	KHIRKHINDI			एकर		2014	NOT IN GOOD CONDITION	
2023-09-18	S P Pawar FG Waghavale Addi.Charge	कोयना अ	बामणोरी	Waghavale	Waghavale	0	17.760456	17.76046	73.63697	0	0	कच्चे	Waghavale		0	इतर	0	0	ननयतक्षेत्र	ननयतक्षेत्र ळाघाळले चे मुख्याारयामध्ये ळनरक्षक ननळाहंथान बांधकाम नाही

७.वन वसाहत (Forest Colony)																	
संरक्षित ◌◌◌◌त्राचे नाळ	ळननसरं◌◌त्र	ळतुतल	ननयत◌◌त्र	कं क्र.	स्थान	Latitude	Longitude	_स्थान_altitude	_स्थान_precision	प्रकार	ठिकाणाचे नाळ	बांधकाम ळर्◌ु	◌◌◌त्र (हेक्टर)	मजरी (एकर/ दतहेरी)	अंदाज नत्रकीय रक्कम	दतरुस्ती ळर्◌ु	सद्यस्स्थती
कोयना अभयारण्य	कोयना	Koyna	Koyna	33	17.2433 73.443 0 0	17.2433	73.443	0	0		Koyna jeti						In use
कोयना अभयारण्य	कोयना	Koyna	Koyna		17.39277778 73.74361111 0 0	17.39277778	73.74361111	0	0								
कोयना अभयारण्य	कोयना	koyna	vele		17.616783 73.80819 0 0	17.616783	73.80819	0	0	नक्के	Koyna			दुहेरी			Good
कोयना अभयारण्य	कोयना	Takwali	नाग्री		17.394586 73.744721 0 0	17.394586	73.744721	0	0	नक्के	कोयना			एकर			सुथथतीत
कोयना अभयारण्य	कोयना	Takavali	Karanjawade	0	17.53803 73.775004 0 0	17.53803	73.775004	0	0	कच्चे	ननरंक	0	0	इतर	0	0	ननरंक
कोयना अभयारण्य	कोयना	शळरशळंगे	ककसरुले		17.394586 73.744721 0 0	17.394586	73.744721	0	0	नक्के	कोयना			एकर			ळानरत आहे
कोयना अभयारण्य	कोयना	Takwali	Jungti		17.394586 73.744721 0 0	17.394586	73.744721	0	0	नक्के	कोयना			एकर			सुथथतीत
कोयना अभयारण्य	कोयना	ळन नरमंडल कोयना	कोयना		17.394452 73.744739 637 4.9	17.394452	73.744739	637	4.9	नक्के	कोयना	2015		एकर			चांगग्री
कोयना अभयारण्य	कोयना	Koyana	Koyana		17.374239 73.744513 0 0	17.374239	73.744513	0	0	नक्के	Forest colony	2004		एकर			चांगग्री
कोयना अभयारण्य	बामणोग्री	Vele	Deur	0	17.6063889 73.8105555 1162 3.4	17.6063889	73.8105555	1162	3.4	कच्चे	Nirank	0	0	इतर	0	0	Nirank
कोयना अभयारण्य	बामणोग्री	ळेले	नलसळडे	0	17.636642 73.848002 1131.6 11.800000190734863	17.636642	73.848002	1131.6	11.8	नक्के	ननरंक	0	0	इतर	0	0	अथतळात नाही
कोयना अभयारण्य	बामणोग्री	Vele	Vele		17.599167 73.5126 1158 4	17.599167	73.5126	1158	4	कच्चे	Nirank			इतर			Nirank
कोयना अभयारण्य	बामणोग्री	KOLHAPUR	MUNAWALE		17.739999 73.7877777 987 15	17.739999	73.7877777	987	15	कच्चे	MUNAWALE			इतर			NIRANK
कोयना अभयारण्य	बामणोग्री	ळर्ळन	म्हालुंगे		17.683319 73.56427 76.80652618408203 1980	17.683319	73.56427	76.8065	1980	कच्चे	म्हालुंगे			इतर			नौरंक
कोयना अभयारण्य	बामणोग्री	Waghavale	Pimpari	0	17.718611 73.708889 0 0	17.718611	73.708889	0	0	कच्चे	ननयत◌◌त्र पनंनरी मध्ये ळनळसाहत बांधकाम नसरेने ळनळसाहत बाबत पनंनरी बीट मधीर माहीती ननरंक आहे.	0	0	इतर	0	0	ननयत◌◌त्र पनंनरी मध्ये ळनळसाहत बांधकाम नसरेने ळनळसाहत बाबत पनंनरी बीट मधीर माहीती ननरंक आहे.
कोयना अभयारण्य	बामणोग्री	ळर्ळन	आरळ		17.680447 73.563738 67.9402084350586 2019	17.680447	73.563738	67.9402	2019	कच्चे	आरळ			इतर			ननरक
कोयना अभयारण्य	बामणोग्री	ळर्ळन	म्हालुंगे		17.680453 73.563712 67.9402084350586 2019	17.680453	73.563712	67.9402	2019	कच्चे	ननरक			इतर			ननरक
कोयना अभयारण्य	बामणोग्री	ळर्ळन	Valvan		17.680456 73.563699 67.9402084350586 2019	17.680456	73.563699	67.9402	2019	कच्चे	ळर्ळन			इतर			नौरंक
कोयना अभयारण्य	बामणोग्री	मेट इंदळग्री	कुसानूर		11.4017 4.4373 788 0.2	11.4017	4.4373	788	0.2	कच्चे	कुसानूर	0	0	इतर	0	0	ननरंक
कोयना अभयारण्य	बामणोग्री	METINDOLI	KHIRKHINDI		53.919872 21.705051 0 0	53.919872	21.705051	0	0	कच्चे	NIRANK			इतर			NO FOREST COLONY IN KHIRKHINDI BEAT

कायना अभयारण्य	बामणोरी	Waghavale	Waghavale	0	17.729561 73.674653 0 0	17.729561	73.674653	0	0	कच्चा	ननयत्रंळाघाळले मध्ये ळनळसाहत बांधकाम नसल्रेने ळनळसाहत बाबत ळाघाळले बीट मधील्र माहीती ननरंक आहे.	0	0	इतर	0		ननयत्रंळाघाळले मध्ये ळनळसाहत बांधकाम नसल्रेने ळनळसाहत बाबत ळाघाळले बीट मधील्र माहीती ननरंक आहे.
चादोरी राष्ट्रीय उद्यान	चादोरी	Chandoli	Chandoli	1	17.612356 73.750468 0 0	17.612356	73.750468	0	0	कच्चा	Koyna		0.32	एकर			Need to Build a Forest colony
चादोरी राष्ट्रीय उद्यान	हेलळाक	रु दाळ	रु दाळ दक्षण	6	17 73 0 0	17	73	0	0	कच्चा	नाही	0	0	इतर	0	0	नाही
चादोरी राष्ट्रीय उद्यान	हेलळाक	Rundiv	Ambole	0	17 73 2 2	17	73	2	2	कच्चा	No	0	0	इतर	0	0	No
चादोरी राष्ट्रीय उद्यान	हेलळाक	कालण	चादोरी खुदद		17 73 0 0	17	73	0	0	कच्चा	चादोरी खुदद			इतर			ननरंक
चादोरी राष्ट्रीय उद्यान	हेलळाक	रु ददळ	रु ददळ उत्तर	5	17 73 0 0	17	73	0	0	कच्चा	रु ददळ			इतर			ननरंक

८.संरक्षण रस्ते आणण पययटन रस्ते (Protection & Ecotourism Raod)									८.संरक्षण रस्ते आणण पययटन रस्ते (Protection & Ecotourism Raod)											
तारीख	ळनरकाच नाळ	संरक्षण ाभाग	ळनपरर ेत्र	ळतुतल	ननयत ेत्र	रस्याच नाळ	क क्र.	आरभ स्थाना	अ ांतर क N,रे	रखाल E)_k	_आरभ स्थाना	_आरभ स्थाना	_ळळट स्थानान	_ळळट स्थाना	_ळळट स्थाना	_ळळट स्थाना	_ळळट स्थाना	रस्याच र	जा.पा.एस.टर	यात व्हाव	व्हाहतंतकी	व्हाहतंतकी
2023-05-13	अममत गुराब जमादार	चादारा ह	हलणाक	रादल	हमाद्र	हमाद्र हद त चादर हद		17.1991666	17.199167	73.714167	16	0	17.1733333	17.173333	73.707778	16	10.4	5.3	हाय	नाहा	0	1
2023-05-13	FG Anil Pundlik kumbhar	कायना अ	बामणारा	ळल	चहलळड	धार त हळाळाळ ळळरा चुर	250	17.63674 73	17.63674	73.848	1141	5.9000001	17.63217 73	17.63217	73.837508	1068.7	11.8	1.3	हाय	आह	1	0
2023-05-15	Sunil Basappa kuri	चादारा ह	चादारा	Kolhapur	Vetti	ळत्ती टाळर त गळ टाळर हद्	141516	17.2404777	17.240478	73.789967	0	0	17.2386944	17.238694	73.760592	0	0	10	हाय	आह	1	0
2023-05-16	Deepak bhalchandra sorat	कायना अ	बामणारा	Vele	Deur	Nirank	0	17.615556	17.615556	73.805556	1078	4	17.615556	17.615556	73.805556	1078	4	0	नाहा			
2023-05-13	FG Anil Pundlik kumbhar	कायना अ	बामणारा	ळल	चहलळड	धार त ळारळाडा	250	17.636455	17.636455	73.848205	1136.8	11.95	17.636206	17.636206	73.832378	1115.5	96	1.3	हाय	आह	1	0
2023-05-16	FG Anil Pundlik kumbhar	कायना अ	बामणारा	ळल	चहलळड	धार त हळाळाळ ळळरा गाळ	250	17.636355	17.636355	73.8472	1009	12.9	17.641202	17.641202	73.836697	985.9	4.9000001	2.3	हाय	आह	1	0
2023-05-18	Arjun.j.chavan	कायना अ	बामणारा	Met indoli	Kusapur	चाऊर ळाट Tambi kuthi to met indoli)	331	17.3957 73.	17.3957	73.4521	737	1.1	17.4031 73.	17.4031	73.4303	733	3.1	1	हाय	नाहा	0	1
2023-05-18	Arjun.j.chavan	कायना अ	बामणारा	Met indoli	Kusapur	चाऊर ळाट Tambi gavthan to pathar	331	17.4017 73.	17.4017	73.4455	768	2.1	17.393 73.4	17.393	73.4327	768	2.1	1	हाय			
2023-05-18	Arjun.j.chavan	कायना अ	बामणारा	Met indoli	Kusapur	चाऊर ळाट Met indoli to nageshwar	332	17.4013 73.	17.4013	73.4303	733	3.1	17.4042 73.	17.4042	73.4157	1001	7.1	1	हाय			
2023-05-18	Arjun.j.chavan	कायना अ	बामणारा	Met indoli	Kusapur	चाऊर ळाट Met indoli to redeghat	332	17.4023 73.	17.4023	73.4358	733	3.1	17.392 73.4	17.392	73.4231	1177	8.1	1	हाय			
2023-05-18	Arjun.j.chavan	कायना अ	बामणारा	Met indoli	Kusapur	चाऊर ळाट Met indoli to vasota killa	333	17.4031 73.	17.4031	73.4303	733	3.1	17.3947 73.	17.3947	73.4152	1095	0	1	हाय			
2023-05-18	Arjun.j.chavan	कायना अ	बामणारा	Met indoli	Kusapur	चाऊर ळाट (tambi कु ठी त कु हळड)	330	17.3957 73.	17.3957	73.4521	737	1.1	17.3849 73.	17.3849	73.4415	727	1	1	हाय			
2023-05-18	Arjun.j.chavan	कायना अ	बामणारा	Met indoli	Kusapur	चाऊर ळाट (मट इदारा त म्हकालाचनाणा)	331	17.4018 73.	17.4018	73.432	733	3.2	71.3951 73.	71.3951	73.4314	896	1	1	हाय			
2023-05-18	Arjun.j.chavan	कायना अ	बामणारा	Met indoli	Kusapur	चाऊर ळाट(tambi कु ठी त कु हळड मुरा)	331	17.3957 73.	17.3957	73.4521	737	1.1	17.3916 73.	17.3916	73.443	0	0	1	हाय			
2023-05-18	Sunil Basappa Kuri	चादारा ह	चादारा	कालहानूर	ळत्ता	चाढरवाणा चाऊरळाट	15	17.2376583	17.237658	73.762328	0	0	17.2348888	17.234889	73.769722	0	0	1	हाय	आह	1	0
2023-05-18	Sunil Basappa Kuri	कायना अ	चादारा	कालहानूर	ळत्ता	नाळल खे ळाड नाऊरळाट	15	17.2376583	17.237658	73.762328	0	0	17.2464166	17.246417	73.77775	0	0	1	हाय	आह	1	0
2023-05-18	Sunil Basappa Kuri	चादारा ह	चादारा	कालहानूर	ळत्ता	रटाळ गाळठाण	14	17.2376583	17.237658	73.762328	0	0	17.2125 73.	17.2125	73.762278	0	0	1	हाय	आह	1	0
2023-05-17	Sunil Basappa Kuri	चादारा ह	चादारा	कालहानूर	टाकल	झालाबा हद त लत्ता टाळर मुख्य रस्ता टाकल	1819	17.207 73.7	17.207	73.790194	0	0	17.2196111	17.219611	73.818972	0	0	1	हाय	आह	1	0
2023-05-18	Sunil Basappa Kuri	चादारा ह	चादारा	कालहानूर	ळत्ता	नननळल बक ळाटर	15	17.2376583	17.237658	73.762328	0	0	17.2161666	17.216167	73.77225	0	0	1	हाय	नाहा	0	1
2023-05-18	Sunil Basappa Kuri	चादारा ह	चादारा	कालहानूर	ळत्ता	ळत्ता गाळठाण	16	17.2376583	17.237658	73.762328	0	0	17.2216388	17.221639	73.791056	0	0	1	हाय	आह	1	0
2023-05-18	Dada Maruti jankar	कायना अ	बामणारा	Vele	Vele	Nirank		17.599167	17.599167	73.857222	1158	4	17.599167	17.599167	73.857222	1158	4	0	नाहा			
2023-05-19	Deepak bhalchandra sorat	कायना अ	बामणारा	Vele	Deur	Deur kuti te injai devi Paul vat	382	17.609444	17.609444	73.807778	1162	1	17.635 73.8	17.635	73.805556	1146	16	1	हाय	नाहा	0	1
2023-05-19	Deepak bhalchandra sorat	कायना अ	बामणारा	Vele	Deur	Deur vasti te savrat	381	17.605 73.7	17.605	73.791111	1097	18	17.579444	17.579444	73.769167	1097	18	1	हाय	नाहा	0	1
2023-05-19	Deepak bhalchandra sorat	कायना अ	बामणारा	Vele	Deur	Deur odha te savrta Paul vat	381	17.616944	17.616944	73.885	784	14	17.581111	17.581111	73.770556	784	14	1	हाय	नाहा	0	1
2023-05-19	Deepak bhalchandra sorat	कायना अ	बामणारा	Vele	Deur	Deur odha te deur manora Paul vat	370	17.616944	17.616944	73.885	943	23	17.614444	17.614444	73.746667	943	23	1	हाय	नाहा	0	1
2023-05-19	Deepak bhalchandra sorat	कायना अ	बामणारा	Vele	Deur	Deur vasti te deur odha	380	17.605 73.7	17.605	73.791111	1097	1	17.616944	17.616944	73.785	1097	18	1	हाय	नाहा	0	1
2023-05-19	Deepak bhalchandra sorat	कायना अ	बामणारा	Vele	Deur	Deur vasti te deur kuti Paul vat	382	17.605 73.8	17.605	73.807778	1097	18	1.6094444 73	1.609444	73.807778	1097	18	1	हाय	नाहा	0	1
2023-05-19	Deepak bhalchandra sorat	कायना अ	बामणारा	Vele	Deur	Shiba devi te deur odha Paul vat	372	17.6225 73.	17.6225	73.807778	703	33	17.616944	17.616944	73.785	703	33	1	हाय	नाहा	0	1
2023-05-18	Kishor Dhane	कायना अ	कायना	Takwali	चारा	चारा टाक त काकण कडा	376	17.60524 73	17.60524	73.756445	0	0	17.606885	17.606885	73.715862	0	0	5.3	हाय	नाहा	0	1
2023-05-18	Kishor Dhane	कायना अ	कायना	ताकळरा	चारा	जुना कु टा त maldev हद	375	17.608165	17.608165	73.726614	0	0	17.621575	17.621575	73.719693	0	0	5.3	हाय	नाहा	0	1
2023-05-18	Kishor Dhane	कायना अ	कायना	Takwali	Pali	काकण कडा त jungti हद	377	17.606889	17.606889	73.715917	0	0	17.587842	17.587842	73.746729	0	0	7.3	हाय	नाहा	0	1
2023-05-18	Kishor Dhane	कायना अ	कायना	Takwali	Pali	चारा टाळर त काकण कडा	378	17.60425 73	17.60425	73.732139	0	0	17.603333	17.603333	73.719167	0	0	2.3	हाय	नाहा	0	1
2023-05-18	Kishor Dhane	कायना अ	कायना	Takwali	चारा	जुना कु टा त काकण कडा	377	17.608165	17.608165	73.726614	0	0	17.606889	17.606889	73.715917	0	0	1.3	हाय	नाहा	0	1
2023-05-18	Kishor Dhane	कायना अ	कायना	Takwali	चारा	चारा ककल्या त काकण कडा	377	17.606889	17.606889	73.715917	0	0	17.595667	17.595667	73.724111	0	0	5.4	हाय	नाहा	0	1
2023-05-18	Kishor Dhane	कायना अ	कायना	Takwali	चारा	राखइक राइन	376	17.606775	17.606775	73.755278	0	0	17.613056	17.613056	73.740556	0	0	1	हाय	नाहा	0	1
2023-05-18	Kishor Dhane	कायना अ	कायना	Takwali	चारा	ककल्याचा जाणारा जुना चायळाट	378	17.603056	17.603056	73.733611	0	0	17.595658	17.595658	73.727019	0	0	4.3	हाय	नाहा	0	1
2023-05-19	PRASHANT BHOSALE	कायना अ	कायना	KUSAVADE	AMBEGHAR	KUTTI TO KATYACHA MAAL	436	17.4336 73.	17.4336	73.7803	0	0	17.4489 73.	17.4489	73.8099	0	0	11	हाय	आह	1	0
2023-05-19	PRASHANT BHOSALE	कायना अ	कायना	KUSAVADE	AMBEGHAR	KHUDUPLEWADI TO NAHIMNE	436	17.4336 73.	17.4336	73.7803	0	0	17.4486 73.	17.4486	73.798	0	0	1	हाय	आह	1	0
2023-05-19	PRASHANT BHOSALE	कायना अ	कायना	KUSAVADE	AMBEGHAR	VAJEGAON TO NAHIMBE	436	17.4319 73.	17.4319	73.7655	0	0	17.4336 73.	17.4336	73.7803	0	0	8.5	हाय	आह	1	0
2023-05-18	चाळक्ता हरगर	कायना अ	कायना	कुहळड	कारकट	खे ळाड त रळद रस्ता	458	17.403945	17.403945	73.851448	925.4	4	17.392235	17.392235	73.837877	911.1	4000	0	हाय	नाहा	0	1
2023-05-19	PRASHANT BHOSALE	कायना अ	कायना	KUSAVADE	AMBEGHAR	CHIRAMBE TO NAHIMBE	428	17.4336 73.	17.4336	73.783	0	0	17.4274 73.	17.4274	73.75324	0	0	1	हाय	आह	1	0
2023-05-19	PRASHANT BHOSALE	कायना अ	कायना	KUSAVADE	AMBEGHAR	SHIRSHINGE LAUNCH STOP TO KUTTI	428	17.4336 73.	17.4336	73.7803	0	0	17.438305	17.438305	73.77994	0	0	1	हाय	आह	1	0
2023-05-19	PRASHANT BHOSALE	कायना अ	कायना	KUSAVADE	AMBEGHAR	VATOLE HADD TO NAHIMBE	436	17.430666	17.430666	73.796944	0	0	17.44797 73	17.44797	73.77744	0	0	1	हाय	आह	1	0
2023-05-19	PRASHANT BHOSALE	कायना अ	कायना	KUSAVADE	AMBEGHAR	CHIRAMBE RESEARCH CENTRE TO NAHIMBE	428	17.4336 73.	17.4336	73.7803	0	0	17.43021 73	17.43021	73.781	0	0	1	हाय	आह	1	0
2023-05-19	PRASHANT BHOSALE	कायना अ	कायना	KUSAVADE	AMBEGHAR	WATCH TOWER TO MOSAMBACHA KADA	436	17.45505 73	17.45505	73.77013	0	0	17.419694	17.419694	73.79027	0	0	10	हाय	आह	1	0
2023-05-19	PRASHANT BHOSALE	कायना अ	कायना	KUSAVADE	AMBEGHAR	PALSHICHE PANI TO KUTTI	436	17.4336 73.	17.4336	73.7803	0	0	17.43277 73	17.43277	73.78055	0	0	1	हाय	आह	1	0
2023-05-19	Ajit gundopant patil	कायना अ	कायना	Takavali	Karanjawade	बुडाच टाक त हनुमान टकडा	393	17.53768 73	17.53768	73.775165	0	0	17.555256	17.555256	73.759388	0	0	1	हाय	नाहा	0	1
2023-05-19	Ajit gundopant patil	कायना अ	कायना	Takavali	Karanjawade	ह ळरक्षण कु टा त इजालयाच नाणा	396	17.53006 73	17.53006	73.773795	0	0	17.515346	17.515346	73.761558	0	0	1	हाय	नाहा	0	1
2023-05-19	Ajit gundopant patil	कायना अ	कायना	Takavali	Karanjawade	रा ळाड डा लक नाउरळाट त इजालयाच नाणा	397	17.518765	17.518765	73.781575	0	0	17.515346	17.515346	73.761558	0	0	1	हाय	आह	1	0
2023-05-19	Ajit gundopant patil	कायना अ	कायना	Takavali	Karanjawade	क्रॅश राइन	394	17.557196	17.557196	73.748075	0	0	17.535172	17.535172	73.337995	0	0	1	हाय	आह	1	0
2023-05-19	Ajit gundopant patil	कायना अ	कायना	Takavali	Karanjawade	कालामुरा चायळाट	394	17.541357	17.541357	73.758314	0	0	17.546078	17.546078	73.743355	0	0	1	हाय	आह	1	0
2023-05-21	Dada Maruti jankar	कायना अ	बामणारा	Vele1	Vele	Dhen vasti te makhaliche pani	386	17.529444	17.529444	73.785278	639	16	17.553889	17.553889	73.796389	639	16	2.3	हाय	नाहा	0	1
2023-05-21	Dada Maruti jankar	कायना अ	बामणारा	Vele	Vele	Jambruk te durgalachi vat	400	17.529444	17.529444	73.785278	639	16	17.560833	17.560833	73.788889	639	16	1	हाय	नाहा	0	1
2023-05-21	Dada Maruti jankar	कायना अ	बामणारा	Vele	Vele	Dhen vasti te jambhrukh tower pauvat	400	17.566111	17.566111	73.806944	924	9.2	17.528611	17.528611	73.783056	924	9.2	1	हाय	नाहा	0	1
2023-05-18	वळजय काडराम माहर	कायना अ	कायना	मळरमळाग	कहकरल	कहकरला कु ठ त नळजा हद	412	17.480833	17.480833	73.7711	0	0	17.418889	17.418889	73.735	0	0	1	हाय	नाहा	0	1
2023-05-18	वळजय काडराम माहर	कायना अ	कायना	मळरळाग	कहकरल	कु ठ त बाड धक्का	412	17.480833	17.480833	73.7711	0	0	17.486667	17.486667	73.768333	0	0	1	हाय	आह	1	0
2023-05-18	वळजय काडराम माहर	कायना अ	कायना	मळरमळाग	कहकरल	कु ठ त ळ	412	17.480833	17.480833	73.7711	0	0	17.477222	17.477222	73.436944	0	0	1	हाय	नाहा	0	1
2023-05-18	वळजय काडराम माहर	कायना अ	कायना	मळरमळाग	कहकरल	कु ठ त डुक्करटक	413	17.480833	17.480833	73.7711	0	0	17.484444	17.484444	73.783333	0	0	1	हाय	नाहा	0	1
2023-05-18	वळजय काडराम माहर	कायना अ	कायना	मळरमळाग	कहकरल	कु ठ त दातचा कडा	412	17.480833	17.480833	73.7711	0	0	17.451111	17.451111	73.7575	0	0	1	हाय	नाहा	0	1
2023-05-18	वळजय काडराम माहर	कायना अ	कायना	मळरमळाग	कहकरल	कु ठ त जाधवर गाळठाण	412	17.480833	17.480833	73.7711	0	0	17.476944	17.476944	73.786111	0	0	1	हाय	आह	1	0
2023-05-18	वळजय काडराम माहर	कायना अ	कायना	मळरमळाग	कहकरल	कु ठ त मळरमळाग हद	411	17.480833	17.480833	73.7711	0	0	17.481111	17.481111	73.771111	0	0	4.3	हाय	आह	1	0
2023-05-20	Kishor	कायना अ	कायना	Takwali	Jungti	बुरज चायळाट	390	17.582417	17.582417	73.718361	0	0	17.568306	17.568306	73.726583	0	0	3.3	हाय	नाहा	0	1
2023-05-20	Kishor Dhane	कायना अ	कायना	Takwali	Jungti	दंढाड्याचा चायळाट	390	17.573611	17.573611	73.7325	0	0	17.556389	17.556389	73.746111	0	0	4.3	हाय	नाहा	0	1
2023-05-20	Kishor Dhane	कायना अ	कायना	Takwali	Jungti	Gadyachi चायळाट	390	17.573028	17.573028	73.733967	0	0	17.575944	17.575944	73.716611	0	0	2.3	हाय	नाहा	0	1
2023-05-20	Kishor Dhane	कायना अ	कायना	Takwali	Jungti	ह ळरक्षण कु टा त घाळड	391	17.573333	17.573333	73.732222	0	0	17.568941	17.568941	73.75719	0	0	1	हाय	नाहा	0	1
2023-05-20	Kishor Dhane	कायना अ	कायना	Takwali	Jungti	Jungti टाक त चारा हद	388	17.581944	17.581944	73.759722	0	0	17.587836	17.587836	73.746817	0	0	2.3	हाय	नाहा	0	1
2023-05-19	Kishor Dhane	कायना अ	कायना	Takwali	Jungti	भयाचच चायळाट	388	17.577521	17.577521	73.730283	0	0	17.581944	17.581944	73.759722	0	0	5.3	हाय	नाहा	0	1
2023-05-20	जा आर बद्र	कायना अ	कायना	ळन नरमाड	कायना	हाबरला त तारण	430	17.25036 73	17.25036	73.434681	0	0	17.24844 73	17.24844	73.42302	0	0	1	हाय	नाहा	0	1
2023-05-23	जा आर बद्र	कायना अ	कायना	ळन नरमाड	कायना	तारण त चाचधारा	423	17.2412 73.	17.2412	73.415054	590	0	17.25628 73	17.25628	73.411503	584	0	1	हाय	नाहा	0	1
2023-05-22	sachin yuvraj patil	कायना अ	कायना	shishinge	shirshinge	shishinge haddh te shirshinge kutti	409	17.462825	17.462825	73.70594	0	0	17.487743	17.487743	73.734306	0	0	1	हाय	नाहा	0	1
2023-05-21	हचचन युळराज नाटार	कायना अ	कायना	मळरमळाग	मळरमळाग	मळरमळाग हद त चकनाका	408	17.465574	17.465574	73.706698	0	0	17.487758	17.487758	73.726163	0	0	1	हाय	नाहा	0	1
2023-05-23	हचचन युळराज नाटार	कायना अ	कायना	मळरमळाग	मळरमळाग	नळजा हद त मळरमळाग टाळर	411	17.465263	17.465263	73.706994	0	0	17.487868	17.487868	73.734306	0	0	1	हाय			
2023-05-23	हचचन युळराज नाटार	कायना अ	कायना	मळरमळाग	मळरमळाग	मळरमळाग कु टा त डडवाडा हद	405	17.487569	17.487569	73.730573	0	0	17.508756	17.508756	73.734051	0	0	1	हाय	नाहा	0	1

2023-05-23	हचंचन युळराज नाटार	कायना अ	कायना	मलरमलाग	मलरमलाग	मलरमलाग कु ट्टा त अस्ल्रे टके	405	17.488602	17.488602	73.730583	0	0	17.510392	17.510392	73.706173	0	0	1	नाहा	नाहा	0	1
2023-05-18	हचंचन युळराज नाटार	कायना अ	कायना	मलरमलाग	मलरमलाग	मलरमलाग त डडचारा क्रलराइन रस्ता	409	17.466111	17.466111	73.707222	0	0	17.517784	17.517784	73.720515	0	0	10.5	हाय	नाहा	0	1
2023-05-18	हचंचन युळराज नाटार	कायना अ	कायना	मलरमलाग	डडचारा	मलरमलाग हद्द त डडचारा कु ट्टा क्रलरूड्डन	403	17.517784	17.517784	73.720515	0	0	17.50212 73	17.50212	73.746446	0	0	8.1	हाय	नाहा	0	1
2023-05-23	हचंचन युळराज नाटार	कायना अ	कायना	मलरमलाग	मलरमलाग	मलरमलाग कु ट्टा त काहर बटारा	406	17.488574	17.488574	73.700573	0	0	17.488389	17.488389	73.697072	0	0	1	हाय	आह	1	0
2023-05-23	हचंचन युळराज नाटार	कायना अ	कायना	मलरमलाग	डडचारा	डडचारा लोला त इजाराच नाणा		17.502115	17.502115	73.74645	0	0	17.509523	17.509523	73.765864	0	0	1	हाय	आह	1	0
2023-05-21	हचंचन युळराज नाटार	कायना अ	कायना	मलरमलाग	डडचारा	डडचारा लोला त मालळाडा		17.502094	17.502094	73.74645	0	0	17.529515	17.529515	73.732821	0	0	1	हाय	आह	1	0
2023-05-22	हचंचन युळराज नाटार	कायना अ	कायना	मलरमलाग	डडचारा	मालळाडा त करालळड हद्द	403	17.529515	17.529515	73.732821	0	0	17.53791 73	17.53791	73.740021	0	0	1	हाय	आह	1	0
2023-05-18	जा आर बद्द	कायना अ	कायना	ळन नरमाड	कायना	घाटमाथा त चचतल हडा	426	17.246237	17.246237	73.401692	582	7.44	17.243222	17.243222	73.405711	583	5.92	1	हाय	आह	1	0
2023-05-20	जा आर बद्द	कायना अ	कायना	ळन नरमाड	कायना	तोरन त घाटमाथा	4261	17.241103	17.241103	73.413716	591	4.6	17.242865	17.242865	73.41116	591	5.5	1	हाय	आह	1	0
2023-05-20	जा आर बद्द	कायना अ	कायना	ळन नरमाड	कायना	हाबरला त हनाळराच नाणा	430	17.245867	17.245867	73.434446	582	16.5	17.245946	17.245946	73.435	581	16.5	1	हाय	आह	1	0
2023-05-23	गजानन अळाक हकट	चादारा ह	चादारा	कालहानूर नं	ढाकाल	ढाकाल कु ट्टा त हनानारा हद्द	33	17.06946 73	17.06946	73.46376	0	0	17.06484 73	17.06484	73.46684	0	0	1	हाय	नाहा	0	1
2023-05-23	गजानन अळाक हकट	चादारा ह	चादारा	कालहानूर नं	ढाकाल	ढाकाल कु ट्टा त आकाराचा आढा	33	17.06946 73	17.06946	73.46376	0	0	17.06904 73	17.06904	73.45369	0	0	3.4	हाय	नाहा	0	1
2023-05-23	गजानन अळाक हकट	चादारा ह	चादारा	कालहानूर नं	ढाकाल	ढाकाल कु ट्टा त चादर हद्द	33	17.06946 73	17.06946	73.46376	0	0	17.07448 73	17.07448	73.43397	0	0	1	हाय	नाहा	0	1
2023-05-23	गजानन अळाक हकट	चादारा ह	चादारा	कालहानूर नं	ढाकाल	ढाकाल कु ट्टा त बक व्हटर रस्ता	34	17.06946 73	17.06946	73.46376	0	0	17.07981 73	17.07981	73.45528	0	0	4.3	हाय	नाहा	0	1
2023-05-23	गजानन अळाक हकट	चादारा ह	चादारा	कालहानूर नं	ढाकाल	ढाकाल कु ट्टा त काहनाळनारा	33	17.06946 73	17.06946	73.46376	0	0	17.07716 73	17.07716	73.46159	0	0	2.3	हाय	नाहा	0	1
2023-05-23	गजानन अळाक हकट	चादारा ह	चादारा	कालहानूर नं	ढाकाल	ढाकाल कु ट्टा त काकणळाडा	33	17.06947 73	17.06947	73.46376	0	0	17.07712 73	17.07712	73.4637	0	0	1	हाय	नाहा	0	1
2023-05-23	गजानन अळाक हकट	चादारा ह	चादारा	कालहानूर नं	ढाकाल	ढाकाल कु ट्टा त गाळ हडा	33	17.06947 73	17.06947	73.46376	0	0	17.07981 73	17.07981	73.45528	0	0	4.3	हाय	नाहा	0	1
2023-05-23	गजानन अळाक हकट	चादारा ह	चादारा	कालहानूर नं	ढाकाल	ढाकाल कु ट्टा त वळठुराचा माददर	34	17.06947 73	17.06947	73.46376	0	0	17.08044 73	17.08044	73.45925	0	0	3.2	हाय	नाहा	0	1
2023-05-23	गजानन अळाक हकट	चादारा ह	चादारा	कालहानूर नं	ढाकाल	ढाकाल कु ट्टा त ननळल हद्द	33	17.06947 73	17.06947	73.46376	0	0	17.06592 73	17.06592	73.46502	0	0	1.3	हाय	आह	1	0
2023-05-23	गजानन अळाक हकट	चादारा ह	चादारा	कालहानूर नं	ढाकाल	ढाकाल कु ट्टा त गाठण हद्द	33	17.06947 73	17.06947	73.46376	0	0	17.06566 73	17.06566	73.45475	0	0	1.75	हाय	आह	1	0
2023-05-22	हचंचन युळराज नाटार	कायना अ	कायना	मलरमलाग	डडचारा	डडचारा लोला त तलाळा	399	17.502091	17.502091	73.746336	0	0	17.497134	17.497134	73.780039	0	0	1	हाय	नाहा	0	1
2023-05-20	हचंचन युळराज नाटार	कायना अ	कायना	मलरमलाग	डडचारा	डडचारा लोला त बाट धक्का	404	17.501921	17.501921	73.746465	0	0	17.490546	17.490546	73.756404	0	0	2.3	हाय	आह	1	0
2023-05-20	हचंचन युळराज नाटार	कायना अ	कायना	मलरमलाग	डडचारा	डडचारा कु ट्टा त गागट्च ार		17.502097	17.502097	73.746465	0	0	17.505475	17.505475	73.735219	0	0	1	हाय			
2023-05-20	हचंचन युळराज नाटार	कायना अ	कायना	मलरमलाग	डडचारा	डडचारा कु ट्टा त मलरमलाग हद्द		17.502098	17.502098	73.746465	0	0	17.522575	17.522575	73.729401	0	0	1	हाय	नाहा	0	1
2023-05-20	हचंचन युळराज नाटार	कायना अ	कायना	मलरमलाग	डडचारा	डडचारा कु ट्टा त मलरमलाग कु ट्टा		17.502098	17.502098	73.746465	0	0	17.491333	17.491333	73.733983	0	0	1	हाय			
2023-05-20	जा आर बद्द	कायना अ	कायना	ळन नरमाड	कायना	हाबरला त थारला तला	432	17.243313	17.243313	73.43494	557	0	17.24439 73	17.24439	73.432158	577	0	1	हाय	आह	1	0
2023-05-20	जा आर बद्द	कायना अ	कायना	ळन नरमाड	कायना	हाबरला त आझड टान	431	17.25571 73	17.25571	73.434645	582	0	17.251636	17.251636	73.432865	582	0	1	हाय	नाहा	0	1
2023-05-20	जा आर बद्द	कायना अ	कायना	ळन नरमाड	कायना	हाबरला त काकण कडा	430	17.24576 73	17.24576	73.43407	0	0	17.25894 73	17.25894	73.42401	0	0	1	हाय	नाहा	0	1
2023-05-23	जा आर बद्द	कायना अ	कायना	ळन नरमाड	कायना	तोरन त डाणा	424	17.241221	17.241221	73.414046	0	0	17.25628 73	17.25628	73.411503	0	0	1	हाय	नाहा	0	1
2023-05-20	जा आर बद्द	कायना अ	कायना	ळन नरमाड	कायना	तोरण त काइल हडा	430	17.234692	17.234692	73.422875	0	0	17.245301	17.245301	73.42832	0	0	1	हाय	आह	1	0
2023-05-25	Dada Maruti jankar	कायना अ	बामणारा	Vele	Vele	Dhen vasti te dalvi vasti Paul vat	386	17.566111	17.566111	73.806944	580	12	17.565833	17.565833	73.786667	580	12	1	हाय	नाहा	0	1
2023-05-25	Dada Maruti jankar	कायना अ	बामणारा	Vele	Vele	Dhen vasti te deur hadda Paul vat	386	17.566111	17.566111	73.806944	580	12	17.584444	17.584444	73.812778	590	12	1	हाय	नाहा	0	1
2023-05-25	Dada Maruti jankar	कायना अ	बामणारा	Vele	Vele	Medha phata te khalchi mayni	386	17.593333	17.593333	73.817222	590	12	17.583333	17.583333	73.796667	680	11	1	हाय	नाहा	0	1
2023-05-25	Dada Maruti jankar	कायना अ	बामणारा	Vele	Vele	Medha phata te taldev	383	17.598611	17.598611	73.8075	1049	82	17.595 73.7	17.595	73.794444	1049	82	1	हाय	नाहा	0	1
2023-05-25	Dada Maruti jankar	कायना अ	बामणारा	Vele	Vele	Dhen vasti te khalchi mani Paul vat	386	17.566111	17.566111	73.806944	868	0	17.583333	17.583333	73.796667	868	0	1	हाय	नाहा	0	1
2023-05-25	Dada Maruti jankar	कायना अ	बामणारा	Vele	Vele	Dalvi vasti te pandurang vasti	387	17.565833	17.565833	73.786667	900	11	17.580833	17.580833	73.796111	900	11	1	हाय	नाहा	0	1
2023-05-25	Dada Maruti jankar	कायना अ	बामणारा	Vele	Vele	Dhen vasti te yekant tale paul vat	386	17.566111	17.566111	73.806944	956	12	17.575 73.4	17.575	73.4827	956	12	1	हाय	नाहा	0	1
2023-05-25	Dada Maruti jankar	कायना अ	बामणारा	Vele	Vele	Dhen vasti te pedha paul vat	386	17.566111	17.566111	73.806944	871	12	17.599722	17.599722	73.805278	871	12	1	हाय	नाहा	0	1
2023-07-12	SONALI SHIVAJI KISAVE	कायना अ	बामणारा	KOLHAPUR	MUNAWALE	NIRANK		17.17777 73	17.17777	73.88888	786	11	17.88888 73	17.88888	73.867777	676	11	0	नाहा	नाहा	0	1
2023-07-14	प्रतक गायकळाड	कायना अ	बामणारा	व्हरळन	बमनामिर	अडामळ त म्हालाग		17.691715	17.691715	73.580828	76.806526	2023	17.68356 73	17.68356	73.560858	76.806526	1414.1416	6.8	हाय	नाहा	0	1
2023-07-20	तानाजी मळळाजी मळाद ळननावर	चादारा ह	हलळाक	रादळ	रादळ दक्षिण	रादळ हळारक्षण कु ट्टा त प्रवचता गड		17.1317 73	17.1317	73.4325	0	0	17.1349 73	17.1349	73.4136	0	0	4.3	हाय	नाहा	0	1
2023-07-20	तानाजी मळळाजी मळाद ळननावर	चादारा ह	हलळाक	रादळ	रादळ दक्षिण	रादळ हळारक्षण कु ट्टा त रादळ गाळठाण		17.1317 73	17.1317	73.4325	0	0	17.1322 73	17.1322	73.4318	0	0	1.3	हाय	नाहा	0	1
2023-07-20	तानाजी मळळाजी मळाद ळननावर	चादारा ह	हलळाक	रादळ	रादळ दक्षिण	रादळ हळारक्षण कु ट्टा त हमद्धस्कर हद्द		17.1317 73	17.1317	73.4325	0	0	17.1228 73	17.1228	73.439	0	0	1	हाय	नाहा	0	1
2023-07-20	तानाजी मळळाजी मळाद ळननावर	चादारा ह	हलळाक	रादळ	रादळ दक्षिण	रादळ हळारक्षण कु ट्टा त रगाला नदा		17.1317 73	17.1317	73.4325	0	0	17.143 73.4	17.143	73.4153	0	0	4.5	हाय	नाहा	0	1
2023-07-20	Pritam Baban Kamble	चादारा ह	हलळाक	Rundiv	Ambole	Jawali gavthan te Ambole tavar	9	17.1257 73	17.1257	73.4325	9	1	17.1138 73	17.1138	73.4553	9	1	7.7	हाय	नाहा	0	1
2023-07-20	Pritam Baban Kamble	चादारा ह	हलळाक	Rundiv	Ambole	Ambole tavar te gavadache pani	10	17.1133 73	17.1133	73.4553	9	1	17.1058 73	17.1058	73.4527	9	1	1.3	हाय	नाहा	0	1
2023-07-20	Pritam Baban Kamble	चादारा ह	हलळाक	Rundiv	Ambole	Jawali gavthan te Rundiv kutti	9	17.125 73.4	17.125	73.444	9	1	17.1351 73	17.1351	73.441	9	1	2.4	हाय	नाहा	0	1
2023-07-20	Pritam Baban Kamble	चादारा ह	हलळाक	Randiv	Ambole	Ambole transect line end point te nagyache	11	17.1126 73	17.1126	73.4514	9	1	17.1135 73	17.1135	73.4439	9	1	1.1	हाय	नाहा	0	1
2023-07-20	Pritam Baban Kamble	चादारा ह	हलळाक	Randiv	Ambole	Ambole tavar te transect line survey point	10	17.1138 73	17.1138	73.4553	9	1	17.105 73.4	17.105	73.4557	9	1	2.1	हाय	नाहा	0	1
2023-03-31	हए डा काकड	चादारा ह	हलळाक	कालण	चादारा	नला राड	12	17.16008 73	17.16008	73.45214	0	0	17.14195 73	17.14195	73.45378	0	0	6.2	हाय	नाहा	0	1
2023-03-31	हए डा काकड	चादारा ह	हलळाक	कालण	चादारा ुदव	मल राड	12	17.15461 73	17.15461	73.4448	0	0	17.16372 73	17.16372	73.44119	0	0	3.3	हाय	नाहा	0	1
2023-03-31	हए डा काकड	चादारा ह	हलळाक	कालण	चादारा ुदव	गळ नायळाट	12	17.15487 73	17.15487	73.45125	0	0	17.14379 73	17.14379	73.4432	0	0	3.3	हाय	नाहा	0	1
2023-03-31	हए डा काकड	चादारा ह	हलळाक	कालण	चादारा ुदव	का घार नायळाट	12	17.15279 73	17.15279	73.44204	0	0	17.14445 73	17.14445	73.43338	0	0	2.4	हाय	नाहा	0	1
2023-03-31	हए डा काकड	चादारा ह	हलळाक	कालण	चादारा ुदव	चादारा हडा नायळाट	12	17.15447 73	17.15447	73.44388	0	0	17.1527 73	17.1527	73.44164	0	0	1	हाय	नाहा	0	1
2023-05-17	Bharat shivaram khutale	चादारा ह	हलळाक	Rundiv	Rundiv uttar	Revali nadi	9	17.1442 73	17.1442	73.4144	967	5.1	17.1429 73	17.1429	73.4155	1011	3.1	5.3	हाय	नाहा	0	1
2023-07-18	भारत मळळराम ुटार व्हनचार	चादारा ह	हलळाक	राददळ	राददळ उत्तर	हळारक्षण रस्ता	9	17.1442 73	17.1442	73.4144	1011	3.1	17.1429 73	17.1429	73.4155	4.9	943	2.5	हाय	नाहा	0	1
2023-10-23	sunil basappa kuri	चादारा ह	ढबळाडा	kolhapur	Takale	मुख्य रस्ता टाकल कु ट्टा त झालबा हद्द	19	17.22111 73	17.22111	73.817402	0	0	17.210857	17.210857	73.815283	0	0	1	हाय	आह	1	0
2023-10-23	sunil basappa kuri	चादारा ह	ढबळाडा	kolhapur	Takale	टाकल कु ट्टा त व्हत हद्द	1819	17.210821	17.210821	73.815256	0	0	17.207326	17.207326	73.792393	0	0	1	हाय	आह	1	0
2023-10-23	sunil basappa kuri	चादारा ह	ढबळाडा	kolhapur	Takale	टाकल कु ट्टा त टाकल हडा	19	17.210867	17.210867	73.815277	0	0	17.230087	17.230087	73.809328	0	0	1	हाय	आह	1	0
2023-10-23	sunil basappa kuri	चादारा ह	ढबळाडा	kolhapur	Takale	टाकल कु ट्टा त बक व्हटर	19	17.210822	17.210822	73.815276	0	0	17.195837	17.195837	73.817503	0	0	2.3	हाय	आह	1	0
2023-10-23	sunil basappa kuri	चादारा ह	ढबळाडा	kolhapur	Takale	टाकल कु ट्टा त चठराढ डाग	1819	17.210836	17.210836	73.815269	0	0	17.18776 73	17.18776	73.788321	0	0	1	हाय	आह	1	0
2023-10-25	Ajit Patil	कायना अ	कायना	Dicholi	Dicholi	Dicholi to shirshinge		17.50212 73	17.50212	73.746539	0	0	17.506093	17.506093	73.733247	0	0	3.3	हाय	नाहा	0	1
2023-10-25	Ajit Patil	कायना अ	कायना	Dicholi	Dicholi	Dicholi school त बाट नाइट	399	17.502147	17.502147	73.746572	0	0	17.49045 73	17.49045	73.756369	0	0	2.3	हाय	आह	1	0
2023-10-25	Ajit Patil	कायना अ	कायना	Dicholi	Dicholi	Dicholi त गागटयाच ार		17.502242	17.502242	73.746467	0	0	17.501945	17.501945	73.730898	0	0	2.4	हाय	नाहा	0	1
2023-10-26	Ajit Patil	कायना अ	कायना	Dicholi	Dicholi	Dicholi व्हाला त मारळाडा		17.501933	17.501933	73.74646	0	0	17.526204	17.526204	73.729475	0	0	4	हाय	आह	1	0
2023-10-24	S P Pawar FG Pimpari	कायना अ	बामणारा	Waghavale	Pimpari	दर त मळादा (वनानरा त ननळला कु ट्टा)	0	17.71875 73	17.71875	73.709389	0	0	17.732333	17.732333	73.674722	0	0	12.2	हाय	आह	1	0
2023-10-24	S P Pawar FG Pimpari	कायना अ	बामणारा	Waghavale	Pimpari	ओढाला त व्हल्टा (हळारक्षण रस्ता, व्हल्टा)	299	17.702111	17.702111	73.71675	0	0	17.701 73.7	17.701	73.7345	0	0	1.3	हाय	नाहा	0	1
2023-10-26	प्रतक घाडडबा गायकळाड	कायना अ	बामणारा	व्हरळन	म्हालुग	म्हालुग त अडामळ		17.683143	17.683143	73.553072	67.940208	1677	17.683132	17.683132	73.551982	67.940208	1677	1	हाय	नाहा	0	1
2023-10-26	ह ुरू का ु डमारक ह ूथळाळा	कायना अ	बामणारा	व्हरळन	Valvan	नानरक		17.680588	17.680588	73.56302	67.940208	1937.3507	17.680472	17.680472	73.563615	67.940208	2017.9604	1	नाहा	नाहा	0	1
2023-09-01	SWAPNIL SAMBHAJI SHENDAGE	कायना अ	बामणारा	METINDOLI	KHIRKHINDI	KHIRKHINDI TO SHELTI	304	17.706944	17.706944	73.748667	669	3	17.699444	17.699444	73.705167	665	4	1	हाय	नाहा	0	1
2023-09-01	SWAPNIL SAMBHAJI SHENDAGE	कायना अ	बामणारा	METINDOLI	KHIRKHINDI	KHIRKHINDI KUTI TO NECHE PANI	304	17.706944	17.706944	73.748667	668	3	17.071417	17.071417	73.731778	661	7	1	हाय	नाहा	0	1
2023-09-01	SWAPNIL SAMBHAJI SHENDAGE	कायना अ	बामणारा	METINDOLI	KHIRKHINDI	KHIRKHINDI TO VASOTE	305	17.706944	17.706944	73.748667	678	3	17.699444	17.699444	73.750042	657	3	1	हाय	नाहा	0	1
2023-09-01	SWAPNIL SAMBHAJI SHENDAGE	कायना अ	बामणारा	METINDOLI	KHIRKHINDI	KHIRKHINDI TO KUSAPUR	305	17.706944	17.706944	73.748611	689	3	17.700278	17.700278	73.705806	701	4	1	हाय	नाहा	0	1
2023-09-18	S P Pawar Fg Waghavale Addi.Ch	कायना अ	बामणारा	Waghavale	Waghavale	दर त मळादा (ननळला कु ट्टा त उचाट)	0	17.729561	17.729561	73.674653	0	0	17.762669	17.762669	73.631214	0	0	9.3	हाय	आह	1	0

९.जाळरेषा (Fireline Details)

संरक्षंत ◌ंं◌ंंत्राचे नाव	वनपरि◌ंे◌ंत्र	वतुतळ	ननयत◌ंे◌ंत्र	कं क्र.	आरंभ स्थान (अं◌ंा◌ंं◌ंश N रेखांश E)	रेखांश E)_latitude	रेखांश E)_longitude	_आरंभ स्थान (अं◌ंा◌ंं◌ंश N रेखांश E)_altitude	_आरंभ स्थान (अं◌ंा◌ंं◌ंश N रेखांश E)_precision	शेवट स्थान (अं◌ंा◌ंं◌ंश N रेखांश E)	अं◌ंा◌ंं◌ंश N रेखांश E)_latitude	रेखांश E)_longitude	_शेवट स्थान (अं◌ंा◌ंं◌ंश N रेखांश E)_altitude	_शेवट स्थान (अं◌ंा◌ंं◌ंश N रेखांश E)_precision	प्रकार	जाळरेषा	जी.पी.एस.टॅर क	जी.पी.एस. ◌ॅक/होय	जी.पी.एस. ◌ॅक/नाही
कोयना अभयारण्य	कोयना	KUSAVADE	AMBEGHAR	436	17.41788 73.79444 0 0	17.41788	73.79444	0	0	17.4425 73.790555 0 0	17.4425	73.790555	0	0	12 MTR A CLASS		होय	1	0
कोयना अभयारण्य	कोयना	KUSAVADE	AMBEGHAR	436	17.46655 73.7877 0 0	17.46655	73.7877	0	0	17.46375 73.79655 0 0	17.46375	73.79655	0	0	A CLASS 12 MTR		होय	1	0
कोयना अभयारण्य	कोयना	KUSAVADE	AMBEGHAR	428	17.43458 73.78055 0 0	17.43458	73.78055	0	0	17.4335 73.7772 0 0	17.4335	73.7772	0	0	B CALSS 6 MTR		होय	1	0
कोयना अभयारण्य	कोयना	KUSAVADE	AMBEGHAR	428	17.4601 73.7916 0 0	17.4601	73.7916	0	0	17.4667 73.7883 0 0	17.4667	73.7883	0	0	B CLASS 6 MTR		होय	1	0
कोयना अभयारण्य	0	1	कोयना	0	1	0	0	0	कुसळडे	कारळट	436 /437	17.425784 73.791276 1040.54 3	17.425784	73.791276	1040.54	3	17.4249995 73.823876 975.8 1.3	17.425	73.82388
कोयना अभयारण्य	0	1	कोयना	0	1	0	0	0	कुसळडे	कारळट	436, 437	17.424995 73.823765 886.8 7.3	17.424995	73.823765	886.8	7.3	17.442557 73.803395 984.4 2	17.44256	73.8034
कोयना अभयारण्य	बामणोरी	Gsgg	Gsg	55	17.691428 73.993173 643.5 11.723999977111816	17.691428	73.993173	643.5	11.72399998	17.691431 73.993174 643.5 11.522000312805176	17.691431	73.993174	643.5	11.52200031			होय	1	0
कोयना अभयारण्य	बामणोरी	Vele	Deur	382	17.578068 73.821449 1100 8.75	17.578068	73.821449	1100	8.75	17.3812 73.482 1162 2	17.3812	73.482	1162	2	Jalreshya	17.57804 73.821582 1076 17.5;17.38122 73.482 1161 2.6	होय	1	0
कोयना अभयारण्य	बामणोरी	Vele	Vele	386	17.3258 73.3441 1159 2	17.3258	73.3441	1159	2	17.3441 73.492 1159 2	17.3441	73.492	1159	2	Jalreshya	17.3258 73.4749 1159 2;17.3441 73.492 1159 2	होय	1	0
कोयना अभयारण्य	बामणोरी	waghavale	Pimpari	355	17.726194 73.688389 0 0	17.726194	73.688389	0	0	17.735306 73.686278 0 0	17.735306	73.686278	0	0	A Class Fireline		होय	1	0
कोयना अभयारण्य	बामणोरी	Waghavale	Pimpari	301	17.735028 73.695556 0 0	17.735028	73.695556	0	0	17.741972 73.700028 0 0	17.741972	73.700028	0	0	B Class Fireline		होय	1	0
कोयना अभयारण्य	बामणोरी	Waghavale	Pimpari	300	17.750639 73.692139 0 0	17.750639	73.692139	0	0	17.750611 73.697889 0 0	17.750611	73.697889	0	0	B Class Fireline		होय	1	0
कोयना अभयारण्य	बामणोरी	Waghavale	Waghavale	356	17.765917 73.674944 10 7.1	17.765917	73.674944	10	7.1	17.747667 73.670861 783 7.1	17.747667	73.670861	783	7.1	A class		होय	1	0
कोयना अभयारण्य	बामणोरी	KOLHAPUR	VALVAN	348	17.7425 73.57666667 622.24 6.3	17.7425	73.57666667	622.24	6.3	17.74 73.57444444 629 15.3	17.74	73.57444444	629	15.3	12M	17.74 73.57 629 15.3;17.741493	होय	1	0
कोयना अभयारण्य	बामणोरी	VALVAN	ARAV	346	17.722861 73.574694 0 0	17.722861	73.574694	0	0	17.724667 73.566528 0 0	17.724667	73.566528	0	0	A CLASS		होय	1	0
कोयना अभयारण्य	बामणोरी	VALVAN	ARAV	346	17.710556 73.598056 0 0	17.710556	73.598056	0	0	17.714444 73.606667 0 0	17.714444	73.606667	0	0	A CLASS		होय	1	0
कोयना अभयारण्य	बामणोरी	VALVAN	ARAV	346	17.701667 73.593889 0 0	17.701667	73.593889	0	0	17.704722 73.588333 0 0	17.704722	73.588333	0	0	A CLASS		होय	1	0
कोयना अभयारण्य	बामणोरी	VALVAN	ARAV	346	17.707222 73.624056 0 0	17.707222	73.624056	0	0	17.703833 73.630444 0 0	17.703833	73.630444	0	0	A CLASS		नाही	0	1
कोयना अभयारण्य	बामणोरी	KOLHAPUR	MUNAWALE	307	17.71722222 73.77888889 871 12	17.7172222	73.77888889	871	12	17.70305556 73.77277778 987 11	17.70305556	73.77277778	987	11	B CLASS	17.71722222 73.77888889 879 11;17.722812 73.769729 0 0	नाही	0	1
कोयना अभयारण्य	बामणोरी	KOLHAPUR	MUNAWALE	306	17.71436111 73.77272222 879 3	17.7143611	73.77272222	879	3	73.71134444 7.765277778 786 12	73.71134444	7.765277778	786	12	B CLASS	17.71436111 73.77272222 789 21;17.713901 73.768911 0 0	नाही	0	1
कोयना अभयारण्य	बामणोरी	METINDOLI	KHIRKHINDI	304	17.702551 73.749251 0 0	17.702551	73.749251	0	0	17.699444 73.705167 686 6	17.699444	73.705167	686	6	B	17.699444 73.705167 686 7;17.699992 73.705177 686 2;17.699444 73.705167 686 4	होय	1	0
कोयना अभयारण्य	ढेबेळाडी	2	o																

कोयना अभयारण्य	ढेबेळाडी	Ajh	As	74	17.691427 73.993169 643.5 20	17.691427	73.993169	643.5	20	17.691429 73.993165 643.5 16.03499984741211	17.691429	73.993165	643.5	16.03499985	As	17.691431 73.993169 643.5 11.640999794006348;17.691432 73.993171 643.5 11.532999992370605;17.69143 73.993168 643.5 15.968999862670898;17.691431 73.993175 643.5 11.496999740600586	होय	1	0
चांदोरी राष्ट्रीय उद्यान	ढेबेळाडी	kolhapur	Takale	19	17.210795 73.815283 0 0	17.210795	73.815283	0	0	17.221151 73.817273 0 0	17.221151	73.817273	0	0	मुख्य रस्ता टाकले ते झोलबी ह्द		होय	1	0
चांदोरी राष्ट्रीय उद्यान	ढेबेळाडी	kolhapur	Takale	1819	17.210826 73.815272 0 0	17.210826	73.815272	0	0	17.207306 73.791797 0 0	17.207306	73.791797	0	0		17.210821 73.815266 0 0;17.229421 73.809382 0 0;17.197046 73.817911 0 0;17.187781 73.788643 0 0;17.22115 73.817482 0 0;17.219752 73.791540 0	होय	1	0
चांदोरी राष्ट्रीय उद्यान	ढेबेळाडी	kolhapur	Takale	1819	17.210857 73.815272 0 0	17.210857	73.815272	0	0	17.22112 73.817369 0 0	17.22112	73.817369	0	0			होय	1	0

९.जाळरेषा (Fireline Details)

शंरक्षसत सेत्राचे नाळ	शंरक्षसत सेत्राचे नाळ /चांदोरी राष्ट्रीय उद्यान	शंरक्षसत सेत्राचे नाळ /कोयना अभयारण्य	ळनपररसेत्र	ळनपररसेत्र/ बामणोरी	ळनपररसेत्र/ कोयना	ळनपररसेत्र/ षेलळाक	ळनपररसेत्र/ चांदोरी	ळनपररसेत्र/ ढेबेळाडी	ळतुतल	ननयतसेत्र	कस क्र.	आरंभ असांक़	आरंभ रेखांक़	असांक़	रेखांक़	प्रकार	जालरेवा	जी.पी.एश .रॅक	जी.पी.एश.रॅक/ षोय	जी.पी.एश .रॅक/नाषी
कोयना अभयारण्य	0	1	कोयना	0	1	0	0	0	ुकसळडे	कारळट	458,460	17.394448	73.836112	17.41412	73.84559	12मीटर	वळ्ुरळाडी सडा ते माकडी डाग	होय	1	0
कोयना अभयारण्य	0	1	कोयना	0	1	0	0	0	ुकसळडे	कारळट	461	17.397163	73.834138	17.40222	73.83034	12मीटर	मैऱ सडा खारून ते धनगरळस्ती	होय	1	0
कोयना अभयारण्य	0	1	कोयना	0	1	0	0	0	ुकसळडे	कारळट	460,461	17.394383	73.821450	17.39222	73.84687	12मीटर	गुणुगडेळाडी सडा बुरुज ते आले सडा	होय	1	0
कोयना अभयारण्य	0	1	कोयना	0	1	0	0	0	ुकसळडे	कारळट	438	17.424995	73.82376	17.43772	73.80011	6 मीटर	घाणबी मंहदर ते महाहं ळ मंहदर सडा ळाटोले	होय	1	0
कोयना अभयारण्य	0	1	कोयना	0	1	0	0	0	ुकसळडे	कारळट	436	17.436815	73.814363	17.42499	73.82376	6मीटर	के सळणे कोलंब नानडी नायळाट ते घाणबी खखडं	होय	1	0
कोयना अभयारण्य	0	1	कोयना	0	1	0	0	0	ुकसळडे	कारळट	437	17.442728	73.80511	17.43747	73.81406	6मीटर	बंधारा रळहं ते के सळणे ओढा	होय	1	0

१०.मानवननमयमत तलाव (Man-Made Lake)											१०.मानवननमयमत तलाव (Man-Made Lake)												
तारीख	लनयपकाचं नाल	चत पत्राचं	लननरयधंत्र	लतुतर	ननमतधंत्र	कष क्र	वलबागाचं ननमत्रण	स्थान	Latitude	Longitude	थान_altitu	थान_preci	ाधंकाभ ल	त पत्र (श	रबधता कध	रालाचा र	ामदा सभ	खा ल	यां चा न	नतीचा	नस्पती आ	पत्र (शे	ळंया
2023-05-11	FG Anil Pundlik kumbhar	कोमना अ	फाभणारी	लरे	नरसलडे	0	RFO Bamnoli	17.636053	17.636053	73.84773	0	0	0	0	ननयंक		नाहीत		नाही	ननयंक	नाहीत	0	भानल ननहभित तराल नाही
2023-05-15	Deepak bhalchandra sorat	कोमना अ	फाभणारी	Velle	Deur	0	Nirank	17.606388	17.606389	73.81056	1162	3.4	0	0	Nirank		Nirank		नाही				
2023-05-16	FG Anil Pundlik kumbhar	कोमना अ	फाभणारी	लरे	नरसलडे	0	RFO Bamnoli	17.641192	17.641192	73.83668	991.7	8.3	0	0	0		ननयंक		नाही	ननयंक	ननयंक	0	भानल ननहभित तराल फांधरे नाहीत
2023-05-18	Dada Maruti jankar	कोमना अ	फाभणारी	Vele	Deur		Nirank	17.599167	17.599167	73.85722	1158	4							नाही				Nirank
2023-05-19	Sunil Basappa Kuri	चांदोरी य	चांदोरी	कोल्हानूप	टाकरे	19	लनवलबाग	17.210972	17.210972	73.81575	0	0	2021		पक्त नाल	30			नाही				सदय लनतळ्माचे काभ अनूहण झारेरे आहे.लन ताळ्मालय भरचीगं नेनय टाकून, कु टटलयीर नाणी नाईन राईन च्या साहाय्माने नाणी साठलून स्रंकरय टाकरे गालठाण ंंत्रा भधीर कु यनास नाणी देऊन कु यण टहयले ठेलण्मास भदत होईर.
2023-05-18	वलजम कोंडीयाभ बोसरे	कोमना अ	कोमना	छियळंगे	ककसरुरे			17.480556	17.480556	73.7678	0	0							नाही				ककसरुरे ननमत ंंत्राभध्मे कोणताही भानलननहभित तराल नाही
2023-05-19	Ajit gundopant patil	कोमना अ	कोमना	Takavali	Karanjawade	0	ननयंक	17.53803 7	17.53803	73.775	0	0	0	0	00		ननयंक		नाही	ननयंक	00	0	सादय भाटहती ननयंक आहे
2023-07-12	SONALI SHIVAJI KISAVE	कोमना अ	फाभणारी	KOLHAPUR	MUNAWALE			17.777777	17.777778	7.878889	876	11			NIRANK		NIRANK		नाही	NIRNK	NIRANK		ननमत ंंत्र भुनालरे भध्म भानल ननहभित तराल नाही
2023-07-19	रनतक गामकलाड	चांदोरी य	फाभणारी	लरलन	म्हारुग			17.689641	17.689641	73.57866	76.80653	2288			नायक				नाही				नायक
2023-07-20	तानाजी ळे लाजी ळंदे लननार	चांदोरी य	हरलाक	रु दील	रु दील दक्षण	6	ननयंक	17 73 0 0	17	73	0	0	0	0	ननयंक		ननयंक		नाही	ननयंक	ननयंक	0	ननयंक
2023-07-20	Pritam Baban Kamble	चांदोरी य	हरलाक	Rundiv	Ambole	0	No	17 73 2 2	17	73	2	2	0	0	No		No		नाही	No	No	0	ननयंक
2023-03-31	एस डी काकड	चांदोरी य	हरलाक	कारण	चांदोरी खुहद			17 73 0 0	17	73	0	0							नाही				ननयंक
2023-07-26	S S Mundhe	चांदोरी य	हरलाक	Helwak	Rasati	0	0	17.682986	17.682986	74.00592	671.4	20	0	0	0		0		नाही	0	0	0	0
2023-07-18	बायत ळे लयाभ खुटारे लनतार रु टदल	चांदोरी य	हरलाक	रु टदल	रु टदल उत्तय	9		17 73 0 0	17	73	0	0							नाही				ननयंक
2023-09-19	S P Pawar FG Pimpari	कोमना अ	फाभणारी	Waghavale	Pimpari	299	नाटकधाये वलबाग	17.705333	17.705333	73.72444	0	0	1967	2797.4	फायाभाही		98		नाही				
2023-10-26	रनतक धाडडफा गामकलाड	कोमना अ	फाभणारी	लरलन	म्हारुग			17.67858 7	17.67858	73.56171	67.94021	1652			भाहच				नाही	अंजन,	आहे		
2023-10-26	सुपळ क ु डरक सूमलळ्य	कोमना अ	फाभणारी	लरलन	आयल			17.680456	17.680456	73.5637	67.94021	2019			भाहच				नाही	जबुर ,	आहे		
2023-09-01	SWAPNIL SAMBHAJI SHENDAGE	कोमना अ	फाभणारी	METINDOL	KHIRKHINDI		SAHYADRI TIGER RES	57.035955	57.035955	-26.1472	0	0			NIRANK		NIRANK		नाही	NIRANK	NIRANK		NO MAN MADE LAKE
2023-10-26	ए ज चव्हाण	कोमना अ	फाभणारी	भट इदलर	कुसानूप	329		7.3917 10.	7.3917	10.4573	782	1.8					गाल नाहीत		नाही				
2023-08-13	S P Pawar FG Waghavale Add.Charge	कोमना अ	फाभणारी	Waghavale	Waghavale	0	नाटकधाये वलबाग	17.732258	17.732258	73.67135	0	0	1967	2797.4	फायाभाही		98		नाही	0	नाही	0	

११.वन्यप्राण्याचे रस्ता अपघात घटना (Information about Raod Accident)										
संरक्षत ठं ंत्राचे नाव	वनपररेत्र	वतुतळ	ननयठतेत्र	ठक क्र.	ठिकाणाचे नाव	स्थान	Latitude	Longitude	_स्थान _altitude	_स्थान _precision
कोयना अभयारण्य	कोयना	Koyna	Koyna	10	Koyna	17.257269 74.162411 240.29998779296875 20	17.257269	74.162411	240.2999878	20
कोयना अभयारण्य	कोयना	Takavali	Karanjawade	0	Karanjawade	17.53803 73.775004 0 0	17.53803	73.775004	0	0
कोयना अभयारण्य	कोयना	न न्ररमंडल कोय	कोयना		कोयना	17.2335 73.444 637 13.9	17.2335	73.444	637	13.9
कोयना अभयारण्य	कोयना	ळऱ्ळन	म्हाल ंगे		म्हाल ंगे	17.678579 73.561714 67.9402084350586 1652	17.678579	73.561714	67.94020844	1652
कोयना अभयारण्य	कोयना	ळऱ्ळन	आरळ		आरळ	17.678579 73.561714 67.9402084350586 1652	17.678579	73.561714	67.94020844	1652
कोयना अभयारण्य	बामणोऱी	ळेले	न्नलसळडे	0	Sandavali	17.636053 73.847731 1141	17.636053	73.847731	1141	7.699999809
कोयना अभयारण्य	बामणोऱी	Vele	Deur	0	Nirank	17.6063889 73.8105555 1162 3.4	17.6063889	73.8105555	1162	3.4
कोयना अभयारण्य	बामणोऱी	Vele	Deur		Nirank	17.599167 73.857222 1158 7	17.599167	73.857222	1158	7
कोयना अभयारण्य	बामणोऱी	KOLHAPUR	MUNAWALE		NIRANK	17.8889 73.8766666 981 11	17.8889	73.8766666	981	11
कोयना अभयारण्य	बामणोऱी	ळऱ्ळन	म्हाल ंगे		म्हाल ंगे	17.683316 73.564302 76.80652618408203 1980	17.683316	73.564302	76.80652618	1980
कोयना अभयारण्य	बामणोऱी	Waghavale	Pimpari	0	Pimpari	17.718778 73.72575 0 0	17.718778	73.72575	0	0
कोयना अभयारण्य	बामणोऱी	ळऱ्ळन	ळऱ्ळन		ळऱ्ळन	17.678579 73.561714 67.9402084350586 1652	17.678579	73.561714	67.94020844	1652
कोयना अभयारण्य	बामणोऱी	मेट इंदळऱी	क ंसानूर		इंदळऱी	31.4017 3.4373 738 3	31.4017	3.4373	738	3
कोयना अभयारण्य	बामणोऱी	METINDOLI	KHIRKHINDI		NIRANK	40.195086 43.514218 0 0	40.195086	43.514218	0	0
कोयना अभयारण्य	बामणोऱी	मेट इंदळऱी	क ंसानूर		इंदळऱी	31.4017 3.3973 638 3	31.4017	3.3973	638	3
कोयना अभयारण्य	बामणोऱी	WAghavale	WAghavale	0	यांचे रस्ता अन्नघ	17.729561 73.674653 0 0	17.729561	73.674653	0	0
चांदोऱी राष्ट्रीय उद्यान	हेलळाक	Helwak	Rasati		Nechal rashta	17.378611 73.703056 849 23.9	17.378611	73.703056	849	23.9
चांदोऱी राष्ट्रीय उद्यान	हेलळाक	रं दीळ	रं दीळ दक्षण	6	ननरंक	17 73 0 0	17	73	0	0
चांदोऱी राष्ट्रीय उद्यान	हेलळाक	Rundiv	Ambole	9	No	17 73 2 2	17	73	2	2
चांदोऱी राष्ट्रीय उद्यान	हेलळाक	कोलणे	चांदोऱी ख ंदद		चांदोऱी ख ंदद	17 73 0 0	17	73	0	0
चांदोऱी राष्ट्रीय उद्यान	हेलळाक	रंददळ	रंददळ उत्तर	5	रंददळ	17 73 0 0	17	73	0	0

१२.जलीय अठधवास (Aquatic Habitat)											१२.जलीय अठधवास (Aquatic Habitat)								
तारीख	ळनरंकाचे नाळ	ंत ंंंत्राचे	ळनपरर ंत्र	ळतुतल	ननयत ंत्र	कं क्र.त	राळाचे ना	गाळाचे नाळ	स्थान	Latitude _preci	Longitude	थान _altit	ंान	प्रमुख पी	हंगाम	नस्पती आ	पती आहेत	ती आहेत	ळेरा
2023-04-13	Ramdas Natha Danane		चांदोरी		Gothane									Peacock	Summer	आहेत	1	0	
2023-04-13	XYZ		कोयना	Koyana	Koyana	432	Thorali tali							Duck & frog	Rainy				
2023-05-02	Abc	कोयना अ	कोयना	Koyna	Koyna	10	Koyna	Koyna	17.257269	17.25727	74.16241	240.3	20	Peacock	Monsoon	आहेत	1	0	
2023-05-16	Deepak bhalchandra sorat	कोयना अ	बामणोरी	V	Deur		Nirank	Deur	17.615556	17.61556	73.80556	1078	4			नाहीत	0	1	Nirank
2023-05-14	SWAPNIL SAMBHAJI SHENDAGE	कोयना अ	बामणोरी	कोल्हानूर	ळऱ्ळण	350	नांढरे नाणी	ळऱ्ळण	17.759444	17.75944	73.58722	955.43	145.3	हररण्याऱ, बुरबुर, सातभाई	बारमाही	नाहीत	0	1	
2023-05-15	Valvan	कोयना अ	बामणोरी	कोल्हानूर	ळऱ्ळण	351	घायनात न	नळवत	17.751111	17.75111	73.59611	871.34	7.7	कोतळाऱ, स्ळगीय नतवक	सहामाही	आहेत	1	0	
2023-05-18	Dada Maruti jankar	कोयना अ	बामणोरी	Vele	Vele		Nirank	Vele	17.599167	17.59917	73.85722	1158	4			नाहीत	0	1	Nirank
2023-05-19	Ajit gundopant patil	कोयना अ	कोयना	Takavali	Karanjawade	0	ननरांक	ननरांक	17.53803 7	17.53803	73.775	0	0	ननरांक	ननरांक	नाहीत	0	1	सादर माहहती ननरांक आहे
2023-05-20	सचचन युळराज नाटीऱ	कोयना अ	कोयना	शळरशळांगे	शळरशळांगे	405	कोयना धर	शळरशळांगे	17.488595	17.4886	73.73057	0	0	नदी सुरई	जानेळारी त	नाहीत	0	1	
2023-05-18	जी आर बेंद्रे	कोयना अ	कोयना	ळन नरमांड	कोयना	430	सोणीळरीचे	हांबरली	17.24593 7	17.24593	73.43607	857	9.1	खांड्या. नतांग. हररण्याऱ	बारमाही	आहेत	1	0	ना दुरुस्त
2023-05-23	जी आर बेंद्र	कोयना अ	कोयना	ळन नरीमांड	कोयना	430	सोणकी चे	हांबरली	17.25612 7	17.25612	73.42452	0	0	हलद्या.नतग	बारमाही	नाहीत	0	1	
2023-05-23	जी आर बेंद्रे	कोयना अ	कोयना	ळन नरमांड	कोयना	430	बुरबाचे ना	हांबरली	17.253153	17.25315	73.42212	0	0	हलद्या.	बारमाही	नाहीत	0	1	
2023-05-23	जी आर बेंद्रे	कोयना अ	कोयना	ळन नरमांड	कोयना	424	डोणी चे ना	तोरणे	17.25757 7	17.25757	73.41145	0	0	हलद्या. चचमणी. के काटी. घार. घुबड.	एहप्रर	नाहीत	0	1	
2023-05-23	जी आर बेंद्रे	कोयना अ	कोयना	ळन नरीमांड	कोयना	426	जांबलीचे न	घाटमाथा	17.242757	17.24276	73.40359	998	3.5	हररण्याऱ. नतांग. बुरबुर. घार	बारमाही	नाहीत	0	1	शससमेंट बांदारा बांधण्यासाठी योग्य
2023-07-12	SONALI SHIVAJI KISAVE	कोयना अ	बामणोरी	KOLHAPUR	MUNAWALE	307	NIRANK	NIRANK	17.717777	17.71778	73.9	876	12	NIRANK	NIRANK	नाहीत	0	1	मुनाळले बीट जऱीय अचधळास नाही
2023-07-19	हंनतक गायकळाड	चांदोरी र	बामणोरी	ळऱ्ळन	म्हालुंगे		कोयना ब्य		17.689633	17.68963	73.57864	76.80653	2288	होनवबबल्र		आहेत	1	0	
2023-07-19	हंनतक गायकळाड	चांदोरी र	बामणोरी	ळऱ्ळन	म्हालुंगे		म्हालुंगे कांा म्हालुगे	कोयना	17.690571	17.69057	73.57859	76.80653	1987.428	होनवबबल्र		आहेत	1	0	
2023-07-20	तानाजी शळ्ळाजी शळांदे ळननाऱ	चांदोरी र	हेलळाक	रुां दीळ	रुां दीळ द्ध्ण	6	नाही	नाही	17 73 0 0	17	73	0	0	घार	बारमाही	आहेत	1	0	ननरांक
2023-07-20	Pritam Baban Kamble	चांदोरी र	हेलळाक	Rundiv	Ambole	0	No	No	17 73 2 2	17	73	2	2	No	No	आहेत	1	0	ननरांक
2023-03-31	एस डी काकडे	चांदोरी र	हेलळाक	कोलणे	चांदोरी खुदव		ननरांक	चांदोरी खु	17 73 0 0	17	73	0	0			आहेत	1	0	ननरांक
2023-07-26	S S Mundhe	चांदोरी र	हेलळाक	Helwak	Rasati	0	0	0	7 17 0 0	7	17	0	0	0	0	नाहीत	0	1	
2023-07-18	भारत शळ्ळराम खुटाऱे ळननाऱ रुां हदळ	चांदोरी र	हेलळाक	रुां	रुां हदळ उत्तर	5	ननरांक	रुां हदळ	17 73 0 0	17	73	0	0			नाहीत	0	1	ननरांक
2023-07-18	भारत शळ्ळराम खुटाऱे ळननाऱ रुां हदळ	चांदोरी र	हेलळाक	हदळ	रुां हदळ उत्तर	5	ननरांक	ननरांक	17 73 0 0	17	73	0	0			नाहीत	0	1	ननरांक
				रुां															
				हदळ															
2023-09-18	S P Pawar FG Pimpari	कोयना अ	बामणोरी	Waghavale	Pimpari	0	Koyana Ba	pimpari	17.701944	17.70194	73.72917	0	0	नदी सुरई , बगला	नदी सुरई	नाहीत	0	1	
2023-05-20	Arjun.j.chavan	कोयना अ	बामणोरी	Met indoli	Kusapur	331	Koyana ba	Met indoli	17.402 73.	17.402	73.4246	683	32	महा धनेळ	में	आहेत	1	0	
2023-10-26	ए जे चव्हाण	कोयना अ	बामणोरी	मेट इंदळऱ	कु सानूर		ननरांक	ननरांक	18.4017 2.	18.4017	2.4373	738	3	ननरांक		आहेत ना	1	1	कु सानूर ननयत ंत्रामध्ये जऱीय अच
2023-09-01	Swapnil sambhaji shendage	कोयना अ	बामणोरी	Metindoli	Khirkhindi		Nirank	Nirank	17.801264	17.80126	73.71009	860	8	Nirank		नाहीत	0	1	Nirank
2023-10-26	ए जे चव्हाण	कोयना अ	बामणोरी	मेट इंदळऱ	कु सानूर		ननरांक	ननरांक	32.4017 30	32.4017	30.4473	697	10.6			नाहीत	0	1	कु सानूर ननयत ंत्रामध्ये जऱीय अच
2023-09-18	S P Pawar FG Waghavale Add.Charge	कोयना अ	बामणोरी	Waghavale	Waghavale	356	कोयना बॅक	ननळली कु ट	17.729561	17.72956	73.67465	0	0	नदी सुरई, बगला	नदी सुरई,	नाहीत	0	1	

start	end	तारीख	ळनरकाचं नाळ	संक्षेप ाब्देव	ळनपरर ात्र	व्युतपाच न	नगयतात्र	क्र	पाणळठ्याचं नाळ ळ ठिकाण	स्थान -अ ळ (N) रेख	ळ (N) रेखांळ (	_स्थान -	_स्थान -	प्रकार	प्रकार/बार	प्रकार/मा	तपळाशे	क़रा
2023-05-11	2023-05-12	2023-05-12	Arjun.j.chavan	चादारा याष्ट्राम	फाभणारी	भट इादार	कुवानुय	333	अ गठ्माच चाणा भट इंदारी	17.4011 73.4144 0 2.2	17.4011	73.4144	17 40 11	73 41 44	0	2.2	फायभाशी	1	0		
2023-05-11	2023-05-12	2023-05-12	Arjun.j.chavan	चादारा याष्ट्राम	फाभणारी	भट इादार	Kusapur	331	श्किारांचेनाणी भट इादारी	17.3951 73.4314 0 0	17.3951	73.4314	17 39 51	73 43 14	0	0	फायभाशी	1	0		
2023-05-12	2023-05-12	2023-05-12	Arjun.j.chavan	चादारा याष्ट्राम	फाभणारी	Met indol	Kusapur	331	आब्भाच चाणा भट इादारा	17.3937 73.4319 0 8.1	17.3937	73.4319	17 39 37	73 43 19	0	8.1	फायभाशी	1	0		
2023-05-12	2023-05-12	2023-05-12	Arjun.j.chavan	चादारा याष्ट्राम	फाभणारी	Met indol	Kusapur	331	खडकाचं नाणी ताफो	17.3947 73.4432 0 36.7	17.3947	73.4432	17 39 47	73 44 32	0	36.7	फायभाशी	1	0		
2023-05-12	2023-05-12	2023-05-12	Arjun.j.chavan	कामना अबमाय	फाभणारी	Met indol	Kusapur	333	लोवाटा का ड भट इादारा	17.3947 73.4152 0 0	17.3947	73.4152	17 39 47	73 41 52	0	0	फायभाशी	1	0		
2023-05-12	2023-05-12	2023-05-12	Arjun.j.chavan	कामना अबमाय	फाभणारी	Met indol	Kusapur	334	नागश्लय का ड भट इादारा	17.4842 73.4857 0 0	17.4842	73.4857	17 48 42	73 48 57	0	0	फायभाशी	1	0		
2023-05-13	2023-05-13	2023-05-13	ज.श.ननकभ	कामना अबमाय	फाभणारी	भट इादार	खखधुखा डी	304	नचा चाणी खखयखाडी	17.41171 73.43558 412	17.41171	73.4356	17 41 17.1	73 43 55.8	4120	5.8	फायभाशी	1	0		
2023-05-13	2023-05-13	2023-05-13	ज.श.ननकभ	कामना अबमाय	फाभणारी	भट इादार	खखधुखा डी	305	का ु बा चाणा खखयखाडा	17.41013 73.45054 0 0	17.41013	73.4505	17 41 01.3	73 45 05.4	0	0	फायभाशी	1	0		
2023-05-13	2023-05-13	2023-05-13	ज.श.ननकभ	कामना अबमाय	फाभणारी	भट इादार	खखधुखा डी	302	अजननचं नाणी	17.41585 73.4246 0 0	17.41585	73.4246	17 41 58.5	73 42 46	0	0	फायभाशी	1	0		
2023-05-13	2023-05-13	2023-05-13	अभभत गुराफ जभादाय	चादारा याष्ट्राम	शेरलाक	रादद्दल	भवद्दश्लय		क ्भाच चाणा	17.17888889 73.7025 2	17.17888889	73.7025	17 10 44	73 42 9	24	35.4	फायभाशी	1	0		
2023-05-13	2023-05-13	2023-05-13	अभभत गुराफ जभादाय	चादारा याष्ट्राम	शेरलाक	रादद्दल	भवद्दश्लय		फेरचाणी चाणलठा ल फेरलाट	17.19111111 73.71472	17.19111111	73.7147	17 11 28	73 42 53	32	21	फायभाशी	1	0		
2023-05-13	2023-05-13	2023-05-13	अभभत गुराफ जभादाय	चादारा याष्ट्राम	शेरलाक	रादद्दल	भवद्दश्लय		अ जणाचा भाठा ढाश	17.19361111 73.715 48	17.19361111	73.715	17 11 37	73 42 54	48	22.5	फायभाशी	1	0		
2023-05-09	2023-05-13	2023-05-13	FG Anil Pundlik kumbhar	कामना अबमाय	फाभणारा	लरर	नरवलड	250	बूतनरा चाणलठा	17.632313 73.846428 1	17.632313	73.8464	17 37 56.33	73 50 47.14	1100.3	8.3	फायभाशी	1	0	चाणा पनण्भाव माम्भ	नवहागक चाणा झेया
2023-05-13	2023-05-13																				
2023-05-15	2023-05-15	2023-05-15	Suman Balu Jadhav	चादारा याष्ट्राम	ढफलाडी	Sanbur ba	Karale	571	Doni Gothavde	17.241985 73.851504 0	17.241985	73.8515	17 14 31.15	73 51 5.41	0	2300	फायभाशी	1	0		
2023-05-16	2023-05-16	2023-05-15	अ. तु. लाघभाय	कामना अबमाय	फाभणारी	भट इादार	भुनालर	307	मनक चा व्याप्र भुनालर	17.42122 73.47053 0 0	17.42122	73.4705	17 42 12.2	73 47 05.3	0	0	फायभाशी	1	0		
2023-05-16	2023-05-15	2023-05-15	अ. तु. लाघभाय	कामना अबमाय	फाभणारी	भट इादार	भुनालर	313	चांगरा ाफयां चाणी	17.4212 73.484 1115.4	17.4212	73.484	17 42 12	73 48 4	1115.4	18.4	फायभाशी	1	0		
2023-05-16	2023-05-15	2023-05-15	अ. तु. लाघभाय	कामना अबमाय	फाभणारी	भट इादार	भुनालर	306	लाघरा	17.4237 73.4617 695.2	17.4237	73.4617	17 42 37	73 46 17	695.23	6.3	फायभाशी	1	0		
2023-05-17	2023-05-17	2023-05-17	shri suresh kundlik suryawansh	कामना अबमाय	फाभणारी	लरलण	आयल	346	गडग्माचं चाणी	17.709167 73.596944 0	17.709167	73.5969	17 42 33	73 35 49	0	0	भावभी	0	1		8 - 10 भभशान चाणी अवत
2023-05-17	2023-05-17	2023-05-17	श्री तुयळ का ु डभरक तुल्मलाळा	कामना अबमाय	फाभणारी	लरलण	आयल	346	गडग्माचं चाणा म्लादा	17.709167 73.596944 0	17.709167	73.5969	17 42 33	73 35 49	0	0	भावभी	0	1		8 - 10 भभशान चाणी अवत
2023-05-17	2023-05-17	2023-05-17	श्री तुयळ का ु डभरक तुल्मलाळा	कामना अबमाय	फाभणारी	लरलण	आयल	344	jambhul pani, janani mura,	17.704167 73.631389 0	17.704167	73.6314	17 42 15	73 37 53	0	0	भावभी	0	1		water is available for 8-10 month
2023-05-17	2023-05-17	2023-05-17	shri suresh kundlik suryawansh	कामना अबमाय	फाभणारी	valvan	Arav	346	humbarache pani	17.712778 73.585 0 0	17.712778	73.585	17 42 46	73 35 6	0	0	भावभी	0	1		water available for 8-10 month
2023-05-09	2023-05-17	2023-05-17	Deepak bhalchandra sorat	कामना अबमाय	फाभणारी	Vele	Deur	382	Injaiche pani	17.614444 73.805278 1	17.614444	73.8053	17 36 52	73 48 19	1016	1	फायभाशी	1	0		Barmahi
2023-05-17	2023-05-17	2023-05-17	Deepak bhalchandra sorat	कामना अबमाय	फाभणारी	Vele	Deur	370	Didyache pani	17.633056 73.785556 9	17.633056	73.7856	17 37 59	73 47 8	922	1	फायभाशी	1	0		Barmahi
2023-05-17	2023-05-17	2023-05-17	Deepak bhalchandra sorat	कामना अबमाय	फाभणारी	Vele	Deur	372	Kutaliche pani	17.575 73.4827 945 1	17.575	73.4827			945	1	फायभाशी	1	0		Barmahi
2023-05-17	2023-05-17	2023-05-17	Deepak bhalchandra sorat	कामना अबमाय	फाभणारी	Vele	Deur	380	Anjaniche pani	17.572222 73.816389 9	17.572222	73.8164	17 34 20	73 48 59	907	4	फायभाशी	1	0		Barmahi
2023-05-17	2023-05-17	2023-05-17	Deepak bhalchandra sorat	कामना अबमाय	फाभणारी	Vele	Deur	380	Sonyache pani	17.585 73.778889 938	17.585	73.7789	17 34 20	73 48 59	938	4	फायभाशी	1	0		Barmahi
2023-05-17	2023-05-17	2023-05-17	Deepak bhalchandra sorat	कामना अबमाय	फाभणारी	Vele	Deur	372	Kadyache pani	17.620833 73.808333 1	17.620833	73.8083	17 62 08.33	73 48 30	1024	0	फायभाशी	1	0		Barmahi
2023-05-17	2023-05-17	2023-05-17	Deepak bhalchandra sorat	कामना अबमाय	फाभणारी	Vele	Deur	372	Chipache pani	17.623056 73.816389 1	17.623056	73.8164	17 37 23	73 48 59	1024	0	फायभाशी	1	0		Barmahi
2023-05-17	2023-05-17	2023-05-17	Deepak bhalchandra sorat	कामना अबमाय	फाभणारी	Vele	Deur	382	Dhebevasti panvtha	17.610833 73.805 1020	17.610833	73.805	17 36 39	73 48 18	1020	1	फायभाशी	1	0		Barmahi
2023-05-17	2023-05-17	2023-05-17	Deepak bhalchandra sorat	कामना अबमाय	फाभणारी	Vele	Deur	372	Psndhare pani	17.598054 73.8025 102	17.598054	73.8025	17 35 52.99	73 48 9	1024	1	भावभी	0	1		Hangami
2023-05-17	2023-05-17	2023-05-17	Deepak bhalchandra sorat	कामना अबमाय	फाभणारी	Vele	Deur	380	Gundiche pani	17.592222 73.8075 989	17.592222	73.8075	17 35 52.99	73 48 9	989	1	फायभाशी भात्भ	1	1		
2023-05-17	2023-05-17	2023-05-17	Deepak bhalchandra sorat	कामना अबमाय	फाभणारी	Vele	Deur	381	Ratvaniche pani	17.553889 73.896667 8	17.553889	73.8967			890	2	भावभी	0	1		Hangami
2023-05-17	2023-05-17	2023-05-17	Deepak bhalchandra sorat	कामना अबमाय	फाभणारी	Vele	Deur	372	Krutrim panavtha	17.620833 73.806667 8	17.620833	73.8067	17 37 15	73 48 24	891	2	भावभी	0	1		Hangami
2023-05-18	2023-05-19	2023-05-18	Kishor Dhane	कामना अबमाय	कामना	Takwali	चारा	377	ाफयाचं नाणी भारदल चारा श	17.620711 73.721069 0	17.620711	73.7211	17 37 14.56	73 43 15.85	0	0	भावभी	0	1	एहपर अखय नमत	
2023-05-18	2023-05-20	2023-05-18	वाचन मुलयाज नाटार	कामना अबमाय	कामना	मळ्यमळाग	मळ्यमळाग	411	लाघडाश चाणलठा	17.482778 73.725 0 0	17.482778	73.725	17 28 58	73 43 30	0	0	फायभाशी	1	0		
2023-05-18	2023-05-20	2023-05-18	वाचन मुलयाज नाटार	कामना अबमाय	कामना	मळ्यमळाग	मळ्यमळाग	411	आब्भाचं नाणी	17.481667 73.733333 0	17.481667	73.7333	17 28 54	73 43 60	0	0	फायभाशी	1	0		
2023-05-18	2023-05-20	2023-05-18	वाचन मुलयाज नाटार	कामना अबमाय	कामना	मळ्यमळाग	मळ्यमळाग	409	नच भाराच चाणा	17.468899 73.705556 0	17.468899	73.7056	17.468899	73.705556	0	0	भावभी	0	1	भाहव अखय	
2023-05-18	2023-05-20	2023-05-18	वाचन मुलयाज नाटार	कामना अबमाय	कामना	मळ्यमळाग	मळ्यमळाग	406	धुनाच चाणा	17.489423 73.718038 0	17.489423	73.718	17.489423	73.718038	0	0	फायभाशी	1	0		
2023-05-18	2023-05-20	2023-05-18	वाचन मुलयाज नाटार	कामना अबमाय	कामना	मळ्यमळाग	मळ्यमळाग	405	व्याघडभाचं चाणी	17.509993 73.709141 0	17.509993	73.7091	17.509993	73.709141	0	0	फायभाशी	1	0		
2023-05-18	2023-05-20	2023-05-18	वाचन मुलयाज नाटार	कामना अबमाय	कामना	ळ्यमळाग	मळ्यमळाग	405	आनाद चाणलठा	17.497475 73.705456 0	17.497475	73.7055	17.497475	73.705456	0	0	फायभाशी	1	0		
2023-05-18	2023-05-20	2023-05-18	वाचन मुलयाज नाटार	कामना अबमाय	कामना	मळ्यमळाग	मळ्यमळाग	406	भारदाल चाणी	17.491669 73.719174 0	17.491669	73.7192	17.491669	73.719174	0	0	फायभाशी	1	0		
2023-05-18	2023-05-20	2023-05-18	वाचन मुलयाज नाटार	कामना अबमाय	कामना	मळ्यमळाग	डडचारा		आझयाच चाणा	17.523752 73.735928 0	17.523752	73.7359	17.523752	73.735928	0	0	फायभाशी	1	0		
2023-05-18	2023-05-20	2023-05-18	वाचन मुलयाज नाटार	कामना अबमाय	कामना	मळ्यमळाग	डडचारा		कशेच चाणा	17.504164 73.745554 0	17.504164	73.7456	17.504164	73.745554	0	0	फायभाशी	1	0		
2023-05-18	2023-05-20	2023-05-18	वाचन मुलयाज नाटार	कामना अबमाय	कामना	मळ्यमळाग	डडचारा		शाफयाचं चाणी	17.523907 73.7467 0 0	17.523907	73.7467	17.523907	73.7467	0	0	फायभाशी	1	0		
2023-05-18	2023-05-20	2023-05-18	वाचन मुलयाज नाटार	कामना अबमाय	कामना	मळ्यमळाग	डडचारा		गागट्माच चाणा	17.513291 73.736939 0	17.513291	73.7369	17.513291	73.736939	0	0	फायभाशी	1	0		
2023-05-19	2023-05-20	2023-05-19	नाहलतां क्यगय	कामना अबमाय	कामना	कुवलड	कायलट	458	भायग लगर	17.40089 73.849857 86	17.40089	73.8499	17.40089	73.849857	867.4	10.8	भावभी	0	1	नालवारी झय	नव्हागक झय
2023-05-15	2023-05-20	2023-05-19	नाहलतां क्यगय	कामना अबमाय	कामना	कुवलड	कायलट	458	लाघण	17.399179 73.846341 8	17.399179	73.8463	17.399179	73.846341	856.5	11.566	फायभाशी	1	0	लभ हाण्भाचा वदय ढठ	भारकां चत्र आद्मातीर झया,
2023-05-19	2023-05-20	2023-05-20	नाहलतां क्यगय	कामना अबमाय	कामना	कुवलड	कायलट	458	उनर भरा	17.406117 73.849147 8	17.406117	73.8491	17.406117	73.849147	891.8	4.2	भावभा	0	1	वदय दठकाणा नालवाळ	नालवारा झय
2023-05-20	2023-05-20	2023-05-20	नाहलतां क्यगय	कामना अबमाय	कामना	कुवलड	कायलट	461	नालनाइ फाला	17.400993 73.833075 8	17.400993	73.8331	17.400993	73.833075	822.5	12.8	फायभाशी	1	0	बयनूय चाणा	दुरस्ता आलश्मक
2023-05-20	2023-05-20	2023-05-19	PRASHANT BHOSALE	कामना अबमाय	कामना	KUSAVAD	AMBEGH	428	CHANDYACHA ODHA	17.4388 73.78166 0 0	17.4388	73.7817	17.4388	73.78166	0	0	फायभाशी	1	0		
2023-05-20	2023-05-20	2023-05-19	PRASHANT BHOSALE	कामना अबमाय	कामना	KUSAVAD	AMBEGH	428	JAKHNICHA ODHA	17.435 73.78444 0 0	17.435	73.7844	17.435	73.78444	0	0	फायभाशी	1	0		
2023-05-20	2023-05-20	2023-05-19	PRASHANT BHOSALE	कामना अबमाय	कामना	KUSAVAD	AMBEGH	436	DASTAN PANI	17.42222 73.78194 0 0	17.42222	73.7819	17.42222	73.78194	0	0	फायभाशी	1	0		
2023-05-20	2023-05-20	2023-05-19	PRASHANT BHOSALE	कामना अबमाय	कामना	KUSAVAD	AMBEGH	428	JAMBHULNICHE PANI	17.4311111 73.78055 0	17.4311111	73.7806	17.4311111	73.78055	0	0	फायभाशी	1	0		
2023-05-20	2023-05-20	2023-05-19	PRASHANT BHOSALE	कामना अबमाय	कामना	KUSAVAD	AMBEGH	436	GHODEBABARACHE PANI	17.4525 73.794722 0 0	17.4525	73.7947	17.4525	73.794722	0	0	फायभाशी	1	0		
2023-05-20	2023-05-20	2023-05-19	Ajit gundopant patil	कामना अबमाय	कामना	Takavali	Karanjaw	394	गडग्राचं चाणी	17.546359 73.75844 0	17.546359	73.7584	17.546359	73.75844	0	0	भावभी	0	1	जय लळी वाप कयण	
2023-05-20	2023-05-20	2023-05-19	Ajit Patil	कामना अबमाय	कामना	Takavali	Karanjaw	394	आब्भाचं चाणी	17.54323 73.74861 0 0	17.54323	73.7486	17.54323	73.74861	0	0	फायभाशी	1	0	जय लळी वाप कयण	वहल हकायच हाणा चाणा पनण्भावा
2023-05-20	2023-05-20	2023-05-19	Ajit Patil	कामना अबमाय	कामना	Takavali	Karanjaw	934	ददाडभाचं चाणी	17.543093 73.742047 0	17.543093	73.742	17.543093	73.742047	0	0	फायभाशी	1	0	जय लळी वाप कयण	यानडुकय जास्त हभाणात मतात
2023-05-20	2023-05-20	2023-05-19	Ajit Patil	कामना अबमाय	कामना	Takavali	Karanjaw	393	कराभुया चाणी	17.555422 73.756477 0	17.555422	73.7565	17.555422	73.756477	0	0	भावभी	0	1	जय लळी वाप कयण	
2023-05-20	2023-05-20	2023-05-19	Ajit Patil	कामना अबमाय	कामना	Takavali	Karanjaw	396	झाळाभाच चाणा	17.509465 73.765639 0	17.509465	73.7656	17.509465	73.765639	0	0	फायभाशी	1	0	जय लळी वाप कयण	जास्त हभाणात चाणा
2023-05-17	2023-05-20	2023-05-20	Dada Maruti jankar	कामना अबमाय	फाभणारी	Vele	Vele	386	Makaluche pani	17.529444 73.785278 9	17.529444	73.7853	17.529444	73.785278	562	16	भावभी	0	1		Hangami
2023-05-20	2023-05-20	2023-05-20	Dada Maruti jankar	कामना अबमाय	फाभणारी	Vele	Vele	386	Madvnyache pani	17.581389 73.813611 9	17.581389	73.8136	17.581389	73.813611	562	15	फायभाशी	1	0		Barmahi
2023-05-20	2023-05-20	2023-05-20	Dada Maruti jankar	कामना अबमाय	फाभणारी	Vele	Vele	386	Dhavdkhaniche pani	17.581667 73.805278 9	17.581667	73.8053	17.581667	73.805278	562	15	फायभाशी	1	0		Barmahi
2023-05-20	2023-05-20	2023-05-20	Dada Maruti jankar	कामना अबमाय	फाभणारी	Vele	Vele	386	Yekant tale	17.575 73.8075 562 12	17.575	73.8075	17.575	73.8075	562	12	फायभाशी	1	0		Barmahi
2023-05-20	2023-05-20	2023-05-20	Dada Maruti jankar	कामना अबमाय	फाभणारी	Vele	Vele	383	Dahacha odha	17.598333 73.8025 580	17.598333	73.8025	17.598333	73.8025	580	10	फायभाशी	1	0		Barm
2023-05-20	2023-05-20	2023-05-20	Dada Maruti jankar	कामना अबमाय	फाभणारी	Vele	Vele	383	Khadkaliche pani	17.572222 73.816389 9	17.572222	73.8164	17.572222	73.816389	562	15	फायभाशी	1	0		Barmahi
2023-05-20	2023-05-20	2023-05-20	Dada Maruti jankar	कामना अबमाय	फाभणारी	Vele	Vele	383	Talobache pani	17.585 73.778889 530	17.585	73.7789	17.585	73.778889	530	12	फायभाशी	1	0		Barmahi
2023-05-20	2023-05-20	2023-05-20	Dada Maruti jankar	कामना अबमाय	फाभणारी	Vele	Vele	386	Nagobache pani	17.573611 73.806667 9	17.573611	73.8067	17.573611	73.806667	562	12	फायभाशी	1	0		Barmahi
2023-05-20	2023-05-20	2023-05-20	Dada Maruti jankar	कामना अबमाय	फाभणारी	Vele	Vele	384	Mayniche tale	17.592222 73.8075 562	17.592222	73.8075	17.592222	73.8075	562	10	भावभी	0	1		Hangami
2023-05-20	2023-05-20	2023-05-20	Dada Maruti jankar	कामना अबमाय	फाभणारी	Vele	Vele	386	Gadyache pani	17.553889 73.796667 9	17.553889	73.7967	17.553889	73.796667	562	12	भावभी	0	1		Hangami
2023-05-20	2023-05-20	2023-05-20	Dada Maruti jankar	कामना अबमाय	फाभणारी	Vele	Vele	386	Krtkiche pani	17.565 73.794722 562	17.565	73.7947	17.565	73.794722	562	12	भावभी	0	1		Hangami
2023-05-20	2023-05-20	2023-05-20	Dada Maruti jankar	कामना अबमाय	फाभणारी	Vele	Vele	386	Krutrim panavtha	17.5925 73.807778 562	17.5925	73.8078	17.5925	73.807778	562	12	भावभी	0	1		Hangami
2023-05-20	2023-05-20	2023-05-20	Dada Maruti jankar	कामना अबमाय	फाभणारी	Vele	Vele	386	Krutrim panvtha	17.583889 73.813333 9	17.583889	73.8133	17.583889	73.813333	562	12	भावभी	0	1		Hangami
2023-05-21	2023-05-21																				
2023-05-18	2023-05-22	2023-05-18	पलजभ काडायाभ बावर	कामना अबमाय	कामना	मळ्यमळाग	ककवरर	412	आब्भाच चाणा नुनलरा	17.477222 73.776389 0	17.477222	73.7764	17.477222	73.776389	0	0	फायभाशी	1	0		
2023-05-18	2023-05-22	2023-05-18	पलजभ काडायाभ बावर	कामना अबमाय	कामना	मळ्यमळाग	ककवरर	412	भुनाच चाणा	17.483333 73.775833 0	17.483333	73.7758	17.483333	73.775833	0	0	फायभाशी	1	0		
2023-05-18	2023-05-22	2023-05-18	पलजभ काडायाभ बावर	कामना अबमाय	कामना	मळ्यमळाग	ककवरर	412	जाबराच चाणा फाडगा	17.4825 73.775833 0 0	17.4825	73.7758	17.4825	73.775833	0	0	फायभाशी	1	0		
2023-05-18	2023-05-22	2023-05-18	पलजभ काडायाभ बावर	कामना अबमाय	कामना	मळ्यमळाग	ककवरर	411	झाडारी गालठाण	17.47222 73.755556 0	17.47222	73.7556	17.47222	73.755556	0	0	फायभाशी	1	0		
2023-05-18	2023-05-22	2023-05-18	पलजभ काडायाभ बावर	कामना अबमाय	कामना	मळ्यमळाग	ककवरर	411	आफघघच चाणी	17.4775 73.744722 0 0	17.4775	73.7447	17.4775	73.744722	0	0	फायभाशी	1	0		
2023-05-18	2023-05-22	2023-05-18	पलजभ काडायाभ बावर	कामना अबमाय	कामना	मळ्यमळाग	ककवरर	411	झाडारी गालठाण चाणी	17.478056 73.758889 0	17.478056	73.7589	17.478056	73.758889	0	0	फायभाशी	1	0		
2023-05-18	2023-05-22	2023-05-18	पलजभ काडायाभ बावर	कामना अबमाय	कामना	मळ्यमळाग	ककवरर	412	नाफरच चाणी	17.465556 73.754167 0	17.465556	73.7542	17.465556	73.754167	0	0	फायभाशी	1	0		

2023-05-19	2023-05-23	2023-05-20	Kishor Dhane	कामना अबमाय	कामना	Takwali	Jungti	390	ददाड्माच नाणां	17.574167 73.718889 0	17.574167	73.7189	17.574167	73.718889	0	0	भावभा	0	1	एहपर अखय नाणां अवत	
2023-05-20	2023-05-23	2023-05-20	Kishor Dhane	कामना अबमाय	कामना	Takwali	Jungti	388	Bhelyache pani	17.579722 73.731389 0	17.579722	73.7314	17.579722	73.731389	0	0	भावभा	0	1	प बुतापा अक्षयतमत	
2023-05-20	2023-05-23	2023-05-20	Kishor Dhane	कामना अबमाय	कामना	Takwali	Jungti	389	कोकण कडा नाणलठा	17.5775 73.714444 0 0	17.5775	73.7144	17.5775	73.714444	0	0	भावभा	0	1	March आखेय	भाहच अखय नाणां अवत
2023-05-18	2023-05-24	2023-05-18	जो आय फद्र	कामना अबमाय	कामना	लन नरयभा	कामना	432	वोननलयांच नाणां	17.416658 73.717724 9	17.416658	73.7177	17.416658	73.717724	946	7.9	फायभाशां	1	0	नलोन नाणलठ.तमाय क	कृ तांभ नाणलठ कयण आलश्यक
2023-05-18	2023-05-24	2023-05-23	जो आय फद्र	कामना अबमाय	कामना	लन नरयभा	कामना	426	घाटभाथा जाफरांच नाणां	17.242757 73.403594 9	17 24 27.57	73 40 35.9	17 24 27.57	73 40 35.9	998	3.5	फायभाशां	1	0		
2023-05-24	2023-05-24																				
2023-05-23	2023-05-24	2023-05-23	जो आय फद्र	कामना अबमाय	कामना	लन नरयभा	कामना	430	शाफयश फुयफाच नाणां	17.253153 73.422122 0	17 25 31.53	73 42 21.2	17 25 31.53	73 42 21.22	0	0	फायभाशां	1	0		
2023-05-23	2023-05-24	2023-05-23	जो आय फद्र	कामना अबमाय	कामना	लन नरयभा	कामना	430	उगभ तायण	17.241158 73.42329 0	17 24 11.58	73 42 32.9	17 24 11.58	73 42 32.9	0	0	फायभाशां	1	0		
2023-05-23	2023-05-24	2023-05-23	जो आय फद्र	कामना अबमाय	कामना	लन नरयभा	कामना	424	तायण डानाच नाणां	17.25757 73.41145 0 0	17 25 7.57	73 41 14.5	17 25 7.57	73 41 14.5	0	0				एहपर नमत नाणां अवत	
2023-05-20	2023-05-26	2023-05-26	Ajit Patil	कामना अबमाय	कामना	Takavali	Karanjaw	394	ठावीयाचं नाणां	17.550288 73.74445 0	17.550288	73.7445	17.550288	73.74445	0	0	फायभाशां	1	0	फायभाशां नाणां	
2023-05-26	2023-05-26	2023-05-19	Ajit Patil	कामना अबमाय	कामना	Takavali	Karanjaw	392	अ ाज्जणांच नाणां	17.555834 73.757222 0	17.555834	73.7572	17.555834	73.757222	0	0	भावभा	0	1		
2023-07-19	2023-07-19	2023-07-19	हनतक गामकलाड	चांदारा पाष्ट ाम	फाभणारा	लरलन	म्शाश्रग		चानलठभाच नाल - टाकाच चां	17.68397 73.565753 76	17.68397	73.5658	17.68397	73.565753	76.8065	1980	भावभा	0	1	नमयक	
2023-07-19	2023-07-19	2023-07-19	हनतक गामकलाड	कामना अबमाय	फाभणारा	लरलन	म्शाश्रग		अड्डामळ. अड्डाचं नानां	17.691707 73.580812 7	17.691707	73.5808	17.691707	73.580812	76.8065	2023	फायभाशां	1	0	नायाक	
2023-07-19	2023-07-19	2023-07-19	हनतक गामकलाड	कामना अबमाय	फाभणारा	लरलन	म्शाश्रग		अड्डामळ. नोलडु ाचं नानां	17.691695 73.580789 7	17.691695	73.5808	17.691695	73.580789	76.8065	2023	फायभाशां	1	0	नायाk	
2023-07-20	2023-07-20	2023-07-20	तानाजी मळलाजी मळाद लननार	चांदारा पाष्ट ाम	शश्रलाक	रादाल	रादाल क्ष		कू टांच नाणां रादाल दक्षषण वाय	17.1342 73.4344 0 0	17 13 42	73 43 44	17 13 42	73 43 44	0	0	फायभाशां	1	0		
2023-07-20	2023-07-20	2023-07-20	तानाजी मळलाजी मळाद लननार	चांदारा पाष्ट ाम	शश्रलाक	रादाल	रादाल क्ष		आड्माच नाणा वायषण कु ट	17.1343 73.4244 0 0	17 13 43	73 42 44	17 13 43	73 42 44	0	0	फायभाशां	1	0		
2023-07-20	2023-07-20	2023-07-20	Pritam Baban Kamble	चांदारा पाष्ट ाम	शश्रलाक	Rundiv	Ambole	10	Jawali gavthan	17.125 73.444 5 5	17 12 5	73 44 4	17 12 5	73 44 4	5	5	फायभाशां	1	0	Naisargik	
2023-07-20	2023-07-20	2023-07-20	Pritam Baban Kamble	चांदारा पाष्ट ाम	शश्रलाक	Rundiv	Ambole	10	Gavadyache pahi	17.1058 73.4529 5 5	17 10 58	73 45 29	17 10 58	73 45 29	5	5				Old	
2023-07-20	2023-07-20	2023-07-20	Pritam Baban Kamble	चांदारा पाष्ट ाम	शश्रलाक	Rundiv	Ambole	11	Nageche pahi	17.1135 73.4439 5 5	17 11 35	73 44 39	17 11 35	73 44 39	5	5	फायभाशां	1	0	Old	
2023-07-20	2023-07-20	2023-03-31	एव डी काकडे	चांदारा पाष्ट ाम	शश्रलाक	काश्रण	चाादारा	12	गामभुख	17.14374 73.4433 0 0	17 14 37.4	73 44 33	17 14 37.4	73 44 33	0	0	फायभाशां	1	0	-	-
2023-07-20	2023-07-20	2023-03-31	एव डी काकडे	चांदारा पाष्ट ाम	शश्रलाक	काश्रण	चाादारा	12	पलठठराइ	17.14507 73.44366 0 0	17 14 50.7	73 44 36.6	17 14 50.7	73 44 36.6	0	0	फायभाशां	1	0	-	-
2023-07-20	2023-07-20	2023-03-31	एव डी काकडे	चांदारा पाष्ट ाम	शश्रलाक	काश्रण	चाादारा ख	12	उभफयाचा	17.14398 73.43573 0 0	17 14 39.8	73 43 57.3	17 14 39.8	73 43 57.3	0	0					
2023-05-13	2023-07-27	2023-05-12	Bharat shivaram khutale	चांदारा पाष्ट ाम	शश्रलाक	Rundiv	Rundiv ut	9	Teribatti	17.1451 73.4133 930 4.	17.1451	73.4133	17.1451	73.4133	930	4.4	फायभाशां	1	0		
2023-07-27	2023-07-27	2023-07-18	बायत मळलयाभ खुटाि लननार	चांदारा पाष्ट ाम	शश्रलाक	रा ददल	रादल उ	9	रादल गालठाण	17.1353 73.4333 4.8 86	17.1353	73.4333	17.1353	73.4333	4.8	862	फायभाशां	1	0		
2023-10-26	2023-10-26	2023-09-20	S P Pawar FG Pimpari	कामना अबमाय	फाभणारा	Waghaval	Pimpari	299	नारा	17.7275 73.720556 0 0	17.7275	73.7206	17.7275	73.720556	0	0	भावभा	0	1	शागाभी नारा	
2023-10-26	2023-10-26	2023-09-18	S P Pawar FG Pimpari	कामना अबमाय	फाभणारा	Waghaval	Pimpari	299	नारा पनानयां	17.723611 73.715556 0	17.723611	73.7156	17.723611	73.715556	0	0	भावभा	0	1	शागाभी नारा	
2023-10-26	2023-10-26	2023-09-18	S P Pawar FG Pimpari	कामना अबमाय	फाभणारा	Waghaval	Pimpari	301	नारा पनानयां	17.724167 17.724167 0	17.724167	17.7242	17.724167	17.724167	0	0	भावभा	0	1	शागाभी नारा	
2023-10-26	2023-10-26	2023-09-18	S P Pawar FG Pimpari	कामना अबमाय	फाभणारा	Waghaval	Pimpari	301	नारा आकल्ले	17.726667 73.705556 0	17.726667	73.7056	17.726667	73.705556	0	0	भावभा	0	1	शागाभी नारा	
2023-10-26	2023-10-26	2023-09-18	S P Pawar FG Pimpari	कामना अबमाय	फाभणारा	Waghaval	Pimpari	301	नारा आकल्ले	17.731667 73.7025 0 0	17.731667	73.7025	17.731667	73.7025	0	0	भावभा	0	1	शागाभी नारा	
2023-10-26	2023-10-26	2023-09-18	S P Pawar FG Pimpari	कामना अबमाय	फाभणारा	Waghaval	Pimpari	301	नारा आकल्ले	17.741389 73.695278 0	17.741389	73.6953	17.741389	73.695278	0	0	भावभा	0	1	शागाभी नारा	
2023-10-26	2023-10-26	2023-09-18	S P Pawar FG Pimpari	कामना अबमाय	फाभणारा	Waghaval	Pimpari	359	नारा आकल्ले	17.740833 73.692778 0	17.740833	73.6928	17.740833	73.692778	0	0	भावभा	0	1	शागाभी नारा	
2023-10-26	2023-10-26	2023-09-18	S P Pawar FG Pimpari	कामना अबमाय	फाभणारा	Waghaval	Pimpari	359	नारा आकल्ले	17.741111 73.688056 0	17.741111	73.6881	17.741111	73.688056	0	0	भावभा	0	1	शागाभी नारा	
2023-10-26	2023-10-26	2023-09-18	S P Pawar FG Pimpari	कामना अबमाय	फाभणारा	Waghaval	Pimpari	299	नाघयणीचं नाणां	17.723611 73.716111 0	17.723611	73.7161	17.723611	73.716111	0	0	भावभा	0	1	नवहांमक नाणलठा	
2023-10-26	2023-10-26	2023-09-18	S P Pawar FG Pimpari	कामना अबमाय	फाभणारा	Waghaval	Pimpari	359	खडकाश्रणाचं नाणां	17.736111 73.701389 0	17.736111	73.7014	17.736111	73.701389	0	0	भावभा	0	1	नवहांमक नाणलठा	
2023-10-26	2023-10-26	2023-09-18	S P Pawar FG Pimpari	कामना अबमाय	फाभणारा	Waghaval	Pimpari	301	लारीजांच नाणां	17.727222 17.727222 0	17.727222	17.7272			0	0	भावभा	0	1	नवहांमक नाणलठा	
2023-10-27	2023-10-27	2023-10-27	ए ज चव्याण	कामना अबमाय	फाभणारा	भट इादल	क्रवानूय		आब्बाच नाणां	37.3917 19.4373 0 0	37.3917	19.4373			0	0	फायभाशां	1	0		
2023-10-27	2023-10-27	2023-10-27	ए ज चव्याण	कामना अबमाय	फाभणारा	भट इादल	क्रवानूय		श्शकाश्रांच नाणां भट इादलरां	51.3917 14.4373 0 0	51.3917	14.4373			0	0	फायभाशां	1	0		
2023-10-27	2023-10-27	2023-10-27	ए ज चव्याण	कामना अबमाय	फाभणारा	भट इादल	क्रवानूय		खडकाचं नाणां ताफो	47.3917 32.4473 0 0	47.3917	32.4473			0	0	फायभाशां	1	0		
2023-10-27	2023-10-27	2023-10-27	ए ज चव्याण	कामना अबमाय	फाभणारा	भट इादल	क्रवानूय		क तकाचं नाणां भट इादलरां	1.4017 3.4273 0 0	1.4017	3.4273			0	0	फायभाशां	1	0		
2023-10-27	2023-10-27	2023-10-27	ए ज चव्याण	कामना अबमाय	फाभणारा	भट इादल	क्रवानूय		लावाटा का ड भट इादलरा	47.3917 52.4173 0 0	47.3917	52.4173			0	0	फायभाशां	1	0		
2023-10-27	2023-10-27	2023-10-27	ए ज चव्याण	कामना अबमाय	फाभणारा	भट इादल	क्रवानूय		नागश्लय का ड भट इादलरा	42.4817 57.4873 0 0	42.4817	57.4873			0	0	फायभाशां	1	0		
2023-10-27	2023-10-27	2023-10-27	ए ज चव्याण	कामना अबमाय	फाभणारा	भट इादल	क्रवानूय		अ ाज्यगठ्माच नाणां भट इादलरी	17.4017 44.4173 0 0	17.4017	44.4173			0	0	फायभाशां	1	0		
											17.4017	73.4173									

१४.नैसगयग क पाणवि ,र न तळी व खोद तळी (Water hol /Forest l ond/ Dug out Pond)

शंरक्षसत सेत्राचे नाळ	शंरक्षसत सेत्राचे नाळ /कोयना अभयारण्य	शंरक्षसत सेत्राचे नाळ /चांदोरी राष्ट्रीय उद्यान	ळननररसेत्र	ळननररसेत्र/ बामणोरी	ळननररसेत्र/ कोयना	ळननररसेत्र/ षेलळाक	ळननररसेत्र/ चांदोरी	ळननररसेत्र/ ढेबेळाडी	ननयतसेत्र	कस क्र.	नाळ ळ ठिकाण	स्थान असांळ (N) रेखांळ (E)	असांळ (N)	रेखांळ (E)	_स्थान असांळ (N) रेखांळ (E)_altitude	_स्थान असांळ (N) रेखांळ (E)_precision	प्रकार	बांधकाम ळवष	ऩाण्याचा स्त्रोत
कोमना अबमायण्म	1	0	कोमना	0	1	0	0	0	ऩारी	375	Junya kuti sejari कृ हत्रभ ऩानलठा	075 73.7263	17.6075	73.726389	0	0	हंभेंट ऩाणलठा		फोअयलेर
कोमना अबमायण्म	1	0	कोमना	0	1	0	0	0	Pali	377	कोकण कड	8056 73.715	17.608056	73.715994	0	0	खोद तऱे		ऩाहऊ
कोमना अबमायण्म	1	0	कोमना	0	1	0	0	0	Jungtie	390	क्ष्ण कु ठे ज	73889 73.73	17.573889	73.7325	0	0	कृ हत्रभ नानलठा		फोयलेर
कोमना अबमायण्म	1	0	कोमना	0	1	0	0	0	सळयसळॊगे	406	ळ्यसळॊगे कु ट्ट	8758 73.727	17.488758	73.727973	0	0	लारू, 750mc	2023	नैहंहांगेक ऩाणलठा भधून
कोमना अबमायण्म	1	0	कोमना	0	1	0	0	0	डडचोरी		लन तऱे डडचोरी ळाऱा जलऱ	9471 73.747	17.499471	73.747245	0	0	लारू, 750mc	2023	फायभाही
कोमना अबमायण्म	1	0	कोमना	0	1	0	0	0	डडचोरी		लन तऱे डडचोरी ळाऱा जलऱ	6623 73.746	17.506623	73.746454	0	0	लारू, 750mc	2023	नैहंहांगेक ऩाणलठा भधून नाईन दलाये
कोमना अबमायण्म	1	0	कोमना	0	1	0	0	0	डडचोरी		डडचोरी ळाऱ	928 73.7465	17.50928	73.746501	0	0	लारू, 750mc	2023	नैहंहांगेक ऩाणलठा
कोमना अबमायण्म	1	0	कोमना	0	1	0	0	0	सळयसळॊगे	406	ळॊगे कु ट्टी न	8172 73.729	17.488172	73.729678	0	0	लारू, 750mc	2023	नैहंहांगेक ऩाणलठा
कोमना अबमायण्म	1	0	कोमना	0	1	0	0	0	सळयसळॊगे		सळयसळॊगे कु ट्टी	8758 73.727	17.488758	73.727973	0	0	लारू, 750mc	2023	नैहंहांगेक ऩाणलठा भधून
कोमना अबमायण्म	1	0	कोमना	0	1	0	0	0	कायलट	459	टाके (नालडे	5078 784 9.1	17.409231	73.835078	784	9.1999998	हसभेंट तऱे	0	झया
कोमना अबमायण्म	1	0	कोमना	0	1	0	0	0	कायलट	459	टाके (नालडे	.199999999	17.409531	73.835366	784.2	7.4499998	नैहंहगिक	0	झया
कोमना अबमायण्म	1	0	कोमना	0	1	0	0	0	कायलट	461	ळेंडभुडी	9000000000	17.401882	73.82309	841.9	11.2	होगाभी	0	झया
कोमना अबमायण्म	1	0	कोमना	0	1	0	0	0	कायलट	461	ळेंडभुडी	22307 851.9	17.401782	73.822307	851.9	5	हग टनेही /नैहं	0	झया
कोमना अबमायण्म	1	0	कोमना	0	1	0	0	0	कायलट	436	केहंलणे (लाट	17.436522	17.436522	73.813047	936.7	4	हसभेंट	0	झया
कोमना अबमायण्म	1	0	कोमना	0	1	0	0	0	कायलट	436	केहंलणे	17.437338	17.437338	73.813395	936.6	10.5	नैहंहगिक	0	झया
कोमना अबमायण्म	1	0	कोमना	0	1	0	0	0	कहकरुऱे										
कोमना अबमायण्म	1	0	कोमना	0	1	0	0	0	Karanjawad	393	हंंीभें ट ऩॅच न	17.542108	17.542108	17.761465	0	0	कृ हत्रभ नाग	00	ऩाहलाच ऩाणी
कोमना अबमायण्म	1	0	कोमना	0	1	0	0	0	Karanjawad	394	काराभुया ना	17.541036	17.541036	73.757285	0	0	कृ हत्रभ नाग	2014	हातनोन
कोमना अबमायण्म	1	0	कोमना	0	1	0	0	0	Jungti	388	Bhelyacha	17.579629	17.579629	73.733426	0	0	खोद तऱे	जुने दहदून मेत आहे	ऩाहऊ
कोमना अबमायण्म	1	0	कोमना	0	1	0	0	0	कोमना	426	घाटभाथा	17.2138 73.	17.2138	73.4515	1014	2.1	खोद तऱे	2017	नैहंहगिक
कोमना अबमायण्म	1	0	फाभणोरी	1	0	0	0	0	Deur		Nirank								
कोमना अबमायण्म	1	0	फाभणोरी	1	0	0	0	0	नरऱलडे	0	ननयॊक	78 991.6 10.	17.641257	73.83678	991.6	10.4	ननयॊक	0	ननयॊक

कोमना अबमायण्म	1	0	फाभणोरी	1	0	0	0	0	Vele		Nirank								
कोमना अबमायण्म	1	0	फाभणोरी	1	0	0	0	0	MUNAWALE	307	MENKECHA	17.703389	17.703389	73.784806	768	12	NATURAL		
कोमना अबमायण्म	1	0	फाभणोरी	1	0	0	0	0	MUNAWALE	307	PETEDARA ,	17.706167	17.706167	73.777111	877	11	NATURAL		
कोमना अबमायण्म	1	0	फाभणोरी	1	0	0	0	0	म्हाग्रोगे		यलोदी , टकीच	17.691694	17.691694	73.580788	76.806526	2023			भोहंभी
कोमना अबमायण्म चोदोरी याष्ट्रीम उद्यान	1	1	फाभणोरी	1	0	0	0	0	लरलन		अडोसळ्- अडाचे नानी	17.691694	17.691694	73.580788	76.806526	2023			फायाभाही
कोमना अबमायण्म	1	0	फाभणोरी	1	0	0	0	0	म्हाग्रोगे		अडासळ्- नीलदु ंोगा चे नानी	17.6915 73.	17.6915	73.580379	76.806526	2023	नैहंहगिक ननलठा		फयभही
कोमना अबमायण्म	1	0	फाभणोरी	1	0	0	0	0	KHIRKHINDI		NIRANK						NIRANK	NIRANK	NIRANK
कोमना अबमायण्म	1	0	फाभणोरी	1	0	0	0	0	Pimpari	355	झा-माचे नाण	17.737778	17.737778	73.702778	0	0	प्रदतालीत ना	प्रदतालीत ना	टॉकय
कोमना अबमायण्म	1	0	फाभणोरी	1	0	0	0	0	Pimpari	299	हेराचे नाणी	17.728611	17.728611	73.718611	0	0	प्रदतालीत ना	प्रदतालीत ना	टॉकय
कोमना अबमायण्म	1	0	फाभणोरी	1	0	0	0	0	कुहं ंानूय		तोफी	32.4017 30.	32.4017	30.4473	697	10.6			नाहऊाचे
चोदोरी याष्ट्रीम उद्यान	0	1	चोदोरी	0	0	0	1	0	Vetti	15	गले भुख्म यटतालय	3889 73.764	17.238139	73.764528	0	0	ंोथिन ने फन	2021	टॉकयने
चादारा याष्ट्रीम उद्यान	0	1	चोदोरी	0	0	0	1	0	Vetti	15	लेती कु टी नाईन राईन जलग्र	08333 73.77	17.236083	73.77525	0	0	हभेंट नाणलठ	2018	नाईन राईन ने ल टॉकयने
चादारा याष्ट्रीम उद्यान	0	1	चोदोरी	0	0	0	1	0	Vetti	15	ननलग्र - लेती हद्दी जलग्रीर CD work जालग्रीर	8333 73.783	17.230083	73.783389	0	0	नोसरथीन ने	2021	टॉकयने
चादारा याष्ट्रीम उद्यान	0	1	चोदोरी	0	0	0	1	0	Vetri	16	लता गालठाण यटता	5556 73.789	17.221056	73.789333	0	0	नोरोथिन ने	2021	ंोरय फोय , टॉक
चादारा याष्ट्रीम उद्यान	0	1	चोदोरी	0	0	0	1	0	Vetti	16	ransect Line	75 73.79161	17.21975	73.791611	0	0	नोरोथिन ने	2021	फोय,टॉकय
चादारा याष्ट्रीम उद्यान	0	1	चोदोरी	0	0	0	1	0	टाकरे	19	कुटी जलग्रीर नाणलठा टकरे	.392456054	17.21081	73.815264	857.39246	48.098999	भीटय लनत	2020	ंाईन राईन
चोदोरी याष्ट्रीम उद्यान	0	1	चोदोरी	0	0	0	1	0	टाकरे	19	टाकरे कु टी नाईन राईन जलग्र	6.73291015	17.213035	73.815711	886.73291	10.395	हसभेंट	2014	टॉकयने , नाईन राईन ने
चादारा याष्ट्रीम उद्यान	0	1	चोदोरी	0	0	0	1	0	टाकरे	19	नामयी जलग्र	17.214502	17.214502	73.816881	864.31177	6.9039998		2021	टॉकयने
चादारा याष्ट्रीम उद्यान	0	1	चोदोरी	0	0	0	1	0	टाकरे	19	Plantation ज	17.206471	17.206471	73.805469	864.96704	5.2810001		2013	नाहलाचे नाणी
चादारा याष्ट्रीम उद्यान	0	1	चोदोरी	0	0	0	1	0	टाकरे	18	नेठरोंढ भाग्र	17.201676	17.201676	73.801162	868.66077	12.08		2021	टॉकयने

चांदोरी व्याघ्र प्रकल्प उद्यान	0	1	चांदोरी	0	0	0	1	0	लेखी	16	लेखी टॉलय च	17.208544 7	17.208544	73.787309	878.29004	4.9299998		2013	पक्का नाहलाव्मात
चांदोरी व्याघ्र प्रकल्प उद्यान	0	1	चांदोरी	0	0	0	1	0	लेखी	16	लाकडा ओढ	17.220867 7	17.220867	73.789268	848.13367	16.101		2013	नाहलाव्मा तीर नाणी
चांदोरी व्याघ्र प्रकल्प उद्यान	0	1	चांदोरी	0	0	0	1	0	टाकरे	19	अंोफय हाद	17.209794 7	17.209794	73.810960	881.36475	6.1739998	भातीचे	2006	नाहलाचे नाणी
चांदोरी व्याघ्र प्रकल्प उद्यान	0	1	ढेफेलाडी	0	0	0	0	1	Karale	571	Kumbh tal	5053 0 2299.	17.1425	73.5053	0	2299.999	Chouras	2016	Nala
चांदोरी व्याघ्र प्रकल्प उद्यान	0	1	हेरलाक	0	0	1	0	0	हसध्देश्लय	7	हंंोयक्ष ण कु टी जलर	78 73.70277	17.180278	73.702778	8	13.8	हभ नाणलठ	2021	स्थय
चांदोरी व्याघ्र प्रकल्प उद्यान	0	1	हेरलाक	0	0	1	0	0	हसध्देश्लय	7	हंध्देश्लय हद्	7778 73.717	17.202778	73.7175	12	8.6	हभ नाणलठ	2021	स्थय
चांदोरी व्याघ्र प्रकल्प उद्यान	0	1	हेरलाक	0	0	1	0	0	रुोदील दक्षण	6	नाही	17 73 0 0	17	7	0	0	नाही	नाही	नाही
चांदोरी व्याघ्र प्रकल्प उद्यान	0	1	हेरलाक	0	0	1	0	0	Ambole	0	No	17 73 2 2	17	7	2	2	No	No	No
चांदोरी व्याघ्र प्रकल्प उद्यान	0	1	हेरलाक	0	0	1	0	0	चांदोरी खुहद			17 73 0 0	17	7	0	0			
चांदोरी व्याघ्र प्रकल्प उद्यान	0	1	हेरलाक	0	0	1	0	0	रुोददल	5	रुोददल	17 73 0 0	17	7	0	0			

१५.बोअरव्हेल आणण शोषर नंन (Bore Well & Solar Pump)

शरक्षसत सेत्राचे नाळ	शरक्षसत सेत्राचे नाळ /कोयना अभयारण्य	शरक्षसत सेत्राचे नाळ /चांदोरी राष्ट्रीय उद्यान	ळनवररसेत्र	ळनवररसेत्र/ बामणोरी	ळनवररसेत्र/ कोयना	ळनवररसेत्र/ षेलळाक	ळनवररसेत्र/ चांदोरी	ळनवररसेत्र/ ढेबेळाडी	व्ळतुतल	ननयतसेत्र	कस क्र.	नाळ ळ ठिकाण	स्थान असांळ (N) रेखांळ (E)	असांळ (N) रेखांळ (E)_latitude	_स्थान असांळ (N) रेखांळ (E)_longitude	_स्थान असांळ (N) रेखांळ (E)_altitude	_स्थान असांळ (N) रेखांळ (E)_precision	प्रकार	बांधकाम ळवु	नाण्याचा स्त्रोत
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	नोरी	375	जुन्या कुटी जळल						Handpump		जममनातून
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	मळरमहळंगे	मळरमहळंगे	406	मळरमहळंग कुटी जळल						बोरव्हेर		उननमरका
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takavali	Karanjawade	394	कालामुरा नायळाट	17.541237 73.757603 0 0	17.541237	73.757603	0	0	हात हनंमत	2013	हात हनंमत
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	कुसळडे	कारळट	458	कारळट कुटी	17.404138 73.849953 891.3000000000 001 8	17.404138	73.849953	891.3	8	वहळंधन वळहीर	0	भूजर
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	मळरमहळंगे	ककसरुले										
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	Jungti	390	हरिण कुर्वे	17.573889 73.7325 0 0	17.573889	73.7325	0	0	हॅन्ड हनंत	-	जममनीतून
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	ळन नररहमंडल कोयन	कोयना		ननररंक								
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Vele	Deur	382	Deur kuti	17.3623 73.4838 1086 8	17.3623	73.4838	1086	8	Boarvel		Barmahi
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Velew	Velee	383	Vele kuti	17.3557 73.5126 1160 5	17.3557	73.5126	1160	5	Thik		Barmahi
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	WAGHAVALE	WAGHAVALE	356	BORE WELL NIVALI PROTECTION HOUSE	17.732583 73.674944 0 0	17.732583	73.674944	0	0	SOLAR		UNDER GROUND
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Met Indoli	Kusapur	331	Tambi kuthi tambi	17.3957 73.4521 0 1.5	17.3957	73.4521	0	1.5	बारमाही		
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Met Indoli	Kusapur	331	Tambi kuthi tambi	17.3957 73.4521 0 1.5	17.3957	73.4521	0	1.5	बारमाही		
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Met Indoli	Kusapur	331	Tambi kuthi tambi	17.3957 73.4521 0 1.5	17.3957	73.4521	0	1.5	बारमाही		
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Met Indoli	Kusapur	331	Tambi kuthi tambi	17.3957 73.4521 0 1.5	17.3957	73.4521	0	1.5	बारमाही		
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Met Indoli	Kusapur	331	Tambi kuthi tambi	17.3957 73.4521 0 1.5	17.3957	73.4521	0	1.5	बारमाही		
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	ळेले	नलसळडे	250	ळारस ळाडी साहंडळरी	17.631556 73.83773 1085.6 9.149999618530 273	17.631556	73.83773	1085.6	9.149999619	बोअर व्हेर	ननररंक	भूजर
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	KOLHAPUR	VALVAN										
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	vavan	Arav	346	raghuveer ghat, shindi	17.710472 73.607306 0 0	17.710472	73.607306	0	0	hand pump		under ground
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	KOLHAPUR	MUNAWALE		NIRANK	17.88888 73.677777 768 11	17.88888	73.677777	768	11	NIRANK		
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	ळरळन	म्हालुहंगे		ननरक	17.690109 73.577638 76.80652618408 203 1704.932777204 9849	17.690109	73.577638	76.80652618	1704.932777			नीररंक
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Waghavale	Pimpari	0	बोअरव्हेर आणण सोषर हनंत बाबत वहनंतरी ननयतंत्राची माहीती ननररंक आहे						बोअरव्हेर आणण सोषर हनंत बाबत वहनंतरी ननयतंत्राची माहीती ननररंक आहे	बोअरव्हेर आणण सोषर हनंत बाबत वहनंतरी ननयतंत्राची माहीती ननररंक आहे	बोअरव्हेर आणण सोषर हनंत बाबत वहनंतरी ननयतंत्राची माहीती ननररंक आहे
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	METINDOLI	KHIRKHINDI		NIRANK	17.915856 73.719283 0 0	17.915856	73.719283	0	0	NIRANK		
चाहंदोरी राष्ट्रीय उद्यान	0	1	चाहंदोरी	0	0	0	1	0	कोल्हापूर	व्हेती	15	व्हेती गाळठाण रस्ता	17.22113889 73.78930556 0 0	17.22113889	73.78930556	0	0	सोषर बोर	2021	सोषर बोर
चाहंदोरी राष्ट्रीय उद्यान	0	1	चाहंदोरी	0	0	0	1	0	कोल्हापूर	व्हेती	16	व्हेती Transect Line जळल	17.21977778 73.79161111 0 0	17.21977778	73.79161111	0	0	बोर	2021	बोर

चाहंंदोरी राष्ट्रीय उद्यान	0	1	चाहंंदोरी	0	0	0	1	0	कोल्हापूर	ढेंती	18	चेठरांढ माल	17.201567 73.801075 877.0965576171875 15.49600028991 6992	17.201567	73.801075	877.0965576	15.49600029		2021	बोर
चाहंंदोरी राष्ट्रीय उद्यान	0	1	चाहंंदोरी	0	0	0	1	0	कोल्हापूर	टाकले	19	नायरी चा माल	17.214435 73.816672 881.1981201171875 11.81400012969 9707	17.214435	73.816672	881.1981201	11.81400013		2021	
चाहंंदोरी राष्ट्रीय उद्यान	0	1	चाहंंदोरी	0	0	0	1	0	कोल्हापूर	टाकले	19	Plantation जळल	17.206137 73.805374 858.2016601562 5 13.28899955749 5117	17.206137	73.805374	858.2016602	13.28899956		2021	
चाहंंदोरी राष्ट्रीय उद्यान	0	1	हेलळाक	0	0	1	0	0	रुहंंदीळ	रुहंंदीळ दक्षण	6	नाही	17 73 0 0	17	73	0	0	नाही	नाही	नाही
चाहंंदोरी राष्ट्रीय उद्यान	0	1	हेलळाक	0	0	1	0	0	Rundiv	Ambole	0	No	17 73 2 2	17	73	2	2	No	No	No
चाहंंदोरी राष्ट्रीय उद्यान	0	1	हेलळाक	0	0	1	0	0	कोलणे	चाहंंदोरी खुदद	12	चाहंंदोरी खुदद	17.15594 73.45214 0 0	17.15594	73.45214	0	0	-	-	-
चाहंंदोरी राष्ट्रीय उद्यान	0	1	हेलळाक	0	0	1	0	0	Helwak	Rasati	0	No	17 17 17 17	17	17	17	17	No	0000	No
चाहंंदोरी राष्ट्रीय उद्यान	0	1	हेलळाक	0	0	1	0	0	रुहंंददळ	रुहंंददळ उत्तर	5	रुहंंददळ	17 73 0 0	17	73	0	0			

१६. कतरणंेत्र (Exoisting Meadow Area)

start	end	तारीख	वनरकाच नाव	सरक्षत ंंंत्रांच नाव	वनपरर ंंत्र	वतुतळ	ननयत ंंत्र	स्थान	स्थान _latitud	थान _longit	_स्थान _altitud	थान _preci	ंंत्रे (हक्टर)	थापन कामा	सटक ह	ंंंत्रांच नाव
2023-05-02	2023-05-02	2023-05-02	Dg	कायना अभयारण्य	बामणारा	Df	Dt	2572675 74.1624025 240.29998779296875 16.	17.2572675	74.1624025	240.2999878	16.753	55	870	हाय	Sfh
2023-05-02	2023-05-02	2023-05-02	ABC	कायना अभयारण्य	कायना	Koyna	Koyna	17.257268 74.162407 240.29998779296875 20	17.257268	74.162407	240.2999878	20	2	2022	हाय	Koyna
2023-05-09	2023-05-09	2023-05-09	S. P. Pawar	कायना अभयारण्य	बामणारा	Waghavale	Pimpari	17.440573 73.41547 10 100	17.440573	73.41547	10	100	10		हाय	C.N. 301,355
2023-05-09	2023-05-09															
2023-05-09	2023-05-09	2023-05-09	Deepak bhalchandra sorat	कायना अभयारण्य	बामणारा	Vele	Deur	17.362 73.471 989 13	17.362	73.471	989	13	15	2022	हाय	Gundi kuran
2023-05-09	2023-05-09															
2023-05-09	2023-05-09	2023-05-09	Sandeep P Pawar	कायना अभयारण्य	बामणारा	Waghavale	Pimpari	17.734806 73.698528 0 0	17.734806	73.698528	0	0	10		हाय	C.N.301,355
2023-05-09	2023-05-09	2023-05-09	SUMITKUMAR SURAJ CHOUGULE	कायना अभयारण्य	बामणारा	WAGHAVALE	WAGHAVALE	17.760639 73.660944 0 0	17.760639	73.660944	0	0	5	2023	हाय	PADSOL GAVAT KURAN
2023-05-09	2023-05-09	2023-05-09	SUMITKUMAR SURAJ CHOUGULE	कायना अभयारण्य	बामणारा	WAGHAVALE	WAGHAVALE	17.752083 73.665833 0 0	17.752083	73.665833	0	0	5	2023	हाय	NIVALI GAVAT KURAN
2023-05-09	2023-05-09	2023-05-09	Dada Maruti jankar	कायना अभयारण्य	बामणारा	Vele	Vele	17.3349 7.4756 1010 3	17.3349	7.4756	1010	3	10	2021	हाय	Kuran vikas vele
2023-05-11	2023-05-13	2023-05-13	Arjun.j.chavan	कायना अभयारण्य	बामणारा	Met Indoli	Kusapur	17.4016 73.4455 0 5	17.4016	73.4455	0	5	8	2023	हाय	Tambi gavthan
2023-05-13	2023-05-13	2023-05-13	ज.ह.ननकम	कायना अभयारण्य	बामणारा	मट इदारा	खखररडा	17.728444 73.765621 0 2600	17.728444	73.765621	0	2600	5	2023	हाय	खखररडा
2023-05-13	2023-05-13	2023-05-13	ज.ह.ननकम	कायना अभयारण्य	बामणारा	मट इदारा	खखररडा	17.728444 73.765621 0 2600	17.728444	73.765621	0	2600	5	2023	हाय	खखररडा
2023-05-13	2023-05-13	2023-05-13	ज.ह.ननकम	कायना अभयारण्य	बामणारा	मट इदारा	खखररडा	17.40166 73.42413 0 0	17.40166	73.42413	0	0	5	2023	हाय	मट इदारा
2023-05-13	2023-05-13	2023-05-13	ज.ह.ननकम	कायना अभयारण्य	बामणारा	मट इदारा	खखररडा	17.4159 73.4234 1330.5 18.7	17.4159	73.4234	1330.5	18.7	23	2023	हाय	कुसाूर
2023-05-13	2023-05-13	2023-05-13	FG Anil Pundlik kumbhar	कायना अभयारण्य	बामणारा	ळल	नलसळड	7.632247 73.838073 1083.1 7.6999998092651	17.632247	73.838073	1083.1	7.6999998	10	2021	हाय	सडळश कु रण वळकास
2023-05-15	2023-05-15	2023-05-15	Suman Balu Jadhav	ंंत्रदाश राष्ट्राय उद्दहा	ढबळाडा	Sanbur bafar	Karale	17.1442 73.5139 0 2299.9990234375	17.1442	73.5139	0	2299.999	5	2023	हाय	Gavti kuran
2023-05-15	2023-05-15	2023-05-15	Deepak bhalchandra sorat	ंंत्रदाश राष्ट्राय उद्दहा	बामणारा	Vele	Deur	17.6219444 73.8033333 1093 8.4	17.6219444	73.8033333	1093	8.4	5	2022	हाय	Kada kuran
2023-05-16	2023-05-16	2023-05-15	अ. तु. ळाघमार	कायना अभयारण्य	बामणारा	मट इदारा	मुनाळल	17.4036 73.4631 917.39 12	17.4036	73.4631	917.39	12	5	2023	हाय	कलकाळा
2023-05-18	2023-05-18	2023-05-18	संचचन युळराज नाटार	कायना अभयारण्य	कायना	शळरशळग	Dicholi	17.501727 73.746349 0 0	17.501727	73.746349	0	0	43	2020	हाय	डडचारा ळाला जळल
2023-05-15	2023-05-19	2023-05-19	Dada Maruti jankar	कायना अभयारण्य	बामणारा	Vele	Vele	17.563611 73.798889 1010 3.3	17.563611	73.798889	1010	3.3	10	2022	हाय	Dhen kuran
2023-05-18	2023-05-19	2023-05-18	Kishor Dhane	कायना अभयारण्य	कायना	Takwali	नारा	17.604722 73.718611 0 0	17.604722	73.718611	0	0	1	2022	हाय	कोकण कडा
2023-05-18	2023-05-20	2023-05-18	संचचन युळराज नाटार	कायना अभयारण्य	कायना	शळरशळग	शळरशळग	17.468108 73.705521 0 0	17.468108	73.705521	0	0	2	2023	हाय	नच मला
2023-05-18	2023-05-20	2023-05-18	संचचन युळराज नाटार	कायना अभयारण्य	कायना	शळरशळग	शळरशळग	17.487462 73.698983 0 0	17.487462	73.698983	0	0	2	2023	हाय	कासार बटारा
2023-05-18	2023-05-20	2023-05-18	संचचन युळराज नाटार	कायना अभयारण्य	कायना	शळरशळग	शळरशळग	17.46926 73.726768 0 0	17.46926	73.726768	0	0	7	2023	हाय	411p
2023-05-18	2023-05-20	2023-05-18	संचचन युळराज नाटार	कायना अभयारण्य	कायना	शळरशळग	शळरशळग	17.469517 73.732959 0 0	17.469517	73.732959	0	0	13	2023	हाय	411p
2023-05-18	2023-05-20	2023-05-18	संचचन युळराज नाटार	कायना अभयारण्य	कायना	शळरशळग	डडचारा	17.501727 73.746349 0 0	17.501727	73.746349	0	0	43	2020	हाय	डडचारा ळाला
2023-05-18	2023-05-20		संचचन युळराज नाटार	कायना अभयारण्य	कायना	शळरशळग	डडचारा	17.507983 73.744534 0 0	17.507983	73.744534	0	0	40	2023	हाय	डडचारा गाळठाण
2023-05-18	2023-05-20	2023-05-18	संचचन युळराज नाटार	कायना अभयारण्य	कायना	शळरशळग	डडचारा	17.490779 73.750222 0 0	17.490779	73.750222	0	0	3	2020	हाय	डडचारा बाट धका
2023-05-20	2023-05-20	2023-05-19	PRASHANT BHOSALE	कायना अभयारण्य	कायना	KUSAVADE	AMBEGHAR	17.4369 73.78197 0 0	17.4369	73.78197	0	0	30	2021	हाय	NAHIMBE
2023-05-20	2023-05-20	2023-05-19	PRASHANT BHOSALE	कायना अभयारण्य	कायना	KUSAVADE	AMBEGHAR	17.460194 73.79161 0 0	17.460194	73.79161	0	0	25	2020	हाय	KATYACHA MAAL
2023-05-20	2023-05-20	2023-05-19	PRASHANT BHOSALE	कायना अभयारण्य	कायना	KUSAVADE	AMBEGHAR	17.430555 73.78305 0 0	17.430555	73.78305	0	0	40		हाय	BE NATHACHI PAAG GA
2023-05-21	2023-05-21															
2023-05-21	2023-05-22	2023-05-18	वळजय काडाराम भासर	कायना अभयारण्य	कायना	शळरशळग	ककसरुल	17.475 73.766667 0 0	17.475	73.766667	0	0	50		हाय	ककसरुल मुरा
2023-05-21	2023-05-22	2023-05-18	वळजय काडाराम भासर	कायना अभयारण्य	कायना	शळरशळग	ककसरुल	17.481389 73.770556 0 0	17.481389	73.770556	0	0	15		हाय	चुनळरा
2023-05-21	2023-05-22	2023-05-18	वळजय काडाराम भासर	कायना अभयारण्य	कायना	शळरशळग	ककसरुल	17.474444 73.755556 0 0	17.474444	73.755556	0	0	30	2022	हाय	आबघर
2023-05-21	2023-05-22	2023-05-18	वळजय काडाराम भासर	कायना अभयारण्य	कायना	शळरशळग	ककसरुल	17.481111 73.743333 0 0	17.481111	73.743333	0	0	30	2021	हाय	झाडारा
2023-05-19	2023-05-22	2023-05-19	Ajit gundopant patil	कायना अभयारण्य	कायना	Takavali	Karanjawade	17.543122 73.771812 0 0	17.543122	73.771812	0	0	0	0	नाहा	ननरक
2023-05-19	2023-05-23	2023-05-20	Kishor Dhane	कायना अभयारण्य	कायना	Takwali	Jungti	17.579167 73.732778 0 0	17.579167	73.732778	0	0	3	2022	हाय	Bhelyache kuran
2023-05-20	2023-05-24	2023-05-20	जा आर बद्र	कायना अभयारण्य	कायना	ळन नरममळल कायन	कायना	17.399043 73.721904 943 16.1	17.399043	73.721904	943	16.1	9	2021	हाय	गाकु ल
2023-05-27	2023-05-27	2023-05-27	S b kuri	ंंत्रदाश राष्ट्राय उद्दहा	चादारा	कोल्हानूर	कंत्रा	17.23443056 73.76276389 0 0	17.23443056	73.7627639	0	0	55	55	हाय	गळ हृदा ळल
2023-05-27	2023-05-27	2023-05-27	S b kuri	ंंत्रदाश राष्ट्राय उद्दहा	चादारा	कोल्हानूर	कंत्रा	17.20676944 73.78744167 0 0	17.20676944	73.7874417	0	0	50		हाय	कंत्रा टाळर ळल
2023-05-27	2023-05-27	2023-05-27	S b kuri	ंंत्रदाश राष्ट्राय उद्दहा	चादारा	कोल्हानूर	कंत्रा	17.22596111 73.76177222 0 0	17.22596111	73.7617722	0	0	45		हाय	शटटळ
2023-05-27	2023-05-28	2023-05-28	S b kuri	ंंत्रदाश राष्ट्राय उद्दहा	चादारा	कोल्हानूर	कंत्रा	17.24109167 73.76775833 0 0	17.24109167	73.7677583	0	0	70		हाय	नाहर नाणा नायळाट
2023-05-28	2023-05-28	2023-05-28	S b Kuri	ंंत्रदाश राष्ट्राय उद्दहा	चादारा	कोल्हानूर	कंत्रा	17.22670556 73.78648889 0 0	17.22670556	73.7864889	0	0	54		हाय	ननळर -- कंत्रा हृदा कर
2023-05-28	2023-05-28	2023-05-28	S b kuri	ंंत्रदाश राष्ट्राय उद्दहा	चादारा	कोल्हानूर	कंत्रा	17.23592778 73.76965 0 0	17.23592778	73.76965	0	0	53		हाय	ननळल गाळठाण
2023-05-28	2023-05-28	2023-05-28	S b kuri	ंंत्रदाश राष्ट्राय उद्दहा	चादारा	कोल्हानूर	कंत्रा	17.23208611 73.77633611 0 0	17.23208611	73.7763361	0	0	24		हाय	ननगडाचा माल
2023-07-19	2023-07-19	2023-07-19	प्रंताक गायकळाड	कायना अभयारण्य	बामणारा	ळरलन	म्हालुग	7.683319 73.564287 76.80652618408203 198	17.683319	73.564287	76.80652618	1980			हाय	रलदा
2023-07-20	2023-07-20	2023-07-20	तानाजा शळळाजा शळद ळनचार	ंंत्रदाश राष्ट्राय उद्दहा	हलळाक	रु दाळ	रु दाळ दक्षण	17.1318 73.4326 0 0	17.1318	73.4326	0	0	4	2023	हाय	सरण कुटा
2023-07-20	2023-07-20	2023-07-20	Pritam Baban Kamble	ंंत्रदाश राष्ट्राय उद्दहा	हलळाक	Rundiv	Ambole	17.1311 73.4408 2 2	17.1311	73.4408	2	2	5	0	हाय	Jawali gavthan javal
2023-07-20	2023-07-20	2023-07-20	Pritam Baban Kamble	ंंत्रदाश राष्ट्राय उद्दहा	हलळाक	Rundiv	Ambole	17.1256 73.4405 5 5	17.1256	73.4405	5	5	10	0	हाय	Jawali sada
2023-07-20	2023-07-20	2023-03-31	चादारा हंुददर	ंंत्रदाश राष्ट्राय उद्दहा	हलळाक	कालण	चादारा हंुददर	17.14477 73.44436 0 0	17.14477	73.44436	0	0		2023	हाय	गळमाल
2023-07-20	2023-07-20	2023-03-31	चादारा हंुददर	ंंत्रदाश राष्ट्राय उद्दहा	हलळाक	कालण	चादारा हंुददर	17.14172 73.45176 0 0	17.14172	73.45176	0	0		2023	हाय	रवळचामाल
2023-07-26	2023-07-26	2023-07-26	S S Mundhe	ंंत्रदाश राष्ट्राय उद्दहा	हलळाक	Helwak	Rasati	17 17 17 17	17	17	17	17	0	0	नाहा	No
2023-07-27	2023-07-27	2023-07-18	मारत शळळराम हुंटार ळनचार रु टदळ	ंंत्रदाश राष्ट्राय उद्दहा	हलळाक	रु टदळ	रु टदळ उत्तर	17.1346 73.4535 862 4.5	17.1346	73.4535	862	4.5	5	2024	हाय	रु टदळ गाळठाण 1
2023-07-27	2023-07-27	2023-07-18	मारत शळळराम हुंटार ळनचार रु टदळ	ंंत्रदाश राष्ट्राय उद्दहा	हलळाक	रु टदळ	रु टदळ उत्तर	17.1357 73.4338 4.4 863	17.1357	73.4338	4.4	863	5	2024	हाय	रु टदळ गाळठाण 2
2023-10-23	2023-10-23	2023-10-23	Sunil basappa Kuri	ंंत्रदाश राष्ट्राय उद्दहा	ढबळाडा	kolhapur	Takale	17.201032 73.800754 0 0	17.201032	73.800754	0	0	40		हाय	नठराढ माल
2023-10-23	2023-10-23	2023-10-23	Sunil Basappa Kuri	ंंत्रदाश राष्ट्राय उद्दहा	ढबळाडा	kolhapur	Takale	17.220244 73.812412 0 0	17.220244	73.812412	0	0	61		हाय	गर गाळठान ननगडा चा
2023-10-26	2023-10-26	2023-09-18	S P Pawar FG Pimpari	कायना अभयारण्य	बामणारा	waghavale	Pimpari	17.733611 73.698333 0 0	17.733611	73.698333	0	0	10	2023	हाय	Aakalpe Fc No 301
2023-10-26	2023-10-26	2023-09-18	S P Pawar Fg Pimpari	कायना अभयारण्य	बामणारा	Waghavale	Pimpari	17.733854 73.698408 0 0	17.733854	73.698408	0	0	10	2024	हाय	Aakalpe FC No 301
2023-07-19	2023-10-26	2023-10-26	प्रंताक घाडबा गायकळाड	कायना अभयारण्य	बामणारा	ळरलन	लुग	17.678578 73.561713 67.94020843505861652	17.678578	73.561713	67.94020844	1652			नाहा	
2023-10-26	2023-10-26	2023-10-26	प्रंताक घाडबा गायकळाड	कायना अभयारण्य	बामणारा	ळरलन	म्हालुग	17.678579 73.561713 67.94020843505861652	17.678579	73.561713	67.94020844	1652	20	201920	हाय	Adoahi
2023-10-26	2023-10-26	2023-10-26	सुरळ कंु डशरक सूपदळळा	कायना अभयारण्य	बामणारा	ळरलन	आरळ	17.678579 73.561714 67.94020843505861652	17.678579	73.561714	67.94020844	1652	10		हाय	
2023-10-26	2023-10-26	2023-10-26	सुरळ कंु डशरक सूपदळळा	कायना अभयारण्य	बामणारा	ळरलन	ळरलन	17.678579 73.561714 67.94020843505861652	17.678579	73.561714	67.94020844	1652	10		हाय	

१७.कृत्र रणसत्र (ProposedMeadow Area)																					
शरक्षसत सेत्र	शरक्षसत सेत्र /कोयना अभयारण्य	शरक्षसत सेत्र /चादोरी राष्ट्रीय उद्यान	ळनपररसेत्र	ळनपररसेत्र/बामणोरी	ळनपररसेत्र/कोयना	ळनपररसेत्र/पेलळाक	ळनपररसेत्र/चादोरी	ळनपररसेत्र/ढेबेळाडी	ळतुतल	ननयतसेत्र	कस क्र.	स्थान असांळ (N) रेखांळ (E)	असांळ (N) रेखांळ (E) _latitude	रेखांळ (E) _longitude	स्थान असांळ (N) रेखांळ (E) _altitude	स्थान असांळ (N) रेखांळ (E) _precision	सेत्र (षेक्टर)	ळवु ळसथापन कामाचे	जी.पी.एश.रॅक	जी.पी.एश.रॅक /षाय	जी.पी.एश.रॅक नाषी	सेत्राचे नाळ
कोयना अभयारण्य	1	0	कोयन	0	1	0	0	0	शळरशहळंगे	शळरशहळंगे											
कोयना अभयारण्य	1	0	कोयन	0	1	0	0	0	KUSAVDE	AMBEGHAR	428	17.43055 73.	17.43055	73.7831	0	0	40		होय	1	0	NAHIMBE NATHACHI PAG
कोयना अभयारण्य	1	0	कोयन	0	1	0	0	0	कुसळडे	कारळट	459	17.402997 73	17.402997	73.8501	896.5	8.6999998	34	0	होय	1	0	आले
कोयना अभयारण्य	1	0	कोयन	0	1	0	0	0	कुसळडे	कारळट	460	17.387838 73	17.387838	73.8408	906.8	10.19	29	0	होय	1	0	रहळंद
कोयना अभयारण्य	1	0	कोयन	0	1	0	0	0	Takavali	Karanjawade	393	17.543122 73	17.543122	73.7718	0	0	7	2023	होय	1	0	बडाचे टोक
कोयना अभयारण्य	1	0	कोयन	0	1	0	0	0	Takavali	Karanjawade	393	17.542106 73	17.542106	73.7615	0	0	2	हमंजुरी	होय	1	0	सीमेंट पाणळठा
कोयना अभयारण्य	1	0	कोयन	0	1	0	0	0	Takavali	Karanjawade	396	17.519289 79	17.519289	79.7622	0	0	2		होय	1	0	हईजाव्या चे पायळाट
कोयना अभयारण्य	1	0	कोयन	0	1	0	0	0	कुसळडे	कारळट	436	17.428732 73	17.428732	73.8133	936.6	5	13	0	होय	1	0	सरळर डाग ळाटो ले
कोयना अभयारण्य	1	1	कोयन	0	1	0	0	0	शळरशहळंगे	शळरशहळंगे											
कोयना अभयारण्य	1	0	कोयन	0	1	0	0	0	शळरशहळंगे	डडचोरी											
कोयना अभयारण्य	1	0	बामण	1	0	0	0	0	Vele	Deur	370	17.633056 73	17.633056	73.7856	1076	9.9	15	2023 2	होय	1	0	Kuran vikas
कोयना अभयारण्य	1	0	बामण	1	0	0	0	0	ळेले	पलसळडे	250	17.636475 73	17.636475	73.8471	1010.2	28.8999996	0	0	नाह	0	1	साहंंड ळरी
कोयना अभयारण्य	1	0	बामण	1	0	0	0	0	Vele	Vele	386	17.5625 73.7	17.5625	73.7981	1087	1.8	10	2023	होय	1	0	Dhen kuran
चाहंंदोरी राष्ट्रीय उद्यान	0	1	हेलळा	0	0	1	0	0	Rundiv	Ambole	0	17 73 2 2	17	73	2	2	0	0	नाह	0	1	No

१८.तणननमुमूरन आणण शध्यस्स्थतांतीर तणसंत्र (प्रजातींनतशार)(Weed Eradication Area & Weed Infested Area)																						
शंरक्षसत सेत्राचे नाळ	शंरक्षसत सेत्राचे नाळ /चांदोऱी राष्ट्रीय उद्दयान	शंरक्षसत सेत्राचे नाळ /कोयना अभयारण्य	ळनपररसेत्र	ळनपररसेत्र /बामणोऱी	ळनपररसेत्र /चांदोऱी	ळनपररसेत्र /ढेबेळाडी	ळनपररसेत्र /षेलळाक	ळनपररसेत्र /कोयना	ळतुतल	ननयतसेत्र	कस क्र.	स्थान (असांळ (N) रेखांळ (E))	_स्थान (असांळ (N) रेखांळ (E))_latitude	_स्थान (असांळ (N) रेखांळ (E))_longitude	_स्थान (असांळ (N) रेखांळ (E))_altitude	_स्थान (असांळ (N) रेखांळ (E))_precision	सेत्र (षेक्टर)	काढरेरी तण प्रजाती	तणननमुमूरन कामाचे ळवु	जी.पी.एश. रॅक (षोय/नाषी)	जी.पी.एश. रॅक (षोय/नाषी) /षोय	जी.पी.एश. रॅक (षोय/नाषी) /षोय	ळेरा
कोयना अभयारण्य	0	1	बामणोऱी	1	0	0	0	0	Vele	Deur	381	17.362 73.411 989 13	17.362	73.411	989	13	15	Nech	2022	षोय	1	0	
कोयना अभयारण्य	0	1	बामणोऱी	1	0	0	0	0	ळेले	पलशाळडे	250	17.636076 73.842698 1092.2 8.25	17.636076	73.842698	1092.2	8.25	10	ननरंक	0	षोय	0	1	तण काढरेरे नाषी
कोयना अभयारण्य	0	1	बामणोऱी	1	0	0	0	0	Met indoli	Kusapur	331	17.3942 73.4522 755 1.3	17.3942	73.4522	755	1.3	8	रामेठा,रई,क	2023	षोय	1	0	
कोयना अभयारण्य	0	1	बामणोऱी	1	0	0	0	0	Vele	Vele	386,385	17.5625 73.798056 1087 1.8	17.5625	73.798056	1087	1.8	10	urumbi,nech	2022	षोय	1	0	Tan kadhlele kshetra
कोयना अभयारण्य	0	1	बामणोऱी	1	0	0	0	0	KOLHAPUR			17.7788888 73.87666666 897 11	17.778889	73.876667	897	11							NIRNK
कोयना अभयारण्य	0	1	बामणोऱी	1	0	0	0	0	ळऱळन	म्यालं ुगे		17.688457 73.575969 76.80652618408203 1983.31962 34055406	17.688457	73.575969	76.806526	1983.3196		नीरंक					
कोयना अभयारण्य	0	1	बामणोऱी	1	0	0	0	0	METINDOLI	KHIRKHINDI	NIRANK							NIRANK					NIRANK
कोयना अभयारण्य	0	1	बामणोऱी	1	0	0	0	0	ळऱळन	म्यालुग	78579 73.561714 67.940		17.678579	73.561714	67.940208	1652				षोय	0	1	ननरंक
कोयना अभयारण्य	0	1	बामणोऱी	1	0	0	0	0	ळऱळन	आरेळ	78579 73.561714 67.940		17.678579	73.561714	67.940208	1652				षोय	0	1	ननरंक
कोयना अभयारण्य	0	1	बामणोऱी	1	0	0	0	0	ळऱळन	ळऱळन	78579 73.561714 67.940		17.678579	73.561714	67.940208	1652				षोय	0	1	ननरंक
कोयना अभयारण्य	0	1	बामणोऱी	1	0	0	0	0	Waghavale	Pimapri	0						0	0	0				तणननमूमूरन आणण शद्यथथती तीर्र तणसेत्र
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	Takwali	पारी	377	722 73.7186	17.604722	73.718611	0	0	1	बुरंबा, रामेठा, काांग्रिश, घाणेरी	2022	षोय	1	0	
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	Takwali	पारी	379	167 73.737	17.589167	73.737778	0	0	2	बुरम्बा	2022	षोय षोय	1	1	
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	Takwali	Jungti	390	972 73.7319	17.571972	73.731944	0	0	2	बुरंबी ,रामेटा ,घाणेरी	2022	षोय	1	0	
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	शळरशळंगे	ककशरले	412	339 73.7705	17.481339	73.770556	0	0	15	ंंबी रामेटा गेला		षोय	1	0	याळवी 2 षेक्टर सेत्र करून वळकाश शॅम्पर प्लॉट केत्र आषे
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	शळरशळंगे	ककशरले	412	389 73.7386	17.481389	73.738611	0	0	2	,गेला ,घाणेरी ,बुरंबी		षोय	1	0	याळवी दोन षेक्टर
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	Takavali	Karanjawade	00	803 73.7750	17.53803	73.775004	0	0	0	ननरंक	0	षोय षोय	1	1	शादर माहषती ननरंक आषे
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	शळरशळंगे	शळरशळंगे	409	8171 73.70	17.468171	73.7054	0	0	2	ुरंबा,गेंचा,रमे	2023	षोय	1	0	
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	शळरशळंगे	शळरशळंगे	406	609 73.698	17.487609	73.698813	0	0	2	ुरंबा,गेंचा,रमे	2023	षोय	1	0	
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	शळरशळंगे	डंडचारा		17.501422 73.746	17.501422	73.746295	0	0	43	नेचा,रमटा,न	2023	षोय	1	0	

कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	शऴरशऴग	डडचाशे	17.509292	73.744	17.509292	73.744283	0	0	40	ुरबा,नचा,रमे	2023	षोय	1	0	
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	ळन परर्मंडल कोयना	कोयना	433												ननरंक
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	ळन परर्मंडल कोयना	कोयना	ननरंक							ननरंक					ननरंक
चांदाशे राष्ट्राय उद्यान	1	0	षेलळाक	0	0	0	1	0	रंदीळ	रंदाळ दक्षण	६	17 73 0 0	17	73	0	0	0	नाषी	0				ननरंक
चांदाशे राष्ट्राय उद्यान	1	0	षेलळाक	0	0	0	1	0	Rundiv	Ambole	0	17 73 2 2	17	73	2	2	0	0	0	षोय	0	1	ननरंक
चांदाशे राष्ट्राय उद्यान	1	0	षेलळाक	0	0	0	1	0	कोलणे	चांदाशे खुद्र													ननरंक
चांदाशे राष्ट्राय उद्यान	1	0	षेलळाक	0	0	0	1	0	Helwak	Rasati	0000	17 17 17 17	17	17	17	17	0	No	0	षोय षोय	1	1	No
चांदाशे राष्ट्राय उद्यान	1	0	षेलळाक	0	0	0	1	0	रंहदळ	रंहदळ उत्र	5	17 73 0 0	17	73	0	0	0			षोय	0	1	ननरंक

१९.चाटण (Salt Lick)											१९.चाटण (Salt Lick)									
start	end	सव□काच नां	तारीख	वयनरकाच नावय	सरक्षि□□त्र	वयनपरर□□त्र	वतुतळ	ननयत□□त्र	क क्र.	नावय वय हक	स्थान	_स्थान_latitude	थान_longitu	स्थान_altitu	थान_precisi	थता (वापरा	□□त यणा रा ह	छायाचचत्र_UR	शरा	व□□काच नां
2023-05-15	2023-05-15	Deepak bhalc	2023-05-15	Deepak bhalchandra sorat	कायना अभ	बामणारा	Vele	Deur	0	Nirank	17.633056 73.785556 1076 9.6	17.633056	73.785556	1076	9.6				Nirank	
2023-05-16	2023-05-18	RFO Bamnoli	2023-05-16	RFO Bamnoli	कायना अभ	बामणारा	ळल	चलसळड	250	ननरक	17.636501 73.841901 1090.3 11.899999618530273	17.636501	73.841901	1090.3	11.9	नाहा	ननरक		ननरक	
2023-05-15	2023-05-18	Dada Maruti	2023-05-18	Dada Maruti jankar	कायना अभ	बामणारा	Vele	Vele			17.599167 73.857222 1158 4	17.599167	73.857222	1158	4				Nirank	
2023-05-18	2023-05-19	Kishor Dhane	2023-05-18	Kishor Dhane	कायना अभ	कायना	Takwali	Pali	375	नारा खारे	17.606944 73.725278 0 0	17.606944	73.725278	0	0	नाहा	□□नळारा त जून			
2023-05-21	2023-05-21																			
2023-07-19	2023-07-19	SONALI SHIV	2023-07-12	SONALI SHIVAJI KISAVE	कायना अभ	बामणारा	KOLHAPUR	MUNAWALE			17.777777 73.8988888 761 13	17.777777	73.898889	761	13	नाहा		मुनाळल बबट चाटण □'□□न नाहा		
2023-07-19	2023-07-19	नारक	2023-07-19	प्रतीक गायकळाड	कायना अभ	बामणारा	ळरळन	म्हालुग			17.689642 73.578667 76.80652618408203 2288	17.689642	73.578667	76.806526	2288	नाहा	नारक			
2023-07-20	2023-07-20	तानाजा शळळाजा	2023-07-20	तानाजा शळळाजा शळद ळननारि	चादारा स्ट्र	हलळाक	रदाळ	रदाळ दक्षण	0	नाहा	17 73 0 0	17	73	0	0	नाहा	नाहा		ननरक	
2023-07-20	2023-07-20	एस डाकाकड	2023-03-31	एस डाकाकड	चादारा स्ट्र	हलळाक	कालण	चादारा खुदद			17 73 0 0	17	73	0	0	नाहा			ननरक	
2023-07-21	2023-07-21	Pritam	2023-07-21	Pritam Baban Kamble	चादारा स्ट्र	हलळाक	Rundiv	Ambole	0	No	17 73 2 2	17	73	2	2	नाहा	No		ननरक	
2023-07-26	2023-07-26	S S Mundhe	2023-07-26	S S Mundhe	चादारा स्ट्र	हलळाक	Helwak	Rasati	0	No	17 17 17 17	17	17	17	17	नाहा	No		No	
2023-07-27	2023-07-27	भारत शळळरा	2023-07-18	भारत शळळराम खुटार ळननार	चादारा स्ट्र	हलळाक	रददळ	रददळ उत्तर	9	रददळ	17 73 0 0	17	73	0	0	नाहा			ननरक	
2023-10-25	2023-10-25	MAHENDRA	2023-09-02	SWAPNIL SAMBHAJI SHENDAG	कायना अभ	बामणारा	METINDOLI	KHIRKHINDI		NIRANK	32.093755 60.409094 0 0	32.093755	60.409094	0	0	नाहा	NIRANK		NIRANK	
2023-07-19	2023-10-26	ळनरक	2023-10-26	प्रतक धाडडबा गायकळाड	कायना अभ	बामणारा	ळरळन	म्हालुग		म्हाल□ग	17.678579 73.561714 67.9402084350586 1652	17.678579	73.561714	67.940208	1652	नाहा			ननरक	
2023-10-26	2023-10-26	ळनरक	2023-10-26	सुरळ क□ डशारक सूपदळळा	कायना अभ	बामणारा	ळरळन	आरळ		आरळ	17.678579 73.561714 67.9402084350586 1652	17.678579	73.561714	67.940208	1652	नाहा			ननरक	
2023-10-26	2023-10-26	ळनरक	2023-10-26	सुरळ क□ डशारक सूपदळळा	कायना अभ	बामणारा	ळरळन	आरळ		आरळ	17.678579 73.561714 67.9402084350586 1652	17.678579	73.561714	67.940208	1652	नाहा			ननरक	
2023-10-26	2023-10-26	ळनरक	2023-10-26	सुरळ क□ डशारक सूपदळळा	कायना अभ	बामणारा	ळरळन	ळरळन		ळरळन	17.678579 73.561714 67.9402084350586 1652	17.678579	73.561714	67.940208	1652	नाहा			ननरक	

२०.रोटण (Wallowing Places)

संरक्षत ...ेत्रा चे नाळ	संरक्षत ....ेत्राचे नाळ /चांदोरी राष्ट्रीय उद्यान	संरक्षत ....ेत्रा चे नाळ /कोयना अभयारण्य	ळनपररं...ेत्र	ळनपररं...ेत्र / बामणोरी	ळनपररं...ेत्र/ चांदोरी	ळनपररं...ेत्र /ढेवेळाडी	ळनपररं...ेत्र /हेलळाक	ळनपररं...ेत्र / कोयना	ळतुतल	ननयतं...ेत्र	कं क्र.	नाळ ळ ठिकाण	स्थान	_स्थान_latitude	_स्थान_longitude	_स्थान_altitude	_स्थान_precision	सध्यस्थती	सध्यस्स्थती	सध्यस्स्थती	ळापरात येणारा हंगाम
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	शळरशहळंगे	शळरशहळंगे	403	गोघट्याचे खो	17.50841 73.734543 0 0	17.50841	73.734543	0	0	ळापरात आहे	1	0	नोव्हेंबर ते मे
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	Takwali	Pali	375	नंदा काठा						ळापरात नाही	0	1	हिप्र अखर
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	शळरशहळंग	शळरशहळंग	403	गोघट्याचे खो	17.50841 73.	17.50841	73.734543	0	0	ळापरात आहे	1	0	बारमाहा
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	शळरशहळंग	डडचोरी	399	हइजालाचं पाणं	17.509523 73	17.509523	73.765864	0	0	ळापरात आहे	1	0	बारमाहा
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	KUSAVADE	AMBEGHAR	436	DASTAN PAN	17.4222 73.7	17.4222	73.78194	0	0	ळापरात आहे	1	0	APRIL-MAY
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	कुसळंड	कारळंट	458	आलं	17.397492 73	17.397492	73.852674	906.1	11.0500002	ळापरात नाही	0	1	जून त डडसबर
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	कुसळंड	कारळंट	458	आलं	17.3951 73.8	17.3951	73.851195	948.8	111.599998	ळापरात नाही	0	1	जून त डडसबर
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	Takavali	Karanjawade	395	लोहंगादारा	17.539183 73	17.539183	73.756308	0	0	ळापरात आहे	1	0	-
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	Takavali	Karanjawade	397	महारदारा	17.518878 73	17.518878	73.772861	0	0	ळापरात आहे	1	0	-
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	शळरशहळंग	ककसरुल	412	हआंबघर	17.497222 73	17.497222	73.756389	0	0	ळापरात आहे	1	0	हहळाला ळ उन्हाला
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	शळरशहळंग	ककसरुल	411	झाडारी	17.483889 73	17.483889	73.749722	0	0	ळापरात आहे	1	0	हहळाला उन्हाला
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	Takwali	Jungti	390	हहदळाचं पाणा	17.574136 73	17.574136	73.71889	0	0	ळापरात आहे	1	0	नोव्हंबर त एहप्रर
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	ळन परहमडल	कोयना	426	घाटमाथा	17.404357 73	17.404357	73.676598	946	11.4	ळापरात आहे	1	0	जानळारा त म
कोयना अभयारण्य	0	1	बामणोरी	1	0	0	0	0	ळेले	पलसळंड	250	कोरंबाचे तट	17.633594 73.842808 923.7 11.6499996 18530273	17.633594	73.842808	923.7	11.6499996	ळापरात आहे	1	0	हहंगामी
कोयना अभयारण्य	0	1	बामणोरी	1	0	0	0	0	Vele	Deur	0	Nirank									
कोयना अभयारण्य	0	1	बामणोरी	1	0	0	0	0	Vele	Vele											
कोयना अभयारण्य	0	1	बामणोरी	1	0	0	0	0	KOLHAPUR	MUNAWALE			17.2222222 7	17.2222222	73.7666666	768	14	ळापरात नाही	0	1	
कोयना अभयारण्य	0	1	बामणोरी	1	0	0	0	0	ळरळन	म्हालुंग		अडाशळ	17.689642 73	17.689642	73.578666	76.8065262	2288	ळापरात नाही	0	1	
कोयना अभयारण्य	0	1	बामणोरी	1	0	0	0	0	METINDOLI	KHIRKHINDI		NIRANK									NIRANK
कोयना अभयारण्य	0	1	बामणोरी	1	0	0	0	0	ळरळन	म्हालुहंग		म्हालहुंग	17.678579 73	17.678579	73.561714	67.9402084	1652				
कोयना अभयारण्य	0	1	बामणोरी	1	0	0	0	0	ळरळन	अरिळ		ननरक	17.678579 73	17.678579	73.561714	67.9402084	1652				
कोयना अभयारण्य	0	1	बामणोरी	1	0	0	0	0	ळरळन	ळरळन			17.680099 73	17.680099	73.563321	67.9402084	1735.32647				
चाहं...दोरी राष्ट्रीय उद्यान	1	0	चाहं...दोरी	0	1	0	0	0	कोल्हापूर	टाकले	19	टाकले पाईप	17.212901 73	17.212901	73.813721	877.349121	3.78999996	ळापरात नाही	0	1	माळसाळ्यात
चाहं...दोरी राष्ट्रीय उद्यान	1	0	चाहं...दोरी	0	1	0	0	0	कोल्हापूर	टाकले	19	हअंबर हाट पा	17.209683 73	17.209683	73.810932	859.288574	8.30000019	ळापरात आहे	1	0	माळसाळ्यात
चाहं...दोरी राष्ट्रीय उद्यान	1	0	हेलळाक	0	0	0	1	0	रुहं...दीळ	रुहं...दीळ दक्षण	6	नाही	17 73 0 0	17	73	0	0	ळापरात नाही	0	1	नाही
चाहं...दोरी राष्ट्रीय उद्यान	1	0	हेलळाक	0	0	0	1	0	कोग्राने	चाहं...दोरी खुदद			17 73 0 0	17	73	0	0				
चाहं...दोरी राष्ट्रीय उद्यान	1	0	हेलळाक	0	0	0	1	0	Rundiv	Ambole	10	Gavhanche p	17.1058 73.4	17.1058	73.4529	5	5	ळापरात आहे	1	0	Hivala
चाहं...दोरी राष्ट्रीय उद्यान	1	0	हेलळाक	0	0	0	1	0	Rundiv	Ambole	11	Nageche pani	17.1135 73.4	17.1135	73.4439	5	5	ळापरात आहे	1	0	Hivala
चाहं...दोरी राष्ट्रीय उद्यान	1	0	हेलळाक	0	0	0	1	0	Helwak	Rasati	427	Dhankal	17.22271 73.	17.22271	73.40303	17	17	ळापरात नाही	0	1	March
चाहं...दोरी राष्ट्रीय उद्यान	1	0	हेलळाक	0	0	0	1	0	Rundiv	Rundiv uttar	5	Terribatti	17.246502 73	17.246502	73.692457	848.13	29.7	ळापरात आहे	1	0	
चाहं...दोरी राष्ट्रीय उद्यान	1	0	चाहं...दोरी हेलळाक	0	1	0	1	0	कोल्हापूर	टाकले	19	हअंबर हाट पा	17.213032 73	17.213032	73.808135	909.871582	3.78999996	ळापरात आहे	1	0	माळसाळ्यात

२१.गळत बी संकरन प्लॉट (Grass Seed Collection Plot)

start	end	सळक्षकाच	ताराख	ळनरक्षकाच नाळ	साक्षक क्षेत्र नक		ळनपररक्षेत्र	ळतुतल	ननयतक्षेत्र	कंड ब्र	स्थान	_स्थान _latit	_स्थान _long	स्थान _altitud	थान _precisi	नाळ ळ ठिकाण	प्रजाताचा नाळ	ाद्दिरत्या प्रजा	ळताच सकरन	छायाचत्र	छायाचत्र_URL	क्ररा
2023-05-02	2023-05-02	XYZ	2023-05-02	Abc	कायना अभयारण्य	1	कायना	Koyna	Koyna	10	17.257268 74.	17.257268	74.162406	240.2999878	20	Koyna	Hatti	Hatti	Hatti			Good
2023-05-09	2023-05-09	M karpe	2023-05-09	Deepak bhaichand	कायना अभयारण्य	1	बामणारा	Vele	Deur	381	17.362 73.471	17.362	73.471	989	13	Gundi	Kusali	Ghaneri	Kasali	319-WA0036-1	4e8da409001e32ae483c%2F1	1
2023-05-09	2023-05-09	म अ चव्हार	2022-12-20	अ तु व्यवमार	कायना अभयारण्य	1	बामणारा	मट इदारा	मुनाळण	306	17.4237 73.46	17.4237	73.4617	695.23	6.3	व्हाघली	◌◌◌ब्बु र	करड, कु शल				
2023-05-09	2023-05-09	S. P जाळी	2023-05-09	गायकळाड प्रताक	कायना अभयारण्य	1	बामणारा	ळऽळन	म्यालुग		17.732128 73.	17.732128	73.753755	617.020813	2816	रळदी	मोती, करड, कु श	मोती, करड, कु श	मोती, करड, कु श	-A980-A469151	01e32ae483c%2Fbb207189-f6	
2023-05-09	2023-05-09	SUMITKUMA	2023-05-09	SUMITKUMAR SUR	कायना अभयारण्य	1	बामणारा	WAGHAVALE	WAGHAVALE	357	17.763611 73.	17.763611	73.661389	0	0	LAMAJ	D, TAMBAT, MI	), TAMBAT, MIRKAT,	KA2D0A2ZD1OZT12_121447-19_4		954e8da409001e32ae483c%2	
2023-05-13	2023-05-13	म.ज.चव्हार	2023-05-13	ज.ष.ननकम	कायना अभयारण्य	1	बामणारा	मट इदारा	खखरररडा	304	17.728444 73.	17.728444	73.765621	0	2600	खखरररडा	थल,ममरकट,गुरड	,कु शल,ममरकट,तुरड,IMG-20201204-WA0025-1				
2023-05-13	2023-05-13	KPG Bamnoli	2023-05-13	PG Alin Pundlik Ku	कायना अभयारण्य	1	बामणारा	ळऽळ	वरलाळाड	230	17.636717 73.	17.636717	73.853689	1097.9	8	रवळाचा चाळ	ना तांबोट, ता	ा गाव	ा गाव	9307171445340		
2023-05-11	2023-05-18	M.A.pavar	2023-05-18	Arjun.j.chavan	कायना अभयारण्य	1	बामणारा	Met indoli	Kusapur	331	17.4016 73.44	17.4016	73.4455	768	2.1	mbi gavthan ta	, tambit,karad,t	, tambit,karad,t	2023			
2023-05-09	2023-05-19	Dada maruti	2023-05-19	Dada Maruti janka	कायना अभयारण्य	1	बामणारा	Vele	Vele	386	17.5625 73.79	17.5625	73.798056	1087	1.8	Dhen plot	usali turda tam	Burumbi	, 20230519_110339_Microsoft		2ae483c%2F4e3497d5-a0ee-4	
2023-05-18	2023-05-19	SWAPNIL SA	2023-05-18	SWAPNIL SAMBHA	कायना अभयारण्य	1	बामणारा	KOLHAPUR	VALVAN	348	17.71916667 7	17.71916667	73.39611111	630	23	GHATMATHA	ा,TURDA,KUSAL	KUSAL	AD MIRKAT TU	5_102907-20_1	954e8da409001e32ae483c%2F	
2023-05-18	2023-05-19	Kishor Dhan	2023-05-18	Kishor Dhane	कायना अभयारण्य	1	कायना	Takwali	Pali	377	17.606944 73.	17.606944	73.715833	0	0	कोकण कडा	ogaia, नरकप्या	रामठा	नाचा	15_125021-22_	954e8da409001e32ae483c%2	
2023-05-18	2023-05-20	शचचन युळरा	2023-05-18	शचचन युळराज ना	कायना अभयारण्य	1	कायना	मळरमळग	मळरमळग	406	17.487652 73.	17.487652	73.725198	0	0	चकनाका	बागोडा, माठा	◌◌ नर्तकट	8kg			
2023-05-18	2023-05-20	शचचन युळरा	2023-05-19	शचचन युळराज ना	कायना अभयारण्य	1	कायना	मळरमळग	डॅडचारा		17.502249 73.	17.502249	73.747494	0	0	डॅडचारा व्हाली	शल, बागोडा, न	शल, बागोडा, नत	8 kg			
2023-05-20	2023-05-20	PRASHANT B	2023-05-19	PRASHANT BHOSA	कायना अभयारण्य	1	कायना	KUSAVADE	AMBEGHAR	428	17.43691 73.7	17.43691	73.78197	0	0	HIMBE GAVTH	ADA, KUSALI,	TIKTYAN, KUSAL	2KG			
2023-05-20	2023-05-20	PRASHANT B	2023-05-19	PRASHANT BHOSA	कायना अभयारण्य	1	कायना	KUSAVADE	AMBEGHAR	436	17.46019 73.7	17.46019	73.79161	0	0	ATYACHA MAA	AN , TIKTYAN ,	IKTYAN , KUSA	2KG			
2023-05-21	2023-05-21																					
2023-05-18	2023-05-22	वळजय कोडीराम भ	2023-05-18	वळजय कोडीराम भ	कायना अभयारण्य	1	कायना	मळरमळग	ककशरुल	412	17.481667 73.	17.481667	73.770556	0	0	नुनळऽ गोळठी	,तांबट ,मोठा ब	तांबट ,मोठा बाग,डा,	◌◌ 10T22W1◌◌◌2T26_115804-22_4		954e8da409001e32ae483c%2	F
2023-05-19	2023-05-23	Kishor Dhan	2023-05-20	Kishor Dhane	कायना अभयारण्य	1	कायना	Takwali	Jungti	388	17.579192 73.	17.579192	73.732771	0	0	Bhelyache kura	डॉ,motha bhog	◌◌ दी bhongada,motha bh	2o02n2ga0d218_095811-22_1		954e8da409001e32ae483c%2	
2023-05-20	2023-05-24	जा आर बद्र	2023-05-20	जा आर बद्र	कायना अभयारण्य	1	कायना	ळन नरररमडल	कायना	433	17.2356 73.43	17.2356	73.432	1043	4.7	गाकु ल	कु शल,नाकट पाना. ता	◌◌ खाएCG-20230104-WA0010			54e8da409001e32ae483c%2F9	
2023-07-19	2023-07-19	SONALI SHIV	2023-07-12	SONALI SHIVAJI KI	कायना अभयारण्य	1	बामणारा	KOLHAPUR	MUNAWALE	322	17.675033 73.	17.675033	73.777033	871	12	MUNAWALE	थल,ममरकट,तुर	करड,ममरकट				4
2023-07-19	2023-07-19	नारक	2023-07-19	प्रतीक गायकळाड	कायना अभयारण्य	1	बामणारा	ळऽळन	म्यालुग		17.683319 73.	17.683319	73.564273	76.80652618	1980	अडामळ	◌◌ गाव(पुरुष), पु	◌◌ गाव(पुरुष), पु	◌◌ 50A9A9	◌◌ 1XACS-192F-48D0-BEE5-		01e32ae483c%2Fb5587735-b
2023-07-20	2023-07-20	Pritam Baba	2023-07-20	Pritam	चादोरा राष्ट्राय उद्या	0	पलळाक	Kundiv	Amboie	0	17 73 2 2	17	73	2	2	No	No	No	No			नननरक
2023-07-20	2023-07-20	एश डी कांक	2023-03-31	एश डी कांकडे	चादोरा राष्ट्राय उद्या	0	पलळाक	कोलण	हुंदक	12	17.14477 73.4	17.14477	73.44436	0	0	गळमाल		बागडा तांबबट				
2023-07-20	2023-07-20	एश डी कांक	2023-03-31	एश डी कांकडे	चादोरा राष्ट्राय उद्या	0	पलळाक	कोलण	हुंदक	13	17.14172 73.4	17.14172	73.45176	0	0	रवळचामाल		बागडा तांबोट				
2023-07-26	2023-07-26	S S Mundhe	2023-07-26	S S Mundhe	चादोरा राष्ट्राय उद्या	0	पलळाक	Helwak	Rasati	0	17 17 17 17	17	17	17	17	No	No	No	No			No

२२.फळझाडे आठण लागवड (Fruit Tree Plantation)

संरक्षत ....त्राचे नाळ	संरक्षत ....त्रा चे नाळ /चांदोरी राष्ट्रीय उद्यान	संरक्षत ....त्रा चे नाळ /कोयना अभयारण्य	ळनपररं...त्र	ळनपररं...त्र / बामणोरी	ळनपररं...त्र / ढेबेळाडी	ळनपररं...त्र / चांदोरी	ळनपररं...त्र / हेलळाक	ळनपररं...त्र / कोयना	कं क्र.	स्थान	_स्थान _latitude	_स्थान _longitude	_स्थान _altitude	_स्थान _precision	प्रजाती	संख्या	ळषय
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	21	17.2356 73.4856 0 0	17.2356	73.4856	0	0	Mango	21	2023
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	376	17.606111 73.755278 0 0	17.606111	73.755278	0	0	Jabhal	5	
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	378	17.60425 73.731944 0 0	17.60425	73.731944	0	0	आंबा	1	
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	377	17.606294 73.715603 0 0	17.606294	73.715603	0	0	उंबर	2	
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1									
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1									
कोयना अभयारण्य	0	1	कोयना	0	0	0	0	1	394	17.539917 73.7541 0 0	17.539917	73.7541	0	0	तमाऱपत्र . अंजन. जांभुल इ.	100	0
कोयना अभयारण्य	0	1	बामणोरी	1	0	0	0	0	335	17.402 73.4246 0 9.5	17.402	73.4246	0	9.5	आंबा,पेरू, हचकू , सीताफल ,आळला, फणस,जांभूल,	600	
कोयना अभयारण्य	0	1	बामणोरी	1	0	0	0	0	331	17.4016 73.4455 0 2.1	17.4016	73.4455	0	2.1	फणस,आंबा,पेरू, सीताफल, काजू,कोकम,लऱंबू	1000	
कोयना अभयारण्य	0	1	बामणोरी	1	0	0	0	0	331	17.3938 73.453 0 8.9	17.3938	73.453	0	8.9	आंबा,फणस,काजू ,पेरू,कोकम,सीताफल,बेऱ,लरंबू	1000	

कोयना अभयारण्य	0	1	बामणोऱी	1	0	0	0	0	250	17.632952 73.838637 1026.7 10.899999 618530273	17.632952	73.838637	1026.7	10.9	पेरू, आंबा, फणस , उंबर, जांभूल	100	0
कोयना अभयारण्य	0	1	बामणोऱी	1	0	0	0	0	0								
ंोयना अभयारण्	0	1	बामणोऱी	1	0	0	0	0	250	17.635968 73.844235 1039.1 16.214000 701904297	17.635968	73.844235	1039.1	16.214	आळला	3	0
कोयना अभयारण्य	0	1	बामणोऱी	1	0	0	0	0									
कोयना अभयारण्य	0	1	बामणोऱी	1	0	0	0	0									
कोयना अभयारण्य	0	1	बामणोऱी	1	0	0	0	0	73.564313 76.8065		17.683338	73.564313	76.80653	1980	अबा, फ़नस, जाभुल, पेरू , आळला, कोकम , आलु		
कोयना अभयारण्य	0	1	बामणोऱी	1	0	0	0	0							NIRANK		
कोयना अभयारण्य	0	1	बामणोऱी	1	0	0	0	0	259 67.9402084350		17.680768	73.562259	67.94021	1700.5			
कोयना अभयारण्य	0	1	बामणोऱी	1	0	0	0	0	71 67.94020843505		17.68044	73.563771	67.94021	1963.9			
कोयना अभयारण्य	0	1	बामणोऱी	1	0	0	0	0	73.563744 67.940		17.680446	73.563744	67.94021	2019			
हं ंा ंंदोऱी राष्ट्र ंीय उद्यान	1	0	हेलळाक	0	0	0	1	0	6	17 73 0 0	17	73	0	0	नाही	0	0
हं ंा ंंदोऱी राष्ट्र ंीय उद्यान	1	0	हेलळाक	0	0	0	1	0	0	17 73 2 2	17	73	2	2	No	0	0
हं ंा ंंदोऱी राष्ट्र ंीय उद्यान	1	0	हेलळाक	0	0	0	1	0									
हं ंा ंंदोऱी राष्ट्र ंीय उद्यान	1	0	हेलळाक	0	0	0	1	0	0	17 17 17 17	17	17	17	17	No	0	0
हं ंा ंंदोऱी राष्ट्र ंीय उद्यान	1	0	हेलळाक	0	0	0	1	0	5	17 73 0 0	17	73	0	0	ननरंक	0	0

२३.बांबू लागवड (Bamboon Plantation)

start	end	सर्वेक्षकाचे	तारीख	वृक्षसर्वेक्षकाचे नांव	सर्वेक्षण क्षेत्र	वृक्षपरिसर	वृक्षतळ	वनपरिक्षेत्र	वृक्ष क्र.	स्थान	_latitude	Longitude	थान _altitu	थान _precis	दाज घनता	संख्या	छायाचित्र	छायाचित्र_U	शेरा
2023-05-13	2023-05-13	RFO Bamn	2023-05-13	FG Anil Pundlik kumbhar	कायना अभ	बामणोरा	ळल	नलसळड	0	17.632861 7	17.632861	73.838702	1068.5	11.2	0	0			ननरक
2023-05-15	2023-05-15	Deepak bh	2023-05-15	Deepak bhalchandra sorat	कायना अभ	बामणोरा	Vele	Deur	0	17.633056 7	17.633056	73.785556	1076	9.6					Nirank
2023-05-13	2023-05-13	M.A.pavar	2023-05-13	Arjun.j.chavan	कायना अभ	बामणोरा	मट इदारा	कुसापुर	331	17.3942 73.	17.3942	73.4521	0	1.4	0	300	tmp_pic_16	https://kc.kobotoolbox.o	
2023-05-11	2023-05-13	M.A.pavar	2023-05-13	Arjun.j.chavan	कायना अभ	बामणोरा	Met indoli	Kusapur	331	17.3957 73.	17.3957	73.4521	0	4		2000	tmp_pic_16	https://kc.k	नळान प्रथा
2023-05-15	2023-05-18	Dada Maru	2023-05-18	Dada Maruti jankar	कायना अभ	बामणोरा	Vele	Vele		17.599167 7	17.599167	73.857222	1158	4					Nirank
2023-05-18	2023-05-19	Kishor Dha	2023-05-18	Kishor Dhane	कायना अभ	कायना	Takwali	Pali	378	17.601489 7	17.601489	73.732859	0	0	0	40	20230415_	https://kc.k	10*10 मध्य
2023-05-18	2023-05-19	Kishor Dha	2023-05-18	Kishor Dhane	कायना अभ	कायना	Takwali	नोरा	375	17.609723 7	17.609723	73.732501	0	0	0	35	IMG-20220	https://kc.k	10*10 च्या
2023-05-19	2023-05-20	सहचन युळ	2023-05-19	सहचन युळराज नाटार	कायना अभ	कायना	शळरशळग	शळरशळग	406	17.487664 7	17.487664	73.726202	0	0	60	100	20210711_	https://kc.kobotoolbox.o	
2023-05-19	2023-05-20	सहचन युळ	2023-05-19	सहचन युळराज नाटार	कायना अभ	कायना	शळरशळग	डहडोरा		17.50232 73	17.50232	73.747956	0	0	60	100	20220918_	https://kc.kobotoolbox.o	
2023-05-19	2023-05-20	सहचन युळ	2023-05-19	सहचन युळराज नाटार	कायना अभ	कायना	शळरशळग	डहडोरा		17.510375 7	17.510375	73.746096	0	0	60	100	20220827_	https://kc.kobotoolbox.o	
2023-05-18	2023-05-20	Kishor Dha	2023-05-20	Kishor Dhane	कायना अभ	कायना	Takwali	Jungti	390	17.573337 7	17.573337	73.732219	0	0	5	80	20230402_	https://kc.kobotoolbox.o	
2023-05-21	2023-05-21																		
2023-05-21	2023-05-22	Ajit Patil	2023-05-19	Ajit Patil	कायना अभ	कायना	Takavli	Karanjawade	393	17.538333 7	17.538333	73.774722	0	0	0	60	20221118_	https://kc.k	10×10 रोन
2023-05-21	2023-05-22	वळजय कोड	2023-05-18	वळजय कोडीराम भासर	कायना अभ	कायना	शळरशळग	ककसरुल	412	17.878611 7	17.878611	73.764722	0	0	30		20230515_	https://kc.k	नसचहगक
2023-05-21	2023-05-22	वळजय कोड	2023-05-18	वळजय कोडीराम भासर	कायना अभ	कायना	शळरशळग	ककसरुल	412	17.478611 7	17.478611	73.759444	0	0	20				नसचहगक
2023-05-21	2023-05-22	वळजय कोड	2023-05-18	वळजय कोडीराम भासर	कायना अभ	कायना	शळरशळग	ककसरुल	412	17.481389 7	17.481389	73.770556	0	0		105	20220725_	https://kc.k	रागळड कर
2023-05-22	2023-05-22	Ajit Patil	2023-05-19	Ajit Patil	कायना अभ	कायना	Takavali	Karanjawade	0	17.53006 73	17.53006	73.773795	0	0	0	0			सादर माहह
2023-05-20	2023-05-24	जो आर बं	2023-05-20	जो आर बद्र	कायना अभ	कायना	ळन नरमड	कायना	433	17.2359 73.	17.2359	73.4324	1037	8.4		60	168456803	https://kc.kobotoolbox.o	
2023-07-19	2023-07-19	नारक	2023-07-19	प्रनतक गायकळाड	कायना अभ	बामणोरा	ळऱ्ळन	म्हालुग		17.688458 7	17.688458	73.575971	76.806526	1984.0112					
2023-07-19	2023-07-19	नारक	2023-07-19	प्रनतक	कायना अभ	बामणोरा	ळऱ्ळन	म्हालुग		17.688487 7	17.688487	73.576036	76.806526	1984.8646					नारक
2023-07-20	2023-07-20	तानाजी शळ	2023-07-20	तानाजी शळळाजी शळद ळननार	ह○○ि○○दा री राष्ट्र	हलळाक	रु दाळ	रु दाळ दक्षण	6	17 73 0 0	17	73	0	0	0	0			ननरक
2023-07-20	2023-07-20	Pritam Bab	2023-07-20	Pritam Baban Kamble	ह○○ि○○दा री राष्ट्र	हलळाक	Rundiv	Ambole	0	17 73 2 2	17	73	2	2	0	0			ननरक
2023-07-20	2023-07-20	एस डी का	2023-03-31	एस डी काकड	ह○○ि○○दा री राष्ट्र	हलळाक	कालण	ह○○ा○○दारा खुहद		17 73 0 0	17	73	0	0					ननरक
2023-07-26	2023-07-26	S S Mundh	2023-07-26	S S Mundhe	ह○○ि○○दा री राष्ट्र	हलळाक	Helwak	Rasati	0	17 17 17 17	17	17	17	17	0	0			No
2023-07-26	2023-07-26	S S Mundh	2023-07-26	S S Mundhe	ह○○ि○○दा री राष्ट्र	हलळाक	Helwak	Rasati	0	17 17 17 17	17	17	17	17	0	0			No
2023-07-26	2023-07-26	S S Mundh	2023-07-26	S S Mundhe	ह○○ि○○दा री राष्ट्र	हलळाक	Helwak	Rasati	0	17 17 17 17	17	17	17	17	0	0			No
2023-07-27	2023-07-27	भारत शळळ	2023-07-18	भारत शळळराम खुटार ळननार रु हदळ	ह○○ि○○दा री राष्ट्र	हलळाक	रु हदळ	रु हदळ उत्तर	5	17.1433 73.	17.1433	73.4139	0	0		0			ळन्य प्राणी
2023-07-19	2023-07-19	SONALI SHI	2023-07-12	SONALI SHIVAJI KISAVE	कायना अभ	बामणोरा	KOLHAPUR	MUNAWALE		17.777777 7	17.777777	73.988889	881	12					NIRANK
2023-07-19	2023-07-19	SONALI SHI	2023-07-12	SONALI SHIVAJI KISAVE	कायना अभ	बामणोरा	KOLHAPUR	MUNAWALE		17.199999 7	17.199999	73.777777	767	11					NIRANK
2023-10-25	2023-10-25	MAHENDR	2023-09-04	SWAPNIL SAMBHAJI SHENDAGE	कायना अभ	बामणोरा	METINDOLI	KHIRKHINDI	304	17.708137 7	17.708137	73.786664	0	0		183			
2023-07-19	2023-10-26	ळनरक	2023-10-26	प्रनतक धाडडबा गायकळाड	कायना अभ	बामणोरा	ळऱ्ळन	म्हालुग		17.680455 7	17.680455	73.563705	67.940208	2019			4536A720-A	https://kc.kobotoolbox.o	

२४.साग लागवड (Teak Plantation)

start	end	तारीख	वनरक्षकाचे नाव	संरक्षण क्षे	वनपरिक्षेत्र	वतुतळ	ननयतक्षेत्र	झाड क्र.	क्षेशि (N) रे	अक्षांश (N	श (E)_lon	(N) रखाश	(N) रखाश	दाज घनता (	संख्या	छायाचित्र	शेरा
2023-05-09	2023-05-09																
2023-05-13	2023-05-13	2023-05-13	Arjun.j.chavan	कायना अभयारण्य	बामणोरी	Met Indoli	Kusapur	331	17.4019 73.	17.4019	73.4248	0	9.5		100	IMG-20230	नळान प्रथावळत
2023-05-13	2023-05-13	2023-05-13	Arjun.j.chavan	कायना अभयारण्य	बामणोरी	Met Indoli	Kusapur	331	17.4019 73.	17.4019	73.4248	0	9.5		100	IMG-20230	नळान प्रथावळत
2023-05-13	2023-05-13	2023-05-13	FG Anil Pundlik kumbhar	कायना अभयारण्य	बामणोरी	ळेले	पलसळड	0	17.626453	17.626453	73.845122	1100.3	4.3000002	Nil	Nil		साग ग़ागळड क रो नाही
2023-05-16	2023-05-16	2023-05-16	Deepak bhalchandra sorat	कायना अभयारण्य	बामणोरी	Vele	Deur	0	17.606389	17.606389	73.810556	1163	7.3				Nirank
2023-05-11	2023-05-13	2023-05-13	Arjun.j.chavan	कायना अभयारण्य	बामणोरी	Met Indoli	Kusapur	331	17.3957 73.	17.3957	73.4521	0	4		500	tmp_pic_16	नळान प्रथावळत
2023-05-16	2023-05-18	2023-05-18	Dada Maruti jankar	कायना अभयारण्य	बामणोरी	Vele	Vele										Nirank
2023-05-18	2023-05-19	2023-05-18	Kishor Dhane	कायना अभयारण्य	कायना	Takwali	पोरी	--									ननयत ा'ंत्रामध्य साग प्रजातीचा झाड कु ठहा ददसून येत नाहात
2023-05-19	2023-05-20	2023-05-19	सचचन युळराज पाटोर	कायना अभयारण्य	कायना	शऴरशहऴग	शऴरशहऴग		17.487462	17.487462	73.698983	0	0				सदर ननयत'ंत त्रात साग ग़ागळड नाही
2023-05-19	2023-05-20	2023-05-19	सचचन युळराज पाटोर	कायना अभयारण्य	कायना	शऴरशहऴग	डडचोरी		17.509523	17.509523	73.765864	0	0				सदर ननयत'ंत त्रात साग ग़ागळड नाही
2023-05-19	2023-05-20	2023-05-20	Kishor Dhane	कायना अभयारण्य	कायना	Takwali	Jungti										ननररक
2023-05-22	2023-05-22																
2023-05-21	2023-05-22	2023-05-18	वळजय काडाराम भासर	कायना अभयारण्य	कायना	शऴरशहऴग	ककसरुल										ननररक
2023-05-19	2023-05-22	2023-05-19	Ajit Patil	कायना अभयारण्य	कायना	Takavali	Karajawade	00	17.53803 7	17.53803	73.705004	0	0	00	00		सादर मादहतो ननररक आहं
2023-07-19	2023-07-19	2023-07-12	SONALI SHIVAJI KISAVE	कायना अभयारण्य	बामणोरी	KOLHAPUR	MUNAWALE		17.7777 73.	17.7777	73.898889	676	12		NIRANK		NIRANK
2023-07-19	2023-07-19	2023-07-12	SONALI SHIVAJI KISAVE	कायना अभयारण्य	बामणोरी	KOLHAPUR	MUNAWALE										NIRANK
2023-07-19	2023-07-19	2023-07-19	प्रनतक	कायना अभयारण्य	बामणोरी	ळेऱळन	म्हाहल ुग		17.689521	17.689521	73.578391	76.806526	2279.8609	नारररक			नारररक
2023-07-20	2023-07-20	2023-07-20	तानाजी शऴळाजी शहऴद ळनपार	चाहंदारा राष्ट्रीय उद्या	हलळाक	रुहंद दाळ	रुहंद दाळ दक्षण	६	17 73 0 0	17	73	0	0	००	००		ननररक
2023-07-20	2023-07-20	2023-07-20	Pritam Baban Kamble	चाहंदारा राष्ट्रीय उद्या	हलळाक	Rundiv	Ambole	0	17 73 2 2	17	73	2	2		0		ननररक
2023-07-20	2023-07-20	2023-03-31	एस डी काकड	चाहंदारा राष्ट्रीय उद्या	हलळाक	काशन	चाहंदारा खुदद										ननररक
2023-07-27	2023-07-27	2023-07-18	भारत शऴळराम खुटार ळनपार रुहं ददळ	चाहंदारा राष्ट्रीय उद्या	हलळाक	रुहं ददळ	रुहं ददळ उतर	5	17 73 0 0	17	73	0	0	00	00		ननररक
2023-10-26	2023-10-26	2023-09-18	S P Pawar FG Pimpari	कायना अभयारण्य	बामणोरी	Waghavale	Pimapri	0						0	0		साग ग़ागळड बाबत वहपपरी ननयत'ंत्राचा मादहतो ननररक आहं.
2023-10-26	2023-10-26	2023-09-18	S P Pawar FG Pimpari	कायना अभयारण्य	बामणोरी	Waghavale	Pimpari	0									साग ग़ागळड बाबत वहपपरी ननयत'ंत्राचा मादहतो ननररक आहं.
2023-10-26	2023-10-26	2023-09-01	SWAPNIL SAMBHAJI SHENDAGE	कायना अभयारण्य	बामणोरी	METINDOLI	KHIRKHINDI		17.915856	17.915856	73.719283	0	0				Teak Plantation is not Avalable in Khirkhindi Beat
2023-10-26	2023-10-26	2023-09-18	S S Chougule FG Waghavale	कायना अभयारण्य	बामणोरी	Waghavale	Waghavale	0						0	0		साग ग़ागळड बाबत ळाघाळल ननयत'ंत त्राचा मादहतो ननररक आहं.

२६.दबाव छाप पॅड-Pressure Impression Pad (PIP)

शंरक्षसत सेत्र	शंरक्षसत सेत्र /कोयना अभयारण्य	शंरक्षसत सेत्र /चांदोशी राष्ट्रीय उद्यान	ळनपररसेत्र	ळनपररसेत्र/ बामणोशी	ळनपररसेत्र/ कोयना	ळनपररसेत्र/ पेलळाक	ळनपररसेत्र/ चांदोशी	ळनपररसेत्र/ ढेबेळाडी	ळतुतल	ननयतसेत्र	कस क्र.	स्थान -असांळ (N) रेखांळ (E)	असांळ (N) रेखांळ (E)_latitude	रेखांळ (E)_longitude	_स्थान - असांळ (N) रेखांळ (E)_altitude	_स्थान - असांळ (N) रेखांळ (E)_precision	सेंत्र (पॅक्टर)	व्यळस्थापन कामाचे ळवु	जी.पी.एश.रँक	जी.पी.एश.रँक /घोय	जी.पी.एश.रँक /नाषी
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	पाशी	375	17.612556 73.748167 0 0	17.612556	73.748167	0	0	0	2022-23	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	पाशी	376	17.611553 73.751464 0 0	17.611553	73.751464	0	0	--	2022-23	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	पाशी	375	17.606944 73.722778 0 0	17.606944	73.722778	0	0	--	2022-23	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	पाशी	378	17.604444 73.725833 0 0	17.604444	73.725833	0	0	--	2022-23	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	पाशी	377	17.606944 73.714167 0 0	17.606944	73.714167	0	0	--	2022--23	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	पाशी	378	17.603611 73.731389 0 0	17.603611	73.731389	0	0	--	2022-23	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takavali	Karanjawade	393	17.539546 73.77397 0 0	17.539546	73.77397	0	0	00	2023	नाही	0	1
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takavali	Karanjawade	393	17.544722 73.766667 0 0	17.544722	73.766667	0	0	00	2023	नाही	0	1
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takavali	Karanjawade	394	17.545439 73.758764 0 0	17.545439	73.758764	0	0	00	2023	नाही	0	1
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takavali	Karanjawade	394	17.541111 73.753889 0 0	17.541111	73.753889	0	0	00	2023	नाही	0	1
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takavali	Karanjawade	394	17.544903 73.746872 0 0	17.544903	73.746872	0	0	00	2023	नाही	0	1
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takavali	Karanjawade	394	17.545409 73.740756 0 0	17.545409	73.740756	0	0	00	2023	नाही	0	1
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takavali	Karanjawade	396	17.530383 73.771294 0 0	17.530383	73.771294	0	0	00	2023	नाही	0	1
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takavali	Karanjawade	396	17.52815 73.766358 0 0	17.52815	73.766358	0	0	00	2023	नाही	0	1
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takavali	Karanjawade	397	17.519114 73.781075 0 0	17.519114	73.781075	0	0	00	2023	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	KUSAVADE	AMBEGHAR	428	17.4275 73.7713 0 0	17.4275	73.7713	0	0		2021	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	KUSAVADE	AMBEGHAR	428	17.42838 73.77194 0 0	17.42838	73.77194	0	0		2022	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	KUSAVADE	AMBEGHAR	428	17.4325 73.775 0 0	17.4325	73.775	0	0		2022	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	KUSAVADE	AMBEGHAR	436	17.42472 73.769167 0 0	17.42472	73.769167	0	0		2022	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	KUSAVADE	AMBEGHAR	436	17.42722 73.77083 0 0	17.42722	73.77083	0	0		2022	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	KUSAVADE	AMBEGHAR	428	17.44 73.78277 0 0	17.44	73.78277	0	0		2022	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	KUSAVADE	AMBEGHAR	428	17.4336 73.7803 0 0	17.4336	73.7803	0	0		2022	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	KUSAVADE	AMBEGHAR	428	17.4489 73.8099 0 0	17.4489	73.8099	0	0		2022	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	KUSAVADE	AMBEGHAR	436	17.798 73.4486 0 0	17.798	73.4486	0	0		2022			
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	KUSAVADE	AMBEGHAR	436	17.43055 73.78305 0 0	17.43055	73.78305	0	0		2022			
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	KUSAVADE	KUSAVADE	429	17.48838 73.79266 0 0	17.48838	73.79266	0	0		2022			
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	KUSAVADE	KUSAVADE	429	17.48583 73.79611 0 0	17.48583	73.79611	0	0		2022			
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	KUSAVADE	KUSAVADE		17.485 73.79763 0 0	17.485	73.79763	0	0		2022			
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	KUSAVADE	KUSAVADE	GOJEGAW	17.49083 73.7944 0 0	17.49083	73.7944	0	0		2022			
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	KUSAVADE	KUSAVADE		17.4927 73.795 0 0	17.4927	73.795	0	0		2022			
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	KUSAVADE	KUSAVADE		17.49633 73.79369 0 0	17.49633	73.79369	0	0					
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	KUSAVADE	KUSAVDE		17.4336 73.78 0 0	17.4336	73.78	0	0		2022			
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	शळरशहळंगे	ककसरुले	412	17.4775 73.771667 0 0	17.4775	73.771667	0	0			होय	1	0

कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	शळ्रशहळ्गे	ककसरुले	412	17.478889 73.748611 0 0	17.478889	73.748611	0	0			होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	शळ्रशहळ्गे	ककसरुले	413	17.485278 73.768611 0 0	17.485278	73.768611	0	0					
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	शळ्रशहळ्गे	ककसरुले	413	17.484444 73.783333 0 0	17.484444	73.783333	0	0			होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	शळ्रशहळ्गे	ककसरुले	412	17.79167 73.761667 0 0	17.79167	73.761667	0	0			होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	शळ्रशहळ्गे	ककसरुले	412	17.479722 73.755556 0 0	17.479722	73.755556	0	0			होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	शळ्रशहळ्गे	ककसरुले	412	17.483611 73.772778 0 0	17.483611	73.772778	0	0			होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	शळ्रशहळ्गे	ककसरुले	412	17.467778 73.752778 0 0	17.467778	73.752778	0	0			होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	शळ्रशहळ्गे	ककसरुले	416	17.460556 73.751944 0 0	17.460556	73.751944	0	0			होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwli	Jungti	389	17.575834 73.72611 0 0	17.575834	73.72611	0	0		2023	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	Jungti	389	17.576128 73.725001 0 0	17.576128	73.725001	0	0		2023	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	Jungti	389	17.577222 73.723611 0 0	17.577222	73.723611	0	0		2023	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	Jungti	388	17.5775 73.729444 0 0	17.5775	73.729444	0	0		Bhelyachi पाय	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	Jungti	388	17.568456 73.751722 0 0	17.568456	73.751722	0	0		2023	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	Jungti	390	17.571667 73.728889 0 0	17.571667	73.728889	0	0		2023	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	Jungti	391	17.571944 73.736111 0 0	17.571944	73.736111	0	0		2023	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	Jungti	390	17.573056 73.733888 0 0	17.573056	73.733888	0	0		2023	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	पररहमंडल क	कोयना	426	17.2415 73.4035 957 12.4	17.2415	73.4035	957	12.4	4/6	2023	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	पररहमंडल क	कोयना	426	17.253 73.403 0 0	17.253	73.403	0	0	4/6	2023	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	परीहमंडल क	कोयना	430	17.2445 73.4244 970 9.3	17.2445	73.4244	970	9.3		2023	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	कुसळडे	कारळट	458	17.401648 73.85174 995.8 1.8	17.401648	73.85174	995.8	1.8		2022	नाही	0	1
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	कुसळडे	कारळट	458	17.405542 73.849977 920 2	17.405542	73.849977	920	2		2022	नाही	0	1
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	कुसळडे	कारळट	458	17.405544 73.849946 996.99 3.1	17.405544	73.849946	996.99	3.1		2022	नाही	0	1
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	कुसळडे	कारळट	458	17.39842 73.852522 956.61 3	17.39842	73.852522	956.61	3		2022	नाही	0	1
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	कुसळडे	कारळट	46117.	17.402042 73.823193 918.96 11.1	17.402042	73.823193	918.96	11.1		2022	नाही	0	1
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	शळ्रशहळ्गे	शळ्रशहळ्गे	409	17.468403 73.705782 0 0	17.468403	73.705782	0	0		2023	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	शळ्रशहळ्गे	शळ्रशहळ्गे	408	17.473882 73.703888 0 0	17.473882	73.703888	0	0		2023	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	शळ्रशहळ्गे	शळ्रशहळ्गे	407	17.475895 73.700971 0 0	17.475895	73.700971	0	0			होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	शळ्रशहळ्गे	शळ्रशहळ्गे	405	17.494606 73.703686 0 0	17.494606	73.703686	0	0		2023	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	शळ्रशहळ्गे	शळ्रशहळ्गे	404	17.488788 73.714873 0 0	17.488788	73.714873	0	0		2023	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Dicholi	Dicholi	399	17.292758 73.452271 0 0	17.292758	73.452271	0	0		2022-23			
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Dicholi	Dicholi	399	17.497586 73.751864 0 0	17.497586	73.751864	0	0					
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Dicholi	Dicholi	icholi गाळठा	17.504722 73.749722 0 0	17.504722	73.749722	0	0		2022-23	होय	1	0
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Dicholi	Dicholi	icholi गाळठा	17.502548 73.737203 0 0	17.502548	73.737203	0	0		2022-23			
कोयना अभयारण्य	1	0	बामणोशी	1	0	0	0	0	मेट हइंदोशी	खखररहं◌ंडी	304	17.4153 73.4444 809.82 3.1	17.4153	73.4444	809.82	3.1		2022	होय	1	0
कोयना अभयारण्य	1	0	बामणोशी	1	0	0	0	0	मेट हइंदोशी	खखररहं◌ंडी	305	17.4137 73.459 750.12 2	17.4137	73.459	750.12	2		2022	होय	1	0

कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	मेट हइंदोरी	खखररहंंंड	304A	17.4153 73.4427 767.03 8.6	17.4153	73.4427	767.03	8.6		2022	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	ळेले	पलसळडे	324	17.631389 73.814444 0 0	17.631389	73.814444	0	0	0.0001	2023	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	ळेले	पलसळडे	324	17.627778 73.821389 0 0	17.627778	73.821389	0	0	0.0001	2023	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Met Indoli	Kusapur	332	17.4011 73.4236 728 6.2	17.4011	73.4236	728	6.2		2022	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Met Indoli	Kusapur	335	17.4014 73.424 728 6.1	17.4014	73.424	728	6.1		2022	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Met indoli	Kusapur	331	17.4011 73.4313 727 3	17.4011	73.4313	727	3		2022	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Met indoli	Kusapur	336	17.403 73.4318 737 7.7	17.403	73.4318	737	7.7		2022	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Met indoli	Kusapur	331	17.3945 73.4515 752 3	17.3945	73.4515	752	3		2023	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Met indoli	Kusapur	331	17.3942 73.452 743 8.3	17.3942	73.452	743	8.3		2023	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Met indoli	Kusapur	331	17.3938 73.4435 993 9.6	17.3938	73.4435	993	9.6			होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Met indoli	Kusapur	331	17.3855 73.4459 734 2.3	17.3855	73.4459	734	2.3		2023	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Met indoli	Kusapur	331	17.3848 73.4432 727 3	17.3848	73.4432	727	3			होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Vele	Deur	381	17.615275 73.805556 1074 6.3	17.615275	73.805556	1074	6.3		2023	होय	1	0
			बामणोरी	1	0	0	0	0	Vele	Deur	380	17.593889 73.784722 1174 6.8	17.593889	73.784722	1174	6.8		2023	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	मेट हइंदोरी	मुनाळले	313	17.4146 73.4637 0 3100	17.4146	73.4637	0	3100		2022-23	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	मेट हइंदोरी	मुनाळले	313	17.4273 73.47901 1078.62 25.4	17.4273	73.47901	1078.62	25.4		2022-23	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	मेट हइंदोरी	मुनाळले	313	17.71210287 73.79842878 1109.8 19.29	17.71210287	73.79842878	1109.8	19.29		2022-23	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	मेट हइंदोरी	मुनाळले	313	17.51694 73.40398 0 3200	17.51694	73.40398	0	3200		2022-23	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	valvan	Arav	346	17.709167 73.596389 0 0	17.709167	73.596389	0	0		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	valvan	Arav	346	17.707778 73.600278 0 0	17.707778	73.600278	0	0			नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	valvan	Arav	345	17.716111 73.615 0 0	17.716111	73.615	0	0		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	valvan	Arav		17.717764 73.592443 0 0	17.717764	73.592443	0	0		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	valvan	Arav	346	17.712003 73.596042 0 0	17.712003	73.596042	0	0		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	valvan	Arav	346	17.708563 73.603673 0 0	17.708563	73.603673	0	0		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	valvan	Arav	344	17.711834 73.621851 0 0	17.711834	73.621851	0	0		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	valvan	Arav	344	17.716452 73.629266 0 0	17.716452	73.629266	0	0		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Vele	Deur		17.631389 73.806111 1073 6.2	17.631389	73.806111	1073	6.2		2023	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Vele	Deur	371	17.6338 73.793889 1074 6	17.6338	73.793889	1074	6		2023	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Vele	Deur	370	17.633056 73.787222 1030 6	17.633056	73.787222	1030	6		2023	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Vele	Deur	385	17.593056 73.779722 1073 4	17.593056	73.779722	1073	4		2023	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Vele	Vele	386	17.553611 73.899167 1087 1.8	17.553611	73.899167	1087	1.8			होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Vele	Vele	386	17.552222 73.795833 1087 2	17.552222	73.795833	1087	2			होय	1	0

कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Vele	Vele	386	17.572778 73.813889 1087 2	17.572778	73.813889	1087	2			होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Vele	Vele	386	17.581667 73.805278 1087 2	17.581667	73.805278	1087	2			होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Vele	Vele	400	17.53889 73.796667 858 8.6	17.53889	73.796667	858	8.6		2022	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Vele	Vele	383	17.565833 73.7925 8558 8.6	17.565833	73.7925	8558	8.6		2022	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	WAGHAVAL	WAGHAVALE		17.763056 73.660833 0 0	17.763056	73.660833	0	0		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	WAGHAVAL	WAGHAVALE	358	17.767778 73.660833 0 0	17.767778	73.660833	0	0		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	WAGHAVAL	WAGHAVALE	358	17.762778 73.651667 0 0	17.762778	73.651667	0	0		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	WAGHAVAL	WAGHAVALE	357	17.758611 73.669722 0 0	17.758611	73.669722	0	0		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	WAGHAVAL	WAGHAVALE		17.75306 73.67194 0 0	17.75306	73.67194	0	0		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	WAGHAVAL	WAGHAVALE	354	17.741389 73.649722 0 0	17.741389	73.649722	0	0		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	WAGHAVAL	WAGHAVALE	354	17.741667 73.649722 0 0	17.741667	73.649722	0	0		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	WAGHAVAL	WAGHAVALE	356	17.738333 73.675556 0 0	17.738333	73.675556	0	0		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	WAGHAVAL	WAGHAVALE	356	17.73753 73.67123 0 0	17.73753	73.67123	0	0		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	WAGHAVAL	WAGHAVALE	356	17.73688 73.67213 0 0	17.73688	73.67213	0	0		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	waghavale	pimpari	355	17.743556 73.694111 0 0	17.743556	73.694111	0	0	0.001	2022-23	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Waghavale	Pimpari	355	17.739528 73.695222 0 0	17.739528	73.695222	0	0	0.0001	2022-23	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Waghavale	Pimpari	299	17.724361 73.718111 0 0	17.724361	73.718111	0	0	0.0001	2022-23	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Waghavale	Pimpari	301	17.729306 73.704556 0 0	17.729306	73.704556	0	0	0.0001	2022-23	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Waghavale	Pimpari	301	17.729306 73.704556 0 0	17.729306	73.704556	0	0	0.0001	2022-23	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Waghavale	Pimpari	301	17.727056 73.70125 0 0	17.727056	73.70125	0	0	0.0001	2022-23	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Waaghavale	Pimpari	301	17.730028 73.700222 0 0	17.730028	73.700222	0	0	0.0001	2022-23	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Waghavale	Pimpari	355	17.738111 73.701917 0 0	17.738111	73.701917	0	0	0.0001	2022-23	होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	valvan	valvan	346	17.702576 73.595279 0 0	17.702576	73.595279	0	0		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	valvan	valvan	346	17.708333 73.585833 0 0	17.708333	73.585833	0	0		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	KOLHAPUR	VALVAN	348	17.73777778 73.57333333 725.52 24.7	17.73777778	73.57333333	725.52	24.7		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	KOLHAPUR	VALVAN	348	17.74277778 73.57638889 719 13.5	17.74277778	73.57638889	719	13.5			नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	KOLHAPUR	VALVAN	349	17.96694444 73.23361111 750 12	17.96694444	73.23361111	750	12			नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	KOLHAPUR	VALVAN	350	17.65805556 73.40277778 795 23	17.65805556	73.40277778	795	23			नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	KOLHAPUR	VALVAN	349	17.68611111 73.29583333 769 21	17.68611111	73.29583333	769	21			नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	KOLHAPUR		351	17.73805556 73.20138889 785 43	17.73805556	73.20138889	785	43			नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	KOLHAPUR	VALVAN	349	17.66916667 73.40305556 731 12	17.66916667	73.40305556	731	12		2022	नाही	0	1

कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	KOLHAPUR	VALVAN	349	17.7366667 73.53416667 654 23	17.7366667	73.53416667	654	23		2022-23	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	KOLHAPUR	VALVAN	350	17.75305556 73.23388889 834 43	17.75305556	73.23388889	834	43		2022	नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	ळऱ्ळन	म्हालुगे		17.683702 73.56131 76.80652618402823 1414.10756018401	17.683702	73.56131	76.80652618	1414.10756			होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	ळऱ्ळन	म्हालुहं◌ंगे		17.678579 73.561714 67.94020843505861652	17.678579	73.561714	67.94020844	1652			होय	1	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	ळऱ्ळन	म्हाहलंगे		17.680456 73.563698 67.94020843505862019	17.680456	73.563698	67.94020844	2019			नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	ळऱ्ळन	आरळ		17.680456 73.563698 67.94020843505862019	17.680456	73.563698	67.94020844	2019			नाही	0	1
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	ळऱ्ळन	ळऱ्ळन		17.680456 73.563698 67.94020843505862019	17.680456	73.563698	67.94020844	2019					
चाहं◌ंदो री राष्ट्रीय उद्यान	0	1	चाहं◌ंदोरी	0	0	0	1	0	कोल्हापूर	ळेत्ती	16	17.211622 73.787345 873.5026855469759 9.147000312805176	17.211622	73.787345	873.5026855	9.147000313			होय	1	0
चाहं◌ंदो री राष्ट्रीय उद्यान	0	1	चाहं◌ंदोरी	0	0	0	1	0	कोल्हापूर	ळेत्ती	16	17.208443 73.789803 898.6007080078125 8.07999992370605	17.208443	73.789803	898.600708	8.079999924			होय	1	0
चाहं◌ंदो री राष्ट्रीय उद्यान	0	1	चाहं◌ंदोरी	0	0	0	1	0	कोल्हापूर	ळेत्ती	18	17.201326 73.800701 873.2888183593756 6.427999973297119	17.201326	73.800701	873.2888184	6.427999973			होय	1	0
चाहं◌ंदो री राष्ट्रीय उद्यान	0	1	चाहं◌ंदोरी	0	0	0	1	0	कोल्हापूर	ळेत्ती	16	17.216952 73.793533 872.3408203125 6.276999950408935	17.216952	73.793533	872.3408203	6.27699995			होय	1	0
चाहं◌ंदो री राष्ट्रीय उद्यान	0	1	चाहं◌ंदोरी	0	0	0	1	0	कोल्हापूर	ळेत्ती	15	17.238764 73.768282 908.1984863281254.35699987411499	17.238764	73.768282	908.1984863	4.356999874			होय	1	0
चाहं◌ंदो री राष्ट्रीय उद्यान	0	1	चाहं◌ंदोरी	0	0	0	1	0	कोल्हापूर	ळेत्ती	15	17.233601 73.776952 892.9821777343758.41100025177002	17.233601	73.776952	892.9821777	8.411000252			होय	1	0
चाहं◌ंदो री राष्ट्रीय उद्यान	0	1	चाहं◌ंदोरी	0	0	0	1	0	कोल्हापूर	ळेत्ती	15	17.226922 73.787416 872.2908935546875 6.888000011444092	17.226922	73.787416	872.2908936	6.888000011			होय	1	0
चाहं◌ंदो री राष्ट्रीय उद्यान	0	1	ढेबेळाडी	0	0	0	0	1	kolhapur	Takale	19	17.201356 73.800648 0 0	17.201356	73.800648	0	0	0	0	होय	1	0

चांदोली राष्ट्रीय उद्यान	0	1	ढेबेळाडी	0	0	0	0	1	kolhapur	Takale	19	17.220049 73.816814 0 0	17.220049	73.816814	0	0	0	0	होय	1	0
चांदोली राष्ट्रीय उद्यान	0	1	ढेबेळाडी	0	0	0	0	1	kolhapur	Takale	19	17.209644 73.810931 0 0	17.209644	73.810931	0	0	0	0	होय	1	0
चांदोली राष्ट्रीय उद्यान	0	1	ढेबेळाडी	0	0	0	0	1	kolhapur	Takale	18	17.205087 73.797607 0 0	17.205087	73.797607	0	0	0	0	होय	1	0
चांदोली राष्ट्रीय उद्यान	0	1	ढेबेळाडी	0	0	0	0	1	kolhapur	Takale	19	17.217513 73.815969 0 0	17.217513	73.815969	0	0	0	0	होय	1	0
चांदोली राष्ट्रीय उद्यान	0	1	ढेबेळाडी	0	0	0	0	1	kolhapur	Takale	19	17.209232 73.817005 0 0	17.209232	73.817005	0	0	0	0	होय	1	0
चांदोली राष्ट्रीय उद्यान	0	1	हेलेळाक	0	0	1	0	0	रुहेे ददळ	शसद्धेश्वर	7	17.19777778 73.71361111 24 7.2	17.19777778	73.71361111	24	7.2	नोव्हेंबर 2022				
चांदोली राष्ट्रीय उद्यान	0	1	हेलेळाक	0	0	1	0	0	रुहेे ददळ	शसद्धेश्वर	7	17.18111111 73.705 32 17	17.18111111	73.705	32	17	नोव्हेंबर 2022				
चांदोली राष्ट्रीय उद्यान	0	1	हेलेळाक	0	0	1	0	0	रुहेे ददळ	शसद्धेश्वर	7	17.18318889 73.70111111 24 13.7	17.18318889	73.70111111	24	13.7	नोव्हेंबर 2022				
चांदोली राष्ट्रीय उद्यान	0	1	हेलेळाक	0	0	1	0	0	Helwak	Rasati	428	17.379167 73.669444 625 4.2	17.379167	73.669444	625	4.2		2022	होय	1	0
चांदोली राष्ट्रीय उद्यान	0	1	हेलेळाक	0	0	1	0	0	Helwak	Rasati	428	17.370833 73.678611 622 3.6	17.370833	73.678611	622	3.6		2022	नाही	0	1
चांदोली राष्ट्रीय उद्यान	0	1	हेलेळाक	0	0	1	0	0	Helwak	Rasati	427	17.37778 73.673083 622 3.8	17.37778	73.673083	622	3.8		2022	नाही	0	1
चांदोली राष्ट्रीय उद्यान	0	1	हेलेळाक	0	0	1	0	0	Helwak	Rasati	434	17.382778 73.760278 627 4.2	17.382778	73.760278	627	4.2		2022	नाही	0	1
चांदोली राष्ट्रीय उद्यान	0	1	हेलेळाक	0	0	1	0	0	Helwak	Rasati	477	17.357778 73.687778 622 3.9	17.357778	73.687778	622	3.9		2022	नाही	0	1
चांदोली राष्ट्रीय उद्यान	0	1	हेलेळाक	0	0	1	0	0	Helwak	Rasati		17.366056 73.689278 622 3.9	17.366056	73.689278	622	3.9		2022	नाही	0	1
चांदोली राष्ट्रीय उद्यान	0	1	हेलेळाक	0	0	1	0	0	कोलण	चांदोली हेंडुदद		17.15487 73.45215 0 0	17.15487	73.45215	0	0		2023	होय	1	0
चांदोली राष्ट्रीय उद्यान	0	1	हेलेळाक	0	0	1	0	0	कोलण	चांदोली हेंडुदद	12	17.15447 73.44383 0 0	17.15447	73.44383	0	0		2023	होय	1	0
चांदोली राष्ट्रीय उद्यान	0	1	हेलेळाक	0	0	1	0	0	कोलण	चांदोली	12	17.15134 73.44164 0 0	17.15134	73.44164	0	0		2023	होय	1	0
चांदोली राष्ट्रीय उद्यान	0	1	हेलेळाक	0	0	1	0	0	Rundiv	Rundiv uttar	5	17.1455 73.4144 945 3.7	17.1455	73.4144	945	3.7			होय	1	0
चांदोली राष्ट्रीय उद्यान	0	1	हेलेळाक	0	0	1	0	0	Rndiv	Rundiv uttar	5	17.234516 73.727944 843 5.3	17.234516	73.727944	843	5.3			होय	1	0
चांदोली राष्ट्रीय उद्यान	0	1	हेलेळाक	0	0	1	0	0	रुहेे दाळ	रुहेे दाळ दक्षण	६	17.1414 73.4225 0 0	17.1414	73.4225	0	0	००	००	होय	1	0
चांदोली राष्ट्रीय उद्यान	0	1	हेलेळाक	0	0	1	0	0	रुहेे दाळ	रुहेे दाळ दक्षण	६	17.1335 73.4241 0 0	17.1335	73.4241	0	0	००	००	होय	1	0

२७.कमयचारी ठवरहीत बॅरीयर (Un-manned Barrier)

start	end	तारीख	वनरक्षकाचं नाव	गस्तक्षेत्र क्षेत्र	/कायन	वनसरक्षेत्र	वनरक्षेत्र	वतुतळ	ननयतक्षेत्र	इमू क्र.	अक्षाश (N	अक्षाश (N	रेखाश (E	_स्थान -अ	_स्थान -अ	प्रकार	ठिकाणाचं	बाधकाम व	सध्यस्स्थती	छायाचत्र	छायाचत्र_	शरा
2023-05-13	2023-05-13	2023-05-13	FG Anil Pundlik kumbhar	कोयना अभयारण्य	1	बामणोरी	0	ळल	नलसळेड	250	17.636415	17.63642	73.84802	1107.6	10.7	रखडी	धारं	ननरंक	उनरबध न	168396891	https://kc.	प्रस्तावेळत आहे ळन ळत हहाळर
2023-05-16	2023-05-16	2023-05-16	Deepak bhalchandra sora	कोयना अभयारण्य	1	बामणोरी	0	Vele	Deur		17.593889	17.59389	73.78472	1147	6.8							Nirank
2023-05-16	2023-05-18	2023-05-18	Dada Maruti jankar	कोयना अभयारण्य	1	बामणोरी	0	Vele	Vele													Nirank
2023-05-19	2023-05-19	2023-05-19	SWAPNIL SAMBHAJI SHEN	कोयना अभयारण्य	1	बामणोरी	0	KOLHAPUR	VALVAN													ननरंक
2023-05-18	2023-05-20	2023-05-18	Kishor Dhane	कोयना अभयारण्य	1	कोयना	0	Takwali	नारी								--	--	--			ननममनुष्य ळस्ती असल्याने ळ गाडी साठी रस्ता नसरे कारण बॅररयर ननरंक आहे
2023-05-20	2023-05-21	2023-05-21	Kishor Dhane	कोयना अभयारण्य	1	कोयना	0	Takwali	Jungti								ननरंक					ननरंक
2023-05-22	2023-05-22																					
2023-05-21	2023-05-22	2023-05-18	वळजय कोंडीराम भोसरे	कोयना अभयारण्य	1	कोयना	0	शळरशळंगे	ककसरुले										ननरंक			ककसरुले ननयत ं ेत्र हे कोर ं ेत्रात असल्यामुले आळश्यकता नाही
2023-05-19	2023-05-22	2023-05-19	Ajit gundopant patil	कोयना अभयारण्य	1	कोयना	0	Takavali	Karanjawade	00	17.53803	17.53803	73.775	0	0		ननरंक	00	ननरंक			सादर माहहती ननरंक आहे
2023-07-19	2023-07-19	2023-07-12	SONALI SHIVAJI KISAVE	कोयना अभयारण्य	1	बामणोरी	0	KOLHAPUR	MUNAWALE													NIRANK
2023-07-19	2023-07-19	2023-07-19	ननंतक गायकळाड	कोयना अभयारण्य	1	बामणोरी	0	ळरळन	म्हातुग		17.68332	17.68332	73.56427	76.80653	1980							नरंक
2023-07-20	2023-07-20	2023-07-20	तानाजी शळळाजा शळद ळन	चादोरी राष्ट्राय उद्	0	हलळाक	0	रु दाळ	रु दाळ दक्षण	६	17 73 0 0	17	73	0	0		नाहा	००	नाहा			ननरंक
2023-07-20	2023-07-20	2023-07-20	Pritam Baban Kamble	चादोरी राष्ट्राय उद्	0	हलळाक	0	Rundiv	Ambole	O	17 73 2 2	17	73	2	1	रखडी	No	No	No			ननरंक
2023-07-20	2023-07-20	2023-03-31	एस डी कांकड	चादोरी राष्ट्राय उद्	0	हलळाक	0	कालण	चादोरी खुदम													ननरंक
2023-07-26	2023-07-26	2023-07-26	S S Mundhe	चादोरी राष्ट्राय उद्	0	हलळाक	0	Helwak	Rasati	No	17 17 17 1	17	17	17	17		No	No	No			No
2023-07-27	2023-07-27	2023-07-18	भारत शळळराम खुटाऱ ळन	चादोरी राष्ट्राय उद्	0	हलळाक	0	रु हदळ	रु हदळ उत्तर	5	17 73 0 0	17	73	0	0	शसमट	ननरंक		ननरंक			ननरंक
2023-10-25	2023-10-25	2023-09-02	SWAPNIL SAMBHAJI SHEN	कोयना अभयारण्य	1	बामणोरी	0	METINDOL	KHIRKHINDI								NIRANK	NIRANK	NIRANK			NIRANK
2023-10-26	2023-10-26		S P Pawar FG Pimpari	कोयना अभयारण्य	1	बामणोरी	0	Waghavale	Pimapri	0							वळरहीत बॅरीयर बाबत वनंनरी	वळरहीत बॅरीयर बाबत वनंनरी	वळरहीत बॅरीयर बाबत वनंनरी			कममचारी वळरहीत बॅरीयर बाबत वनंनरी ननयत ंेत्राची माहहती ननरंक आहे

२८.स् थायी क्षण ठमो रा (Permanent W tch Tow r) ठनरी

संरठक्षत ठं ेत्राचे नाव	वनन्ररररेत्र	वतुतळ	ननयठतेत्र	ठक क्र.	स्थान	Latitude	Longitude	_ स्थान_alti tude	_ स्थान_pre cision	प्रकार	बांधकाम वर्ं	प्रकार
कोयना अभयारण्य	बामणोरी	Vele	De	370	2 73.4548	17.3652	73.4548	1061	4	पक्के		Permanent कायम
कोयना अभयारण्य	बामणोरी	Met Indoli	Kusapur	336	03 73.4342	17.403	73.4342	0	0	पक्के		Permanent कायम
कोयना अभयारण्य	बामणोरी	Met Indoli	Kusapur	330	848 73.443	17.3848	73.4431	0	3	पक्के		Permanent कायम
कोयना अभयारण्य	बामणोरी	Met Indoli	Kusapur	331	957 73.452	17.3957	73.4521	0	4	पक्के		Permanent कायम
कोयना अभयारण्य	बामणोरी	ळेले	पलसळडे	0	36 1010.1 7	17.63646	73.84704	1010.1	7.983	पक्के	0	Permanent कायम
चांदोरी राष्ट्रीय उद्यान	चांदोरी	कोल्हापूर	ळेत्ती	16	556 73.791	17.20806	73.79139	0	0	पक्के	2013	Permanent कायम
कोयना अभयारण्य	कोयना	Takwali	Pali	378	167 73.732	17.60417	73.73222	0	0	पक्के		Permanent कायम
कोयना अभयारण्य	कोयना	KUSAVADE	AMBEGHAR	436	73.790277	17.455	73.79028	893.5	0	पक्के	2022	Permanent कायम
कोयना अभयारण्य	कोयना	कुसळडे	कारळट	458	300000000	17.40476	73.84832	888.3	11.3	पक्के	0	Permanent कायम
कोयना अभयारण्य	बामणोरी	Vele	Vele	386	1 73.78385	17.52861	73.78386	658	72	पक्के		Permanent कायम
कोयना अभयारण्य	बामणोरी	Vele	Vele	383	2 73.80722	17.59972	73.80722	1147	3.2	पक्के	2022	Permanent कायम
चांदोरी राष्ट्रीय उद्यान	चांदोरी	कोल्हापूर	ळेत्ती	15	.176513671	17.23429	73.77618	894.1765	3.79	पक्के		Permanent कायम
कोयना अभयारण्य	कोयना	Takwali	Jungti	391	778 73.740	17.57278	73.74028	0	0	कच्चे		Permanent कायम
चांदोरी राष्ट्रीय उद्यान	हेलळाक	Helwak	Rasati	427	3.678972 9	17.3717	73.67897	901.76	4.8	पक्के	2021	Permanent कायम
कोयना अभयारण्य	कोयना	शऴरशऴांगे	ककसरुले	412	944 73.766	17.48194	73.76639	0	0	पक्के		Permanent कायम
कोयना अभयारण्य	कोयना	शऴरशऴांगे	ककसरुले	411	67 73.7441	17.47167	73.74417	0	0	पक्के		Permanent कायम
कोयना अभयारण्य	कोयना	पररमांडल कोय	कोयना	430	6 73.71773	17.41656	73.71773	957	14.9	कच्चे		Temporary तात्पुरता
कोयना अभयारण्य	कोयना	शऴरशऴांगे	शऴरशऴांगे	411	798 73.734	17.4878	73.73423	0	0	पक्के		Permanent कायम
कोयना अभयारण्य	बामणोरी	KOLHAPUR	MUNAWALE	17.78888	73.676666	17.78888	73.67667	765	11	कच्चे		Temporary तात्पुरता
कोयना अभयारण्य	बामणोरी	ळऱ़ळन	म्हालुगे	319 73.56427	76.8065	17.68332	73.56427	76.80653	1980	कच्चे		Temporary तात्पुरता
चांदोरी राष्ट्रीय उद्यान	हेलळाक	रुां दीळ	रुां दीळ दक्ष'ण	6	17 73 0 0	17	73	0	0	कच्चे	0	Temporary तात्पुरता
चांदोरी राष्ट्रीय उद्यान	हेलळाक	Rundiv	Ambole	10	049 73.455	17.1049	73.4557	5	5	पक्के	0	Permanent कायम
चांदोरी राष्ट्रीय उद्यान	हेलळाक	कोलणे	चांदोरी	12	527 73.441	17.1527	73.4416	0	0	पक्के	2023	Permanent कायम
चांदोरी राष्ट्रीय उद्यान	हेलळाक	कोलणे	चांदोरी खुदद	13	46 73.4533	17.146	73.4533	0	0	पक्के		Permanent कायम
चांदोरी राष्ट्रीय उद्यान	हेलळाक	Helwak	Rasati	427	85 73.302 1	17.385	73.302	17	17	पक्के	2022	Permanent कायम
चांदोरी राष्ट्रीय उद्यान	हेलळाक	रुां ददळ	रुां ददळ उत्तर	5	17 73 0 0	17	73	0	0	कच्चे	0	Temporary तात्पुरता
कोयना अभयारण्य	बामणोरी	METINDOLI	KHIRKHINDI	304	44 73.7469	17.70694	73.74694	678	5	पक्के	2017	Permanent कायम
कोयना अभयारण्य	बामणोरी	Waghavale	Waghavale	0	561 73.674	17.72956	73.67465	0	0	कच्चे	0	Temporary तात्पुरता

२९.ठवद्युत लाईनElectric line (GPS Track)

शरक्षसत संत्र	शरक्षसत से	शरक्षसत र	ळनपररसंत्र	ळनपररसं	ळनपररसंत्र/ष	ळनपररसं	ळनपररसंत्र/	ळ्वुतुतल	ननयतसंत्र	कस क्र.	स्थान-आरं	आरंभ अर	रेखांळ _	_स्थान-अ	_स्थान-अ	स्थान-ळेळट	_स्थान-ळेव	_स्थान-ळेव	_स्थान-ळेव	प्रकार	वळ्धतत रेव	जी.पी.एश	जी.पी.ए	जी.पी.ए
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	ळेल	पलसळडं	ननरंक	17.62642 7	17.62642	73.84496	1177.3	7.	17.626056	17.6260	73.8465	1177.7	9.	ननरंक	नाहीं	नाहीं			
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Vele	Deur																
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Vele	Vele	386	17.577222	17.57722	73.82194	1105	2	17.566111	17.5661	73.8063	110		11 kv line	11 kv	होय			
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	पारी	--												नाहीं	नाहीं			
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	कुसळडं	कारळट	458	17.400985	17.40095	73.84506	872.8	9.	17.392867	17.3928	73.8524	10.2		11kv	1.4 ककमी.	होय			
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	कुसळडं	कारळट	436	17.342619	17.34262	73.98429	935.6	290	17.425973	17.4259	73.8048	851.3	69.	11kv	1.3ककमी.	होय			
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	Jungti														नाहीं			
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	शळ्रशळ्गे	ककसरुले														नाहीं			
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takavali	Karanjawa	00	17.53803 7	17.53803	73.775								ननरंक	ननरंक	नाहीं			
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	ळन परममंड	कोयना	426	17.2416 73	17.2416	73.4035	998	9.	17.2416 73	17.2416	73.4035	101	5.	टॉळर रॉईन	11000 होर	होय			
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	KOLHAPUR	MUNAWALE																	
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	ळऱ्ळन	म्हालुगे		17.6833 73	17.6833	73.5642	76.8065	198	17.683303	17.683	73.5642	76.8065	198		नाहीं			
चादोरी राष्ट्रीय उद्य	0	1	हेलळाक	0	0	1	0	0	रु दोळ	रु दोळ द्ध	६	17 73 0 0	17	73			17 73 0 0	1	73			नाहीं	नाहीं	नाहीं			
चादोरी राष्ट्रीय उद्य	0	1	हेलळाक	0	0	1	0	0	Rundiv	Ambole	0	17 73 2 2	17	73			17 17 2 2	1	17			No	No	नाहीं			
चादोरी राष्ट्रीय उद्य	0	1	हेलळाक	0	0	1	0	0	कोलणे	चादोरी खुदद																	
चादोरी राष्ट्रीय उद्य	0	1	हेलळाक	0	0	1	0	0	Helwak	Rasati	000	17 17 17 1	17	17	17	1	17 17 17 1	1	17	1	1	No	No	नाहीं			
चादोरी राष्ट्रीय उद्य	0	1	हेलळाक	0	0	1	0	0	रु ददळ	रु ददळ उत्त	5	17 73 0 0	17	73			17 73 0 0	1	73			ननरंक	ननरंक	नाहीं			

३०.कालवे (Canal)

तारीख	वनरक्षकाचे नाव	शाखा क्षेत्र	वनपरिक्षेत्र	नियतक्षेत्र	वृक्षतोड	कक्ष क्र.	कायदेशीर नोंद	स्थान (आर	स्थान (आर	स्थान (आर	स्थान (लॉन्ग	स्थान (आर	स्थान (लॉन्ग	स्थान (लॉन्ग	स्थान (लॉन्ग	स्थान (लॉन्ग	प्रकार	शेरा	खोरी	जी.पी.एस.टर	कुरा
2023-05-13	FG Anil Pundlik kumbhar	कोयना अभयार	बामणोरी	चाफेसळेड	वेल		ननरक	17.626408 7	17.626408	73.845007	1100.3	8.6000004	17.626407 7	17.626407	73.845069	1177.8	7.9000001	Nil	00	00	नाही	अस्तंतलात नाही
2023-05-16	Deepak bhalchandra sorat	कोयना अभयार	बामणोरी	Deur	Vele																	Nirank
2023-05-16	Deepak bhalchandra sorat	कोयना अभयार	बामणोरी	Deur	Vele																	Nirank
2023-05-16	FG Anil Pundlik kumbhar	कोयना अभयार	बामणोरी	चाफेसळेड	वेल		नाही	17.641055 7	17.641055	73.83656	956.9	8.1000004	17.641055 7	17.641055	73.83656	956.9	8.1000004	ननरक	0	0	नाही	वृक्ष तोडीत कारळा नाही
2023-05-18	Dada Maruti jankar	कोयना अभयार	बामणोरी	Vele	Vele																	Nirank
2023-05-18	Dada Maruti jankar	कोयना अभयार	बामणोरी	Vele	Vele																	Nirank
2023-05-19	SWAPNIL SAMBHAJI SHENDAGE	कोयना अभयार	बामणोरी	VALVAN	KOLHAPUR																	ननरक
2023-05-18	Kishor Dhane	कोयना अभयार	कोयना	नारी	Takwali																	नुनयत वृक्ष तोडीत
2023-05-20	Kishor Dhane	कोयना अभयार	कोयना	Jungti	Takwali																	ननरक
2023-05-19	सचचन युळराज चाटीर	कोयना अभयार	कोयना	शळरशळंगे	शळरशळंगे																	सदर ननयत वृक्ष तोडीत कोणताही कारळा नाही
2023-05-19	सचचन युळराज चाटीर	कोयना अभयार	कोयना	डडचोरी	शळरशळंगे																	सदर ननयत वृक्ष तोडीत कारळा आढलून आरा नाही
2023-05-20	Kishor Dhane	कोयना अभयार	कोयना	Jungti	Takwali																	ननरक
2023-05-22	Kishor Dhane	कोयना अभयार	कोयना	Jungti	Takwali																नाही	ननरक
2023-05-18	वळजय काडाराम भासर	कोयना अभयार	कोयना	कंकसरुल	शळरशळग																नाही	ननरक
2023-05-19	Ajit gundopant patil	कोयना अभयार	कोयना	Karanjawade	Takavali		ननरक	71.53803 73	71.53803	73.775004								ननरक	ननरक	ननरक	नाही	सादर माहहता ननरक आ
2023-05-19	Ajit gundopant patil	कोयना अभयार	कोयना	Karanjawade	Takavali		ननरक	17.53803 73	17.53803	73.775004								ननरक	ननरक	ननरक	नाही	सादर माहहता ननरक आह
2023-05-23	Kishor Dhane	कोयना अभयार	कोयना	नारी	Takwali		ननरक														नाही	ननरक
2023-05-19		कोयना अभयार	कोयना	शळरशळंगे	शळरशळंगे																	ननयत वृक्ष तोडीत कारळा उचारब्ध नाही
2023-05-20	सचचन युळराज चाटीर	कोयना अभयार	कोयना	डडचोरी	शळरशळग																	ननयत वृक्ष तोडीत कारळा नाही
2023-05-19	SWAPNIL SAMBHAJI SHENDAGE	कोयना अभयार	बामणोरी	VALVAN	KOLHAPUR																	ननरक
2023-07-12	SONALI SHIVAJI KISAVE	कोयना अभयार	बामणोरी	MUNAWALE	KOLHAPUR		NIRANK															NIRANK
2023-07-12	SONALI SHIVAJI KISAVE	कोयना अभयार	बामणोरी	MUNAWALE	KOLHAPUR		NIRANK															NIRANK
2023-07-12	SONALI SHIVAJI KISAVE	कोयना अभयार	बामणोरी	MUNAWALE	KOLHAPUR																	NIRANK
2023-07-12	SONALI SHIVAJI KISAVE	कोयना अभयार	बामणोरी	MUNAWALE	KOLHAPUR																	NIRANK
2023-07-19	प्रनतक गायकळाड	कोयना अभयार	बामणोरी	म्हालुगळरळन			ननरक	17.688462 7	17.688462	73.575648	76.806526	1780.1424	17.688931 7	17.688931	73.576818	76.806526	1825.5044	नारक			नाही	नारक
2023-07-19	प्रनतक गायकळाड	कोयना अभयार	बामणोरी	म्हालुग	ळरळन		नारक	17.689517 7	17.689517	73.576493	76.806526	1983.3658	17.68429 73	17.68429	73.566186	76.806526	1980				नाही	नारक
2023-07-20	तानाजी शळळाजी शळद ळननार	चादारा राष्ट्राय	हलळाक	रु दाळ दक्षण	रु दाळ		नाही	17 73 0 0	17	73	0	0	17 73 0 0	17	73	0	0	नाही	नाही	नाही	नाही	ननरक
2023-07-20	तानाजी शळळाजी शळद ळननार	चादारा राष्ट्राय	हलळाक	रु दाळ दक्षण	रु दाळ		नाही	17 73 0 0	17	73	0	0	17 73 0 0	17	73	0	0	नाही	नाही	नाही	नाही	ननरक
2023-07-20	Pritam Baban Kamble	चादारा राष्ट्राय	हलळाक	Ambole	Rundiv		No	17 73 2 2	17	73	2	2	17 73 2 2	17	73	2	2	No	No	No	नाही	ननरक
2023-03-31	एस डी काकडे	चादारा राष्ट्राय	हलळाक	चादारा खुदव	कालण																नाही	ननरक
2023-07-26	S S Mundhe	चादारा राष्ट्राय	हलळाक	Rasati	Helwak		No	17 17 17 17	17	17	17	17	17 17 17 17	17	17	17	17	No	No	No	नाही	No
2023-07-18	भारत शळळराम खुटार ळननार रु हदळ	चादारा राष्ट्राय	हलळाक	रु हदळ उत्तर	रु हदळ		ननरक	17 73 0 0	17	73	0	0	17 73 0 0	17	73	0	0				नाही	ननरक
2023-07-18	भारत शळळराम खुटार ळननार रु हदळ	चादारा राष्ट्राय	हलळाक	रु हदळ	रु हदळ उत्तर		ननरक	17 73 0 0	17	73	0	0	17 73 0 0	17	73	0	0	ननरक	ननरक	ननरक	नाही	ननरक
2023-07-18	भारत शळळराम खुटार ळननार रु हदळ	चादारा राष्ट्राय	हलळाक	रु हदळ	रु हदळ उत्तर		ननरक	17 73 0 0	17	73	0	0	17 73 0 0	17	73	0	0	ननरक	ननरक	ननरक	नाही	ननरक
2023-09-03	SWAPNIL SAMBHAJI SHENDAGE	कोयना अभयार	बामणोरी	KHIRKHINDI	METINDOLI		NIRANK											NIRANK	NIRANK	NIRANK		NIRANK
2023-10-26	प्रनतक धाडडबा गायकळाड	कोयना अभयार	बामणोरी	म्हालुग	ळरळन		ननरक	17.678579 7	17.678579	73.561714	67.940208	1652						ननरक			नाही	ननरक
2023-10-26	सुरळ कुडु डशरक सूयवळळा	कोयना अभयार	बामणोरी	आरळ	ळरळननरक		ननरक	17.678579 7	17.678579	73.561714	67.940208	1652	17.678579 7	17.678579	73.561714	67.940208	1652				नाही	ननरक
2023-10-26	सुरळ कुडु डशरक सूयवळळा	कोयना अभयार	बामणोरी	ळरळन	ळरळन			17.678579 7	17.678579	73.561714	67.940208	1652										ननरक
2023-10-26	प्रनतक गयकाड	कोयना अभयार	बामणोरी	म्हालुग	ळरळन		ननरक	17.680456 7	17.680456	73.563698	67.940208	2019										नारक
2023-10-26	सुरळ कुडु डशरक सूयवळळा	कोयना अभयार	बामणोरी	ळरळन	आरळ		ननरक	17.680456 7	17.680456	73.563698	67.940208	2019										ननरक
2023-10-26	सुरळ कुडु डशरक सूयवळळा	कोयना अभयार	बामणोरी	ळरळन	ळरळन		ननरक	17.680456 7	17.680456	73.563698	67.940208	2019										ननरक
2023-09-18	S P Pawar FG Pimpari	कोयना अभयार	बामणोरी	Pimpari	Waghavale		0											0	0	0		कारळे बाबत वनपरी ननयत ाची माहहती ननरंक आहे.

३१.सीमा ठोकळा (Boundary Pillar)

संरक्षित क्षेत्र	संरक्षित क्षेत्र /कोयना अभयारण्य	संरक्षित क्षेत्र /चांदोली राष्ट्रीय उद्यान	वनपरिक्षेत्र	वनपरिक्षेत्र/ बामणोली	वनपरिक्षेत्र/ कोयना	वनपरिक्षेत्र/ पेलळाक	वनपरिक्षेत्र/ चांदोली	वनपरिक्षेत्र/ ढेबेवाडी	वनतुतल	नगरपालिका क्षेत्र	कक्ष क्र.	पट्टा क्र.	स्थान अक्षांश (N) रेखांश (E)	अक्षांश (N) रेखांश (E)_latitude	रेखांश (E)_longitude	स्थान अक्षांश (N) रेखांश (E)_altitude	स्थान अक्षांश (N) रेखांश (E)_precision	प्रकार	प्रकार/माती	प्रकार/दगड	प्रकार/रोपवाटिका	बांधकाम वर्ष	शेरा
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	वन परिमंडल कोयना	कोयना	426	1	17.242 73.4017 938 2	17.242	73.4017	938	2	सिमेंट	0	1	0	2007	बरी आहे
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	Pali	379	--	17.587778 73.746667 0 0	17.587778	73.746667	0	0	माती	1	0	0		दगड रचरे गेरे आहे त
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	पाली	378	2	17.58875 73.736044 0 0	17.58875	73.736044	0	0						दगडी बुरुज शुधतीत
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	Pali	377	3	17.607131 73.712742 0 0	17.607131	73.712742	0	0						शुधतीत
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	पाली	377	4	17.621572 73.719689 0 0	17.621572	73.719689	0	0						शुधतीत
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	पाली	377	5	17.619039 73.720408 0 0	17.619039	73.720408	0	0					--	शुधतीत
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	पाली	376	6	17.6125 73.746944 0 0	17.6125	73.746944	0	0					-	शुधतीत
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	पाली	375	7	17.615556 73.730833 0 0	17.615556	73.730833	0	0					-	शुधतीत
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	सळरसळंगे	ककशरुले													ननरंक
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takavali	Karanjawade	00	00	17.53803 73.775004 0 0	17.53803	73.775004	0	0					ननरंक	ननरंक
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	Jungti	389-	--	17.575579 73.715577 0 0	17.575579	73.715577	0	0						दगडी शुधतीत
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	Jungti	390	--	17.572778 73.718611 0 0	17.572778	73.718611	0	0						दगडी बुरुज
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	Jungti	389	--	17.576111 73.715278 0 0	17.576111	73.715278	0	0						दगडी रचरेरी शुधतीत
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	Jungti	389	--	17.578611 73.715 0 0	17.578611	73.715	0	0						दगडी रचरेरी शुधतीत
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	Jungti	390	-	17.579725 73.715826 0 0	17.579725	73.715826	0	0					-	दगड रचरेरे शुधतीत
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	Jungti	390	--	17.573611 73.7166657 0 0	17.573611	73.7166657	0	0					--	दगडी बुरुज
कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	Vele	Deur	382	143	17.3618 73.4839 1081 3	17.3618	73.4839	1081	3	सिमेंट	0	1	0		
कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	वेले	पलशळडे	250	1	17.631827 73.837178 1068.7 12.800000190 734863	17.631827	73.837178	1068.7	12.80000019	सिमेंट	0	1	0	अंदाजे 20 वर्ष जुने	शुधतीत
कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	वेले	पलशळडे	250	2	17.634947 73.831183 1177.8 9.8999996185 30273	17.634947	73.831183	1177.8	9.899999619	माती सिमेंट	1	1	0	अंदाजे वीस वर्षे	चांगली
कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	वेले	पलशळडे	250	3	17.634705 73.831881 1156.1 9.9499998092 65137	17.634705	73.831881	1156.1	9.949999809	माती सिमेंट	1	1	0	अंदाजे वीस वर्षे जुने	चांगली
कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	वेले	पलशळडे	250	4	17.63297 73.8345 1133.3 3.9000000953 674316	17.63297	73.8345	1133.3	3.900000095	माती सिमेंट	1	1	0	अंदाजे वीस वर्षे जुने	शुधतीत आहे
कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	Vele	Deur	382	143	17.606389 73.810556 1172 11	17.606389	73.810556	1172	11	सिमेंट	0	1	0		Khup june
कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	Vele	Vele	383	54	17.580278 73.821389 2700 0	17.580278	73.821389	2700	0	सिमेंट	0	1	0		
कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	KOLHAPUR	MUNAWALE													

कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	वळवळन	म्हातुरगे								माती	1	0	0		कचरा
कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	Waghavale	Pimpari	355	1	17.735194 73.695611 0 0	17.735194	73.695611	0	0					0	शुथथतीत
कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	Waghavale	Pimpari	355	2	17.736722 73.698 0 0	17.736722	73.698	0	0					0	शुथथतीत
कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	Waghavale	Pimpari	355	3	17.738583 73.698083 0 0	17.738583	73.698083	0	0					0	शुथथतीत
कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	Waghavale	Pimpari	355	4	17.737583 73.695306 0 0	17.737583	73.695306	0	0						शुथथतीत
कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	METINDOLI	KHIRKHINDI	NIRANK	NIRANK	-4.328877 - 61.332713 0 0	-4.328877	-61.332713	0	0					NIRANK	NIRANK
कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	Waghavale	Pimpari	355	5	17.737778 73.695056 0 0	17.737778	73.695056	0	0					0	शुथथतीत
कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	Waghavale	Pimpari	355	6	17.738194 73.693028 0 0	17.738194	73.693028	0	0					0	शुथथतीत
कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	Waghavale	Pimpari	355	7	17.737861 73.691639 0 0	17.737861	73.691639	0	0					0	शुथथतीत
कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	Waghavale	Pimpari	355	8	17.737639 73.691028 0 0	17.737639	73.691028	0	0					0	शुथथतीत
कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	Waghavale	Pimpari	355	9	17.737278 73.690583 0 0	17.737278	73.690583	0	0					0	शुथथतीत
कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	Waghavale	Pimpari	355	10	17.736944 73.690056 0 0	17.736944	73.690056	0	0					0	शुथथतीत
कोयना अभयारण्य	1	0	बामणोली	1	0	0	0	0	Waghavale	Pimpari	355	11	17.735833 73.688694 0 0	17.735833	73.688694	0	0					0	शुथथतीत
चांदोली राष्ट्रीय उद्यान	0	1	ढेबेळाडी	0	0	0	0	1	kolhapur	Takale	18	1	17.207015 73.7903 0 0	17.207015	73.7903	0	0	माती	1	0	0		चांगरी
चांदोली राष्ट्रीय उद्यान	0	1	ढेबेळाडी	0	0	0	0	1	kolhapur	Takale	18	2	17.230302 73.808314 0 0	17.230302	73.808314	0	0	माती	1	0	0		चांगरी
चांदोली राष्ट्रीय उद्यान	0	1	षेलळाक	0	0	1	0	0	रुं दीळ	रं दीळ दक्षाण	६	नाषी	17 73 0 0	17	73	0	0	माती	1	0	0	नाषी	नाषी
चांदोली राष्ट्रीय उद्यान	0	1	षेलळाक	0	0	1	0	0	Rundiv	Ambole	0	0	17 73 2 2	17	73	2	2	माती	1	0	0	0	No
चांदोली राष्ट्रीय उद्यान	0	1	षेलळाक	0	0	1	0	0	रुं ददळ	रुं ददळ उत्तर	5	00	17 73 0 0	17	73	0	0	माती	1	0	0	ननरंक	ननरंक

३२.रपटे ,पाईपने रपटे ,पुल (Culvert, Hume pipe culvert, Bridge)

तारीख	ननरक्षकाचे नाव	शाखा क्ष	ननरक्षेत्र	ण्डतुतल	ननयक्षेत्र	क्य क्र.	नाळ / ठिक	स्थान -अक्ष	अक्षांश (द	रेखांश (द	_स्थान -उ	_स्थान -उ	प्रकार	बांधकाम व	अंदाजनत्रक	शध्यस्स्थती	छायाचित्र	केरा
2023-05-13	FG Anil Pundlik kumbhar	कोमना अबमायण्म	फाभणारी	लरे	चरवलडं	250	वाडलरी	17.633547	17.63355	73.84015	1075.2	11.3	सवभट नुर	अंदाजदाज दशा	भाहशत नाश	चागरे	16839684	लल्ष बय चारू अवतां
2023-05-16	Deepak bhalchandra sorat	कोमना अबमायण्म	फाभणारी	Vele	Deur													Nirank
2023-05-18	Arjun.j.chavan	कोमना अबमायण्म	फाभणारी	Met indoli	Kusapur	332	Ketaki odh	17.4013 73	17.4013	73.4244	744	6.8	रखाडी					नलीन प्रथावलत
2023-05-18	Arjun.j.chavan	कोमना अबमायण्म	फाभणारी	Met indoli	Kusapur	333	Maruti ma	17.4013 73	17.4013	73.4243	686		रखाडी नूर			चागरे		नलीन प्रथावलत
2023-05-18	Dada Maruti jankar	कोमना अबमायण्म	फाभणारी	Vele	Vele													Nirank
2023-05-18	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	टाकरे	19	टाकरे कुट	17.210305	17.21031	73.81445			C D work	2014		चागरे	20230517_183035-23_53_57.jpg	
2023-05-18	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	टाकरे	19	टाकरे कुट	17.212230	17.21223	73.81471			C D work	2014		चागरे	20230517_183625-23_56_28.jpg	
2023-05-18	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी		कोल्थानूय	19	टाकरे कुट	17.212669	17.21267	73.81522			C D work	2021		चागरे	20230517_183823-0_0_6.jpg	
2023-05-19	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	टाकरे	19	फाफू कुटी	17.217327	17.21733	73.81655			C D work	2023		चागरे	20230517	वदय c d work नलीन ल जुन जाडून आशत.
2023-05-19	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	टाकरे	19	फाफू कुटी	17.217244	17.21724	73.81659			जुन c d wo	2014		चागरे	20230517	वदय cd work जुने ल नलीन जाडून आशत
2023-05-19	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	टाकरे	19	टाकरे - झ	17.221119	17.22112	73.81737			C d work	2014		चागरे	20230517_184759-0_11_54.jpg	
2023-05-19	SWAPNIL SAMBHAJI SHENDGE	कोमना अबमायण्म	फाभणारी	KOLHAPUR	VALVAN													ननयांक
2023-05-19	Kishor Dhane	कोमना अबमायण्म	कोमना	Takwali	चारी	__	--											ननभभुनष्ट्र.म लस्ता अवल्मान नूर यंत्र इम्मादा ननयाक आशत
2023-05-20	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	टाकरे	19	अंदाजफय शाट	17.209646	17.20965	73.80973	883.2274	9.432		2014		चागरे	20230520_103652-10_39_15.jpg	
2023-05-20	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	टाकरे	19	अंदाजफय शाट	17.209646	17.20965	73.80973	883.2274	9.432		2014		चागरे	20230520_104139-10_42_2.jpg	
2023-05-21	Sunil Basappa kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	15	गले शट्ट	17.238158	17.23816	73.77167	906.1213	10.076		2013		चागरे	20230521_083903-8_39_19.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	19	गले शट्ट	17.238338	17.23834	73.76359	896.1885	12.978	नलीन c d work फाधिण				20230521	वदय हहकाणी 2 नाईन राईन चां c d work फाधिण आलश्मक आशे.
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय		तेंती	कोरा ओढ	17.238068	17.23807	73.76498	901.145	4.948				चागरे	20230521_084554-8_47_1.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	15	कोरा ओढ	17.238949	17.23895	73.76734	896.047	7.271		2013			20230521_084859-8_50_20.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	15	भारोचं त	17.238764	17.23876	73.76828	908.1985	4.357					20230521	वदय हहकाणी 2 नाईन चे c d work आलश्मक आशे..
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	टाकरे	19	Plantation	17.206694	17.20669	73.80508	871.064	14.237		2013		चागरे	20230521_122042-12_22_1.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	15	भारोंचे आं	17.237952	17.23795	73.77029	908.1902	5.219		2013		चागरे	20230521_085750-8_59_27.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	टाकरे	19	अंदाजबमा जल	17.209834	17.20983	73.81212	850.2887	6.954		2023		चागरे	20230521_124203-12_42_8.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	15	गागात्रे चा	17.237473	17.23747	73.77231	889.7345	6.846		2013		चागरे	20230521_090112-9_2_42.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	टाकरे	19	अंदाजफय शाट	17.209592	17.20959	73.81114	850.0363	9.36		2021		चागरे	20230521_123908-12_39_15.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	15	फुयाफलण	17.231339	17.23134	73.78221	886.7308	5.869		2013		चागरे	20230521_094357-9_44_20.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	15	बेयां चा आ	17.23272 7	17.23272	73.78036	880.1782	16.943		2013		चागरे	20230521_093708-9_38_30.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	15	गागात्रे चा	17.236987	17.23699	73.77367	901.1362	3.899		1999,2013		तुटरर	20230521	वदय c d work खूत जुना आशे ल दुरुस्ती आलश्मक
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	15	पणळा चा	17.236312	17.23631	73.77409	899.1943	5.409		2022		चागरे	20230521_090725-9_8_30.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	15	Transect Li	17.235624	17.23562	73.77573	858.0354	12.712		2013		तुटरर	20230521	वदय c d work दुरुस्ती आलश्मक.
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	15	कुटा कम्प	17.233601	17.2336	73.77695	892.9822	8.413	नलीन c d work आलश्मक				20230521	वदय हहकाणी 4 आंशे चे नाईन राईन चे c d work आलश्मक आशे.
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	15	बेयां चा आ	17.232319	17.23232	73.78125	870.8052	10.15					20230521	वदय हहकाणी 2 आंशे चा c d work आलश्मक आशे
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	15	फुयाफलण च	17.230123	17.23012	73.78384	882.6614	5.44	नलीन c d work आलश्मक.				20230521	वदय हहकाणी नलीन c d work आलश्मक.
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	15	फुयाफलण च	17.23004 7	17.23004	73.78433	879.6333	8.408		2013		चागरे	20230521_094949-9_50_57.jpg	
2023-05-21	Sunil Basappa Kuri	चांदोरी याष्ट्रीम उद्यान	चांदोरी	कोल्थानूय	तेंती	15	नननलरे - ले	17.229279	17.22928	73.78514	879.2515	9.637		2007		तुटरेरे	20230521	वदय c d work जुने अवुन दुरूस्ती आलश्मक आशे.दोन आंशे चा c d work आलश्मक आशे.
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चांदोरी	कोल्थानूय	तेंती	15	नननलरे - ले	17.226702	17.2267	73.78763	869.3801	8.362		2022		चागरे	20230521_100010-10_2_12.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चांदोरी	कोल्थानूय	तेंती	15	तेंती - नलल	17.226113	17.22611	73.78818	871.3403	8.426		2022		चागरे	20230521_100340-10_4_29.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	15	फाफगां चा	17.223 73.	17.223	73.78982	847.4778	6.169		2013		तुटरर	20230521	वदय c d work दुरुस्ती आलश्मक. 2 आंशे लाढण आलश्मक आशे
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चांदोरी	कोल्थानूय	तेंती	16	तेंती गाहला	17.220867	17.22087	73.78927	848.1337	16.101		2022		चागरे	20230521_101342-10_14_38.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	16	लाकडा ओढ	17.217871	17.21787	73.79323	873.8978	3.829		2013		चागरे	20230521_103605-10_37_24.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	16	लाकडा ओढ	17.216952	17.21695	73.79353	872.3408	6.277		2013		चागरे	20230521_103834-10_40_17.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	16	मेवाया चा	17.215528	17.21553	73.79362	876.8608	9.709		2013		चागरे	20230521_104408-10_45_36.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	16	इंशेया चा	17.214166	17.21417	73.79143	861.0327	8.437		2013		चागरे	20230521_105419-10_55_26.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	16	मेवाया चा	17.213411	17.21341	73.79043	855.4266	9.272		2013		चागरे	20230521_105650-10_58_14.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	16	आब्बाचा भ	17.212186	17.21219	73.78874	856.7267	8.949		2013		चागरे	20230521_105951-11_1_1.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	टाकरे	19	Plantation	17.207674	17.20767	73.80704	861.2648	6.985		2013		चागरे	20230521_123113-12_32_33.jpg	
2023-05-21	Sunil Basappa kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय		टाकरे	टाकरे जाग	17.208341	17.20834	73.80823	866.1797	13.025		2021		चागरे	20230521_123429-12_35_33.jpg	
2023-05-21	Sunil Basappa kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	टाकरे	19	प्रानटळन	17.206576	17.20658	73.80504	867.6348	7.436		2023		चागरे	20230521_121835-12_20_7.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	टाकरे	18	टाकरे नेहं	17.203444	17.20344	73.80329	857.2617	9.417		2013		चागरे	20230521_121411-12_15_57.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चांदोरी	कोल्थानूय	टाकरे	18	तेंती टॅलय	17.20508 7	17.20508	73.79756	898.6611	5.563		2013		चागरे	20230521_112107-11_22_34.jpg	
2023-05-21	Sunil Basappa Kuri	चादारा याष्ट्राम उद्या	चादारी	कोल्थानूय	तेंती	16	ळलटचा cd	17.211661	17.21166	73.7873	852.1045	5.028		2013		चागरे	20230521_110228-11_3_20.jpg	
2023-05-22	Kishor Dhane	कोमना अबमायण्म	कोमना	Takwali	Jungti	-	नननयांक											नननयांक
2023-05-18	वलजम कोडायाभ बावर	कोमना अबमायण्म	कोमना	सळयसळागं	ककवरुरे	412	नुनलरा	17.480556	17.48056	73.7675			Hume pipe			तुटरर		
2023-05-18	वलजम कोडायाभ बावर	कोमना अबमायण्म	कोमना	सळयसळागं	ककवरुरे	412	नुनलरा	17.48 73.7	17.48	73.76583			Hume pipe			तुटरर		
2023-05-19	Ajit gundopant patil	कोमना अबमायण्म	कोमना	Takavali	Karanjawade	00	नननयांक	17.53803 7	17.53803	73.775			नननयांक	नननयांक	नननयांक			वादय भाहशतां नननयांक आशे
2023-07-12	SONALI SHIVAJI KISAVE	कोमना अबमायण्म	फाभणारी	KOLHAPUR	MUNAWALE													NIRANK
2023-07-19	प्रनतक गामकलाड़	कोमना अबमायण्म	फाभणारी	लरलन	म्शारुग		नॉयक	17.688419	17.68842	73.57578	76.80653	1983.491						नॉयांक
2023-07-20	Pritam Baban Kamble	चादारा याष्ट्राम उद्या	शरलाक	Rundiv	Ambole	0	0	17 73 2 2	17	73			No	No	0	तुटरर		नननयांक
2023-03-31	एव डॉ काकडं	चादारा याष्ट्राम उद्या	शरलाक	कारण	चादारा खुदष													नननयांक

2023-07-26	S S Mundhe	चादरा याष्ट्रम उद्या	शरलाक	Helwak	Rasati	000	No	17 17 17 1	17	17	17	17	No	No	0000			No
2023-07-18	बायत सळलयाभ खुटार लनलार	चादरा याष्ट्रम उद्या	शरलाक		रुा हदल	रुा हदल ळ्ल	रुा हदल	17 73 0 0	17	73	0	0	ननयाक	ननयाक	ननयाक	तुटरर		ननयाक
2023-10-24	Sunil basappa kuri	चादरा याष्ट्रम उद्या	ढफलाडा	kolhapur	Takale	19	Takale Kuti	17.210534	17.21053	73.81441	0	0	Cement C	D work		चागरे		kuti javal 1-16_21_30.jpg
2023-10-24	sunil basappa kuri	चादरा याष्ट्रम उद्या	ढफलाडा	kolhapur	Takale	19	19	17.221146	17.22115	73.81731	0	0	Cement C	D work		तुटरर		zplambi ha Durusti avashyak aahe.
2023-10-24	sunil basappa kuri	चादरा याष्ट्रम उद्या	ढफलाडा	kolhapur	Takale	19	पणवा जल	17.217395	17.2174	73.81659	0	0	Cement C	D Work		चागरे		boar javali 2-21_15_7.jpg
2023-10-24	sunil basappa kuri	चादरा याष्ट्रम उद्या	ढफलाडा	kolhapur	Takale	19	वनतायण झा	17.212737	17.21274	73.81526	0	0	Cement C	D work		चागरे		takale kuti boar 4-21_21_10.jpg
2023-10-24	sunil basappa kuri	चादरा याष्ट्रम उद्या	ढफलाडा	kolhapur	Takale	19	कु टे नम्मल	17.212712	17.21271	73.81523	0	0	Cement C	2021		चागरे		kuti paywat 3-21_24_11.jpg
2023-10-24	Sunil basappa kuri	चादरा याष्ट्रम उद्या	ढफलाडा	Skolhapur	Takale	19	फाफु कु टे	17.217375	17.21738	73.8166	0	0		2021		चागरे		bambu kuti new 5-21_34_29.jpg
2023-10-24	sunil basappa kuri	चादरा याष्ट्रम उद्या	ढफलाडा	kolhapur	Takale	19	अ्ाफा जलर	17.209883	17.20988	73.81206	0	0	Cement C	2021		चागरे		amba javal-21_37_22.jpg
2023-10-24	sunil basappa kuri	चादरा याष्ट्रम उद्या	ढफलाडा	kolhapur	Takale	19	अ्ाफय शाट	17.209663	17.20966	73.81118	0	0	Cement C	2021		चागरे		ambar haat odha-21_40_6.jpg
2023-10-24	Sunil Basappa Kuri	चादरा याष्ट्रम उद्या	ढफलाडा	kolhapur	Takale	19	अ्ाफय शाट	17.209617	17.20962	73.81015	0	0	Cement C	D Work		चागरे		ambar haat-21_43_33.jpg
2023-10-24	Sunil basappa kuri	चादरा याष्ट्रम उद्या	ढफलाडा	kolhapur	Takale	19	अ्ाफय शाट	17.209612	17.20961	73.80965	0	0	Cement C	D Work		चागरे		ambar haat 2-21_45_54.jpg
2023-10-24	sunil basappa kuri	चादरा याष्ट्रम उद्या	ढफलाडा	kolhapur	Takale	18	टाकर जाग	17.208552	17.20855	73.80848	0	0	Cement C	2021		चागरे		jangal 2-21_51_47.jpg
2023-10-24	sunil basappa kuri	चादरा याष्ट्रम उद्या	ढफलाडा	kolhapur	Takale	18	टाकर जाग	17.207864	17.20786	73.80762	0	0	Cement C	D work		चागरे		jangal-22_50_19.jpg
2023-10-24	Sunil basappa kuri	चादरा याष्ट्रम उद्या	ढफलाडा	kolhapur	Takale	18	चहराढ टा	17.203473	17.20347	73.80333	0	0	Cement C	D WOrk		चागरे		takale - pethlondh h-22_55_51.jpg
2023-10-24	sunil basappa kuri	चादरा याष्ट्रम उद्या	ढफलाडा	kolhapur	Takale	19	अक सळमा य	17.206547	17.20655	73.80504	0	0	Cement C	2021		चागरे		plantation javal-22_59_24.jpg
2023-10-24	sunil basappa kuri	चादरा याष्ट्रम उद्या	ढफलाडा	kolhapur	Takale	19	अक सळमा य	17.206988	17.20699	73.80525	0	0	Cement C	d Work		चागरे		plantation old-23_2_41.jpg
2023-10-24	sunil basappa kuri	चादरा याष्ट्रम उद्या	ढफलाडा	kolhapur	Takale	19	तता टालय	17.205118	17.20512	73.79754	0	0	cement c	d work		चागरे		vetti tower-23_5_27.jpg
2023-09-03		कामना अबमायण्म	फाभणारा	METINDOL	KHIRKHINDI		NRANK						NIRANK	NIRANK	NIRANK			NIRANK
2023-10-26	प्रनतक धाडडफा गामकलाड	कामना अबमायण्म	फाभणारा	लरलन	श्शाराग		श्शारा्ुग	17.680456	17.68046	73.5637	67.94021	2019						ननयक
2023-10-26	वुयळ का्ु डसरक वूमषताळा	कामना अबमायण्म	फाभणारा	लरलन	आयल		आयल	17.680456	17.68046	73.5637	67.94021	2019				तुटरर		ननयक
2023-10-26	वुयळ का्ु डसरक वूमषताळा	कामना अबमायण्म	फाभणारा	लरलन	लरलन		Valvan	17.680456	17.68046	73.5637	67.94021	2019						ननयक

३३.ठवठवध कारचे मृदा - जल स ंधारणाची (म ातीं बंधारा,वसर्मेट बधारा,गॅबीयन बधारा,LBS बधा रा ,ब्रठगुड ब ंधारा आवण नकट बधारे) (5 m c Work) ऑव

शरठक्षत ठें त्र	शरठक्षत ठें त्र /कोयना अभयारण्य	शरठक्षत ठें त्र /चांदोरी कृ षि उद्यान	ळननररस्त्र	ळतुतल	ननयठतंत्र	ठक क्र.	नाळ / ठिकाण	स्थान ठअ ांक्ष (N) रेखांश (E)	ठअ ांक्ष (N) रेखांश (E) _latitude	रेखांश (E) _longitude	_स्थान ठअ ांक्ष (N) रेखांश (E) _altitude	_स्थान ठअ ांक्ष (N) रेखांश (E) _precision	प्रकार	प्रकार/माती बंधारा	प्रकार/सशमेंट बंधारा	प्रकार/गॅबीयन बंधारा	प्रकार/LBS बंधारा	प्रकार/ब्रकव्हड बंधारा	प्रकार/ऑननकट बंधारे	बांधकाम ळवु	अंदाजनत्रकी खचु	शध्यस्स्थती
कोयना अभयारण्य	1	0	कोयना	Takwali	नारी	377	कोकण कडा नाश	17.6075 73.718889 0 0	17.6075	73.718889	0	0	LBS बंधारा	0	0	0	1	0	0	-	-	सळव ळाहून गेरेत
कोयना अभयारण्य	1	0	Koyana	Takavali	Karanjawade	394	कालामुरा नायळाट	17.541389 73.753334 0 0	17.541389	73.753334	0	0	ससमट बंधारा	0	1	0	0	0	0	00	00	चांगरी
कोयना अभयारण्य	1	0	Koyana	Takavali	Karanjawade	394	दर्दडींचे नाणी	17.537179 73.740253 0 0	17.537179	73.740253	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2017-18	00	चांगरे
कोयना अभयारण्य	1	0	कोयना	कुसळडे	कारळट	459	नाळडे	17.409733 73.83364 815.19999999999 99 2.2000000476837 16	17.409733	73.83364	815.2	2.200000048	गॅबीयन बंधारा	0	0	1	0	0	0	0	0	0
कोयना अभयारण्य	1	0	कोयना	कुसळडे	कारळट	458	आले	17.39332 73.849196 945.2 12.649999618530 273	17.39332	73.849196	945.2	12.64999962	माती बंधारा	1	0	0	0	0	0	0	0	0
कोयना अभयारण्य	1	0	कोयना	कुसळडे	कारळट	460	आले	17.393223 73.848292 941 14.100000381469 727	17.393223	73.848292	941	14.10000038	माती बंधारा	1	0	0	0	0	0	0	0	गालाने भररेरा
कोयना अभयारण्य	1	0	कोयना	कुसळडे	कारळट	460	आले	17.393758 73.848768 941.30000000000 01 11.5	17.393758	73.848768	941.3	11.5	माती बंधारा	1	0	0	0	0	0	0	0	गालाने भररेरा
कोयना अभयारण्य	1	0	कोयना	कुसळडे	कारळट	460	आले	17.394305 73.848797 899.5 2.5	17.394305	73.848797	899.5	2.5	माती बंधारा	1	0	0	0	0	0	0	0	गालाने भररेरा
कोयना अभयारण्य	1	0	कोयना	कुसळडे	कारळट	460	आले	17.394852 73.848848 898.90000000000 01 12.8999996185302 73	17.394852	73.848848	898.9	12.89999962	माती बंधारा	1	0	0	0	0	0	0	0	गालाने भररेरा
कोयना अभयारण्य	1	0	कोयना	कुसळडे	कारळट	460	आले	17.393972 73.846875 914 8.8000001907348 63	17.393972	73.846875	914	8.800000191	ससमेंट बंधारा	0	1	0	0	0	0	0	0	0
कोयना अभयारण्य	1	0	कोयना	कुसळडे	कारळट	460	रळेद	17.390805 73.842998 872.40000000001 2.4000000953674 316	17.390805	73.842998	872.4	2.400000095	माती बंधारा	1	0	0	0	0	0	0	0	गलाने भररेरा,
कोयना अभयारण्य	1	0	कोयना	कुसळडे	कारळट	460	रळेद	17.39074 73.840612 873.5 157.89999389648 438	17.39074	73.840612	873.5	157.8999939	माती बंधारा	1	0	0	0	0	0	0	0	बांधाऱ्याची समत तुटरेरा आहे, गालान भररेरा
कोयना अभयारण्य	1	0	कोयना	कुसळडे	कारळट	458	मारग	17.400585 73.849682 867.40000000001 12	17.400585	73.849682	867.4	12	माती बंधारा	1	0	0	0	0	0	0	0	गाल
कोयना अभयारण्य	1	0	कोयना	कुसळडे	कारळट	458	उनलमली	17.40573 73.847957 890.5 4	17.40573	73.847957	890.5	4	माती बंधारा	1	0	0	0	0	0	0	0	बरी
कोयना अभयारण्य	1	0	कोयना	कुसळडे	कारळट	458	उनल मली	17.406038 73.849245 891.2 18.100000381469 727	17.406038	73.849245	891.2	18.10000038	माती बंधारा	1	0	0	0	0	0	0	0	बरी
कोयना अभयारण्य	1	0	कोयना	कुसळडे	कारळट	458	देऊल मली /मैर	17.397285 73.834233 943 11.6999998092651 37	17.397285	73.834233	943	11.69999981	माती बंधारा	1	0	0	0	0	0	0	0	बरी
कोयना अभयारण्य	1	0	कोयना	कुसळडे	कारळट	437	ळाटोले (रळेद)	17.441535 73.811062 1050.6000000000 001 8.8999996185302 73	17.441535	73.811062	1050.6	8.899999619	माती बंधारा	1	0	0	0	0	0	0	0	चांगरी

कोयना अभयारण्य	1	0	Koyna	Takwali	Jungti																	अतिउंच भाग असल्याने एकही गॅबबयन एरबीएस बंधारा ददसून येत नाही
कोयना अभयारण्य	1	0	कोयना	सळसळगे	ककसरुले	412	नुनळ्री	17.481667 73.768611 0 0	17.481667	73.768611	0	0	LBS बंधारा	0	0	0	1	0	0			
कोयना अभयारण्य	1	0	कोयना	सळसळगे	ककसरुले	412	नुनळ्री	17.481389 73.7675 0 0	17.481389	73.7675	0	0	LBS बंधारा	0	0	0	1	0	0			
कोयना अभयारण्य	1	0	कोयना	सळसळगे	ककसरुले	412	नुणळ्री	17.481389 73.767222 0 0	17.481389	73.767222	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			
कोयना अभयारण्य	1	0	कोयना	सळसळगे	ककसरुले	412	नुनाळ्री	17.481667 73.766944 0 0	17.481667	73.766944	0	0	LBS बंधारा	0	0	0	1	0	0			
कोयना अभयारण्य	1	0	कोयना	सळसळगे	ककसरुले	412	नुनळ्री	17.481944 73.782778 0 0	17.481944	73.782778	0	0	LBS बंधारा	0	0	0	1	0	0			
कोयना अभयारण्य	1	0	कोयना	सळसळगे	ककसरुले	412	रानसे झेंन	17.478889 73.761944 0 0	17.478889	73.761944	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			
कोयना अभयारण्य	1	0	कोयना	सळसळगे	ककसरुले	412	ढेरानसे.शईन	17.479167 73.761667 0 0	17.479167	73.761667	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			
कोयना अभयारण्य	1	0	कोयना	सळसळगे	ककसरुले	412	ढेरानसे.शईन	17.478611 73.761111 0 0	17.478611	73.761111	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			
कोयना अभयारण्य	1	0	कोयना	सळसळगे	ककसरुले	412	ढेरानसे.शईन	17.478611 73.759444 0 0	17.478611	73.759444	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			
कोयना अभयारण्य	1	0	कोयना	सळसळगे	ककसरुले	412	नुनळ्री	17.481983 73.768611 0 0	17.481983	73.768611	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			
कोयना अभयारण्य	1	0	कोयना	सळसळगे	ककसरुले	412	नुनळ्री	17.481111 73.767222 0 0	17.481111	73.767222	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			
कोयना अभयारण्य	1	0	कोयना	सळसळगे	ककसरुले	412	नुनाळ्री	17.481667 73.767222 0 0	17.481667	73.767222	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			
कोयना अभयारण्य	1	0	कोयना	सळसळगे	ककसरुले	412	रानसे झेंन	17.478056 73.762222 0 0	17.478056	73.762222	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			
कोयना अभयारण्य	1	0	कोयना	सळसळगे	ककसरुले	412	रानसे झेंन	17.478611 73.762222 0 0	17.478611	73.762222	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			
कोयना अभयारण्य	1	0	कोयना	सळसळगे	ककसरुले	412	ढेरानसे.शईन	17.478333 73.760833 0 0	17.478333	73.760833	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			
कोयना अभयारण्य	1	0	कोयना	ळन नरमंडल कोयना	कोयना	430	हंबरली	17.2457 73.4333 1036 6	17.2457	73.4333	1036	6	गॅबीयन बंधारा	0	0	1	0	0	0	2018		खराब आहेत
कोयना अभयारण्य	1	0	कोयना	ळन नरमंडल कोयना	कोयना	431	हंबरली	17.245508 73.433674 0 0	17.245508	73.433674	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			जुने
कोयना अभयारण्य	1	0	कोयना	ळन नरीमंडल कोयना	कोयना	431	हंबरली	17.245323 73.433549 0 0	17.245323	73.433549	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			जुने
कोयना अभयारण्य	1	0	कोयना	ळन नरमंडल कोयना	कोयना	426	घाटमाथा	17.241057 73.253 0 0	17.241057	73.253	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			जुना
कोयना अभयारण्य	1	0	कोयना	ळन नरीमंडल कोयना	कोयना	426	घाट माथा	17.241057 73.403034 0 0	17.241057	73.403034	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			जुने
कोयना अभयारण्य	1	0	कोयना	ळन नरीमंडल कोयना	कोयना	431	हंबरली	17.245838 73.423589 0 0	17.245838	73.423589	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			प्रस्तावळत
कोयना अभयारण्य	1	0	कोयना	ळन नरीमंडल कोयना	कोयना	424	तोरणे	17.241155 73.423589 0 0	17.241155	73.423589	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			प्रस्तावळत
कोयना अभयारण्य	1	0	कोयना	ळन नरीमंडल कोयना	कोयना	426	घाटमाथा	17.24973 73.4031 0 0	17.24973	73.4031	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			प्रस्तावळत
कोयना अभयारण्य	1	0	कोयना	Takavali	Karanjawade	396	संरण कुर्वे	17.530555 73.775278 0 0	17.530555	73.775278	0	0								2022		चांगली
कोयना अभयारण्य	1	0	Koyann	सळसळगे	सळसळगे	406	खरे	17.480327 73.719882 0 0	17.480327	73.719882	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			ळेळस्तीत नाही
कोयना अभयारण्य	1	0	कोयना	सळसळगे	डडचोरी	403	गोघट्याचे खरे	17.508515 73.733466 0 0	17.508515	73.733466	0	0	सस्पमेंट बंधारा	0	1	0	0	0	0			ळेळस्तीत नाही
कोयना अभयारण्य	1	0	Bamnoli	Vele	Deur																	
कोयना अभयारण्य	1	0	बामणोरी	मेट इंदोरी	कुसानुर	331	तांबी मुरा	17.3946 73.4431 0 4	17.3946	73.4431	0	4	गॅबीयन बंधारा	0	0	1	0	0	0			
कोयना अभयारण्य	1	0	बामणोरी	ळेले	नलसळडे	250	सांडळरी	17.636493 73.844587 1089.2 12.300000190734863	17.636493	73.844587	1089.2	12.30000019	गॅबीयन बंधारा LBS बंधारा	0	0	1	1	0	0	00	00	बांधकामास जागा आहे

कोयना अभयारण्य	1	0	Bamnoli	Vele	Vele	386	Dhavadkhani bandhara	17.580278 73.821061 9	17.580278	73.82	1061	9	ससमेंट बंधारा	0	1	0	0	0	0			Nadurust
कोयना अभयारण्य	1	0	BAMNOLI	KOLHAPUR	MUNAWALE																	
कोयना अभयारण्य	1	0	बामनोसर	म्हालुगे	म्हालगे			17.683315 73.564342 76.80652618403 1980	17.683315	73.564342	76.80652618	1980										
कोयना अभयारण्य	1	0	बमनोसर	ळरुळन	म्हालुंगे			17.678573 73.561708 67.9402084350586 1652	17.678573	73.561708	67.94020844	1652										नडरेरी
कोयना अभयारण्य	1	0	बमनोसर	ळरुळन	आरळ			17.68312 73.551433 67.9402084350586 1677	17.68312	73.551433	67.94020844	1677										
कोयना अभयारण्य	1	0	बमनोसर	ळरुळन	ळरुळन			17.678831 73.561144 67.9402084350586 1652	17.678831	73.561144	67.94020844	1652										
कोयना अभयारण्य	1	0	BAMNOLI	METINDOLI	KHIRKHINDI	304	KHIRKHINDI RAJAN KHORE	17.699167 73.736389 709 11	17.699167	73.736389	709	11	गॅबीयन बंधारा	0	0	1	0	0	0	NIRANK		PRAPOSED
चांदोरी राष्ट्रीय उद्यान	0	1	चांदोरी	कोल्हानूर	टाकले	19	अंबर हाट नाणी जळल ससमेंट बंधारा	17.209746 73.809577 860.853759765625 12.9989995956420 9	17.209746	73.809577	860.8537598	12.9989996	गॅबीयन बंधारा	0	0	1	0	0	0	2013		चारू
चांदोरी राष्ट्रीय उद्यान	0	1	चांदोरी	कोल्हानूर	टाकले	19	अंबर हाट नाणी ग्याबबयन	17.209794 73.810966 881.36474609375 6.1739997863769 53	17.209794	73.810966	881.3647461	6.173999786	गॅबीयन बंधारा	0	0	1	0	0	0	2022		
चांदोरी राष्ट्रीय उद्यान	0	1	चांदोरी	कोल्हानूर	टाकले	19	टाकले - झोलंबी हद्द जळलीर ससमेंट बंधारा	17.221273 73.817384 930.531494140625 8.1820001602172 85	17.221273	73.817384	930.5314941	8.18200016	ससमेंट बंधारा	0	1	0	0	0	0	2014		चारू
चांदोरी राष्ट्रीय उद्यान	0	1	चांदोरी	कोल्हानूर	ळेतं	15	काला ओढा	17.21527778 73.79388889 0 0	17.21527778	73.79388889	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी राष्ट्रीय उद्यान	0	1	चांदोरी	कोल्हानूर	ळेतं	15	काला ओढा	17.23027778 73.78111111 0 0	17.23027778	73.78111111	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी राष्ट्रीय उद्यान	0	1	चांदोरी	कोल्हानूर	ळेतं	15	काला ओढा	17.23055556 73.78166667 0 0	17.23055556	73.78166667	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी राष्ट्रीय उद्यान	0	1	चांदोरी	कोल्हानूर	ळेतं	15	काला ओढा	17.23083333 73.78166667 0 0	17.23083333	73.78166667	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी राष्ट्रीय उद्यान	0	1	चांदोरी	कोल्हानूर	ळेतं	15	काला ओढा	17.23166667 73.78083333 0 0	17.23166667	73.78083333	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी राष्ट्रीय उद्यान	0	1	चांदोरी	कोल्हानूर	ळेतं	15	काला ओढा	17.23027778 73.78111111 0 0	17.23027778	73.78111111	0	0	गॅबीयन बंधारा	0	0	1	0	0	0		2023	नळीन बांधकाम
चांदोरी राष्ट्रीय उद्यान	0	1	चांदोरी	कोल्हानूर	ळेतं		15	17.23138889 73.78111111 0 0	17.23138889	73.78111111	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी राष्ट्रीय उद्यान	0	1	चांदोरी	कोल्हानूर	ळेतं	15	भैरी चा ओढा	17.23194444 73.78083333 0 0	17.23194444	73.78083333	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी राष्ट्रीय उद्यान	0	1	चांदोरी	कोल्हानूर	ळेतं	15	भैरी चा ओढा	17.23194444 73.78194444 0 0	17.23194444	73.78194444	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी राष्ट्रीय उद्यान	0	1	चांदोरी	कोल्हानूर	ळेतं	15	भैरी चा ओढा	17.23222222 73.78083333 0 0	17.23222222	73.78083333	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी राष्ट्रीय उद्यान	0	1	चांदोरी	कोल्हानूर	ळेतं	15	भैरी चा ओढा	17.23194444 73.78055556 0 0	17.23194444	73.78055556	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी राष्ट्रीय उद्यान	0	1	चांदोरी	कोल्हानूर	ळेतं	15	भैरी चा ओढा	17.23194444 73.78055556 0 0	17.23194444	73.78055556	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम

चांदोरी वनउद्यान	0	1	चांदोरी	कोल्हापूर	ऊर्वी	15	भैरी चा ओढा	17.23388889 73.78027778 0 0	17.23388889	73.78027778	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी वनउद्यान	0	1	चांदोरी	कोल्हापूर	ऊर्वी		15	17.23305556 73.78027778 0 0	17.23305556	73.78027778	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी वनउद्यान	0	1	चांदोरी	कोल्हापूर	ऊर्वी		15	17.23305556 73.78055556 0 0	17.23305556	73.78055556	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी वनउद्यान	0	1	चांदोरी	कोल्हापूर	ऊर्वी	15	बुरंबळण्या चा ओढा	17.23138889 73.78194444 0 0	17.23138889	73.78194444	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी वनउद्यान	0	1	चांदोरी	कोल्हापूर	ऊर्वी	15	बुरंबळण्याचा ओढा	17.23166667 73.78277778 0 0	17.23166667	73.78277778	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी वनउद्यान	0	1	चांदोरी	कोल्हापूर	ऊर्वी	15	बुरंबळण्याचा ओढा	17.23222222 73.78277778 0 0	17.23222222	73.78277778	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी वनउद्यान	0	1	चांदोरी	कोल्हापूर	ऊर्वी	15	बुरंबळण्याचा ओढा	17.23361111 73.78361111 0 0	17.23361111	73.78361111	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी वनउद्यान	0	1	चांदोरी	कोल्हापूर	ऊर्वी	15	बुरंबळण्याचा ओढा	17.23305556 73.78361111 0 0	17.23305556	73.78361111	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी वनउद्यान	0	1	चांदोरी	कोल्हापूर	ऊर्वी	15	बुरंबळण्याचा ओढा	17.23277778 73.78361111 0 0	17.23277778	73.78361111	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी वनउद्यान	0	1	चांदोरी	कोल्हापूर	ऊर्वी	15	बुरंबळण्याचा ओढा	17.23222222 73.78277778 0 0	17.23222222	73.78277778	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी वनउद्यान	0	1	चांदोरी	कोल्हापूर	ऊर्वी	15	बुरंबळ्याचा ओढा	17.23194444 73.78194444 0 0	17.23194444	73.78194444	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी वनउद्यान	0	1	चांदोरी	कोल्हापूर	ऊर्वी	15	बुरंबळण्याचा ओढा	17.23166667 73.7825 0 0	17.23166667	73.7825	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी वनउद्यान	0	1	चांदोरी	कोल्हापूर	ऊर्वी	15	बुरंबळण्याचा ओढा	17.23166667 73.78222222 0 0	17.23166667	73.78222222	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी वनउद्यान	0	1	चांदोरी	कोल्हापूर	ऊर्वी	15	बुरंबळ्याचा ओढा	17.20583333 73.79916667 0 0	17.20583333	73.79916667	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी वनउद्यान	0	1	चांदोरी	कोल्हापूर	ऊर्वी	15	बुरंबळण्याचा ओढा	17.23861111 73.76611111 0 0	17.23861111	73.76611111	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
चांदोरी वनउद्यान	0	1	चांदोरी	कोल्हापूर	ऊर्वी	15	बुरंबळ्याचा ओढा	17.23805556 73.76555556 0 0	17.23805556	73.76555556	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नवळनबांधकाम
चांदोरी वनउद्यान	0	1	चांदोरी	कोल्हापूर	ऊर्वी	15	बुरंबळ्याचा ओढा	17.23777778 73.76527778 0 0	17.23777778	73.76527778	0	0	गॅबीयन बंधारा	0	0	1	0	0	0	2023		नळीन बांधकाम
कोयना अभयारण्य	1	0	Kandat	Waghavale	Pimapri	0	0													0	0	सदरची मादहती तनरंक आहे
चांदोरी वनउद्यान	0	1	Helawak	Rundiv	Ambole	0	No	17 73 2 2	17	73	2	2	मातीं बंधारा	1	0	0	0	0	0	0	0	No
चांदोरी वनउद्यान	0	1	हेलळाक	कोलणे	चांदोरी खुदव	12	मलेरस्ता	17.156 73.4447 0 0	17.156	73.4447	0	0	सस्मेंट बंधारा	0	1	0	0	0	0			चांगरी
चांदोरी वनउद्यान	0	1	हेलळाक	कोलणे	चांदोरी खुदव	12	अळकाचा ओढा	17.1611 73.4449 0 0	17.1611	73.4449	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			चांगरी
चांदोरी वनउद्यान	0	1	हेलळाक	कोलणे	चांदोरी खुदव	12	अव्काचा ओढा	17.16 73.4446 0 0	17.16	73.4446	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			चांगरी
चांदोरी वनउद्यान	0	1	हेलळाक	कोलणे	चांदोरी खुदव	12	येसूच्याचा ओढा	17.1516 73.4429 0 0	17.1516	73.4429	0	0	गॅबीयन बंधारा	0	0	1	0	0	0			चांगरी
चांदोरी वनउद्यान	0	1	हेलळाक	कोलणे	चांदोरी खुदव	12		17.1546 73.4439 0 0	17.1546	73.4439	0	0	LBS बंधारा	0	0	0	1	0	0			चांगरी
चांदोरी वनउद्यान	0	1	हेलळाक	कोलणे	चांदोरी	12		17.1548 73.444 0 0	17.1548	73.444	0	0	LBS बंधारा	0	0	0	1	0	0			चांगरी

चांदोरी कृषिय उद्यान	0	1	हेलळाक	कोलणे	चांदोरी खुदव	१२		17.1549 73.4439 0 0	17.1549	73.4439	0	0	LBS बंधारा	0	0	0	1	0	0			
चांदोरी कृषिय उद्यान	0	1	हेलळाक	कोलणे	चांदोरी खुदव	12		17.1551 73.4436 0 0	17.1551	73.4436	0	0	LBS बंधारा	0	0	0	1	0	0			चांगरी
चांदोरी कृषिय उद्यान	0	1	हेलळाक	कोलणे	चांदोरी खुदव	12		17.1552 73.4436 0 0	17.1552	73.4436	0	0										खराब
चांदोरी कृषिय उद्यान	0	1	हेलळाक	कोलणे	चांदोरी खुदव	12		17.1517 73.4434 0 0	17.1517	73.4434	0	0	LBS बंधारा	0	0	0	1	0	0			चांगरी
चांदोरी कृषिय उद्यान	0	1	हेलळाक	कोलणे	चांदोरी खुदव	12		17.1538 73.4511 0 0	17.1538	73.4511	0	0	LBS बंधारा	0	0	0	1	0	0			चांगरी
चांदोरी कृषिय उद्यान	0	1	हेलळाक	रुं ददळ	रुं ददळ उत्तर	5	रुं ददळ	17 73 0 0	17	73	0	0	माती बंधारा	1	0	0	0	0	0	तनरंक	तनरंक	तनरंक

३४.मानवननमयमत पाणवि ,वनतळी व खोदतळी (Man-made lakes (Existing)

तारीख	लनयपकाचं नाल	लननरयपत्र	लतुतर	ननमतपत्र	कष क्र.	वलबागाचं न	स्थान अष	अषांळ (N	यंखांळ (E	_स्थान अ	_स्थान अ	फांधकाभ ल	फ्तडत पत्र	नाण्मार्ची उ	कारब्मार्ची	सवंचनाचा	वक्षमार्गे वं	भावंभार्योचा	तनस्स्तर्तीधी	तण तनस्स	पंत्र (शक्टप	छामाचचत्र	ळेया
12/05/2023	Bharat shivaram khutale	हेलळाक	Rundiv	Rundiv uttar	7		17.246933	17.24693	73.69294	860	10	2018										20230512_123957-19_37_37.jpg	
13/05/2023	Arjun.j.chavan	बामणोरी	Met indoli	Kusapur	330		17.397 73.	17.397	73.451	742	1.6	2018		Janevari	10×10							20230513_143543-12_12_29.jpg	
16/5/2023	Deepak bhalchandra sorat	बामणोरी	Vele	Deur	Nirank	Nirank																	Nirank
16/05/2023	FG Anil Pundlik kumbhar	बामणोरी	ळेत	पलसळड	0	RFO Bamn	17.641207	17.64121	73.8366	1001.6	5.1	हनरंक	0	0	0	0	0	हंाहीं	हंाहीं	हंाहीं	0		तऱाळ हंाहीत
20/5/2023	Dada Maruti jankar	बामणोरी	Vele	Vele																			Nirank
21/05/2023	Sunil Basappa kuri	चादोरी	कोल्हापूर	ळेत	16	हळ वळभाग	17.219134	17.21913	73.79441	888.8052	11.31	2013										20230521_102349-10_31_24.jpg	
05/18/2023	वळजय कोडीराम भासर	कोहया	शळरशळग	ककसरुले																			हनरंक
19/05/2023	Ajit Patil	कोहया	Takavali	Karanjawade	00	हनरंक	17.53803 7	17.53803	73.775	0		हनरंक	हनरंक	हनरंक	हनरंक	00	00	हनरंक	हनरंक	हनरंक	हनरंक		सादर माहहती हनरंक असे
12/07/2023	SONALI SHIVAJI KISAVE	बामणोरी	KOLHAPUR	MUNAWALE																			NIRANK
	प्रतीक गायकळाड	बामणोरी	म्हालुग	म्हालुग			17.6833 73	17.6833	73.56427	76.80653	1980			००	००	हंाहीं	हंाहीं	हंाहीं	हंाहीं	हंाहीं	हंाहीं		हंारक
२०/७/२०२३	तांहंाजी शळळाजी शळद हळपार	हेलळाक	रु दोळ	रु दोळ दक्षण	६	हनरंक	17 73 0 0	17	73	0		००	००	हंाहीं	हंाहीं	हंाहीं	हंाहीं	हंाहीं	हंाहीं	हंाहीं	हंाहीं		हनरंक
20/07/2023	Pritam Baban Kamble	हेलळाक	Rundiv	Ambole	O	No	17 73 2 2	17	73	2	1	No	No	No	No	No	No	No	No	No	No		हनरंक
३१/०३/२०२३	एस डी काकडे	हेलळाक	कोलण	चादोरी खुदद	12		17.1636 73	17.1636	73.4412	0													कृहमम
	एस डी काकडे	हेलळाक	कोलण	चादोरी खुदद	12		17.1632 73	17.1632	73.44379	0													कृतामम
	एस डी काकडे	हेलळाक	कोलण	चादोरी	12																		कृतामम
	एस डी काकडे	हेलळाक	कोलण	चादोरी खुदद	१२																		कृतामम
	एस डी काकडे	हेलळाक	कोलण	चादोरी खुदद	12																		कृतामम
	एस डी काकडे	हेलळाक	कोलण	चादोरी खुदद	12		17.15272 7	17.15272	73.44395	0													कृहमम
	एस डी काकडे	हेलळाक	कोलण	चादोरी खुदद	12		17.1547 73	17.1547	73.445	0													कृहमम
	एस डी काकडे	हेलळाक	कोलण	चादोरी खुदद	12																		कृहमम
	एस डी काकडे	हेलळाक	कोलण	चादोरी खुदद	12																		कृहमम
	एस डी काकडे	हेलळाक	कोलण	चादोरी खुदद	12																		कृहमम
	एस डी काकडे	हेलळाक	कोलण	चादोरी खुदद	12																		कृहमम
26/07/2023	S S Mundhe	हेलळाक	Helwak	Rasati	No	No	17 17 17 1	17	17	17	17	No	No	No	No	No	No	No	No	No	No		No
18/07/2023	भारत शळळराम खुटाऱ हळपार रु हद	हेलळाक	रु हदळ	रु हदळ उत्तर	5	उपसचारक	17 73 0 0	17	73	0		हनरंक	हनरंक	हनरंक	हनरंक	हनरंक	हनरंक	हनरंक	हनरंक	हनरंक	हनरंक		हनरंक
18/09/2023	S P Pawar FG Pimpari	बामणोरी	Waghavale	Pimapri	355	STR						सदरची मा	0	0	0	सदरची मा	0	0	0	सदरची मा	0		सदरची माहहती हनरंक आहे
01/09/2023	SWAPNIL SAMBHAJI SHENDAGE	बामणोरी	METINDOL	KHIRKHINDI		STR	17.915856	17.91586	73.71928	0		Nirank		Nirank		Nirank	Nirank						Nirank
27/10/2023	sunil basappa kuri	ढेबेळाडी	kolhapur	Takale	19	ळन्यजीळ व	17.210829	17.21083	73.81589	0		2021			30 mitar	0	0	0	0	0	0	20230517_145301-20_59_13.jpg	
27/10/2023	sunil basappa kuri	ढेबेळाडी	kolhapur	Takale	19	ळन्यजीळ व	17.210561	17.21056	73.81533	0		2021	0	बारमाही	0	0	0	0	0	0	0	20230517_	टाकले कु टी जळलीर पाहंळठा
27/10/2023	sunil basappa kuri	ढेबेळाडी	kolhapur	Takale	19	ळन्यजीळ व	17.209243	17.20924	73.8169	0		2017	0	0	0	0	0	0	0	0	0	20230517_	सदर पाहंळठा साठी कु टी पासुहं पाहंळठा पयंत पाइप शहइ गरजेचे आहे .अंदाजे ३०० मीटर
28/10/2023	sunil basappa kuri	ढेबेळाडी	kolhapur	Takale	19	ळन्यजीळ व	17.212804	17.2128	73.81321	0		0	0	बारमाही	0	0	0	0	0	0	0	20230519_174633-9_57_26.jpg	
28/10/2023	sunil basappa kuri	ढेबेळाडी	kolhapur	Takale	19	ळन्यजीळ व	17.214469	17.21447	73.81684	0		2021	0	0	0	0	0	0	0	0	0	20230521_	पायर झाड जाळल

३५.मानवननमयमत पाणवि ,वनतळी व खोदतळी (Man-made lakes (Proposed)																					
शंरक्षसत सेत्र	शंरक्षसत सेत्र /कोयना अभयारण्य	शंरक्षसत सेत्र /चांदोरी राष्ट्रीय उद्यान	ळननवररसेत्र	ळननवररसेत्र/ बामणोरी	ळननवररसेत्र/ कोयना	ळननवररसेत्र/षे लळाक	ळननवररसेत्र/ चांदोरी	ळननवररसेत्र/दे वेळाडी	ळत्तुतल	ननयतसेत्र	कस क्र.	स्थान असांळ (N) रेखांळ (E)	_स्थान असांळ (N) रेखांळ (E)_latitude	_स्थान असांळ (N) रेखांळ (E)_longitude	_स्थान असांळ (N) रेखांळ (E)_altitude	_स्थान असांळ (N) रेखांळ (E)_precision	बांधकाम ळवु	बतडीत सेत्र (षेक्टर)	ळनस्स्तींची नाळे	तण ळनस्सती आषेत का	सेत्र (षेक्टर)
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	कुसळडे	कारळट	458	17.402997 73.850073 896.5 8.6	17.402997	73.850073	896.5	8.6	0	0.01	ननऱगगरी, भोंब्या, ऐन,	होय	0.01
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takwali	Jungti	388	17.579721 73.731395 0 0	17.579721	73.731395	0	0					
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	शळरशहळगो	ककसरुले	411	17.473333 73.763889 0 0	17.473333	73.763889	0	0					
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	Takavali	Karanjawade	00	17.53803 73.775004 0 0	17.53803	73.775004	0	0	ननररंक	ननररंक	ननररंक	ननररंक	ननररंक
कोयना अभयारण्य	1	0	कोयना	0	1	0	0	0	शळरशहळगो	शळरशहळगो	406	17.487456 73.699152 0 0	17.487456	73.699152	0	0					
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	ळेले	पलसळडे	250	17.63315 73.845907 980.7 9.5	17.63315	73.845907	980.7	9.5	00	ननररंक	नाही	नाही	0.0001
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Met Indoli	Kusapur	331	17.3942 73.4521 0 1.4	17.3942	73.4521	0	1.4		0.01		No	0.01
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Vele	Deur	380	17.620833 73.806667 1103 14	17.620833	73.806667	1103	14					
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Vele	Vele											
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	KOLHAPUR	MUNAWALE											
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	ळऱळन	म्हातुर्हंंगे		17.680456 73.563698 67.940208435 0586 2019	17.680456	73.563698	67.94020844	2019	ननरककनन रक				
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	ळऱळन	आरळ		17.680456 73.563698 67.940208435 0586 2019	17.680456	73.563698	67.94020844	2019					
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	ळऱळन	आरळ		17.680456 73.563698 67.940208435 0586 2019	17.680456	73.563698	67.94020844	2019					
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	ळऱळन	ळऱळन		17.680456 73.563698 67.940208435 0586 2019	17.680456	73.563698	67.94020844	2019					
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Waghavale	Pimapri	355	17.723611 73.715556 0 0	17.723611	73.715556	0	0	प्रस्तावीत पाणळठा 2024	0	0	नाही	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	Waghavale	Pimpari	299	17.728611 73.718611 0 0	17.728611	73.718611	0	0	प्रस्तावीत पाणळठा 2024	0	0	नाही	0
कोयना अभयारण्य	1	0	बामणोरी	1	0	0	0	0	METINDOLI	KHIRKHINDI	NIRANK	17.915856 73.719283 0 0	17.915856	73.719283	0	0	Nirank	Nirank	Nirank	Nirank	Nirank
चाहंंदोरी राष्ट्रीय उद्यान	0	1	हेलळाक	0	0	1	0	0	रुहंं दीळ	रुहंं दीळ दक्षण	६	17 73 0 0	17	73	0	0	नाही	नाही	नाही	नाही	नाही
चाहंंदोरी राष्ट्रीय उद्यान	0	1	हेलळाक	0	0	1	0	0	कोलणे	चाहंंदोरी खुदद											
चाहंंदोरी राष्ट्रीय उद्यान	0	1	हेलळाक	0	0	1	0	0	Rundiv	Ambole	9	17.134 73.443 5 5	17.134	73.443	5	5	0	0	Hangul, aanjni	No	0
चाहंंदोरी राष्ट्रीय उद्यान	0	1	हेलळाक	0	0	1	0	0	रुहंं ददळ	रुहंं ददळ उत्तर	5	17.1451 73.4133 1000 4.5	17.1451	73.4133	1000	4.5	2025				

३६.दशयन रेषा (View Line)

start	end	तारीख	ळनरक्षकाचं नाळ	शाखूल क्षात्र क्ष	ळनपरक्षत्र	ळ्ळुतल	ननयतक्षत्र	ख्ख क्र.	रस्त्याचं ना	आरभ अक्षा	अक्षाळ	रखाळ_long	आरभ	_आरभ	क्षाढ़ ढ़ळ	ढ़ ढ़ळट र	ढ़ळट रख	ढ़ ढ़ळट र	ढ़ळट र	वा शबा (म	ंरी	ळरा
2023-05-02	2023-05-02	2023-05-02	Abc	कोयना अभयारण्य	कोयना	Koyna	Koyna	10	Koyna	17.257271	17.257271	74.162405	240.29999	12.101								Good
2023-05-17	2023-05-17	2023-05-17	Deepak bhalchandra sorat	कोयना अभयारण्य	बामणोरी	Vele	Deur		Nirank	17.620833	17.620833	73.80666	1103	1								Nirank
2023-05-17	2023-05-18	2023-05-18	Dada Maruti jankar	कोयना अभयारण्य	बामणोरी	Vele	Vele			17.599167	17.599167	73.85722	1158									Nirank
2023-05-19	2023-05-20	2023-05-19	Kishor Dhane	कोयना अभयारण्य	कोयना	Takwali	नारी	377	कोकण कड	17.603326	17.603326	73.71916	0		7131 73.71	17.607131	73.71275	0	0	-		कोकणकडा व्ह्यू पॉईंट चांगल्या आहे
2023-05-22	2023-05-22																					
2023-05-22	2023-05-22	2023-05-18	वळजय कोंडीराम भोशले	कोयना अभयारण्य	कोयना	शळ्रशळांगे	ककशरुले	412	शडा	17.465556	17.465556	73.73777	0		056 73.736	17.468056	73.736667	0	0	50	10	शदरचे दळ्शन रेवाषी नळजा ननयतसेत्र ळ शळ्रशळांगे ननयतसेत्र चे
2023-05-21	2023-05-22	2023-05-19	Ajit Patil	कोयना अभयारण्य	कोयना	Takavali	Karanjawade	394	ढ्ल शाइन	17.546603	17.546603	73.74099	0		346 73.761	17.515346	73.761558	0	0	1 कक.मी.	5	
2023-05-15	2023-05-24	2023-05-18	नाळशता शरगर	कोयना अभयारण्य	कोयना	कुशळड	कारळट	458	टरनशट र	17.392241	17.392241	73.84687	963.6	8.1	.600000000	17.392228	73.846873	963.6	8.3999996	2000	3	
2023-05-18	2023-05-24	2023-05-23	नाळशता शरगर	कोयना अभयारण्य	कोयना	कुशळड	कारळट	458	कटळाडा श	17.404068	17.404068	73.85171	943.8	1	73.837397	17.388414	73.837397	991.68	7.6	3.3km	3	प्रस्तावळत
2023-05-24	2023-05-24	2023-05-18	नाळशता शरगर	कोयना अभयारण्य	कोयना	कुशळड	कारळट	461	मर शडा ळ	17.39746 7	17.39746	73.83480	1028.45	13.4	6 73.84219	17.390306	73.84219	942.86	9.6	4ककमी.	3	प्रस्तावळत
2023-05-24	2023-05-24	2023-05-18	नाळशता शरगर	कोयना अभयारण्य	कोयना	कुशळड	कारळट	458	कटळाडा श	17.404068	17.404068	73.85171	943	1	73.837397	17.388414	73.837397	991.68	7.6	3.3	3	प्रस्तावळत
2023-07-19	2023-07-19	2023-07-12	SONALI SHIVAJI KISAVE	कोयना अभयारण्य	बामणोरी	KOLHAPUR	MUNAWALE			17.277777	17.277777	73.78777	768	1								NIRANK
2023-07-20	2023-07-20	2023-07-20	तानाजी शळ्राजी शळ्रादं	चादशा शष्ट्रूत्र्य उद्य	षलळाक	रुा दाळ	रुा दाळ दक्षसण	6	नाषा	17 73 0 0	1	7	0		17 73 0 0	17	73	0	0	नाषा	0	ननराक
2023-07-20	2023-07-20	2023-07-20	Pritam Baban Kamble	चादशा शष्ट्रूत्र्य उद्य	षलळाक	Rundiv	Ambole	0	No	17 73 2 2	1	7	2		17 73 2 2	17	73	2	2	0	0	ननराक
2023-07-20	2023-07-20	2023-03-31	एश डा काकड	चादशा शष्ट्रूत्र्य उद्य	षलळाक	कालण	चादारा खुदश			17 73 0 0	1	7	0									ननराक
2023-07-26	2023-07-26	2023-07-26	S S Mundhe	चादशा शष्ट्रूत्र्य उद्य	षलळाक	Helwak	Rasati	0	No	17 17 17 17	1	1	17	1	17 17 17 1	17	17	17	17	No	0	No
2023-07-27	2023-07-27	2023-07-18	भारत शळ्राराम खुटाऱ ळननाऱ रुा ददळ	चादशा शष्ट्रूत्र्य उद्य	षलळाक	रुा ददळ	रुा ददळ उत्तर	5	ररांग राड	17.1442 73	17.1442	73.4144	3.7	1011	29 73.4155	17.1429	73.4155	970	4.4	2500	5	ननराक
2023-07-19	2023-10-26	2023-10-26	प्रनतक धाडबा गायकळाड	कोयना अभयारण्य	बामणोरी	ळऱ्रळन	म्यालुग			17.680456	17.680456	73.56369	67.940208	2019								ननरक
2023-10-26	2023-10-26	2023-10-26	शुरळ् काु डशऱक शूयशळाळा	कोयना अभयारण्य	बामणोरी	ळऱ्रळन	आरळ			17.680456	17.680456	73.56369	67.940208	2019	698 67.940	17.680456	73.563698	67.940208	2019			ननरक
2023-10-26	2023-10-26	2023-10-26	शुरळ् काु डशऱक शूयशळाळा	कोयना अभयारण्य	बामणोरी	ळऱ्रळन	ळऱ्रळन		ननरक	17.680456	17.680456	73.56369	67.940208	2019								ननरक
2023-10-26	2023-10-26	2023-09-01	SWAPNIL SAMBHAJI SHENDAGE	कोयना अभयारण्य	बामणोरी	METINDOLI	KHIRKHINDI		NIRANK	-1.660892 1	-1.660892	17.48279	0		6302 -9.961	32.086302	-9.961893	0	0	NIRANK		THERE IS NO VIEW LINE IN KHIRKHINDI BEAT
2023-10-28	2023-10-28	2023-10-28	sunil basappa kuri	चादशा शष्ट्रूत्र्य उद्य	ढबळाडा	kolhapur	Takale	19	मुख्य रस्ता	17.210817	17.210817	73.81528	0		111 73.817	17.22111	73.817418	0	0	२ कां.मी.		
2023-10-28	2023-10-28	2023-10-28	sunil basappa kuri	चादशा शष्ट्रूत्र्य उद्य	ढबळाडा	kolhapur	Takale	1819	टाकल कुटी	17.210817	17.210817	73.81528	0		295 73.791	17.207295	73.791985	0	0	२ कां.मी.		
2023-10-28	2023-10-28	2023-10-28	sunil basappa kuri	चादशा शष्ट्रूत्र्य उद्य	ढबळाडा	kolhapur	Takale	19	टाकल कुटी	17.210862	17.210862	73.81527	0		421 73.809	17.229421	73.809414	0	0	३ कां.मी.		
2023-10-28	2023-10-28	2023-10-28	sunil basappa kuri	चादशा शष्ट्रूत्र्य उद्य	ढबळाडा	kolhapur	Takale	1819	टाकल कुटी	17.210857	17.210857	73.81528	0		7703 73.78	17.187703	73.78817	0	0	४ कां. मी.		
2023-10-28	2023-10-28	2023-10-28	sunil basappa kuri	चादशा शष्ट्रूत्र्य उद्य	ढबळाडा	kolhapur	Takale	19	टाकल कुटी	17.210852	17.210852	73.81528	0		591 73.817	17.196591	73.817823	0	0	२.५०० मीटर		

३७.चराई क्षेत्र (Grazing Area)

start	end	सर्वेक्षकाचे नाव	तारीख	वनरक्षकाचे नाव	संरक्षित क्षेत्राचे नाव	संख्या	वनपरिक्षेत्र	वस्तीचे ठिकाण	नगरपालिका क्षेत्र	के क्र.	स्थान	Latitude	Longitude	थान _altit	ेान _preci	ेा हल्दर	छायाचित्र	ेायाचित्र_R	शेरा	ेा / वर्ष	/पावय	शेरा
2023-05-17	2023-05-17	Deepak bh	2023-05-17	Deepak bhalchandra sorat	कोयना अभयारण्य	1	बामणोली	Vele	Deur nirank		17.620833	17.62083	73.80667	1103	14							
2023-05-16	2023-05-18	RFO Bamn	2023-05-16	FG Anil Pundlik kumbhar	कोयना अभयारण्य	1	बामणोली	ळेले	पलसळडे	250	17.635584	17.63558	73.84193	1095.6	5.2	15	819784284	c99aa2b60	ळसाला हल्द	0	1	
2023-05-17	2023-05-18	Dada Maru	2023-05-18	Dada Maruti jankar	कोयना अभयारण्य	1	बामणोली	Vele	Vele		17.599167	17.59917	73.85722	1158	4							
2023-05-22	2023-05-22																					
2023-05-19	2023-05-22	Ajit gundo	2023-05-19	Ajit gundopant patil	कोयना अभयारण्य	1	कोयना		Karanjawade	0	17.53803 7	17.53803	73.775	0	0	0						
2023-07-19	2023-07-19	SONALI SH	2023-07-12	SONALI SHIVAJI KISAVE	कोयना अभयारण्य	1	बामणोली	KOLHAPUR	MUNAWALE		17.77777 7	17.77777	73.99	871	15							
2023-07-19	2023-07-19	नरिक	2023-07-19	ह्रितक गायकळाड़	कोयना अभयारण्य	1	बामणोली	म्हाालुग	म्हाालुग		17.691712	17.69171	73.58082	76.80653	2023							
2023-07-20	2023-07-20	हंानाजी शळ	2023-07-20	हंानाजी शऴळाजी शऴद ळनपाऱ	चादोली राष्ट्राय उद्यान	0	हेळ्ळा क	रदाळ	रदाळ दहक्षण	6	17 73 0 0	17	73	0	0	0						
2023-07-20	2023-07-20	Pritam Bab	2023-07-20	Pritam Baban Kamble	चादोली राष्ट्राय उद्यान	0	हेळ्ळा क	Rundiv	Ambole	0	17 73 2 2	17	73	2	2	0			पाळसाला	0	1	
2023-07-20	2023-07-20	एस डी का	2023-03-31	एस डी काकडे	चादोली राष्ट्राय उद्यान	0	हेळ्ळा क	कोलण	चादोली खुदद		17 73 0 0	17	73	0	0							
2023-07-26	2023-07-26	S S Mundh	2023-07-26	S S Mundhe	चादोली राष्ट्राय उद्यान	0	हेळ्ळा क	Helwak	Rasati	0	17 17 17 1	17	17	17	17	0						
2023-07-27	2023-07-27	भारर शऴळ	2023-07-18	भारर शऴळराम खुटाऱ ळनपाऱ र हदळ	चादोली राष्ट्राय उद्यान	0	हेळ्ळा क	रहदळ	रहदळ उत्तर	5	17 73 0 0	17	73	0	0	0			पाळसाला	0	1	
2023-10-26	2023-10-26	S P Pawar FG Pimpari		S P Pawar FG Pimpari	कोयना अभयारण्य	1	बामणोली	Waghavale	Pimapri	0	17.718778	17.71878	73.72575	0	0	0			हहळाला	0	0	
2023-10-26	2023-10-26	MAHENDR	2023-09-01	SWAPNIL SAMBHAJI SHENDAGE	कोयना अभयारण्य	1	बामणोली	METINDOLI	KHRKHINDI		24.535138	24.53514	-74.7032	0	0							
2023-05-11	2023-10-27	एम ए पळ	2023-10-27	ए जे चव्हाण	कोयना अभयारण्य	1	बामणोली	मेट इदळोली	कुसापूर		19.4017 9.	19.4017	9.4573	755	4.5							

३८.गुहा आठण मोठ्या दगडाांचा प्रदेश (Caves & Rocky Area)										
संरठक्षत ठं्ेत्राचे नाव	वनपररेत्र	वतुतळ	ननयठतेत्र	ठक क्र.	स्थाननक नाव	स्थान	Latitude	Longitude	_स्थान _altitude	_स्थान _precision
कोयना अभयारण्य	कोयना	Takwali	Pali	378		17.590839 73.730005 0 0	17.590839	73.730005	0	0
कोयना अभयारण्य	कोयना	Takwali	पाऱी	375		17.615 73.725556 0 0	17.615	73.725556	0	0
कोयना अभयारण्य	कोयना	कुसळडे	कारळट	458	आले डाग	17.391803 73.849955 959.900000 00000001 8.3999996 18530273	17.391803	73.849955	959.9	8.3999996
कोयना अभयारण्य	कोयना	कुसळडे	कारळट	460	ठुर ळाडी स	17.394648 73.835804 891.5 15.5	17.394648	73.835804	891.5	15.5
कोयना अभयारण्य	कोयना	कुसळडे	कारळट	437	सडा	17.39617 73.802733 1044.41 5	17.39617	73.802733	1044.41	5
कोयना अभयारण्य	कोयना	Takavali	Karanjawade	394	क्रऴ श़ाईन	17.544166 73.741667 0 0	17.544166	73.741667	0	0
कोयना अभयारण्य	कोयना	Takavali	Karanjawade	395	i karanjawad	17.530722 73.746561 0 0	17.530722	73.746561	0	0
कोयना अभयारण्य	कोयना	कुसळडे	कारळट	438	सरळर डाग	17.342619 73.984288 0 2900	17.342619	73.984288	0	2900
कोयना अभयारण्य	कोयना	Takwali	Jungti	388		17.588056 73.734167 0 0	17.588056	73.734167	0	0
कोयना अभयारण्य	कोयना	Takwali	Jungti	390		17.568333 73.730833 0 0	17.568333	73.730833	0	0
कोयना अभयारण्य	कोयना	शऴरशहऴगे	ककसरुले	412	सडा	17.4675 73.738056 0 0	17.4675	73.738056	0	0
कोयना अभयारण्य	कोयना	Takwali	Jungti	388		17.588056 73.734167 0 0	17.588056	73.734167	0	0
कोयना अभयारण्य	कोयना	ळन परीहमंडल कोयना	कोयना	426	हचतल सडा	17.243325 73.41061 0 0	17.243325	73.41061	0	0
कोयना अभयारण्य	कोयना	ळन परीहमंडल कोयना	कोयना	430	काईऱ सडा	17.243719 73.424 0 0	17.243719	73.424	0	0
कोयना अभयारण्य	कोयना	ळन परीहमंडल कोयना	कोयना	432	थोरऱी तली	17.243196 73.431061 0 0	17.243196	73.431061	0	0

कोयना अभयारण्य	कोयना	शऴरशहऴगे	शऴरशहऴगे	404	अस्ऴर टेक	17.511581 73.706993 0 0	17 30 41.25	73 42 26.21	0	0
कोयना अभयारण्य	कोयना	शऴरशहऴगे	डहडोऱी		हपंढरीहं ंी गुहा	17.513409 73.75289 0 0	17.513409	73.75289	0	0
कोयना अभयारण्य	बामणोऱी	Vele	Deur		Nirank	17.606389 73.810556 1172 11	17.606389	73.810556	1172	11
कोयना अभयारण्य	बामणोऱी	ळेले	पलसळडे	250	ताळूहं ंी पापड	17.63646 73.843074 1113.7 4.0999999 04632568	17.63646	73.843074	1113.7	4.0999999
कोयना अभयारण्य	बामणोऱी	Vele	Vele			17.599167 73.857222 1158 4	17.599167	73.857222	1158	4
कोयना अभयारण्य	बामणोऱी	Metindoli	Kusapur	331	Metindoli	17.393 73.4327 1236 3	17 39 3	73 43 27	1236	3
कोयना अभयारण्य	बामणोऱी	KOLHAPUR	MUNAWALE			17.99999 73.177777 17 766 11	17.99999	73.177777	766	11
कोयना अभयारण्य	बामणोऱी	Waghavale	Pimapari	0	0	17.718778 73.72575 0 0	17.718778	73.72575	0	0
कोयना अभ	बामणोऱी	METINDOLI	KHIRKHINDI	304	KHIRKHINDI WADA	17.701944 73.736667 791 6	17.701944	73.736667	791	6
हं ंाहं ंदोऱी राष्ट्र	हेलळाक	Helwak	Rasati	478	गायमुख nechal	17.352528 73.688278 805 4.3	17.352528	73.688278	805	4.3
हं ंाहं ंदोऱी राष्ट्रीय उद्यान	हेलळाक	रुहं ंदीळ	रुहं ं दीळ दक्षण	6	नाही	17 73 0 0	17	73	0	0
हं ंाहं ंदोऱी राष्ट्रीय उद्यान	हेलळाक	Rundiv	Ambole	0	No	17 73 2 2	17	73	2	2
हं ंाहं ंदोऱी राष्ट्रीय उद्यान	हेलळाक	कोलणे	हं ंाहं ंदोऱी			17 73 0 0	17	73	0	0
हं ंाहं ंदोऱी राष्ट्रीय उद्यान	हेलळाक	Helwak	Rasati	0	No	17 17 17 17	17	17	17	17
हं ंाहं ंदोऱी राष्ट्रीय उद्यान	हेलळाक	रुहं ंददळ	रुहं ं ददळ उत्तर	5	रुहं ंददळ	17 73 0 0	17	73	0	0

तारीख	वनरक्षाचे नाव	संरक्षित	वनपरिक्षेत्र	वसतीळ	नियतक्षेत्र	कं क्र.	स्थान-अक्षांश	अक्षांश (N	रेखांश (E	_स्थान-अ	_स्थान-	प्रजाती	आढळाचा	छायाचित्र	छायाचित्र_	शेरा
2023-05-09	Deepak bhalchandra sorat	कोमना अभ	फाभणोरी	Bele	Deur	372	1.3652 73.4	1.3652	73.4819	1060	4	Aswal	Unhala			
2023-05-09	अनंनर नरुंडलरक कुंबाय	कोमना अभ	फाभणोरी	लेरे	नरवालडे	250,323,324						बफफट्मा, अस्तर, यानगला, यानक त्रा, बकय, वाुंफय, यानड क्कय, वालरुंदय, पनवोयी, उदभाुंजय, लानय, वघा, भुंगूव, नाग, घोणव,प यवे शयणटोर, वयडे नारी, घोयचड	तुंणुण लळण			
2023-05-16	Deepak bhalchandra sorat	कोमना अभ	फाभणोरी	Vele	Deur	370,371,37	17.628333	17.628333	73.807222	1180	3	Aswal,bhekar,sambar,gava,bibat,sayal,kalindar,vanar,randukkar,rankutra,khavle manjar..				Satat disnare prani
2023-05-17	shri suresh kundlik suryawanshi	कोमना अभ	फाभणोरी	valvan	Arav	344, 345, 346, 347p, 353						leopard, sloth bear, sambar, barking deer, rabbit, mouse deer, gaur, monky, salinder, rankomdi,wild dog, shekaru, dhanesh pakshi and other	barmahi			
2023-05-16	FG Anil Pundlik kumbhar	कोमना अभ	फाभणोरी	लेरे	नरवलडे	250	17.634203	17.634203	73.840442	1111.2	8	बफफट्मा,अस्तर,वाुंफय ,यानगला ,बकय, पनवयी, वालरुंदय, यानक त्रा, यान ड क्कय, उदभाुंजय, लानय, वघा, भुंगूव, नाग, घोणव, प यवे, शयणटोर, वयडे, नारी, घोयचड, फेडूंक,	लळण बय	168421470	https://kc.k	तुंणुण लळणबय, लन षेत्र भध्ये फपयती दयम्मान तवेच कक भेया कटर व भध्ये लम्प प्राणी ददवून मेतात
2023-05-18	Arjun.j.chavan	कोमना अभ	फाभणोरी	Met indoli	Kusapur	331	17.3951 73	17.3951	73.4314	898	3	भशा धनळ	April 2023			
2023-05-19	Dada Maruti jankar	कोमना अभ	फाभणोरी	Vele	Vele	383,386,38	17.580278	17.580278	73.82	1161	15	Gaya,aswal,bilateral,bhekar,randukkar,sayan,psoriasis,shekru,rankuttra				
2023-05-19	Kishor Dhane	कोमना अभ	कोमना	Takwali	चारी	375,376,37	17.608165	17.608165	73.726614	0	0	यान गला	फायभाशी	IMG_20220	https://kc.k	वलण जुगरात फायभाइ यान गला अवतात
2023-05-19	Kishor Dhane	कोमना अभ	कोमना	Takwali	चारी	375,377,37	17.606953	17.606953	73.72228	0	0	अस्तर	फायभाशी	I 00021-1	https://kc.kobotoolbox.org/media/original?media_file=ddstr23%2Fattachments%2F55	
2023-05-19	Kishor Dhane	कोमना अभ	कोमना	Takwali	चारी	375,778,37	17.596556	17.596556	73.728114	0	0	यान क त्रा	आक्टोफय त जून			
2023-05-19	Kishor Dhane	कोमना अभ	कोमना	Takwali	चारी	375,376,37	17.606944	17.606944	73.722778	0	0	बफफट	फायभाशी	I 00174-1	https://kc.kobotoolbox.org/media/original?media_file=ddstr23%2Fattachments%2F55	
2023-05-19	Kishor Dhane	कोमना अभ	कोमना	Takwali	चारी	375,376,37	17.601802	17.601802	73.729657	0	0	वाुंफय	डडटफय त जून			
2023-05-19	Kishor Dhane	कोमना अभ	कोमना	Takwali	चारी	375,376	17.612552	17.612552	73.746946	0	0	ळकररु	आक्टोफय त भ			
2023-05-19	Kishor Dhane	कोमना अभ	कोमना	Takwali	चारी	375,376, 37	17.609038	17.609038	73.753717	0	0	लानय	फायभाशी			
2023-05-19	Kishor Dhane	कोमना अभ	कोमना	Takwali	चारी	375,376,37	17.613069	17.613069	73.744476	0	0	वालरुंदय	आक्टोफय त जून			
2023-05-19	Kishor Dhane	कोमना अभ	कोमना	Takwali	चारी	375,376,37	17.607072	17.607072	73.723702	0	0	यान ड क्कय	आक्टोफय त	I 00175-1	https://kc.kobotoolbox.org/media/original?media_file=ddstr23%2Fattachments%2F55	
2023-05-19	PRASHANT BHOSALE	कोमना अभ	कोमना	KUSAVADE	AMBEGHAR	428	17.445055	17.445055	73.79208	0	0	BIBAT , RANGAVA, BHEKAR, SAMBAR	THROUGHT YEAR			
2023-05-20	चालणता वयगय	कोमना अभ	कोमना	क वलड	कायलट	461	17.401782	17.401782	73.822307	851.9	5	ड क्कय	नाफफय ते	168456486	https://kc.k	यान ड क्कय घावण
2023-05-20	चालणता वयगय	कोमना अभ	कोमना	क वलड	कायलट	458	17.39725 7	17.39725	73.51175	1004.91	2.7	यान गला	फूल्य डडटव	20221115_	https://kc.k	यान गला आयखड
2023-05-19	Ajit patil	कोमना अभ	कोमना	Takavali	Karanjawade	393	17.546083	17.546083	73.753317	0	0	अस्तर	लळण बय	Screenshot	https://kc.kobotoolbox.org/media/original?media_file=ddstr23%2Fattachments%2F55	
2023-05-19	Ajit Patil	कोमना अभ	कोमना	Takavali	Karanjawade	393.394.39	17.538167	17.538167	73.749303	0	0	अस्तर, बफफट्मा, बकाय,वाुंफय. ळेकरू, यानक त्रा.यानगले.खेंतरे भाुंजय.	लळण बय			वलण प्रकायचे प्राणी. नषी आढरतात
2023-05-19	Ajit Patil	कोमना अभ	कोमना	Takavali	Karanjawade	394	17.536803	17.536803	73.742172	0	0	यानड क्कय	लळण बय			जास्त प्रभाणात प्राणी आढरतात
2023-05-19	Ajit Patil	कोमना अभ	कोमना	Takavali	Karanjawade	395	17.531147	17.531147	73.759808	0	0	गल	लळण बय	IMG-20230	https://kc.kobotoolbox.org/media/original?media_file=ddstr23%2Fattachments%2F55	
2023-05-19	Ajit Patil	कोमना अभ	कोमना	Takavali	Karanjawade	396	17.526055	17.526055	73.764817	0	0	Wild dog	लळण बय	IMG-20230	https://kc.kobotoolbox.org/media/original?media_file=ddstr23%2Fattachments%2F55	
2023-05-19	Ajit Patil	कोमना अभ	कोमना	Takavali	Karanjawade	397	17.516772	17.516772	73.758947	0	0	बफफट्मा	लळण बय			
2023-05-18	पलजम कोंडीयाभ बोवरे	कोमना अभ	कोमना	लळयलळुंगे	फककवरुरे	412,411,416						बफफट, वारीुंदय, बकय, वाुंफय, पनवायी, यानक, त्रा, यानड क्कय, गला, यानभाुंजय ,अस्तर	लळण बय			
2023-05-22	Kishor Dhane	कोमना अभ	कोमना	Takwali	Jungti	388,389,39	17.575944	17.575944	73.716611	0	0	यान गला, बफफट, यान क त्रा ,वाुंफय, फकय ,वारीुंदय यानड क्कय, अस्तरे	फायभाशी			लयीर वलण प्राणी फायभाशी जुंगरात आढरतात
2023-05-20	Arjun chavan	कोमना अभ	फाभणोरी	Metindoli	Kusapur	331	17.3941 73	17.3941	73.4512	675	10	नॉस्ट	नाफफय	20221120_	https://kc.kobotoolbox.org/media/original?media_file=ddstr23%2Fattachments%2F55	
2023-05-20	Arjun chavan	कोमना अभ	फाभणोरी	Metindoli	Kusapur	336	17.4026 73	17.4026	73.4316	639	4	Tern river	भ	IMG_20230	https://kc.kobotoolbox.org/media/original?media_file=ddstr23%2Fattachments%2F55	
2023-07-19	प्रतक गामकलाड	कोमना अभ	फाभणोरी	म्शार,गे	म्शार,गे		17.683319	17.683319	73.564289	76.806526	1980	बफफट, यानगला, यान ड क्कय,अस्तर, वारीुंदय, यानकोभडी, कोभफडा, बेकय, भोय, यानकें त्रे		E4D24273-1	https://kc.kobotoolbox.org/media/original?media_file=ddstr23%2Fattachments%2F55	
2023-07-20	तानाजी लळलाजी ललुद लनवार	चाकी कॉर	शरलाक	रुुंदल	रुुंदल दक्षणे	६	17.135 73.4	17.135	73.4235	0	0	यानगला	फायभाशी			
2023-07-20	तानाजी लळलाजी ललुद लनवार	चाकी कॉर	शरलाक	रुुंदल	रुुंदल दक्षणे	७	17.2292 73	17.2292	73.7122	0	0	यानड क्कय	फायभाशी			
2023-07-21	Pritam Baban Kamble	चाकी कॉर	शरलाक	Rundiv	Ambole	9	17.13272 7	17.13272	73.4237	5	5	Rangava ,dukkar	Barmahi			
2023-07-21	Pritam Baban Kamble	चाकी कॉर	शरलाक	Rundiv	Ambole	10	17.1345 73	17.1345	73.43256	5	5	Barkare, sambar	Barmahi			
2023-07-21	Pritam Baban Kamble	चाकी कॉर	शरलाक	Rundiv	Ambole	11	17.11463 7	17.11463	73.42231	5	5	Aasval , Bibatya	Barmahi			पलष्टठा त नाऊर खणा माुंच्या आधाय
	एव डी काकड	चाकी कॉर	शरलाक	कारण	खुंदण दारा	12						बफफट	फायभाशी			
	एव डी काकड	चाकी कॉर	शरलाक	कारण	खुंदण दारा	१२						यानगला	फायभाशी			
	एव डी काकड	चाकी कॉर	शरलाक	कारण	खुंदण दारा	12						बकय	फायभाशी			
	एव डी काकड	चाकी कॉर	शरलाक	कारण	खुंदण दारा	12						वाुंफय	फायभाशी			
	एव डी काकड	चाकी कॉर	शरलाक	कारण	खुंदण दारा	१२						यानक त्रा	फायभाशी			

	एव डी कोकड	चा्ंदा की कूर	शरलाक	कारण	चा्ंदारा खदण	12						लानय	फायभाशी			
	एव डी कोकड	चा्ंदा की कूर	शरलाक	कारण	चा्ंदारा	12						यानकाफडा	फायभाशी			
	एव डी कोकड	चा्ंदा की कूर	शरलाक	कारण	चा्ंदारा	12						लभवाया	फायभाशी			
2023-07-18	ऊपर शळेपाम ख,टार लगचार ददले	चा्ंदा की कूर	शरलाक	रु्ंदले	रु्ंदल उत्तर्ये	5	17.1343	73	17.1343	73.4301	980	4.7	गला, वालर्ुदय, बफफट पलष्ठा	लळण			
2023-07-18	ऊपर शळेपाम ख,टार लगचार ददले	चा्ंदा की कूर	शरलाक	रु्ंदले	रु्ंदल उत्तर्ये	5	17.1316	73	17.1316	73.4324	0	0	बकय, वा्ंफय, लानय	लळण			
2023-07-18	ऊपर शळेपाम ख,टार लगचार ददले	चा्ंदा की कूर	शरलाक	रु्ंदले	रु्ंदल उत्तर्ये	5	17.1316	73	17.1316	73.4324	0	0	ठ्कय, गला	लळण			
2023-07-18	ऊपर शळेपाम ख,टार लगचार ददले	चा्ंदा की कूर	शरलाक	रु्ंदले	रु्ंदल उत्तर्ये	5	17.1401	73	17.1401	73.4404	0	0	गला, बकय, वा्ंफय	लळण			
	S P Pawar FG Pimpari	कोमना अब	फाभणोरी	Waghavle	Pimapri								बफफट,गला,बकय,वा्ंफय,यानठ्कय,यानक त्रा,वामार,ळक रू,यानभा्ंजय,खलरेभा्ंजय,कसी्ंदय,वासी्ंदय,भ ग,व,ववा, भाकड,लानय,खाय	12 भशीने			
2023-10-26	प्रनाक गामकलाड	कोमना अब	फाभणोरा	लरलन	म्याद्ंग		17.680462		17.680462	73.563704	67.940208	2019	बफफट				
2023-09-02	SWAPNIL SAMBHAJI SHENDAGE	कोमना अब	फाभणोरी	METINDOLI	KHIRKHINDI	304	17.701944		17.701944	73.736667	781	5	गला ,बकय,वा्ंफय,ववा,बफफट,वासी्ंदय,चौलळुंगा,यान क, त्रा,भा कड,यानठ्कय,अस्तर इ.	फायभाशी			वाधायणत् उत्थाव्मात जास्त प्रभाणात लग्न प्राप्मा्ंचे दळणन शोते.

४०.गाभा क्षेत्रातील सीमा प्रत्यक्ष गाव व शेतात लागून असल्यास (Core boundary directly exposed to village/farm)												
संरठक्षत ठं ेत्राचे नाळ	संरठक्षत ठं ेत्रा चे नाळ /चांदोरी राष्ट्रीय उद्यान	संरठक्षत ठं ेत्रा चे नाळ / कोयना अभयारण्य	ळनपररेत्र	ळतुतल	ननयठतेत्र	ठक क्र.	गाळचे नाळ	स्थान	Latitude	Longitude	_स्थान_altitude	_स्थान_precision
कोयना अभयारण्य	0	1	कोयना	Takwali	पाऱी	0	---					
कोयना अभयारण्य	0	1	कोयना	KUSAVADE	AMBEGHAR	428	KHUDUPLE WADI GOJEGAW	502 73.797	17.4502	73.7975	0	0
कोयना अभयारण्य	0	1	कोयना	शऴरशहऴगे	ककसरुले							
कोयना अभयारण्य	0	1	कोयना	Takwali	Jungti		ननममनुष्यळ स्ती					
कोयना अभयारण्य	0	1	कोयना	Takavali	Karanjawade	0	ननररंक	803 73.7750	17.53803	73.775004	0	0
कोयना अभयारण्य	0	1	बामणोऱी	ळेले	पलसळडे	0	ननररंक	53 1177.7 9	17.626335	73.845053	1177.7	9.1999998
कोयना अभयारण्य	0	1	बामणोऱी	Vele	Deur	381	Deur	8 73.792222	17.605278	73.792222	1026	2.8
कोयना अभयारण्य	0	1	बामणोऱी	Vele	Vele	386	Vele , dhen	0.566389 0.805278 1064 16	0.566389	0.805278	1064	16
कोयना अभयारण्य	0	1	बामणोऱी	KOLHAPUR	MUNAWALE		NIRANK					
कोयना अभयारण्य	0	1	बामणोऱी	म्हालुगे	म्हालुगे		म्हालुगे	427 76.8065	17.683319	73.56427	76.806526	1980
कोयना अभयारण्य	0	1	बामणोऱी	Waghavale	Pimpari	299	helti/Pimpa	944 73.729	17.701944	73.729167	0	0
कोयना अभयारण्य	0	1	बामणोऱी	ळऱळन	म्हालुहं ंगे		म्हाहलं ुगे	1765 67.940	17.678557	73.561765	67.940208	1652
कोयना अभयारण्य	0	1	बामणोऱी	ळऱळन	आरळ		आरळ	1737 67.940	17.678569	73.561737	67.940208	1652
कोयना अभयारण्य	0	1	बामणोऱी	ळऱळन	ळऱळन	17.680321 73.563561 67.9402084350			17.680321	73.563561	67.940208	1709.7428
कोयना अभयारण्य	0	1	बामणोऱी	METINDOLI	KHIRKHINDI	304	HELTI(PIMPR	67 73.7046	17.748667	73.704611	710	7
कोयना अभ	0	1	बामणोऱी	मेट हईदळऱी	क़ुसापूर		रत्नागरी	7 51.4173 1	51.3917	51.4173	1174	1.6
चाहं ंदो ऱी राष्ट्रीय उद्यान	1	0	हेलळाक	रुहं ं दीळ	रुहं ं दीळ दक्षण	6	नाही	17 73 0 0	17	73	0	0
कोयना अभयारण्य चाहं ंदो ऱी राष्ट्रीय उद्यान	1	1	हेलळाक	Rundiv	Ambole	0	No	17 73 2 2	17	73	2	2
चाहं ंदो ऱी राष्ट्रीय उद्यान	1	0	हेलळाक	कोलणे	चाहं ंदोऱी							
चाहं ंदो ऱी राष्ट्रीय उद्यान	1	0	हेलळाक	Helwak	Rasati	0	No	17 17 17 17	17	17	17	17
चाहं ंदो ऱी राष्ट्रीय उद्यान	1	0	हेलळाक	रुहं ं ददळ	रुहं ं ददळ उत्त	5	ननररंक	17 73 0 0	17	73	0	0

४१.सवायत घेयवने सवांत मोंिष उंच र् जसनष झवडे / र्ंठशछूयपसर्ंा प्रजवतषचष झवडे (Typical Big Trees)																
संरक्षत ठंेत्रा चे नाळ	संरक्षत ठंेत्रा चे नाळ /चांदोरी राष्ट्रीय उद्यान	संरक्षत ठंेत्राचे नाळ /कोयना अभयारण्य	ळनपररेत्र	ळतुतल	ननयठतेत्र	ठक क्र.	ठिकाणाचे नाळ	कृठंा चे नाळ	घेरा (मीटर)	अंदाठजत उंची	कृठंा ची एकू ण संख्या	स्थान	Latitude	Longitude	_स्थान _altitude	_स्थान _precision
कोमना अबमायण्म	0	1	कोमना	Takwali	नारी	375		नामय			1	17.619979 73.721925 0	17.619979	73.721925	0	0
कोमना अबमायण्म	0	1	कोमना	KUSAVADE	AMBEGHAR	436	AMBE -VAJE	FANAS, PALAS, HADKYA, PAYAR		60	20	17.43319 73.77 0 0	17.43319	73.77	0	0
कोमना अबमायण्म	0	1	कोमना	शळयशहळंगे	ककससरुरे	412	हअंफेघय	पहनंनयण	3	16	1	17.478611 73.754167 0 0	17.478611	73.754167	0	0
कोमना अबमायण्म	0	1	कोमना	शळयशहळंगे	ककससरुरे	412	हअंफेघय	हअंफा	3	14	1	17.478333 73.751667 0 0	17.478333	73.751667	0	0
कोमना अबमायण्म	0	1	कोमना	शळयशहळंगे	ककससरुरे	412	हअंफेघय	पहनंनऱ	4	15	1	17.471389 73.748611 0 0	17.471389	73.748611	0	0
कोमना अबमायण्म	0	1	कोमना	शळयशहळंगे	ककससरुरे	412	कय टेक ला	नामयी	3	14	1	17.483611 73.775278 0 0	17.483611	73.775278	0	0
कोमना अबमायण्म	0	1	कोमना	Takwali	Jungti		2000 point	Jabhul			2	17.575944 73.716611 0 0	17.575944	73.716611	0	0
कोमना अबमायण्म	0	1	कोमना	शळयशहळंगे	शळयशहळंगे	408	ततकहटंफे	जाबाऱ	2	20	2	17.478265 73.697124 0 0	17.478265	73.697124	0	0
कोमना अबमायण्म	0	1	कोमना	शळयशहळंगे	शळयशहळंगे	407	ततकटणे	ओभ	2	20	2	17.483548 73.697001 0 0	17.483548	73.697001	0	0
कोमना अबमायण्म	0	1	कोमना	शळयशहळंगे	शळयशहळंगे	406	Kasarbatla	जाबाऱ	2	20	2	17.489692 73.699232 0 0	17.489692	73.699232	0	0
कोमना अबमायण्म	0	1	फाभणोरी	Vele	Vele	386	Dhen	Jambhul	290	10	6	17.563611 73.791389 1009 7	17.563611	73.791389	1009	7
कोमना अबमायण्म	0	1	फाभणोरी	Vele	Deur	371	Deur	Jambhul	250	10	5	17.615556 73.805556 1078 9	17.615556	73.805556	1078	9
कोमना अबमायण्म	0	1	फाभणोरी	Metindoli	Kusapur	331	Metindoli	नामय	15	30	2	17.4017 73.4345 686 5	17.4017	73.4345	686	5
कोमना अबमायण्म	0	1	फाभणोरी	KOLHAPUR	MUNAWALE							17.777 73.7658 0 0	17.777	73.7658	0	0
कोमना अबमायण्म	0	1	फाभणोरी	Waghavale	Pimparii	299	pimpari	हअंफय	4	20	1	17.750714 73.691664 0 0	17.750714	73.691664	0	0
कोमना अबमायण्म	0	1	फाभणोरी	Waghavale	Pimpari	355	Aaklpe	हअंफा	5	30	1	17.737111 73.689194 0 0	17.737111	73.689194	0	0
कोमना अबमायण्म	0	1	फाभणोरी	Waghavale	Pimpari	301	Aaklpe	नामय	5	25	3	17.725306 73.702528 0 0	17.725306	73.702528	0	0
कोमना अबमायण्म	0	1	फाभणोरी	Waghavale	Pimpari	301	aaklpe	शळकाकाई	0	0	10	17.725111 73.702 0 0	17.725111	73.702	0	0
कोमना अबमायण्म	0	1	फाभणोरी	Waghavale	Pimpari	355	Aakalpe	हेरा	3	20	5	17.738528 73.695889 0 0	17.738528	73.695889	0	0
कोमना अबमायण्म	0	1	फाभणोरी	Waghavale	Pimapri	300	Pimpari	हहयडा	2	20	26	17.746831 73.699828 0 0	17.746831	73.699828	0	0
कोमना अबमायण्म	0	1	फाभणोरी	Waghavale	Pimpari	355	Aakalpe	हहयडा	2	20	22	17.738486 73.68525 0 0	17.738486	73.68525	0	0
कोमना अबमायण्म	0	1	फाभणोरी	METINDOLI	KHIRKHINDI	304	KHIRKHIND	हेरा	2	17	1	.704167 73.848056 657	17.704167	73.848056	657	20
चाहंंदो रीयृभ उद्यान	1	0	चाहंंदोरी	कोल्हानूय	लेती	16	लेती गालठाण	जाहंंबऱ	3	21	3	17.21178056 73.781752780 0	17.211781	73.781753	0	0
चाहंंदो रीयृभ उद्यान	1	0	चाहंंदोरी	कोल्हानूय	लेती	16	लेती गालठाण	नाना	3	21	2	17.21182778 73.78185 0 0	17.211828	73.78185	0	0
चाहंंदो रीयृभ उद्यान	1	0	चाहंंदोरी	कोल्हानूय	लेती	16	लेती गालठाण	हअंफय	5	23	2	17.21178889 73.781961100	17.211789	73.781961	0	0
चाहंंदो रीयृभ उद्यान	1	0	चाहंंदोरी	कोल्हानूय	लेती	16	लेती गालठाण	जाहंंबऱं	2	18	3	17.21195833 73.78165 0 0	17.211958	73.78165	0	0

चाहं◌ं दो री वृ◌ृ क्ष◌ृ म उद्यान	1	0	चाहं◌ं दोरी	कोल्हानूय	लेती	16	लेती गालठाण	हाडक्मा	3	15	3	17.21196111 73.7816777800	17.211961	73.781678	0	0
चाहं◌ं दो री वृ◌ृ क्ष◌ृ म उद्यान	1	0	चाहं◌ं दोरी	कोल्हानूय	लेती	16	◌ं◌ी गालठाण	हआंफा	3	18	3	17.21598056 73.7858333300	17.215981	73.785833	0	0
चाहं◌ं दो री वृ◌ृ क्ष◌ृ म उद्यान	1	0	चाहं◌ं दोरी	कोल्हानूय	लेती	16	लेती गालठाण	पणस	4	23	3	17.21771944 73.7849944400	17.217719	73.784994	0	0
चाहं◌ं दो री वृ◌ृ क्ष◌ृ म उद्यान	1	0	चाहं◌ं दोरी	कोल्हानूय	लेती	16	लेती गालठाण	हउं फय	4	20	3	17.21751111 73.7849555600	17.217511	73.784956	0	0
चाहं◌ं दो री वृ◌ृ क्ष◌ृ म उद्यान	1	0	चाहं◌ं दोरी	कोल्हानूय	लेती	16	लेती गालठाण	जाहं◌ं ब रं	2	18	3	17.21751667 73.7847305600	17.217517	73.784731	0	0
चाहं◌ं दो री वृ◌ृ क्ष◌ृ म उद्यान	1	0	चाहं◌ं दोरी	कोल्हानूय	लेती	16	लेती गालठाण	पहनंनयण	5	25	2	17.21699167 73.7847138900	17.216992	73.784714	0	0
चाहं◌ं दो री वृ◌ृ क्ष◌ृ म उद्यान	1	0	चाहं◌ं दोरी	कोल्हानूय	लेती	16	लेती गालठाण	हआंफा	3	20	3	17.21786944 73.7845861100	17.217869	73.784586	0	0
चाहं◌ं दो री वृ◌ृ क्ष◌ृ म उद्यान	1	0	ढेफेलाडी	kolhapur	Takale	19	हौदाचे नाणी	जाबऱ	2	20	2	17.213631 73.808721 00	17.213631	73.808721	0	0
चाहं◌ं दो री वृ◌ृ क्ष◌ृ म उद्यान	1	0	ढेफेलाडी	kolhapur	Takale	19	णी उगभ, ध	पणस	2	25	3	17.214495 73.807776 00	17.214495	73.807776	0	0
चाहं◌ं दो री वृ◌ृ क्ष◌ृ म उद्यान	1	0	ढेफेलाडी	kolhapur	Takale	19	नगय गालठ	ऐन	2	25	3	17.218817 73.807595 00	17.218817	73.807595	0	0
चाहं◌ं दो री वृ◌ृ क्ष◌ृ म उद्यान	1	0	हेऱलाक	Helwak	Rasati	478	hal साजाचा भाऱ		3	15	1	17.364444 73.686944 764.07 6.9	17.364444	73.686944	764.07	6.9
चाहं◌ं दो री वृ◌ृ क्ष◌ृ म उद्यान	1	0	हेऱलाक	Helwak	Rasati	478	hal साजाचा भाऱ		3	15	1	17.36 73.683889 831 5.4	17.36	73.683889	831	5.4
चाहं◌ं दो री वृ◌ृ क्ष◌ृ म उद्यान	1	0	हेऱलाक	Helwak	Rasati	428	Treck route		2	20	1	17.3711112 73.370833 844 5.8	17.371111	73.370833	844	5.8
चाहं◌ं दो री वृ◌ृ क्ष◌ृ म उद्यान	1	0	हेऱलाक	Helwak	Rasati	428	Treck route		5	25	1	17.371111 73.678611 843 5.9	17.371111	73.678611	843	5.9
चाहं◌ं दो री वृ◌ृ क्ष◌ृ म उद्यान	1	0	हेऱलाक	रुहं◌ं दील	रुहं◌ं दील दक्षण	6	नाही	नाही	0	0	8	17 73 0 0	17	73	0	0
चाहं◌ं दो री वृ◌ृ क्ष◌ृ म उद्यान	1	0	हेऱलाक	Rundiv	Ambole	0	No	No	0	0	0	17 17 2 2	17	17	2	2
चाहं◌ं दो री वृ◌ृ क्ष◌ृ म उद्यान	1	0	हेऱलाक	कोऱणे	चाहं◌ं दोरी खुदद											
चाहं◌ं दो री वृ◌ृ क्ष◌ृ म उद्यान	1	0	हेऱलाक	Helwak	Rasati	0	lkada vajrac	Malya	3	45	1	17.213677 73.410094 17 17	17.213677	73.410094	17	17
चाहं◌ं दो री वृ◌ृ क्ष◌ृ म उद्यान	1	0	हेऱलाक	रुहं◌ं हदल	रुहं◌ं हदल उत्तय	5	तनहयंक	तनहयंक				17 73 0 0	17	73	0	0
चाहं◌ं दो री वृ◌ृ क्ष◌ृ म उद्यान	1	0	हेऱलाक	helwak	govare	497	nav mal	hadakya	2	60	2					

४२.सवा ुत घेयायने सवांत मो ी उंच व जतनी झाडे / वैशशष्ठ्यपत्र ु प्रजातीची झाडे (Typical Big Trees)

start	end	तारीख	वनरक्षकाचं नाव	संरक्षण क्षेत्रं वन	वनपरक्षेत्र	वतुतळ	ननयतक्षेत्र	रुप क्र.	न (अक्षांश रे	Latitude	Longitude	क्षेत्र रेखां	क्षेत्र रेखांश	प्रजाती	ंजे घनता	छायाचत्र	छायाचत्र_	शेरा
2023-05-02	2023-05-02	2023-05-02	ABC	कोयना अभयारण्य	कोयना	Koyna	Koyna	14	17.257269 7	17.257269	74.162407	240.29999	20	Aamba	50			Good
2023-05-09	2023-05-09	2023-05-09	Deepak bhalchandra sorat	कोयना अभयारण्य	बामणोरी	Vele	Deur	371	1.3759 73.4	1.3759	73.4708	1040	4	Jambhul	20			
2023-05-13	2023-05-14	2023-05-13	FG Anil Pundlik kumbhar	कोयना अभयारण्य	बामणोरी	वेल	पलसेळड	250	17.631563 7	17.631563	73.832598	1177.8	11.3	उंबर	1	1683963232	https://kc.kobotoolbox.org/media/original?media	
2023-05-11	2023-05-14	2023-05-14	Arjun.j.chavan	कोयना अभयारण्य	बामणोरी	Met Indoli	Kusapur	331	17.4018 73.	17.4018	73.4309	0	9	अळिरी	1	tmp_pic_16	https://kc.kobotoolbox.org/media/original?media	
2023-05-11	2023-05-14	2023-05-14	Arjun.j.chavan	कोयना अभयारण्य	बामणोरी	Met Indoli	Kusapur	331	17.4018 73.	17.4018	73.4309	0	9	आळरी	1	tmp_pic_16	https://kc.kobotoolbox.org/media/original?media	
2023-05-14	2023-05-14	2023-05-14	Arjun.j.chavan	कोयना अभयारण्य	बामणोरी	Met Indoli	Kusapur	331	17.4018 73.	17.4018	73.4307	0	3	जांभूल	75	tmp_pic_16	https://kc.kobotoolbox.org/media/original?media	
2023-05-18	2023-05-18	2023-05-18	Arjun.j.chavan	कोयना अभयारण्य	बामणोरी	Met indoli	Kusapur	331	17.4017 73.	17.4017	73.4301	694	3	Kokam	5			
2023-05-18	2023-05-18	2023-05-18	Arjun.j.chavan	कोयना अभयारण्य	बामणोरी	Met indoli	Kusapur	331	17.4011 73.	17.4011	73.4301	722	0	अबुरगा	75			
2023-05-18	2023-05-18	2023-05-18	Arjun.j.chavan	कोयना अभयारण्य	बामणोरी	Met indoli	Kusapur	331	17.4016 73.	17.4016	73.4455	765	0	आंबा,फणस,परू,करळद	80			
2023-05-09	2023-05-19	2023-05-19	Dada Maruti jankar	कोयना अभयारण्य	बामणोरी	Vele	Vele		17.581389 7	17.581389	73.813611	1142	6	Amba karvand jambhul				
2023-05-19	2023-05-20	2023-05-19	Kishor Dhane	कोयना अभयारण्य	कोयना	Takwali	Pali	376	17.606107 7	17.606107	73.755292	0	0	Jambhal	5			
2023-05-20	2023-05-20	2023-05-19	PRASHANT BHOSALE	कोयना अभयारण्य	कोयना	KUSAVADE	AMBEGHAR	428	17.46494 73	17.46494	73.79111	0	0	UMBAR, MANGO, FANAS	30			
2023-05-20	2023-05-20	2023-05-19	PRASHANT BHOSALE	कोयना अभयारण्य	कोयना	KUSAVADE	AMBEGAHR	428	17.4336 73.	17.4336	73.7803	0	0	MANGO, UMBAR , TORAN , K	35			
2023-05-18	2023-05-22	2023-05-18		कोयना अभयारण्य	कोयना	कुसेळड		460	17.389815 7	17.389815	73.837663	901.1	2.5	लु, जांभूल,आंबा, तोरण, करळ	20	1684410453	https://kc.k	हगामा
2023-05-19	2023-05-22	2023-05-21	पाळवंता सरगर	कोयना अभयारण्य	कोयना	कुसेळड	कोरलट	437	17.439167 7	17.439167	73.811537	974.7	9.1999998	जांभूल, तारण, करळद,	30	1684653935	https://kc.k	हगामा फल
2023-05-19	2023-05-22	2023-05-19	पाळवंता सरगर	कोयना अभयारण्य	कोयना	कुसेळड	कोरलट	458	17.398108 7	17.398108	73.852374	905.9	5.1659999	करळद, आलु, तारण, जांभल	25	1684490601	https://kc.k	हगामा
2023-05-18	2023-05-22	2023-05-19	पाळवंता सरगर	कोयना अभयारण्य	कोयना	कुसेळड	कोरलट	459	17.412727 7	17.412727	73.835997	883.9	18.700001	जांभल,	5	1684473907	https://kc.k	हगाम एहप्रर त म
2023-05-22	2023-05-22																	
2023-05-22	2023-05-22	2023-05-19	Ajit Patil	कोयना अभयारण्य	कोयना	Takavali	Karanjawade	393	17.54055 73	17.54055	73.773114	0	0	उंबर	4			
2023-05-22	2023-05-22	2023-05-19	Ajit Patil	कोयना अभयारण्य	कोयना	Takavali	Karanjawade	394	17.540669 7	17.540669	73.746392	0	0	आंबा	4			
2023-05-22	2023-05-22	2023-05-19	Ajit Patil	कोयना अभयारण्य	कोयना	Takavali	Karanjawade	394	17.555119 7	17.555119	73.748108	0	0	जांभुल	5			
2023-05-21	2023-05-22	2023-05-18	प्रल्जय कोंडीराम भोसले	कोयना अभयारण्य	कोयना	शळरशळंगे	ककसरुले	1,412,413,4	17.478333 7	17.478333	73.752778	0	0	आंबा, फणस, जांभूल ,पेरू, करळं	20			ककसरुले मध्ये आंबेघर, पुनाळरी, झाडोरी,ककसरुले गाळठाण ंंत्रामध्ये फलझाडे आहेत
2023-05-22	2023-05-22	2023-05-15	Priyanka pandit patil	चांदोरी राष्ट्रीय उद्या	हेलळाक	Helwak	Rasati	428	17.368889 7	17.368889	73.676389	911.47	5.6	जांभूल	40			
2023-05-22	2023-05-22	2023-05-14	Priyanka pandit patil	चांदोरी राष्ट्रीय उद्या	हेलळाक	Helwak	Rasati	434	17.377222 7	17.377222	73.683611	838	5.9	करळद	20			
2023-05-22	2023-05-22	2023-05-14	Priyanka pandit patil	चांदोरी राष्ट्रीय उद्या	हेलळाक	Helwak	Rasati	434	17.385278 7	17.385278	73.760833	868	8.1	जांभूल	15			
2023-05-22	2023-05-22	2023-05-14	Priyanka pandit patil	चांदोरी राष्ट्रीय उद्या	हेलळाक	Helwak	Rasati	434	17.30278 73	17.30278	73.76	841	7.9	डांबर	2			
2023-05-20	2023-05-23	2023-05-22	Kishor	कोयना अभयारण्य	कोयना	Takwali	Jungti		17.575833 7	17.575833	73.716389	0	0	आंबा ,जांभल, उंबर,इत्यादी	5			
2023-05-23	2023-05-23	2023-05-23	जी आर बद्र	कोयना अभयारण्य	कोयना	ळन परोमडल	कोयना	426	17.2441 73.	17.2441	73.2141	911	2300	जांभूल	20	IMG-202305	https://kc.kobotoolbox.org/media/original?media	
2023-05-26	2023-05-26	2023-05-26	S b kuri	चांदोरी राष्ट्रीय उद्या	चांदोरी	कोल्हापूर	ळंती	14	17.2122222	17.212222	73.762778	0	0	उंबर	30			
2023-05-26	2023-05-26	2023-05-26	S b kuri	चांदोरी राष्ट्रीय उद्या	चांदोरी	कोल्हापूर	ळंती	14	17.2066666	17.206667	73.761944	0	0	जांभल	30			
2023-05-26	2023-05-26	2023-05-26	S b kuri	चांदोरी राष्ट्रीय उद्या	चांदोरी	कोल्हापूर	ळंती	14	17.2066666	17.206667	73.761111	0	0	तोरण	10			
2023-05-26	2023-05-26	2023-05-26	S b kuri	चांदोरी राष्ट्रीय उद्या	चांदोरी	कोल्हापूर	ळंती	14	17.2055555	17.205556	73.758333	0	0	आंबा	20			
2023-05-26	2023-05-26	2023-05-26	S b kuri	चांदोरी राष्ट्रीय उद्या	चांदोरी	कोल्हापूर	ळंती	14	17.2066666	17.206667	73.761944	0	0	तोरण	10			
2023-05-26	2023-05-26	2023-05-26	S b kuri	चांदोरी राष्ट्रीय उद्या	चांदोरी	कोल्हापूर	ळंती	15	17.2377777	17.237778	73.779167	0	0	जांभल	80			
2023-05-26	2023-05-26	2023-05-26	S b kuri	चांदोरी राष्ट्रीय उद्या	चांदोरी	कोल्हापूर	ळंती	16	17.2122222	17.212222	73.781111	0	0	आंबा	40			
2023-05-26	2023-05-26	2023-05-26	S b kuri	चांदोरी राष्ट्रीय उद्या	चांदोरी	कोल्हापूर	ळंती	16	17.2088888	17.208889	73.782778	0	0	जांभल	30			
2023-05-26	2023-05-26	2023-05-26	S b kuri	चांदोरी राष्ट्रीय उद्या	चांदोरी	चांदोरी	ळंती	16	17.2105555	17.210556	73.780278	0	0	फणस	10			
2023-05-26	2023-05-26	2023-05-26	S b kuri	चांदोरी राष्ट्रीय उद्या	चांदोरी	कोल्हापूर	ळंती	17	17.2036111	17.203611	73.774722	0	0	आंबा	20			
2023-05-26	2023-05-26	2023-05-26	S b kuri	चांदोरी राष्ट्रीय उद्या	चांदोरी	कोल्हापूर	ळंती	17	17.2061111	17.206111	73.776111	0	0	फणस	10			
2023-05-26	2023-05-26	2023-05-26	SB kuri	चांदोरी राष्ट्रीय उद्या	चांदोरी	कोल्हापूर	ळंती	17	17.2088888	17.208889	73.775278	0	0	जांभल	60			
2023-07-19	2023-07-19	2023-07-12	SONALI SHIVAJI KISAVE	कोयना अभयारण्य	बामणोरी	KOLHAPUR	MUNAWALE		17.777 73.8	17.777	73.8989	862	10					NIRANK
2023-07-19	2023-07-19	2023-07-19	हतंतक गायकळाड़	कोयना अभयारण्य	बामणोरी	म्हातुग	म्हातुग		17.683319 7	17.683319	73.564283	76.806526	1705.6956	नस, जांभुल, परू, आळला, आलु, काकम				
2023-07-20	2023-07-20	2023-07-20	तानाजी शळळाजी शळद ळनपाट	चांदोरी राष्ट्रीय उद्या	हेलळाक	रु दोळ	रु दोळ दक्षण	६	17.2114 73.	17.2114	73.7195	0	0	जांबुल	30			
2023-07-20	2023-07-20	2023-07-20	Pritam Baban Kamble	चांदोरी राष्ट्रीय उद्या	हेलळाक	Rundiv	Ambole	10	17.1058 73.	17.1058	73.4529	5	5	Jabhul	45			
2023-07-20	2023-07-20	2023-03-31	एस डी काकड		हेलळाक	कोलण	चांदोरी		17 73 0 0	17	73	0	0					तनरक
2023-07-27	2023-07-27	2023-07-18	भारत शळळराम खुटाट ळनपाट रु दद्दळ	चांदोरी राष्ट्रीय उद्या	हेलळाक	रु दद्दळ	रु दद्दळ उत्तर	5	17 73 0 0	17	73	0	0	तनरक				तनरक
2023-10-26	2023-10-26		S P Pawar FG Pimpari	कोयना अभयारण्य	बामणोरी	Waghavale	Pimpari	355	17.737111 7	17.737111	73.689194	0	0	आंबा	2			
2023-10-26	2023-10-26	2023-09-01	SWAPNIL SAMBHAJI SHENDAGE	कोयना अभयारण्य	बामणोरी	METINDOLI	KHIRKHINDI		33.431441 -	33.431441	-55.703034	0	0					NIRANK
2023-10-28	2023-10-28	2023-10-28	sunil basappa kuri	चांदोरी राष्ट्रीय उद्या	ढबळाडी	kolhapur	Takale	19	17.21906 73	17.21906	73.811471	0	0	जांभल	40			
2023-10-28	2023-10-28	2023-10-28	sunil basappa kuri	चांदोरी राष्ट्रीय उद्या	ढबळाडी	kolhapur	Takale	19	17.220306 7	17.220306	73.808413	0	0	फणस	20			
2023-10-28	2023-10-28	2023-10-28	sunil basappa kuri	चांदोरी राष्ट्रीय उद्या	ढबळाडी	kolhapur	Takale	19	17.221343 7	17.221343	73.813443	0	0	एन	20			
2023-10-28	2023-10-28	2023-10-28	sunil basappa kuri	चांदोरी राष्ट्रीय उद्या	ढबळाडी	kolhapur	Takale	19	17.219069 7	17.219069	73.809637	0	0	ककजल	30			

४३.ळननन_शमद्धकवतर_NTFP_Area_-_all_versions_-_labels_-_2023-10-30-06-28-50

Sr. No	शंरक्षसत सेत्राचे नाळ	शंरक्षसत सेत्राचे नाळ /चांदोरी राष्ट्रीय उद्यान	शंरक्षसत सेत्राचे नाळ /कोयना अभयारण्य	ळननररसेत्र	ळतुतल	कस क्र.	स्थान असांळ (N) रेखांळ (E)	_स्थान असांळ (N) रेखांळ (E)_latitude	_स्थान असांळ (N) रेखांळ (E)_longitude	_स्थान असांळ (N) रेखांळ (E)_altitude	_स्थान असांळ (N) रेखांळ (E)_precision	प्रजात ंंचे नाळ	ळानररा जाणारा भाग (पेक्टर)
1	ंंोय ना अभ्यार	बामणोरी	Vele	Deur	370	17.615556	73.805556	1078	4				Nirank
2	ंंोय ना अभ्यार	बामणोरी	ळेले	पलशळडे	250	17.634463	73.840848	1111.2	8.10000038	ननरंक	0	ननरंक	ळन सेत्रात गौण ळननउपज नाषी
3	ंंोय ना अभ्यार	बामणोरी	Met indoli	Kusapur	331	17.4014	73.4503	684	0	Shikekai		Janevari, February	
4	ंंोय ना अभ्यार	बामणोरी	Met indoli	Kusapur	335	17.402	73.4246	683	0	Shikekai, tamalpatr		Janevary, February	
5	ंंोय ना अभ्यार	बामणोरी	Vele	Vele		17.599167	73.857222	1158	4				Nirank
	कोयना अभयार	बामणोरी	मेट इंदळरी	कुशापूर		18.4017	2.4373	0	0				ननरंक
6	ंंोय ना अभ्यार	बामणोरी	KOLHAPU	MUNAWALE		17.9876	73.7453	823	9				NIRANK
7	ंंोय ना अभ्यार	कोयना	Takwali	पारी	378	17.599683	73.732668	0	0	Shikkayi	1	Feb ते मे	
8	ंंोय ना अभ्यार	कोयना	Takwali	पारी	377	17.608051	73.720769	0	0	तेज पत्ता, शळककायी, कडीपत्ता	1	बारमाषी	
9	ंंोय ना अभ्यार	कोयना	Takwali	पारी	378	17.594416	73.727786	0	0	जाय फल ,कडीपत्ता	1		
10	ंंोय ना अभ्यार	कोयना	KUSAVAD	AMBEGHAR	4326	17.42172	73.78088	0	0	BIBWA, DHOOP, NARKYA			
11	ंंोय ना अभ्यार	कोयना	कुशळडे	कारळट	458	17.4123	73.847272	930.9	17.5	हपरडा, बेषडा, आळला	0	0	ळानोपज ळापरात नाषी
12	ंंोय ना अभ्यार	कोयना	Takavali	Karanjawade	394	17.541111	73.757222	0	0	तमाप्रत्र	1	ळवषभर	शादर माहषती ननरंक आषे
13	ंंोयना अभ्यार	कोयना	Takavali	Karanjawade	396	17.534128	73.772364	0	0	शळके काई	1	उन्षाला	
14	ंंोय ना अभ्यार	कोयना	Takavali	Karanjawade	394	17.555814	73.746083	0	0	जायफल	1	उन्षाला	
15	ंंोय ना अभ्यार	कोयना	शळरशळंगे	ककशरुले	412	17.478611	73.759444	0	0	शळके काई		जानेळारी ते माषि	दोन ते तीन आर सेत्र
16	ंंोय ना अभ्यार	कोयना	शळरशळंगे	ककशरुले	413	17.483056	73.775278	0	0	शळके काई		जानेळारी ते मे	दोन त तीन गंुठे सेत्र
17	ंंोय ना अभ्यार	कोयना	Takwali	Jungti	389	17.577222	73.723611	0	0	जायफल तेज पत्ता कढीपत्ता शळककाई इत्यादी	0	ननमषनुष्य ळस्ती गाभा सेत्र	
18	ंंोय ना अभ्यार	कोयना	Takwali	Jungti	390	17.579748	73.715807	0	0	जायफल तेज पत्ता कढीपत्ता इत्यादी	ननमषनुष्य ळस्ती गाभा सेत्र		
	र्ंंोंंदोरी राष्ट्रीय उद्द	षेलळाक	Helwak	Rasati	477	17.344639	73.3025	805	4.3	जायफल	1	March	

पायवाट

तारीख	संरक्षित ंंंंत्राचे नाळ	संरक्षित ंंंंत्राचे नाळ / कोयना अभयारण्य	सांई	ळनपरर्ंत्र	ळतुतल	ननयतंंत्र	स्त्याचे नाळ	कं क्र.	आरंभ स्तथान (अ्ंा्ंा्ंळ N,रेखांळ E)	अ्ंा्ंा्ंळ N,रेखांळ E)_latitude	_आरंभ स्तथान (अ्ंा्ंा्ंळ N,रेखांळ E)_longitude	_आरंभ स्तथान (अ्ंा्ंा्ंळ N,रेखांळ E)_altitude	_आरंभ स्तथान (अ्ंा्ंा्ंळ N,रेखांळ E)_precision	ळेळट स्तथान (अ्ंा्ंा्ंळ N,रेखांळ E)	अ्ंा्ंा्ंळ N,रेखांळ E)_latitude	रेखांळ E)_longitude	_ळेळट स्तथान (अ्ंा्ंा्ंळ N,रेखांळ E)_altitude	_ळेळट स्तथान (अ्ंा्ंा्ंळ N,रेखांळ E)_precision	आरंभ स्तथान (अ्ंा्ंळ N,रेखांळ E)	ळेळट स्तथान (अ्ंा्ंळ N,रेखांळ E)	स्त्याची रुंबी	जी.पी.एस.रॅक	जी.पी.एस.रॅक /होय	जी.पी.एस.रॅक /नाही	ळेरा (पाळसाव्यात ळाहतंतकीस योग्य)	ळेरा (पाळसाव्यात ळाहतंतकीस योग्य)/होय	ळेरा (पाळसाव्यात ळाहतंतकीस योग्य)/नाही
2023-05-23	कोमना अ		1	0	कोमना	कुसलडं	कायलट	भाकडीं डा	458	17.40407	17.40407	73.8498	947.2	12.1	17.414144	17.41414	73.84561	1001.47	3	17 24 14.5N, 73	50 59.3 E	1.2ककभीं.	होंम	1	0	होंम	1	0
2023-05-23	कोमना अ		1	0	कोमना	कुसलडं	कायलट	उन्नरभरीं	458	17.403995	17.404	73.84935	943.9	18.4	17.410367	17.41037	73.84523	977.48	5.2	17 24 14.1N,	17 24 37.3	1ककभीं.	होंम	1	0	होंम	1	0
2023-05-21	कोमना अ		1	0	कोमना	कुसलडं	कायलट	पणस आ	437	17.437793	17.43779	73.80009	1045.59	2	17.4373 73	17.4373	73.81273	1044.76	2.6			1.7	होंम	1	0	नाहीं	0	1
2023-05-21	कोमना अ		1	0	कोमना	कुसलडं	कायलट	भर भधरं	461	17.40112	17.40112	73.83279	887.65	7.2	17.39795 1	17.39795	73.82013	967.56	4.5			1.5	होंम	1	0	होंम	1	0
2023-07-12	कोमना अ		1	0	फाभणारीं	Kolhapur	Munawale	अधायीं तं	307	17.712694	17.71269	73.78589	920	11	17.699361	17.69936	73.77439	822	11	N 17 42 45.7,	N 17 41 57	2.5 Km	नाहीं	0	1	नाहीं	0	1
2023-07-12	कोमना अ		1	0	फाभणारीं	Kolhapur	Munawale	भुनालरं तं	307	17.692722	17.69272	73.78964	910	8	17.696278	17.69628	73.77872	814	10	N 17 41 33.8,	N 17 41 46	3 Km	नाहीं	0	1	नाहीं	0	1
2023-07-12	कोमना अ		1	0	फाभणारीं	Kolhapur	Munawale	भुनालरं तं	307	17.707028	17.70703	73.77311	799	12	17.705833	17.70583	73.76917	785	11	N 17 44 25.3,E	N 17 42 21	2Km	नाहीं	0	1	नाहीं	0	1
2023-07-12	कोमना अ		1	0	फाभणारीं	KOLHAPUR	MUNAWA	उफयलाडं त	313	17.704167	17.70417	73.79639	899	10	17.690556	17.69056	73.79889	912	12	N 17 42 15, E	N 17 41 26	5 km	नाहीं	0	1	नाहीं	0	1
2023-07-12	कोमना अ		1	0	फाभणारीं	Kolhapur	Munawale	, उफयलाडं	313	17.692501	17.6925	73.78861	892	13	17.678861	17.67886	73.80192	907	12			3km	नाहीं	0	1	नाहीं	0	1
2023-07-12	कोमना अ		1	0	फाभणारीं	Kolhapur	Munawale	उफयलाडं त	313	17.680722	17.68072	73.78747	891	13	17.679444	17.67944	73.77728	845	10			3Km	नाहीं	0	1	नाहीं	0	1
2023-07-12	कोमना अ		1	0	फाभणारीं	KOLHAPUR	MUNAWA	लाघरीं तं	306	17.7145 73	17.7145	73.77292	792	12	17.710944	17.71094	73.75894	812	10			4km	नाहीं	0	1	नाहीं	0	1
2023-07-12	कोमना अ		1	0	फाभणारीं	Kolhapur	Munawale	कारकोळीं	322	17.681083	17.68108	73.77286	856	13	17.689722	17.68972	73.77456	859	12			3 km	नाहीं	0	1	नाहीं	0	1

BUFFER RULES

Whereas, Sahyadri Tiger Reserve, comprising of Chandoli National Park and Koyna Wildlife Sanctuary in Maharashtra has been declared and notified void Government of Maharashtra order WLP-1008/CR No. 232/F-1 dated 5th January, 2010 and whereas in tune with the directives of the competent authority areas earmarked as core and buffer areas for the Sahyadri Tiger Reserve have been notified vide Government notification No. WLP-2012/CR-240/Q-1 dated 21st August, 2012 and Tiger conservation plan for the Sahyadri Tiger Reserve, having been dully submitted received sanction from the competent authority, National Tiger Conservation Authority (NTCA) vide letter dated 1-18/2013-NTCA dated 25th October, 2013 for the period of 2013-14 to 2022-23.

Whereas, the provisions of the Wildlife (Protection) Act, 1972, under section 38(0) (1c) provide for laying down normative standards for tourism activities and guidelines for project tiger from time to time for tiger conservation in the buffer and core area of tiger reserve and ensure their due compliance. Whereas, the NTCA issued guidelines in this regard with reference to the PIL 21339/2011 before the Supreme Court of India on 15th October, 2012. Whereas Government of Maharashtra in accordance with above directive notified the constitution of the Local Advisory Committee (LAC) to frame rules and to regulate tourism in tiger reserve, vide Government Resolution No. WLP-2012/C.R.No. 309/F-1 dated 9th November, 2012.

Whereas, a core area of 3614 ha have been earmarked for tourism and in buffer or peripheral area allotted for this purpose 42434 ha.

Whereas, in accordance with such directives the Local Advisory committee (LAC) discussed the issues regarding regulating tourism in Sahyadri Tiger Reserve with specific reference to development control rules for construction and encouraging eco-tourism in the area on 20th August, 2014, approved by the chairman and accordingly, the following draft rules are placed for circulation and invitation of suggestions, comments from general public, towards, finalization of the said Buffer Area or Peripheral Area Development Control Rules for development activities and eco-tourism in Sahyadri Tiger Reserve, within 15 days from date of publishing.

1) Buffer area or Peripheral Area

As per section 38-V (4) (ii) of Wild Life (Protection) Amendment Act, 2006 each tiger reserve is required to create a buffer or peripheral area consisting of areas peripheral to critical tiger habitat or core area, where a lesser degree of habitat protection is required to ensure the integrity of the critical tiger habitat (CTH) with adequate dispersal for tiger. This area will promote the co-existence between wildlife and human activity with due recognition of the livelihood, developmental, social and cultural rights of local peoples. This area will have to be determined on

the basis of scientific and objective criterion in consultation with concerned Gramsabha and expert committee constituted for the purpose. The buffer area is declared by revenue and forest department, Government of Maharashtra by vide Notification No. WLP-2012/CR No. 240/F-1 dated 21st August, 2012, which is outside and on the periphery of the core area. (Outside PA) The buffer area of Sahyadri Tiger Reserve will have following major functions

i) To provide habitat supplement to spill over population of tiger and its prey from the core area, conserve with the active co-operation of stakeholders.

ii) To providing site specific, need based , participatory eco-development inputs to local stakeholder for rationalizing their resource dependency on the tiger reserve and strengthen their livelihood, so as to elicit their support for conservation of the area.

iii) Mainstreaming wildlife concerns in various production sectors in the area.

iv) The Sahyadri Tiger Reserve core area (Protected areas) is to be managed as per prescriptions laid down and sanctioned by NTCA. The buffer area of STR to the extent of 1 km (Buffer belt) on land surface would be treated as a no development zone, which should serve as a sort of safe distance from the boundaries of the PA proper.

v) In the buffer area, outside the 1 km (buffer belt) area, the following regulation shall be strictly applicable

a) Development permissions and/or activities except conservation activities shall not be permitted outside the Gaothan area.

b) Activities of restoration of local biodiversity in the buffer area shall be permissible with the prior permission of Chief Wildlife Warden of Maharashtra.

c) New windmills shall not be permissible. However, repowering of existing windmills may be allowed with prior approval of Chief Wildlife Warden of Maharashtra/Government of Maharashtra. Existing footprint of allied buildings for windmills shall be maintained as far as possible and used to its potential.

Provided that, in case of repowering of existing windmills, appropriate measures of to safeguard the biodiversity of the area be undertaken by the proponent in consultation with STR. No further expositions of existing windmills for land shall be permitted.

d) Solar farms shall not be permissible.

e) Mining and quarrying activities for rocks, lateritic, mud, soil etc. or digging for any purpose shall not be permitted except conservational activities as per TCP.

f) All existing tarred roads in the core area shall be maintained at same width as all weather roads.

g) For buffer area non-tarred roads to be identified and demarcated and shall be maintained as un-tarred with existing width and length. However, this shall not be applicable to the existing tarred roads/roads connecting Villages, Wadis, talukas and district headquarters.

h) No new roads permitted if alternative road is in existence but new roads shall be permitted only for protection purpose.

i) Any up gradation of existing roads shall require prior permission under Forest (Conservation) Act- 1980.
j) Any activities restricting/obstructing natural water flows shall not be permitted.
k) All eco-tourism activities are controlled as per Eco-tourism plan of STR.
l) No parking of any sort by tourist shall be allowed in the core zone. For buffer area parking shall be as per Eco-tourism plan. However, there shall be no restriction on the provision of required parking as per prevailing regulation, in the individual premises.
m) There shall be no expansion of existing temples but restoration of temples and sacred grooves shall be governed by heritage regulations as per regional plan.

The management of the buffer area will have to be carried out on following broad principles:

1) Implementation of forestry activities after mainstreaming wildlife concerns.
2) Implementation of Eco-developmental activities for reducing resource dependency of local people on surrounding forest.
3) Co-ordination with Governmental/non Governmental production sectors in the landscapes for the mainstreaming conservations.
4) Habitat management and improvement activities will be carried out in the existing habitat of tiger and its prey species through active involvement of local communities. The existing silvicultural operation of the area and the management will be based on specific forest lands forming part of village level micro plans. Community will be involved in the overall management of the buffer area.
5) Site specific ecodevelpoment initiatives based on participatory village level micro plans will be carried out for the local communities for strengthening their livelihoods through a balanced approach of rationalization of resource use, biomass regeneration and alternatives, so that the ecological status of the area could be improved and maintained.
6) Reciprocal commitments the local people through specific measurable actions as per MoUs for improving protection and conservation of the area will be implemented. This may include rationalization of resource use from the forest, participation in fire protection and anti-poaching efforts.
7) Ecotourism activities in the buffer area will be used as an important component of ecodevelpoment for strengthening the livelihood of the local people and the protection of the area.
8) Capacity building of the field staff as well as eco-development committee member will be undertaken on a regular basis through the Tiger Conservation Foundation. Similarly intensive nature conservation awareness program should be part of the buffer area management plan with a focus on different stakeholders particularly local communities.
9) Further, any non-forest activity in this wildlife habitat (Buffer of STR), shall be governed by the guidance issued by the Ministry of Environment & Forests, Climate Change, Government of India from time to time.

10)Residential Area, consists Gaonthan or existing settlement and its peripheral area excluding 1 Km, wide Buffer Belt and lands with slope more than 20°. Also the area of lands, which are given Residential N.A. permission by the Competent Authority prior to publication of these Development Control Regulations, are included in this Residential Area. For natural growth of villages in Buffer Area, the peripheral distances and the regulations of Gaonthans and Peripheral area around gaonthans STR Buffer Zone Rules shall be applicable as per Annexure-E Meanwhile efforts to get the area details having slope more than 20 degree would be initiated by engaging the services of an external agency.

11) Forest Area, consists the land owned by Forest Department, mentioned as forest land on any government record and wherein the activities involving non forest use are regulated as per the provisions of the Forest (Conservation) Act, 1980.

Sr. No.	Name of protected area	Area (Sq.km.)	CTH area (Sq.km.)
1	Chandoli National Park	317.67	313.84
2	Koyna Wildlife Sanctuary	423.55	286.28
Total area		741.22	600.12
Buffer Area		**565.45**	
Total Tiger Reserve Area		**1165.57**	

12)The plantation of local and indigenous species shall be made intensive on fallow lands. As EDGES are essential for wildlife conservation. Site specific plantations of edible species/Bamboos/meadow development activity coupled with soil moisture conservation measures, may be carried out after due permission from Field Director STR.

13)SMC works & Tourism Activities may be taken up as per sanctioned TCP for STR

14) Agriculture or No Development Area -

i)The area outside the Residential Zone and Forest Zone above shall be Agriculture or No Development Area

ii) The intensive plantation of species for fire wood purpose - Energy plantation, may be made on the fallow lands in this area to fulfill the local need of firewood. Measures to improve the area by way of soil and moisture conservation works, activity beneficial to wildlife would be encouraged.

iii) The construction for bonafide residential / farmhouse building shall be permitted in the agriculture area for bonafide use of local farmer only as per the provisions of for STR Buffer Zone Development Control Regulations as per Annexure-F. The construction of building only up to 0.1/01.5 FSI shall be permitted in the agriculture area for bonafide use of local people.

iv) Tourism Complexes of M.T.D.C./Government Dept/ Private shall be allowed as per Regulation No. 11(b)

v) No new construction shall be permitted within the Protected Area. However, renovation/ repairs of old buildings are allowed which are in the Gaonthan. For

others, those constructed other than gaonthan area, no permission for any type of construction & excavation in the earth (other than conservation of wildlife purposes) in the watershed area of Shivsagar & Vasant Sagar reservoirs shall be permitted so as to protect Water Storage & lifelines of Maharashtra.

vi) Additional F.S.I.shall not be permitted to any building in any case other than Gaonthan.

vii) Any commercial, non pollution creating activity in Sahyadri Tiger Reserve shall be permitted only after previous permission of the Local Advisory Committee.

viii) In order to provide safe passage for movement of wild animals in between KWLS and CNP no new construction for the purpose of commercial development including commercial N.A. proposal shall be permitted in between corridor / connecting buffer area i.e. Chandoli National Park and Koyna Wildlife Sanctuary, in the villages namely Torane, Ghatmatha, Shivandeshwar, Dhankal, Nechal, Bopoli, Kemase, Nav, Kondhavale, Mendheghar, Waghane. However, existing commercial developments are allowed to continue their use.

ix) These restrictions mentioned in a above are not applicable to the villages namely Humbarali, Gokul and Helwak being bazar places. In Navaja, the area between existing tar road towards Panchdhara and Koyna backwater may be utilized for tourism purpose as per the decision of LAC, as these areas have been allotted for rehabilitation for these local people by disforestation. No restriction for government structures after the permission.

x) However, no pollution creating activity will be permitted as well as, any nines made there under and further in bus process, will be applicable to these four villages (Humbarali, Gokul, Hewak and Navaja) also.

xi) All the wells in the buffer, whether used for drinking or agriculture or otherwise, should be provided with barricade of suitable height, to prevent accidental fall of animals.

xii) Activities sanctioned for Eco-Development Committee may take place as per sanctioned micro-plan.

xiii) Existing accommodations/facilities for Tourism shall be continued only after registration at STR foundation.

xiv) The existing non polluting activities, their expansion or repair will also seek previous permission of LAC. The existing activities institutions/firms etc. should register themselves with the STR authorities within 30 days of publication of Gazette of these Development Control Rules (DC).

xv) The existing non polluting, all activities other than residential & agricultural, their expansion or repair will also seek previous permission of LAC. The existing activities other than residential & agricultural/institutions/firms etc. should register themselves with the STR authorities within 30 days of publication of Gazette of these Development Control Rules (DC).

xvi) In the villages included in Ecologically Sensitive Area (ESA) as per Dr. Kasturirangan High Level Working Group Report, vide Notification No.5.0. 733 (E), dated 10th March 2014 from Ministry of Environment & Forests, Government of India, the restrictions/ regulations shall be applicable as per this notification

(Annexure-"G"). The list of villages included in the ESA is attached herewith (Annexure-"A"). Thereby, these restrictions/regulations shall be applied for all the villages in S.TR. area.

xvii) Any development activity within STR area as per guidelines laid down shall be permitted only after consultation/N.O.C. from the office of concerned Deputy Director of KWLS or CNP or from the office of Conservator of Forests & Field Director, Sahyadri Tiger Reserve, Kolhapur. Any activity other than that outlined under current guidelines will have to seek approval of the LAC.

15) Eco-Tourism in the Sahyadri Tiger Reserve Norms-

I) The provisions in the Protocol as per Pars 11.0 of (C) Eco-Tourism Plan in volume- II of Tiger Conservation Plan of Sahyadri Tiger Reserve (2013-14 to 2022-23, prepared by the Chief Conservator of Forests (Wildlife) & Field Director, Sahyadri Tiger Reserve, Kolhapur shall be observed strictly.

ii) Development of Tourism Complexes by Forest Department/MTDC or any other group or person at the major entry points shall be permitted subject to the prior approval of LAC & following conditions:-

a)Minimum area of land shall be 2.0 Ha

b)FSL permissible shall not exceed 0.04 (4%)

c)Each Tourist complex should be well structured by decent eco-friendly buildings with sing roof mandatory blending with nature, surrounding environment and following the landscape level planning containing

- A good quality Nature Interpretation Centre containing small amphitheatre of 30 to 40 seating capacity for film show on nature/presentations as a daily activity.
- Parking spaces with Pay and Park facility and hygienic toilets for visitors (Ladies & Gents) .
- Souvenir shops for sale and display mementoes of STR, local productions of SHGs and farmers and even daily handling of the business.
- Youth hostels/ dormitories (Men & Women) for accommodating the visiting Boys and Girls for education purpose of about 16 to 20 beds capacity each with necessary kitchen / canteen facility with the scope to enlarge the building in future as per response of visitors.
- Restaurants
- Rest houses

d)The number of floors shall not exceed 2 i.e. Ground floor + one, with maximum absolute height 9 m. measured from the average surrounding ground level of structure to the apex point of sloping roof.

iii)EDCs of villages in and around STR can provide tourism facilities by the way of home stay and catering and generate income for livelihood of local villagers. M.T.D.C. may give license for that to use two rooms per home under "Bed and Breakfast scheme, to the local villagers, after recommendation of STR authority, Deputy Director, Koyna/Deputy Director, Chandoli or the Conservator of Forests & Field Director, Sahyadri Tiger Reserve, Kolhapur

iv) The existing tourist infrastructure, present in ecological sensitive areas should be made to conform to environment friendly low impact, aesthetic including solar energy, waste recycling, rainwater harvesting, natural cross ventilation, proper sewage disposal and merging with the surrounding habitat. The infrastructures and activities there must adhere to all environmental clearances, noise pollution norms and non polluting, blending with surroundings

v) All new tourist infrastructure set up in other than ecological sensitive area should be of low height (only G + 1) environment friendly, low impact, aesthetic architecture 50% of their energy consumption should be met from solar. Waste recycling, rainwater harvesting arrangement should be made in each facility. The facilities set up should have natural cross ventilation, proper sewage disposal arrangement the structure should merge with surrounding habitat. Tourism facilities shall adhere to pollution norms (noise, solid waste, air and water etc) under the respective laws or rules for time being in force. Outdoor high intensity illumination should not be installed. Lights outside the buildings should be at the height below 7 feet and should be covered on top so that it will not illuminate upside. Any violation should be referred to the appropriate authority for taking action in accordance to the relevant provisions of the law, under intimation to NTCA (as per Para 2.2.10 of NTCA Guideline dated 15.10.2012 submitted to Hon'ble Supreme Court of India).

vi) There shall be a complete ban on burying, burning or otherwise disposing non-biodegradables or toxic waste in the buffer area of STR. Suitable method for disposal of Non-biodegradables or toxic waste need to be find out and fixed by the LAC.

vii) Asbestos should not be used in any tourism facility set up in buffer. Existing Asbestos should be replaced by suitable material.

viii) Barbed wire fencing should not be erected around any tourism facilities. Existing Barbed wire fencing should be replaced by suitable material. However, low height stony compound walls (max. 60 cm), hedges can be eracted for any boundary demarcation.

ix) All the tourism complexes, resorts, home stays, community stays, Government rest houses, canteens, restaurants should not use wood as fuel for any purpose other than for small camp fire.

x) All tourist facilities falling within buffer zone of tiger reserve shall be reviewed regularly by Local Advisory Committee through STR authorities for environment clearance, area of coverage, ownership, type of construction, number of employee etc. LAC should take appropriate action for non compliance and suggest mitigation and retrofitting measures if needed. The LAC or its duly authorized member, Collector, Field Director STR, DD KWLS & DD CNP and their staff will have right to access any tourist facility as and when required.

xi) LAC can constitute a committee of experts for advising on norms of tourist facilities and infrastructure to be erected in buffer zone except ecological sensitive areas.

xii) Stay facilities for low income eco-tourist should be established within existing infrastructure or new infrastructure on non forest land by Forest Department/

MTDC/Privately, so that tourism in Sahyadri Tiger Reserve should not become limited to rich tourist. In such instances, the FSI which may be increased up to 15 % and their accommodation rates may be fixed annually by the EDC & in consultation with administrative authority of STR.

xiii) Tourist facilities and tour operators shall not cause any disturbance to animals in core or buffer.

xiv) No new infrastructure for tourism (except for minor alterations in existing modest home stays) will be allowed to be developed in buffer of Sahyadri Tiger Reserve till this plan is approved as per the provisions of the Wildlife (Protection) Act ,1972 as amended time to time.

xv) All the resorts or operator of tourism facilities in buffer of Sahyadri Tiger Reserve should possibly employ maximum non skilled and semi skilled workers from the same village where facility is situated and from neighboring village. The resort management/tourism facility management should impart training to local villagers in skill development and then possibly employ skilled workers also from same village or neighboring villages.

xvi) To promote homestead and petty shop built up area up to 60 sq. m. will be permissible within Gaonthan in Navaja area and Kandati area. (Annexure II of Tourism Sub Plan of approved TCP)

xvii) The colony areas and other areas not in use by irrigation and other Departments may be handed over to STR managements (Forest Department) through Revenue Department, where parking bay and other infrastructure may be established.

xviii) Henceforth, New Windmills shall not be permitted within STR area and within 1 Km (aerial distance) Sale Distance periphery from STR boundary of Core Area (Protected Area).

xix) The development permission shall not be granted in the areas restricted by any Government notification/order or Court Order.

xx) In the catchment Areas of rivers, lakes and reservoirs, namely Vasant Sagar (Chandoli) & Shiv Sagar (Koyna) no Construction of any sort shall be permitted, other than activities useful for Forests & Wildlife, including similar works done by other line departments.

xxi) No other users shall be permitted in the Command Areas of Irrigation Projects except Agriculture. The irrigation Projects shall serve the purpose for which they have been erected.

xxii) The guidelines issued by the Environment Department, the Government of Maharashtra regarding dated 15th July, 2000 regarding setting up of Industry in River Regulation Zone shall be strictly followed. (Annexure-III)

xxiii) Building construction/development shall not be allowed on the lands with slope more than 20 degree, and all such areas shall be separately depicted by using services of an external agency. Agency/person found defaulting (in comparison with slopes on adjoining area) will be dealt strictly & such constructions will be demolished.

xxiv) In any proposal of building construction / development the basic infrastructure like roads, water supply, electric lines, drainage system (sewage disposal), solid waste management etc. shall be provided by the respective land owner/developer, without affecting Geographical, Natural and Ecological formation and Environment. Bio-digester systems will be promoted. As a rule Green Construction Norms shall be followed. Only indigenous species will be encouraged, exotics will not be permitted. Loud speakers, Music systems will be allowed as per the Supreme Court guidelines.

xxv) Natural slopes/landscape and geographical formation shall not be changed and also natural water courses shall not be disturbed while developing the land.

xxvi) In case of any hardship and ambiguity/discrepancy regarding any of the regulations above, it may be relaxed as directed by LAC and shall be clarified respectively, by the Divisional Commissioner, Pune Division, Pune in consultation with LAC and the Joint Director of Town Planning, Pune Division, Pune.

xxvii) Tourism activities shall be regulated in monsoons in the buffer by the Sahyadri Tiger Reserve (STR) authority.

15)All the activities in the buffer zone of Sahyadri Tiger reserve shall be governed by the provisions of Indian Forest Act, 1927 , Wildlife (Protection) Act, 1972 and amended time to time, Forest Rules-2014, Tree Felling Act-1964, Environment Protection Act-1986, Forest (Conservation) Act-1980, Forest Right Act- 2006, Biodiversity Act-2002, TCP Planning of Sahyadri Tiger Reserve, NTCA guidelines, Regional Town Plan, various Judiciary orders and various state GR and notifications and be regulated in the manner specified in the table below.

Sr. No.	Activity	Remarks
	Sector – Forestry	
1	Forest fire on forest area	Prohibited
2	Forest fire on non forest area	Regulated
3	Tree felling on non forest area	Regulated
4	Tree felling on forest area	Prohibited
5	NTFP on forest and non forest area	Regulated
6	Grazing on forest area	Prohibited
7	Poaching/Hunting	Prohibited
8	Destruction of local biodiversity	Prohibited
9	All forest planting activities on forest area	Promoted
10	Introduction of exotic species	Regulated
11	Protection of hill slopes and river banks	Regulated
12	New encroachment and their regularization on forest land	Prohibited
13	Nurseries	Promoted
14	Garden	Promoted
	Sector- Agriculture	
14	Eco-agriculture	Promoted

15	Sudden change in cropping pattern	Regulated
16	Soil and moisture conservation measures	Promoted
17	Economic incentives for safeguarding wildlife concerns, environmental services	Promoted
18	Crop compensation	Promoted
19	Eco-shops, souvenirs for facilitating marketing of local production	Promoted
20	Destruction of genetic Resources	Prohibited
21	Use of solar fencing to reduce man Wildlife conflict	Promoted
22	Long distance continuous fencing that obstruct free movement of wildlife	Prohibited
23	Ongoing agriculture and horticulture practices by local communities along with dairies, dairy farming, piggeries, poultry farms, stables of domestic animals etc.	Promoted
24	Fencing/Parapet wall around wells through EDC's.	Promoted
25	Micro planning at village level income generation through VEDC's	Promoted
26	Storage and drying of organic manure	Promoted
27	Processing units for agricultural produce	Promoted
Sector – Ecotourism		
28	Eco-tourism through VEDC's	Promoted
29	Tourism on private land with much modification in vegetation	Promoted
30	Home stay's for tourists by local people	Promoted
31	Construction activities and establishment of hotels, motels, wayside restaurants, food and other malls & Resorts etc.	Regulated
32	Overflying the Protected areas by any Air craft, Hot Air balloons etc.	Prohibited
33	Fencing of existing premises of new hotels and lodges.	Regulated
34	Compulsory Rain Water Harvesting	Promoted
35	Compulsory use of renewable energy Resources	Promoted
36	Compulsory sludge & sewage water treatment plants at Hotels etc.	Promoted
37	Compulsory Conservation fees for Resorts, Hotels etc.	Promoted
38	Establishment of commercial sign boards & hoardings at corridors between Chandoli NP &	Prohibited

	Koyna WLS; Chandoli NP & Vishalgad CR	
39	Use of plastic in forest area & Ecotourism sites (No Plastic zones)	Prohibited
40	Temple tourism	Regulated
41	Tents, summer camps	Regulated
42	Public parks and play fields	Regulated
43	Boating and adventure activities in buffer	Regulated
Sector – Fisheries		
44	Aquaculture and fisheries	Regulated
45	Fishing	Regulated
Sector – Road transport and other facilities		
46	Traffic Flow	Regulated
47	Noise Level	Regulated
48	Widening & Strengthening of existing Road	Regulated
49	Construction of New Roads	Regulated
50	Plantation / Local Vegetation on Filled by area and road side	Promoted
51	Compensatory mitigation measures	Promoted
52	Movement of vehicular Traffic at Night	Regulated
53	Establishment of New Transport facilities like Railway, Rope way etc.	Regulated
Sector – Industry		
54	Establishment of industries within 5 km from the periphery of core area	Prohibited
55	Setting of industries causing Water, Air, Soil, Noise Pollution	Prohibited
56	Use or Production of any hazardous substances	Prohibited
57	Discharge of untreated effluents & Soiled waste in natural water bodies or land area	Prohibited
58	Commercial use of fire wood	Prohibited
59	New wood based industries	Prohibited
60	Commercial water resources including ground water harvesting	Regulated
61	Discharge of treated effluent in natural water bodies	Regulated
62	Small scale industries not causing pollution	Regulated
63	Mobile towers	Regulated
64	Furniture mart	Prohibited
65	Cottage industries including village artisans	Regulated
66	Highly polluted industries (Red zone)	Regulated
67	Setting new sawmills	Prohibited
68	Stone quarrying & crushing units, Bricks kilns	Regulated

	clays and digging	
69	Patrol pumps/CNG pumps	Regulated
Sector- Mining		
70	Commercial mining	Prohibited
71	Restoration of mined area	Promoted
Sector – Other projects (Thermal power, Irrigation, Communication, Hydro-electric power, Wind mills, etc.)		
72	Thermal Power Project	Prohibited
73	Establishment of New major Hydro - electric Project	Prohibited
74	Activities to minimize siltation, erosions, landslides on the periphery of reservoir	Promoted
75	Protection of hills slopes & river banks	Promoted
76	Old tank deepening	Regulated
77	Minimum storage in water reservoir/tanks	Regulated
78	Existing wind mill & Turbines	Regulated
79	Establishment of new wind wills & turbines	Prohibited
80	Lease out of submergence area by irrigation department	Prohibited
81	Erection of electrical cables & Telecommunication towers	Regulated